

Harmonising Profits and Planet:

The Transformative Power of Nature-Based
Solutions and Carbon Credits in a Changing World



Introduction

Addressing climate change is not merely a choice; it's an imperative that beckons us with boundless opportunities.

The significance of this mission cannot be overstated. Climate change threatens our planet's delicate balance, our economies, and the well-being of generations yet to come. However, hidden within this challenge is the potential for transformative change. The burgeoning need for decarbonisation represents our chance to revolutionise industries, stimulate innovation, and craft a sustainable world that promises benefits for all.

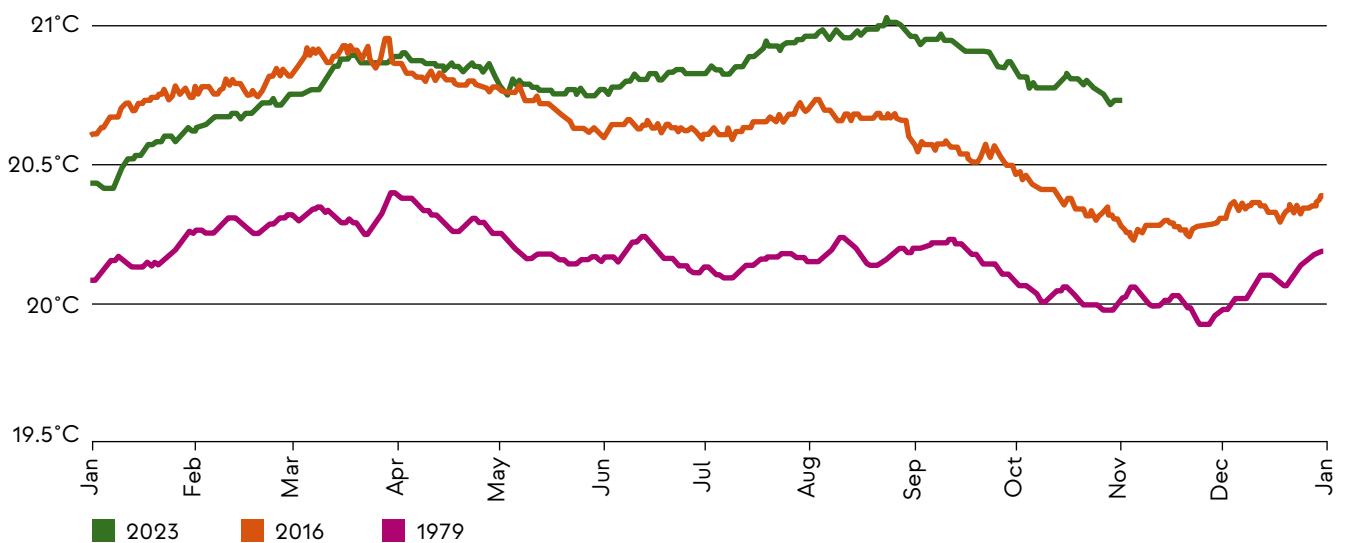
Decarbonisation, in its essence, is the process of reducing and ultimately eliminating carbon emissions from various sectors of our economy and daily lives. It's the transition from relying on fossil fuels, which release carbon dioxide and other greenhouse gases into the atmosphere when burned, to cleaner and more sustainable energy sources and practices. By curbing carbon emissions, we directly address the primary driver of global warming. This not only helps slow the rise in

global temperatures but also mitigates the associated environmental catastrophes, from more frequent and severe natural disasters to the disruption of ecosystems and biodiversity loss. Decarbonisation isn't just a means to an end; it's a fundamental shift that empowers us to shape a sustainable future where clean energy, innovative technologies, and responsible practices lead the way.

In September 2023, the world passed 1.5°C of warming. Two months later, we reached 2°C of warming above pre-industrial levels, according to the Copernicus Climate Change Service, with the temperature in November 2023, 2.07°C above the 1850–1900 average. See **Figure 1** below.

The increasing concentration of carbon dioxide in the atmosphere is resulting in rising global temperatures. This can be seen from the warming sea temperatures and more extreme weather conditions we are experiencing daily. In fact, if you were born in the 1980s, 50% of humanity's emissions have gone into the atmosphere since your birth.

Figure 1: Daily Sea Surface Temperature



Source: Copernicus Climate Change Service / European Centre for Medium Range Weather Forecasts.

Section 1

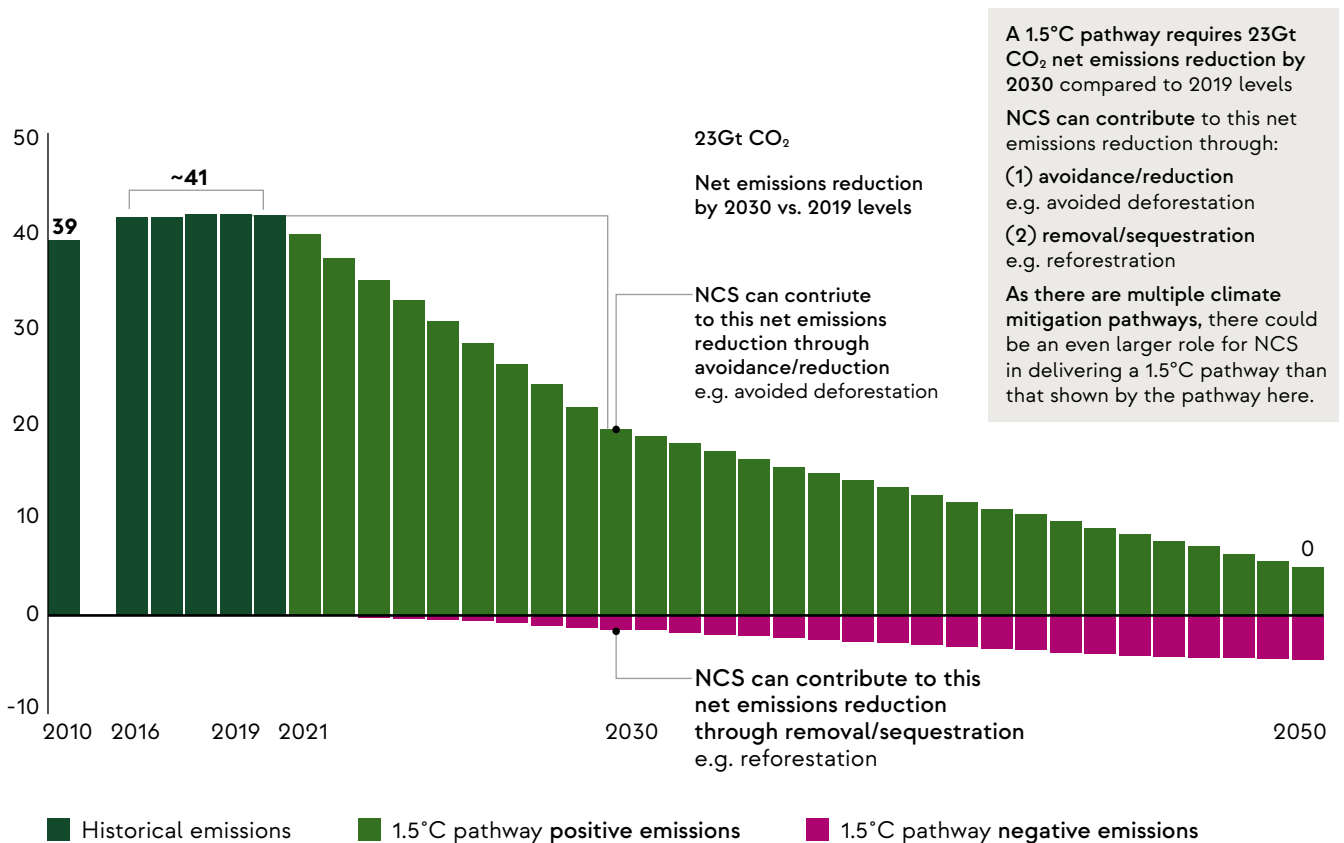
Nature-Based Solutions: An Ecosystem of Opportunity

Nature-based solutions offer a powerful and proven strategy for mitigating climate change.

Deforestation, agricultural production, and processes that degrade land and nature currently contribute about one quarter of global greenhouse gas (GHG) emissions. All modelling that limits global warming to under 2°C requires both eliminating deforestation as well as the reforestation of hundreds of millions of hectares by 2050 to remove carbon from the atmosphere.¹

Forests alone can absorb approximately 2.6 billion tonnes of carbon dioxide annually, equivalent to one-third of global emissions from burning fossil fuels.² “Removals” are critical to achieving net zero, which by definition is a state in which greenhouse gases released into the atmosphere are balanced by emissions removals out of the atmosphere. Modelling of potential activities that can limit global warming to under 2°C by 2030 indicates that approximately a third of cost-effective mitigation by 2050 can be provided by Natural Climate Solutions (NCS) (see **Figure 2**).³

Figure 2: Net Carbon Dioxide Emissions Gt CO₂



Source: McKinsey 1.5oC Scenario Analysis IPCC Special Report on 1.5oC, Le Quere et al.

1 United Nations Intergovernmental Panel on Climate Change, Special Report: Climate Change and Land (2019).

2 <https://iucn.org/resources/issues-brief/forests-and-climate-change> (2021).

3 This article mentions both Nature Based Solutions (NBS) and Natural Climate Solutions (NCS). To clarify, NCS focuses on solutions that primarily focus on mitigating carbon dioxide while trying to maximise co-benefits. NBS focus on addressing a broader range of societal challenges from food security to disaster risk, including climate change.

Figure 3 below demonstrates that although annual global greenhouse gas emissions are approximately 43 billion tonnes of carbon dioxide, Natural Climate Solutions could remove 25–30% of global annual emissions by 2030.

By investing in natural solutions, we can simultaneously combat climate change and protect biodiversity, enhance water quality, and bolster the resilience of communities against the impacts of a changing climate. This is reflected in the words of Professor Ian Chubb in the final report of the Independent Review of Australian Carbon Credit Units (ACCUs) January 2023:

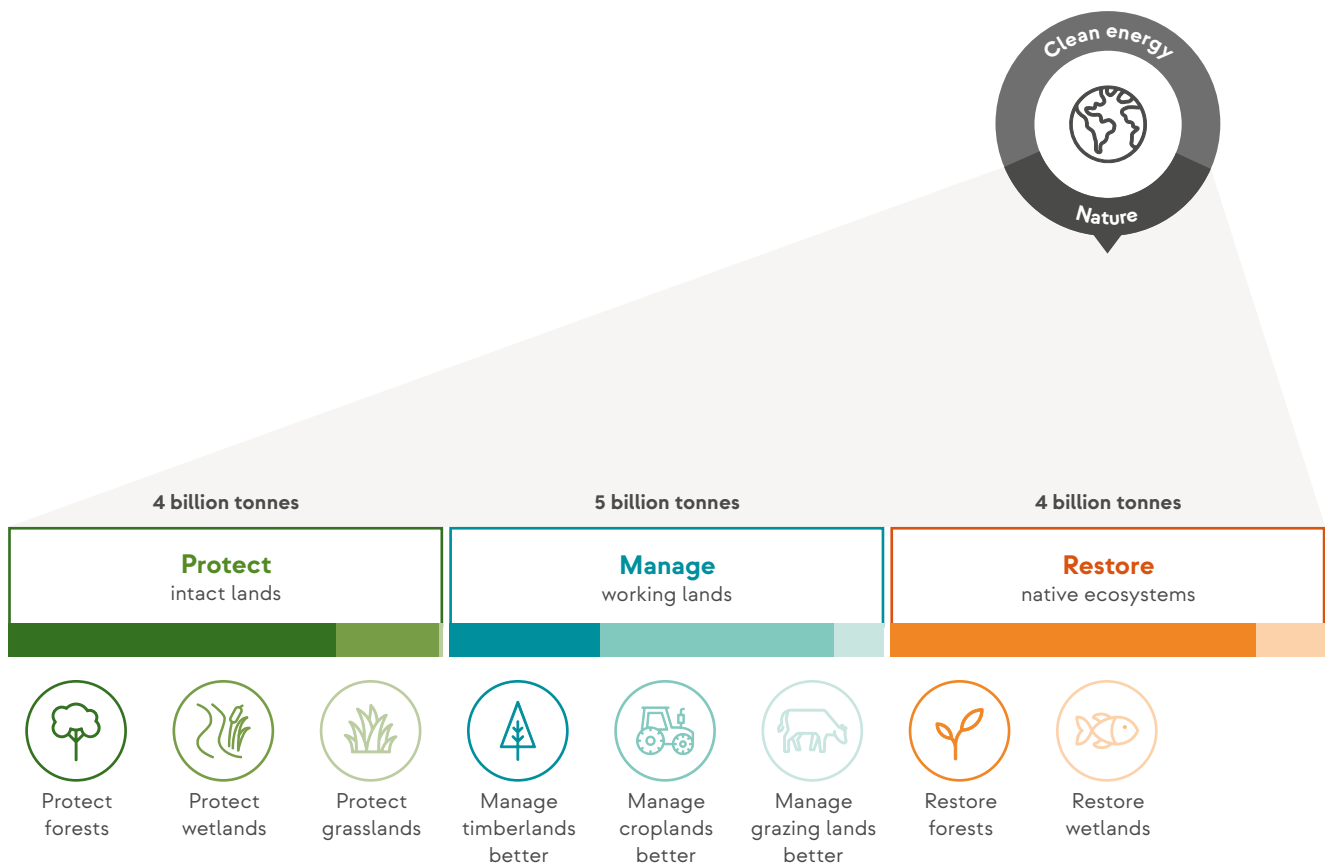
“The only pathway known to science that has the immediate capacity to remove greenhouse gases, particularly carbon dioxide, from the atmosphere at scale is photosynthesis, the means by which plants absorb carbon dioxide and water to create energy to fuel their

eventually growth. So, to start carbon dioxide removal, at scale, well before 2050, as the IPCC urges, the land sector will have to carry much of the immediate load”.

These approaches could include afforestation, reforestation, and wetland restoration. They not only sequester carbon dioxide, but also deliver a multitude of co-benefits with close to 350 million people relying directly on forests for more than 20% of their income,⁴ and tropical forests are home to 80% of terrestrial species.⁵

This transformation in land use will require the mobilisation of hundreds of billions of dollars of investment. This investment must be channelled into strategies and companies that protect and restore ecosystems and improve working lands as a part of their investment thesis and long-term value creation approach.

Figure 3: Positive Outcomes from Natural Climate Solutions



Source: (1) Griscom et al., PNAS (2017). (2) Griscom et al., 2020, Philosophical Transactions of the Royal Society. (3) R B Jackson et al 2019 Environ. Res. Lett. 14 121001, “Persistent fossil fuel growth threatens the Paris Agreement and planetary health”, 4 December 2019. Graphics adapted from Nature Conservancy magazine and 5W Infographics.

4 World Bank (2020) Forests for People, the Planet and Climate.

5 UN Department of Economic and Social Affairs, The Global Forest Goals Report (2021).

Section 2

Connecting the dots between carbon and Nature-Based Solutions (NBS)

As investors look to invest in NBS, they need to understand how to value and manage the climate benefits as an asset.

Carbon credits are a way to create an economic value for a NBS investment by channelling finance into the protection of nature within the management of a landscape or by a reduction of emissions. Carbon credits are the essential “net” in net zero where corporates and organisations use limited carbon credits to balance their unavoidable residual emissions.

Each carbon credit is equal to one metric tonne of carbon dioxide equivalent (tCO₂e) that is removed from the atmosphere (sequestered) or prevented from being emitted into the atmosphere. These credits are a key component of market-based mechanisms designed to reduce greenhouse gas emissions and mitigate climate change. Carbon credits can be traded either in the Compliance Carbon Markets (CCMs) or in the Voluntary Carbon Market (VCM). See **Figure 4** below.

Figure 4: An Overview of Carbon Markets

Type of Market	Compliance	Voluntary
Assets Traded	Allowances / Offsets	Carbon Offsets
Asset Issuers	Governmental	Certifiers of private projects (e.g. registries)
How it Works	Governments issue carbon allowances to companies based on emissions thresholds:	Organisers issue tradable carbon credits to developers after quantification of the achieved reductions
	Under emitting companies: Sell unused allowances	Project developers: Sell carbon credits generated by the project
	Over emitting companies: Buy offsets or allowances to retire them and avoid penalties	Corporations: Buy carbon credits to retire them and offset their own emissions (voluntary basis)
	Financial institutions: Buy offsets and allowances to sell at a higher price	Financial Institutions: Buy carbon credits to sell at a higher price

Compliance market assets / marketplaces			Voluntary market assets / marketplaces		
Program Name	Registry	Asset Name	Program Name	Registry	Asset Name
WCI	CITSS	CCA	VCS	Verra	VCU
EU ETS	Union Registry	EUA	ACR	APX	VERs
UK ETS	UK Registry	UKA	CAR	APX	CRT
ACCU Scheme	Clean Energy Regulator	ACCU	GS	Impact Registry	GS Credits
NZ ETS	MPI	NZU			

Source: Based on State Street, Carbon Assets Report (April 2023).

Section 2a: Compliance Carbon Markets (CCMs)

Compliance carbon markets are where carbon emission allowances for domestic firms and sectors are issued by governmental organisations⁶, and a 'compliance carbon credit' also known as an emissions allowance, is supplied to a corporate or institution as part of compliance with a regulatory framework and stipulates an allowance of GHG emissions.

Entities can buy and sell allowances in the carbon compliance market. If a company reduces its emissions and holds surplus allowances, it can sell them to another entity that needs additional allowances to cover its emissions. This trading creates a financial incentive for entities to reduce emissions efficiently.

Compliance markets are regulated by national, regional, or provincial law and mandate emission sources to achieve compliance with GHG emission reduction requirements. For regulated emissions sources, offsets can serve as an alternative compliance mechanism to direct emissions reductions or allowances (tradable permits allowing a quantity of emissions) that emission sources can use to meet their emissions cap. Because compliance program offset credits are generated and traded for regulatory compliance, they typically experience commodity pricing, where all offset credits in a particular program are priced similarly based on the dynamics of supply-and-demand, regardless of project type and other characteristics.

Compliance carbon markets help to channel financial resources to support emissions reduction or removal activities globally, which would otherwise not be implemented due to factors such as insufficient policy and economic incentives. This accelerates climate action and advances global climate ambition, by unlocking cost-effective mitigation activities to realise internationally recognised goals, such as the Paris Agreement.

Compliance markets also provide various co-benefits to local communities where the projects are hosted, such as sustainable development through the creation of green jobs, sustainable energy, environmental and biodiversity protection, and climate adaptation and resilience.

Supply & Demand

In compliance-based carbon markets, governments or regulatory bodies set limits on the total amount of greenhouse gas emissions that certain industries or businesses can emit. These schemes are usually called emission trading schemes (ETS).

Emissions trading schemes typically fall into two main categories: cap-and-trade schemes and baseline-and-credit schemes.

- Under cap-and-trade schemes (such as the European Union ETS and the Western Climate Initiative) a hard cap is set on the total volume of GHG emissions by all emitters captured in the scheme. Within this cap, companies buy or receive emissions allowances/offsets which they can trade between themselves, or the market, as needed. The cap is reduced over time by limiting the number of allowances/offsets available. An entity can only emit GHG emissions if they cover those emissions by acquiring and surrendering either an allowance or an offset. The allowances (or carbon credits) under the EU-ETS are known as the European Union Allowance (EUA).
- Under baseline-and-credit schemes (such as Australia's Safeguard Mechanism legislation) high-emitting companies identified by the government must keep their emission below their individual government-set baselines. Baseline-and-credit schemes also set an aggregate cap on emissions, and this is how individual baselines are then determined. In the Australian example, these are called Safeguard Mechanism Credits (SMCs). If a company emits more than its baseline, it must purchase additional carbon credits of the relevant scheme. In Australia, this can be from other safeguard mechanism entities (in the form of SMCs) or on the voluntary market from projects that deliver carbon removal or avoidance and have been accredited to produce Australian Carbon Credit Units (ACCU).

According to a World Bank report on The State and Trends of Carbon Pricing 2023, since the establishment of the first carbon trading market in Europe in 2005, 73 carbon pricing initiatives have been implemented globally, covering 39 national jurisdictions. In 2023, these initiatives covered 11.66GtCO₂e, representing 23% of global GHG emissions.

Compliance markets play a role in our investors' consideration of carbon for climate benefits and financial returns. New Forests' Australia, New Zealand and US strategies are active participants in the compliance carbon markets of Australia, New Zealand and North America respectively. We have outlined below how our strategies are capitalising on the carbon pricing in these compliance markets to add value for our investors.

⁶ IOSCO, Compliance Carbon Markets Final Report (July 2023).

North America

New Forests' US regional strategy is an active participant of the Western Climate Initiative, which is a partnership between the participating jurisdictions of the state of California in the US and the province of Quebec in Canada.

Western Climate Initiative, North America

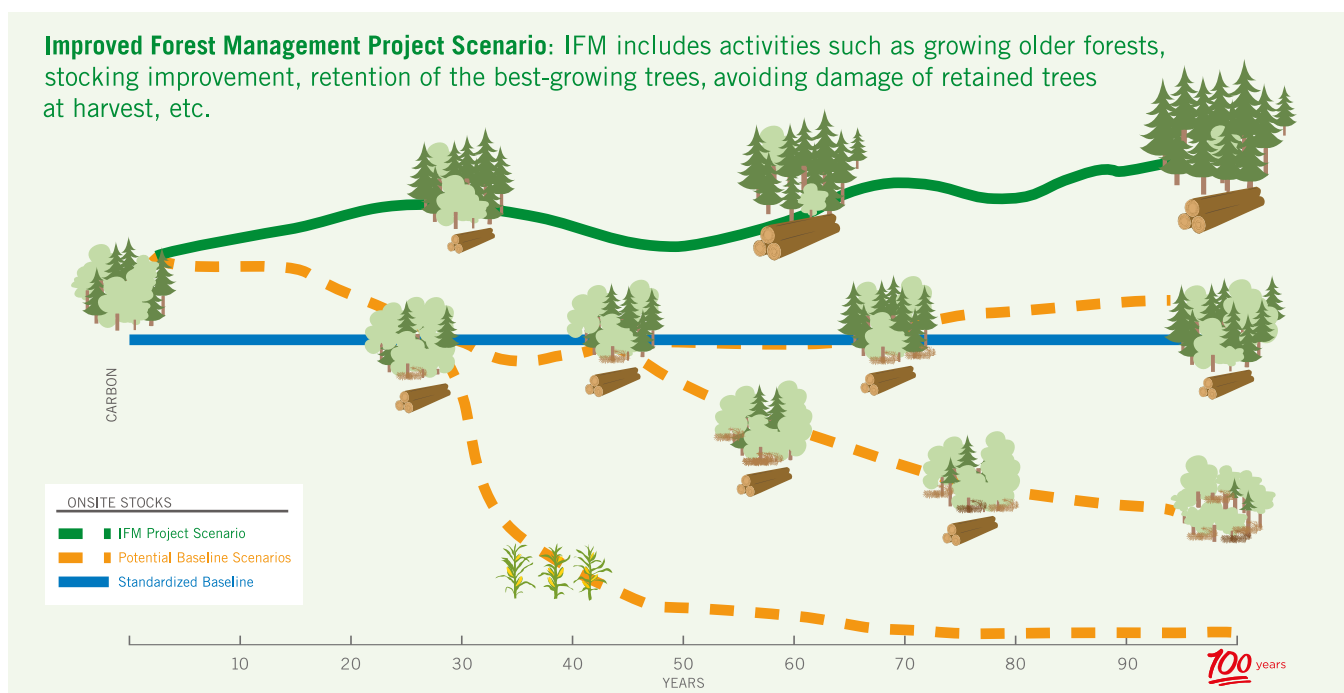
New Forests was the first forestry manager to develop a compliance carbon project and generate California Carbon Offsets (CCOs) for sale through its fund vehicle Forest Carbon Partners. The project issued offset credits from a mix of Douglas Fir and hardwood forests. New Forests has sold approximately US\$250 million of carbon credits over the past ten years in the United States.

California's landmark AB 32 Global Warming Solutions Act of 2006 created a compliance greenhouse gas emissions cap and trading program that covers nearly 85% of the state economy. California launched its greenhouse gas emissions trading scheme in 2013. With one of the largest economies in the world, California's emission market is the largest in North America and the fourth largest in the world by value. The cap, or limit on emissions, is set by the number of allowances issued, which declines over time relative to forecast emissions (~3% p.a., rising to 5% p.a.). The declining cap ensures that emitters in the energy, transportation, and industrial sectors in aggregate reduce emissions over time.

Regulated emitters may purchase offsets from projects in uncapped sectors (e.g., forestry) to cover a small (4-6%) portion of their emissions obligations.⁷

CCOs can be generated from forestry projects under the "California Offset Protocol for US Forest Projects". Offset projects developed on US forestlands have contributed approximately 80% of total offset supply to the California market to date. The most common project type for forests is Improved Forest Management (IFM), in which changes in forest management are undertaken to store more carbon in the forest relative to a baseline scenario, which represents forest management in absence of the carbon project. California's forest carbon protocol uses a performance-based metric that applies objective third-party data to set the baseline. The protocol uses US Forest Service data to determine average carbon stocks regionally in different forest types across the United States. A proponent of a carbon project can then generate carbon credits by protecting carbon stocks for 100 years that are above the relevant regional average carbon stocks (referred to as the "common practice" baseline) and by further increasing carbon sequestration by the forest through biological growth. A 100-year harvest schedule is modelled to demonstrate that it would be legally and financially feasible to reduce inventory as compared to the regional average, and carbon stored in harvested wood products is included in the calculation to derive the final project baseline (Figure 5 below).

Figure 5: Improved Forestry Management Project Scenario



Source: Illustration of IFM accounting scenarios from <https://www.climateactionreserve.org/how/protocols/forest/forest-carbon-accounting-for-ifm-projects/>.

⁷ <https://www.c2es.org/content/california-cap-and-trade/>



The offset program embedded within the emissions trading system and the forest protocol, in particular, have been key components of California's emissions trading program. To date, over 200 million tCO₂ have been avoided or sequestered in forest carbon projects across the US in projects enrolled in the California system, mostly using the IFM project type.⁸ California's forest offset program is one of only a few programs that has significant potential for climate change mitigation in US temperate forests, along with a host of other co-benefits including biodiversity, wildlife habitat, and improved water quality.

A successful example of one of New Forests' carbon projects in the United States is the collaboration with the Yurok Tribe for more than a decade. The Yurok Tribe has over 6,300 members and manages over 50,000 acres of land along the Klamath River, are currently the largest tribe in California.

In 2011, New Forests and the Yurok Tribe co-developed the first compliance forest carbon project for California's emissions trading system. The improved forest management project committed the tribe to reducing timber harvest and storing additional carbon in its forested landscape for a period of 100 years. In return, the sale of offset credits from the project has delivered a stream of revenue back to the tribe to reinvest in forest management, ecological restoration and other tribal priorities. In 2018, New Forests started collaborating with the Yurok Tribe and the Trust for Public Land (TPL) to return 2,424 acres of culturally and ecologically important land to the tribe in perpetuity. The land, which was owned by one of New Forests' forestry funds, is located within the political boundaries of the Yurok Reservation, along Ke'pel Creek, and is an important part of the Klamath River watershed that provides drinking water to the Yurok Tribe and supports wildlife habitat. The collaboration with TPL has assisted the Yurok Tribe in accessing the funds from the California Natural Resources Agency to finance the purchase. The sale was completed in the first half of 2021. Through this partnership with New Forests, the Yurok Tribe was able to generate a financial return through the development of the forest carbon project and sale of offsets which resulted in their purchase of the land that is both culturally and ecologically significant to them, even more so as historical owners.⁹

8 <https://ww2.arb.ca.gov/our-work/programs/compliance-offset-program/arb-offset-credit-issuance>

9 New Forests Case Study: Re-matriating Land to the Yurok Tribe in Northern California, June 2022 (<https://newforests.com/insight/rematriating-land-to-the-yurok-tribe-in-northern-california/>).

Australia / New Zealand

New Forests is an active participant in the Australian and New Zealand compliance markets. We are starting to see the impact of carbon markets transforming our industry and redeploying financial capital from non-renewable to renewable industries at scale. Most importantly, the ability otherwise non-viable areas back to commercial plantations has led to an increase in forecast areas of plantation establishment and the corresponding reduction in areas that may otherwise have been reverted back to agricultural land in some of our managed assets.

Australian Carbon Credits Units (ACCU) Scheme (formerly known as the Emission Reduction Fund)

ACCU projects either avoid the release of greenhouse gas emissions or remove and sequester carbon from the atmosphere under a variety of approved carbon project methodologies, including land sector methods such as Agricultural and Vegetation methods.¹⁰ New Forests supports the development of new methodologies, such as the Integrated Farm and Land Management method, via active engagement in working groups relevant to forestry and agricultural land management. The Plantation Forestry method sequesters carbon as trees grow. Four activities can be conducted under this method:

- Establishing a new plantation forest;
- Converting a short rotation to a long rotation plantation;
- Continuing rotation harvest cycles in a plantation forest;
- Transitioning a plantation forest to a permanent forest, in situations where that plantation is at risk of being converted to a non-forested land. The land must not have been, nor will need to be, cleared of native forest, and evidence must be provided that the land would have otherwise been converted to a viable, non-forested land use within 24 months, or remain as fallow land.

Our Australian assets have over 20 Plantation Forestry method carbon projects. These projects are estimated to generate over 2.6 million ACCU.

All of these plantation forestry carbon projects provide financial and environmental co-benefits, including:

- Carbon sequestration through our sustainably managed plantations and natural forests
- Growing trees longer, resulting in additional carbon storage
- Benefiting ecosystem functions such as soil fertility and stability
- Bioeconomic solutions for sustainable products – fuel/biomass/solid timber products.

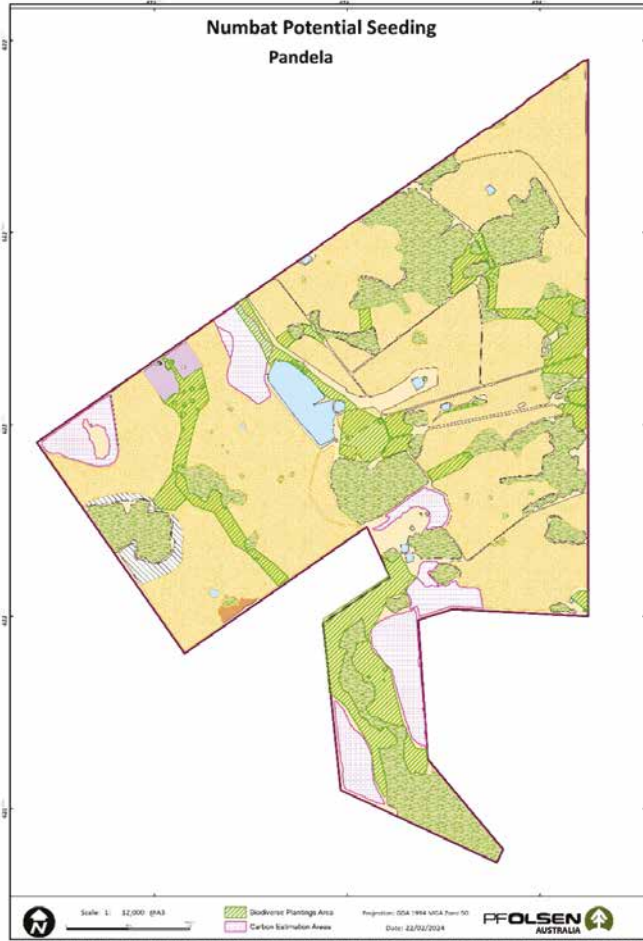
One project in Western Australia is seeking to generate value from the inclusion of 65 hectares of biodiverse plantings within the carbon project area. The environmental plantings are designed to improve and support Numbat habitats by improving connectivity of remnant vegetation and provide a co-benefit value to the generic ACCUs generated from the carbon project registered under the Plantation Methodology. The plan for the project is to collect seed from the native vegetation located on the property and use this seed to establish corridors between existing native vegetation. See **Figure 6**.



Numbat

¹⁰ <https://www.cleanenergyregulator.gov.au/ERF/Pages/Method-development.aspx>.

Figure 6: Numbat Habitat Enhancement/ Biodiverse plantings area included in Plantation Methodology Carbon Project



Source: PF Olsen reports.

11 <https://www.mpi.govt.nz/forestry/forestry-in-the-emissions-trading-scheme/about-forestry-in-the-emissions-trading-scheme-ets/how-the-ets-applies-to-forestry/>.

New Zealand Emissions Trading System

The Emissions Trading Scheme (ETS) in New Zealand was designed to create incentives to reduce greenhouse gas emissions and help meet international obligations under climate-change treaties. Forestry is one of the sectors covered by the ETS and encourages new forests to be planted and older forests to be replaced.¹¹ All assets managed by New Forests in New Zealand are registered in the Emission Trading Scheme and complete an annual review to optimise carbon balances as part of the strategic modelling and valuation processes. In addition, sensitive riparian areas are being transitioned back into native forest areas and these areas are being evaluated for opportunities to register with the ETS as permanent carbon. Further analysis to optimise carbon value is also being considered at the consolidated fund level for our New Zealand assets. This analysis will support the marketing and overall purchase price of our New Zealand assets and continue to create and maximise value for future management of the assets.



Section 2b: Voluntary Carbon Markets

Voluntary carbon markets allow for the voluntary trading of voluntary carbon credits between market participants for reasons such as fulfilling their net zero or decarbonisation targets, demonstrating a commitment for environmental responsibility or satisfying other climate pledges. The voluntary carbon market fosters a sense of corporate and individual environmental stewardship, enabling participants to contribute to global climate action, even when not bound by regulatory mandates, and play a role in advancing the transition to a low-carbon economy.

Voluntary carbon credits are generated based on various methodologies and verified by independent third-party registries such as Verified Carbon Standards (VCS), Gold Standard (GS), Plan Vivo and Climate Action Reserve (CAR), to ensure legitimacy and prevent double counting. The pricing for voluntary carbon credits vary based on project attributes. See **Figure 7** below.

Figure 7: Voluntary carbon market transaction volumes and prices by category 2021–2023 YTD

Category	2021			2022			2021–2022 Percent Change			2023 (YTD)
	Volume (MtCO ₂ e)	Value (USD)	Price (USD)	Volume (MtCO ₂ e)	Value (USD)	Price (USD)	Volume	Value	Price	Price (USD)
Forestry & Land Use	242,339,151	\$1,401,461,426	\$5.78	113,253,651	\$1,148,848,783	\$10.14	-53%	-18%	+75%	\$11.21
Renewable Energy	214,508,581	\$463,950,451	\$2.16	92,477,042	\$386,054,729	\$4.16	-57%	-17%	+93%	\$3.97
Chemical Processing & Industrial Manufacturing	17,253,275	\$53,877,016	\$3.12	13,338,781	\$68,531,895	\$5.14	-23%	+27%	+65%	\$4.69
Household / Community Devices	8,687,821	\$46,606,814	\$5.36	9,070,331	\$77,590,244	\$8.55	+4%	+66%	+60%	\$7.33
Energy Efficiency / Fuel Switching	10,936,656	\$23,583,132	\$2.16	6,601,354	\$35,577,952	\$5.39	-40%	+51%	+150%	\$3.69
Waste Disposal	11,647,530	\$42,292,142	\$3.63	6,207,615	\$44,870,139	\$7.23	-47%	+6%	+99%	\$9.00
Agriculture	987,026	\$9,525,119	\$9.65	3,783,393	\$41,700,362	\$11.02	+283%	+338%	+14%	\$6.43
Transportation	5,405,466	\$6,257,391	\$1.16	176,338	\$770,485	\$4.37	-97%	-88%	+277%	–

Notes:

We cannot report on average price for Transportation credits in Q1–Q3 2023 because of the confidentiality of individual EM respondent data. Price data is expressed as volume-weighted averages.

2021 and 2022 volumes, values, and prices update as new data are reported by EM Respondents, which may cause discrepancies between the data in the table above and data reported in previous EM reports.

2023 Volumes and Values will be reported in early 2024.

2023 average price is preliminary for transactions taking place from January 1–November 21, 2023, which were reported to EM as of November 20, 2023. However, the above-reported 2023 price is not inclusive of all EM Respondents through this data due to variances in their trade reporting frequencies. The totals above represent 151 unique respondents in 2021, 113 unique respondents in 2022, and 74 unique respondents in 2023 to date.

Source: Ecosystem Marketplace, Insight Report: Paying for Quality, State of the Voluntary Carbon Markets 2023 (November 2023).

Nature-based solutions can generate voluntary carbon credits with significant co-benefits (conserve biodiversity, protect nature and support local communities and livelihoods).

Currently, New Forests’ Southeast Asian and the African regional strategies and investments into sustainable forestry and nature-based solutions projects are expected to actively participate in the voluntary carbon market by generating high-quality voluntary carbon credits through the following methodologies:

1. Afforestation, Reforestation and Revegetation (ARR):

These projects revolve around reinstating tree cover on lands that were previously devoid of forests. They are fundamental in addressing deforestation, enhancing biodiversity, mitigating climate change, and contributing to ecosystem restoration.

- **Plantation ARR:** Afforestation, reforestation, and revegetation of plantation forests with the intent to harvest and repeat planting cycles.
- **Natural ARR:** Afforestation, reforestation, and revegetation of natural forest with no intent to harvest.

2. Improved Forest Management (IFM): These initiatives focus on optimising the management practices of forested areas to enhance carbon sequestration, biodiversity, and overall ecosystem health. They aim to increase or maintain the carbon stored within forests, contributing to climate change mitigation efforts while ensuring sustainable use of forest resources.

- **IFM-ERA:** Improved forest management through extending rotation age of the plantation crop. i.e., conversion of short rotation crop to long rotation crop (such as pulp regime to sawlog regime).
- **IFM-LtP:** Improved forest management through the conversion of logged areas of natural forest to a protected forest.

3. Reducing Emissions from Deforestation and Degradation (REDD/ REDD+): These initiatives focus on the reduction of emissions from deforestation and degradation by protecting from unplanned and planned drivers of deforestation and degradation, by proving the land faces a substantial and imminent threat of conversion.

4. Restoring Wetland Ecosystems (RWE): These projects focus on rewetting the peatland through the construction of permanent and/or temporary structures (e.g., dams) which hold back water in drainage waterways (peatlands restorations).

Figure 8: VCM Transaction Volumes, Values, and Prices, by Forestry and Land Use Project Types, 2021–2023 YTD

Project Type	2021			2022			2023 (YTD)
	Volume (MtCO ₂ e)	Value (USD)	Price (USD)	Volume (MtCO ₂ e)	Value (USD)	Price (USD)	Price (USD)
Afforestation, Reforestation & Revegetation (ARR)	14.7	\$116.8M	\$7.97	9.9	\$116.6M	\$11.79	\$15.60
Improved Forest Management (IFM)	24.5	\$199.5M	\$8.14	4.5	\$65.8M	\$14.77	\$12.34
REDD+	167.1	\$861.3M	\$5.15	58.5	\$600.6M	\$10.26	\$10.84
All forestry & land use	242.3	\$1.4Bn	\$5.78	113.3	\$1.2Bn	\$10.14	\$11.21

Notes:

Price data is expressed as volume-weighted averages.

2021 and 2022 volumes, values, and prices update as new data are reported by EM Respondents, which may cause discrepancies between the data in the table above and data reported in previous EM reports.

2023 Volumes and Values will be reported in early 2024.

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Source: Ecosystem Marketplace Insights Report: Paying for Quality.

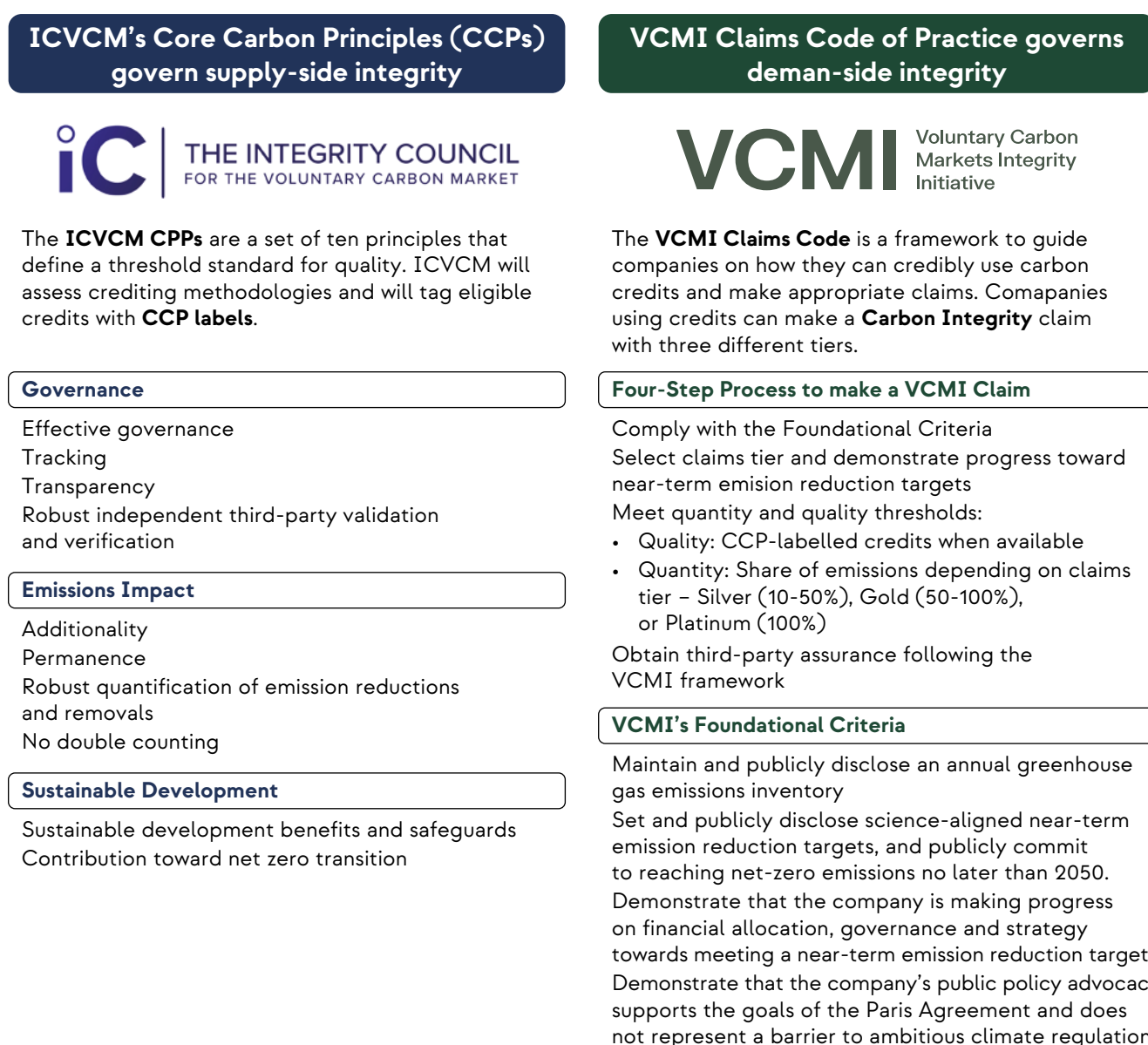
Integrity and New Forests systems/framework

Integrity is a key consideration with regard to voluntary carbon markets.¹²

Two key initiatives have been established that look to ensure the quality and integrity of the voluntary carbon market, to provide clarity and catalyse investment and participation in the voluntary carbon market:

- The Integrity Council for the Voluntary Carbon Market (ICVCM) provides guidance to govern supply-side integrity: Core Carbon Principles (CCP); and
- The Voluntary Carbon Markets Initiative (VCMI) has the Claims Code of Practice as a framework to guide companies on how they can credibly use carbon credits and make appropriate claims.

Figure 9: ICVCM and VCMI safeguard supply – and demand side integrity



Source: ICVCM, VCMI

¹² The use of carbon credits to meet regulatory compliance obligations is deemed as 'credible climate action' due to the declining emissions caps which are part of regulatory schemes in different jurisdictions. As such, companies seeking to purchase carbon credits to meet regulatory compliance obligations DO NOT have to be assessed in terms of integrity.

New Forests continually monitors market developments such as the Integrity Council for the Voluntary Carbon Market (ICVCM) and the Voluntary Carbon Markets Integrity Initiative. New Forests supports the recommendations of the ICVCM's *Core Carbon Principles* (<https://icvcm.org/the-core-carbon-principles/>) and will consider these Principles as part of standard selection and project development, as appropriate.

Meanwhile, as these initiatives were being established, New Forests published our public position statement on carbon credits in December 2021.¹³

Supply-side integrity

Based on our New Forests Sustainability Framework, New Forests investments shall use carbon offset protocols that promote integrity of environmental outcomes while safeguarding against adverse impacts on the environment and society.

Figure 10: Carbon Offset Protocols



¹³ https://newforests.com/wp-content/uploads/2021/12/NWF_-301817_Carbon-Credits-Integrity_WEB.pdf

Demand-side Integrity

New Forests believes demand-side integrity is critical to ensuring that carbon credits are used in a way that supports genuine emissions reductions in line with achieving net zero emissions across the global economy by 2050. New Forests believes that every company has a role and a responsibility to transition to net zero emissions by 2050. As such, our starting point is that no sector should be excluded from purchasing carbon credits to support voluntary emission reduction commitments. That said, investors need to be taking credible climate action according to the mitigation hierarchy and we use that in our in-house assessment for credible climate action (outlined below).

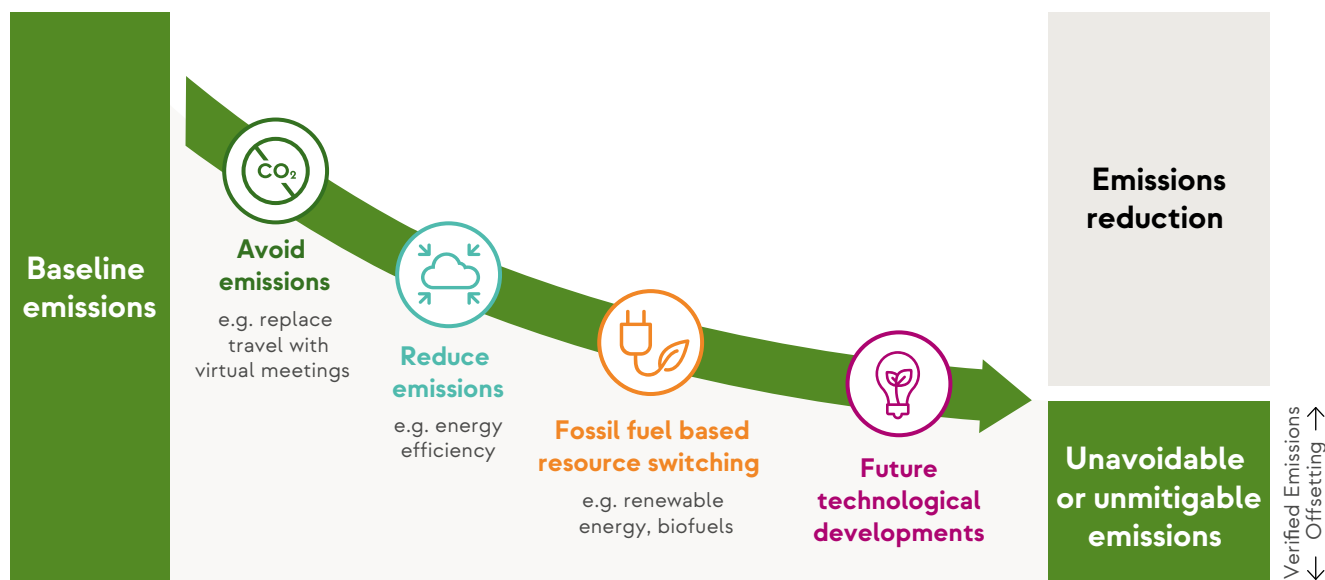
Companies that use carbon credits for their voluntary commitments need to be taking credible climate action in line with best practice guidance¹⁴ including:

- Committing to net zero by 2050 with nearer-term targets;
- Delivering on a plan to reduce emissions based on the mitigation hierarchy (**Figure 11**);
- Only using credits as an interim target for hard to abate emissions; and
- Advocating for robust policies to address climate change.

The key elements of the mitigation hierarchy are shown in **Figure 11**.

New Forests supports the sale of carbon credits to companies for the purpose of meeting their voluntary climate commitments, where the company is taking credible climate action aligned to the goals of the Paris Agreement. Where New Forests plans to sell carbon credits to a company under a bilateral agreement, we will engage an independent consultant to assess whether the company is taking credible climate action, based on a Demand Side Integrity Assessment New Forests developed to consider and assess the demand-side integrity of buyers of carbon credits from projects managed by New Forests. The Assessment is a risk-based scoring methodology and includes key elements of the Climate Action 100+ Net Zero Company Benchmark¹⁵, as well as other recommendations from best practice standards and guidance. New Forests' Integrity guidance document is available on our website and also via this link <https://newforests.com/impact/our-sustainability-approach/>.¹⁶

Figure 11: Key elements of the mitigation hierarchy



¹⁴ Including but not limited to the Science Based Targets, Race to Zero, Oxford Principles for Net Zero Aligned Carbon Offsetting, Voluntary Carbon Market Integrity Initiative, Integrity Council for Voluntary Carbon Markets, Natural Climate Solutions Alliance.

¹⁵ All indicator a) level indicators and b) level indicators where the publicly disclosed response rate was > 40%.

¹⁶ Including but not limited to the Climate Action 100+ Net Zero Company Benchmark, The Net Zero Standard for Oil and Gas, the Transition Pathway Initiative framework, and the Science Based Targets Initiative.

Section 3

Carbon Capital: Revolutionising Investment through Nature's Economy

The rising economic and environmental importance of NBS is leading to new investment opportunities and increasing optionality around the management of land-based assets.

Climate change policy and carbon markets in major agricultural economies are already creating value for forestry carbon sequestration. Rising carbon prices are driving new investment decisions in forestry and in land management—with more value and expected investment return shifting to activities increasing carbon sequestration. As the price of carbon rises, land use shifts from grazing, crop production, and lower value forestry toward longer forestry rotations, new plantation establishment, regenerative agricultural practices, and ecosystem restoration. The tipping point among these uses can be sudden, and cash flows associated with increased carbon sequestration increasingly become capitalised into land values.

Figure 12 below illustrates these tipping points in land use against a rising carbon price. Nature conservation must be balanced with food and timber production and other land uses to meet all of society's economic, environmental, and cultural needs.

Figure 12: Land use against rising carbon price

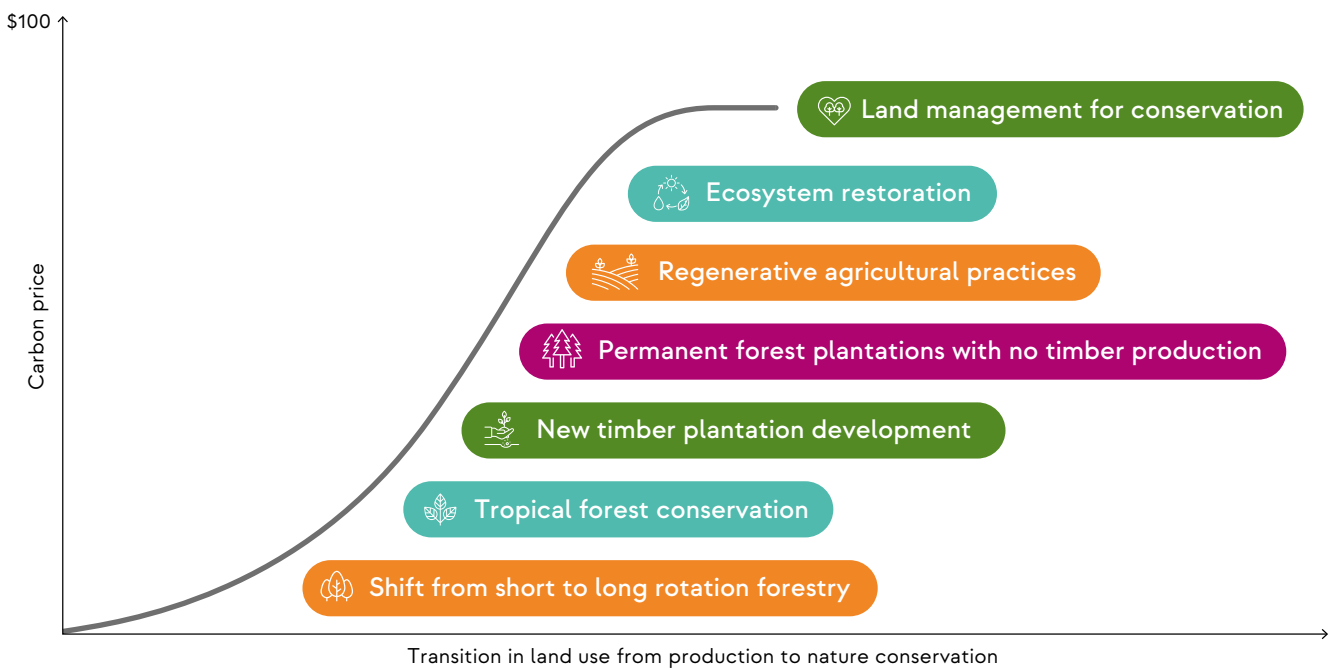


Figure 13: Examples of sustainable land use transition linked to carbon pricing at New Forests

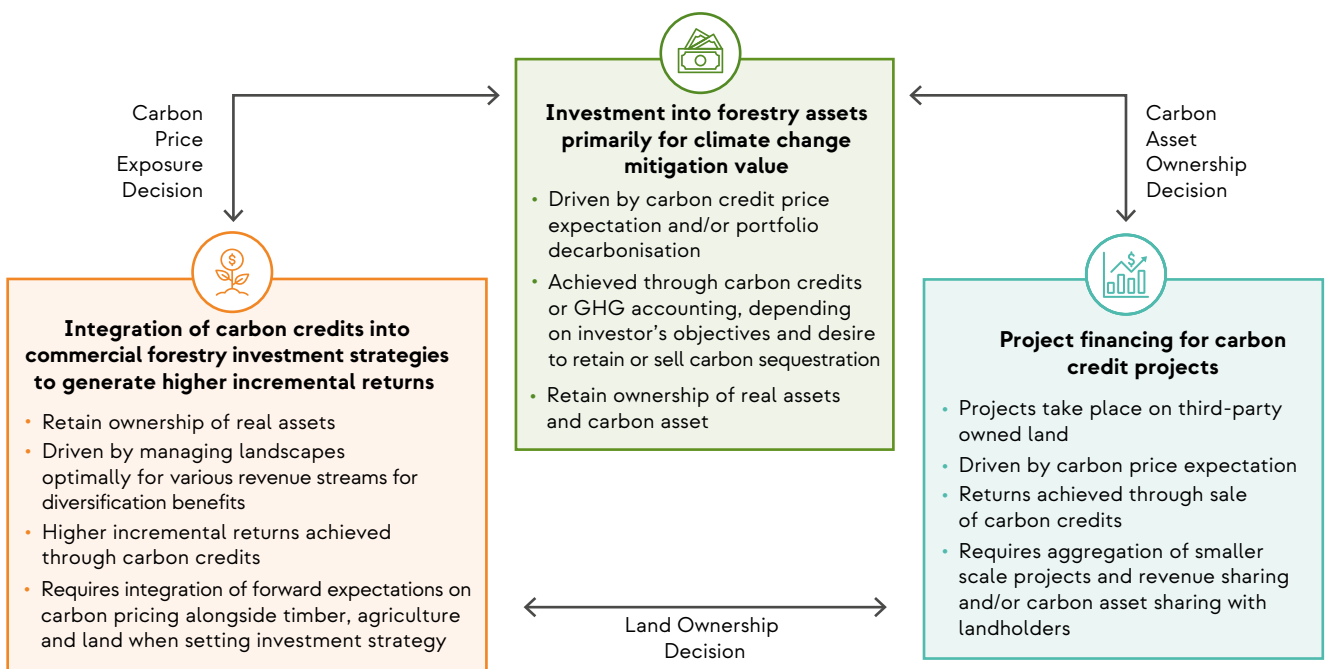
<p>The New Zealand carbon market provides opportunities to increase cash flows to typical 25–30-year rotations in New Zealand and increase IRR for greenfield projects by approximately 400 to 600 bps over a timber-only return and also creates opportunities for biodiversity-rich ecosystem restoration.</p> <p>Rising ACCU pricing in Australia is creating new value for existing forestry investments and creating new opportunities for greenfield development and restoration. Generating ACCUs from moving from short- to long-rotation forestry could incrementally add 75 to 125 basis points to the timber-only investment return. Opportunities for greenfield plantation development and ecosystem restoration are growing with rising ACCU pricing but are challenged by rising land prices for agricultural production.</p>	<p>New Forests' US carbon forestry strategy on average seeks to generate 200 to 400 basis points of additional return above a timber-only return through optimised management of timber and carbon for the California carbon market including both through the protection of mature forests and the enhancement of biological growth.</p> <p>Tropical forests and landscapes will play a critical part in addressing climate change. In fact, most of the reforestation required to meet Paris Agreement targets will take place in tropical regions of the world. Managing carbon asset value via the voluntary carbon market is a critical aspect of New Forests' sustainable forestry investment strategies in Southeast Asia and Africa, particularly Afforestation/Reforestation, Improved Forest Management, and Reduced Emissions from Deforestation and Degradation.</p>
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New investment models and strategies in forestry and land use are emerging as investors look at NCS as part of portfolio decarbonisation and as a new investment opportunity. While investment in activities associated with NCS can be pursued from a variety of asset allocations within an institutional portfolio, from a real assets perspective New Forests sees three strategies particularly emerging, as shown in **Figure 14** below:

1. integration of carbon credits into commercial forestry investment strategies to generate higher incremental returns;
2. investment into forestry assets primarily for climate change mitigation value; and
3. project financing for carbon credit projects on third-party land.

Which model and strategy an investor pursues is highly dependent upon the answers to the key questions at the top of this section and decisions related to land and carbon asset ownership and tolerance to carbon price exposure.

Figure 14: Emergence of the New Investment Models in Forestry and Land Use

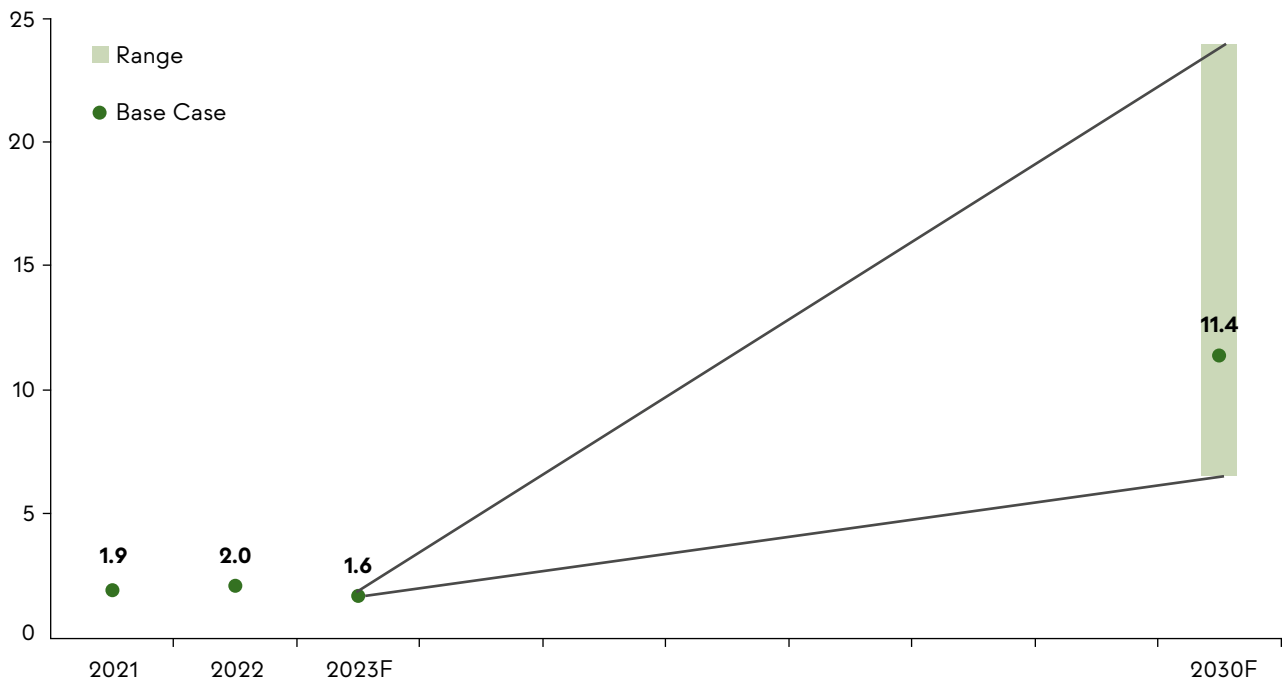


Carbon credits are emerging as a transformative tool in this revolution to mitigate against climate change. These credits represent a metric tonne of carbon dioxide emissions reduced or removed from the atmosphere, offering a tangible measure for offsetting carbon footprints. Investment in projects that generate carbon credits, not only furthers environmental goals but also creates an additional revenue stream. Carbon trading markets are burgeoning, providing an exciting arena for savvy investors to engage in impactful investing.

Whether through a voluntary or compliance market structure that evolves over time, companies will need to use limited offset solutions to balance their unavoidable residual emissions.

Strong fundamentals of ambitious corporate net zero commitments coupled with limited supply of voluntary carbon credits will place upward pressure on carbon credit prices. In addition, there are expectations of a convergence between the compliance and voluntary carbon markets due to Article 6 of the Paris Agreement, which will further drive voluntary carbon prices upwards. The primary value of voluntary carbon market could increase from US\$1.6 billion by the end of 2023 to between US\$6 billion and US\$24 billion by 2030.¹⁷

Figure 15: The primary market value of the VCM is expected to grow 4-7x from 2023 to 2030. Primary market size of the VCM, US\$ billion



Market size calculated based on total annual retirement and average annual price for each project type. It is equivalent to the primary market size and excludes the secondary market.

Source: MSCI Carbon Markets

¹⁷ GenZero, Carbon Markets 2.0 Addressing pain points, unlocking impact (December 2023).

Conclusion

Investors are playing a critical role in driving investment into carbon sequestration, leading to climate change mitigation, and in doing so they are also benefitting from the financial returns investments in the carbon markets bring.

Carbon credits are becoming an increasingly important tool in the fight against climate change. A summary of the opportunities the carbon markets present for investors is given below.

1. Urgency and Opportunity in Climate Action:

The pressing need to address climate change presents not just a challenge but also an opportunity for transformative change. Decarbonisation is essential for mitigating the impacts of global warming and offers a path to revolutionise industries, stimulate innovation, and create a sustainable future. Investors have an opportunity to be part of this transformation.

2. Emerging Importance of Carbon Credits in Climate Strategy: Carbon credits are becoming an increasingly valuable tool in the fight against climate change. They provide an economic mechanism to incentivise carbon sequestration and emission reduction, playing a crucial role in both compliance and voluntary carbon markets. The growth of these markets underscores the role of carbon credits in enabling companies to meet their net-zero commitments.

3. Critical Role of Nature-Based Solutions (NBS):

NBS play a vital role in climate change mitigation. They offer a natural way to sequester carbon while providing additional benefits like biodiversity conservation and community resilience. The significant potential of forests to absorb CO₂ highlights the importance of these solutions in achieving net-zero emissions.

4. Carbon Assets Providing Diversification and Potential to Enhance Financial Returns: Carbon assets, encompassing both Compliance and Voluntary Carbon Markets, are a diverse and emerging asset class that can enhance portfolio diversification and efficiency for both ESG-focused and broader investors.

5. Investing in Nature-Based Solutions: A nature-based solution investment allows profits to flourish and the planet to thrive in harmony.





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