

# Australian & New Zealand

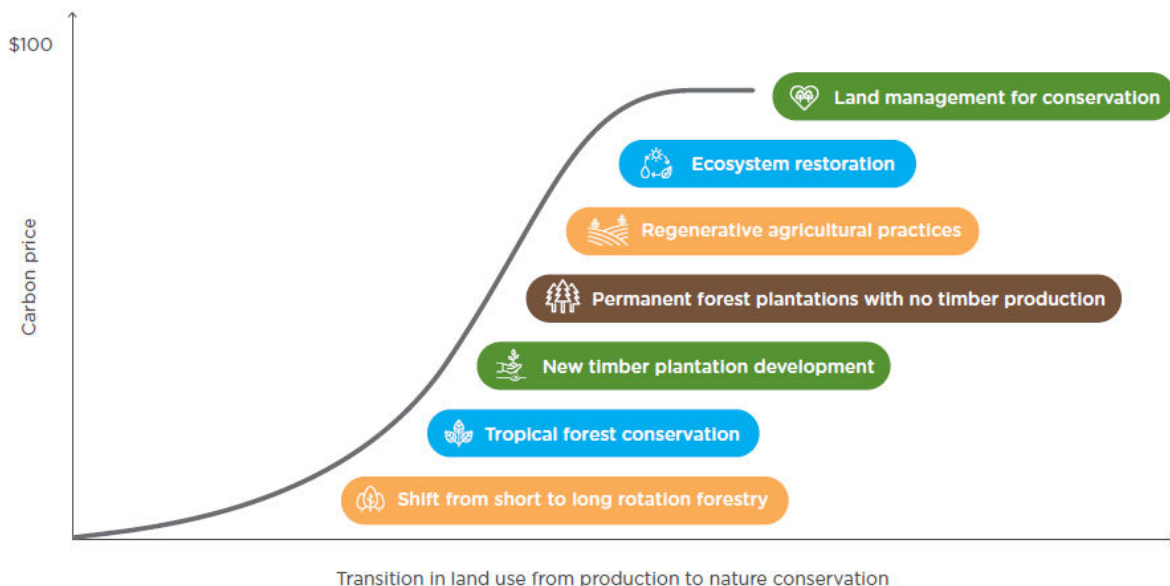
## Carbon Market Insights

### Overview

All modelling that limits global warming to under 2°C requires both eliminating deforestation as well as reforestation of hundreds of millions of hectares by 2050, to remove carbon from the atmosphere.<sup>1</sup> “Removals” are critical to achieving net zero, which is a state in which greenhouse gases released into the atmosphere are balanced by emissions removals out of the atmosphere. Further modelling of potential activities that can limit global warming to under 2°C by 2030 indicates that approximately one third of cost-effective mitigation by 2050 can be provided by Natural Climate Solutions.<sup>2</sup> This transformation in land use will require the mobilisation of hundreds of billions of dollars of investment. This investment must be channelled into Natural Climate Solutions—the protection of threatened forests, improved management of forestry and agricultural production systems, and reforestation of landscapes.<sup>3</sup>

Climate change policy, greenhouse gas (GHG) emissions trading systems and carbon credit schemes in major agricultural economies, are already creating value for carbon sequestration in forests. Rising carbon prices are driving new investment decisions in forestry and in land management—with more value and expected investment return shifting to activities that increase 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 land uses can be sudden, and cash flows associated with increased carbon sequestration increasingly become capitalised into land values. The graph below is illustrative of these tipping points in land use with rising carbon price.

**Figure 1 – Illustrative Pathway of Land Use Change with Rising Carbon Price**



<sup>1</sup> United Nations Intergovernmental Panel on Climate Change, *Special Report: Climate Change and Land*.

<sup>2</sup> Roe et al (2019), “Contribution of the Land Sector a 1.5°C World,” *Nature Climate Change*.

<sup>3</sup> NCS may also sometimes be referred to as “nature-based climate solutions” and “nature-based solutions”.

As part of their national climate change mitigation programs, the governments of New Zealand and Australia are each operating carbon markets that have created substantial new value for the carbon sequestration associated with forestry and land management. There is a rising opportunity to integrate cash flows from carbon credits in commercial forestry investment strategies to generate higher incremental returns as well as to invest into forestry and land assets primarily for climate change mitigation value.

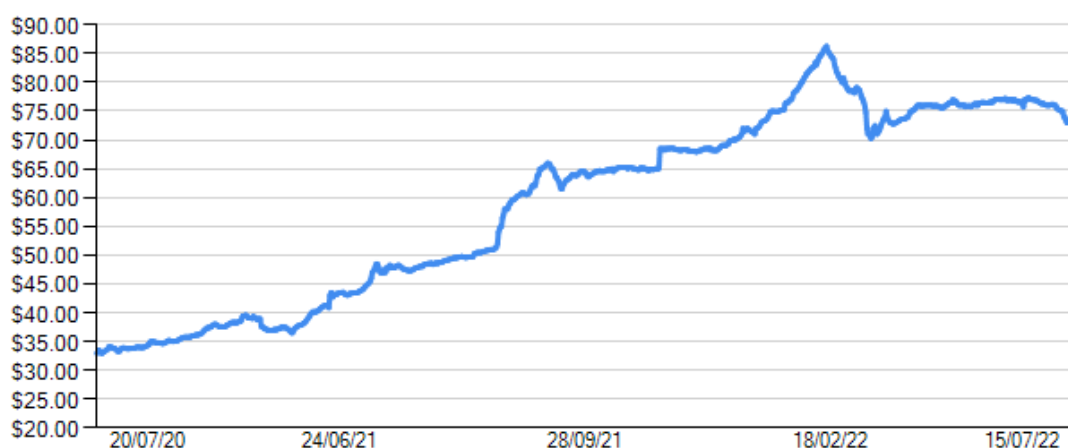
## New Zealand

### New Zealand Emissions Trading System

The New Zealand Emissions Trading System (ETS) is a nationally regulated scheme established in 2008 to support New Zealand’s commitment to be carbon neutral by 2050 and is the country’s main policy tool to reduce GHG emissions.<sup>4</sup> The ETS involves the trade of a carbon instrument called the New Zealand Unit (NZU).<sup>5</sup> The ETS covers 51% of the country’s emissions with NZU allocations provided to industry sectors. The farming and dairy sectors are currently excluded sectors but are likely to be included by the mid-2020’s. NZUs can be purchased through government auction or purchased in the secondary market.

The New Zealand government sets price controls to support the objectives of the ETS. The floor price, or “auction reserve price”, is currently set at NZD 30, and the ceiling price, or “cost containment reserve”, is currently set at NZD 70. These floor and ceiling prices increase on an annual basis. If an auction results in pricing going above the cost containment reserve, the government releases a certain number of NZUs to help control pricing.<sup>6</sup> The NZU spot price has been rising steadily since 2020.

Figure 2 - NZU Spot Prices (NZD per NZU)<sup>7</sup>



<sup>4</sup> For more information, see <https://environment.govt.nz/what-government-is-doing/key-initiatives/ets/>.

<sup>5</sup> 1 NZU equals 1 tonne of CO<sub>2</sub> equivalent.

<sup>6</sup> For more information, see <https://environment.govt.nz/what-government-is-doing/key-initiatives/ets/nz-ets-market/emission-unit-prices-and-controls/>.

<sup>7</sup> Adapted from Jarden, <https://www.comtrade.co.nz/>.

## Forestry in the New Zealand Emissions Trading System

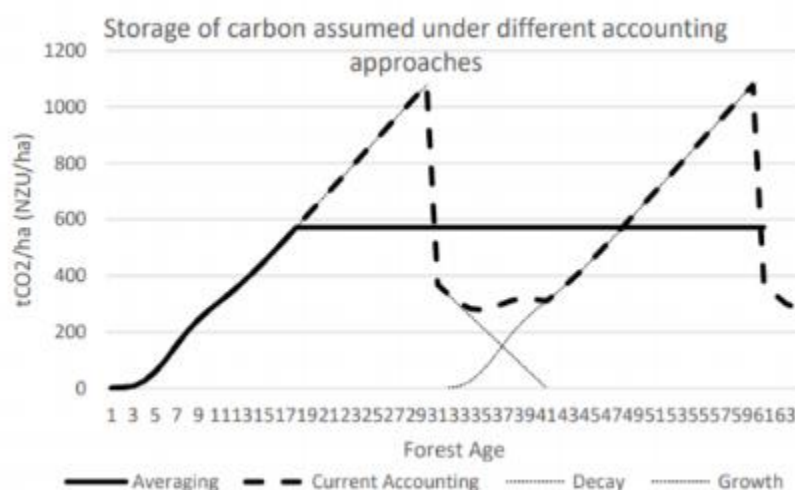
In the ETS, forest land is classified differently depending on when the plantation was first established – pre-1990 or post-1989 forest land.<sup>8</sup>

**Pre-1990** forest landowners can harvest and replant their forest without any liability. But if the land is deforested, the landowner (or a third party who had deforestation rights) must pay units for deforestation. This requires pre-1990 landowners to actively manage pre-1990 land to avoid incurring any unintended deforestation liabilities.

**Post-1989** landowners, or holders of registered forestry rights or leases, can apply to register as ETS participants at any time. Once registered, they can claim NZUs for carbon stored as the forest grows and apply to add or remove forest land in the ETS at any time.

Previously forest owners used the carbon stock-change methodology to quantify NZUs. Since January 2021, forest owners are allowed to use an “averaging” approach to quantify NZUs, which calculates average carbon sequestered over multiple rotations. Averaging means forest owners will be able to trade more NZUs at lower risk; under the carbon stock-change methodology, there is greater risk related to compensating for liabilities associated with over-harvesting relative to a carbon position that has been sold.

Figure 3 – Stock-change Approach vs Averaging Approach to Quantifying NZUs<sup>9</sup>



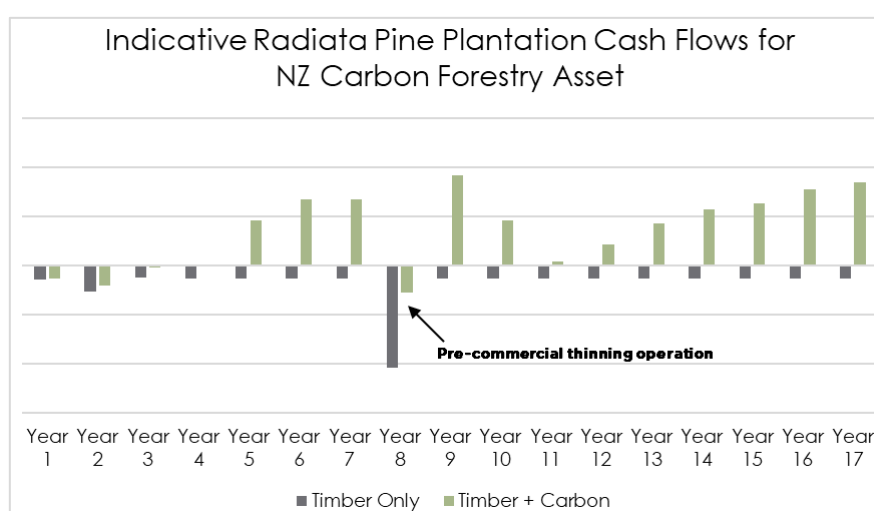
<sup>8</sup> For more information, see <https://www.mpi.govt.nz/forestry/forestry-in-the-emissions-trading-scheme/>.

<sup>9</sup> New Zealand Ministry for Primary Industries, see <https://www.mpi.govt.nz/forestry/forestry-in-the-emissions-trading-scheme/accounting-for-carbon-in-the-ets/averaging-accounting/#avg-accounting>

## Investment Implications

NZU pricing is creating new value for existing timber investments and creating new opportunities for greenfield development and restoration. The New Zealand ETS 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 basis points over a timber only return. New Forests has sold carbon positions from forests it manages in New Zealand and is actively looking at opportunities to establish greenfield plantations for both timber and carbon production as well as opportunities to invest in native species restoration.

**Figure 4 – Indicative Radiata Pine Plantation Cash Flows for Integrated Carbon and Timber Management**



Market evidence indicates that post-1989 land values, and in particular for greenfield afforestation projects, increasing disproportionately to pre-1990 and post-1989 forest land already registered in the NZ ETS.

The increase reflects the latent value of NZU's in post-1989 land not already registered in the ETS, and increases have reflected the increasing value of NZU's. This is most notable in the period after 2020 when the Climate Change Amendment Act removed the fixed price option and auctioning became the default method for allocation of NZUs.

## Australia

### Australia's Emission Reduction Fund

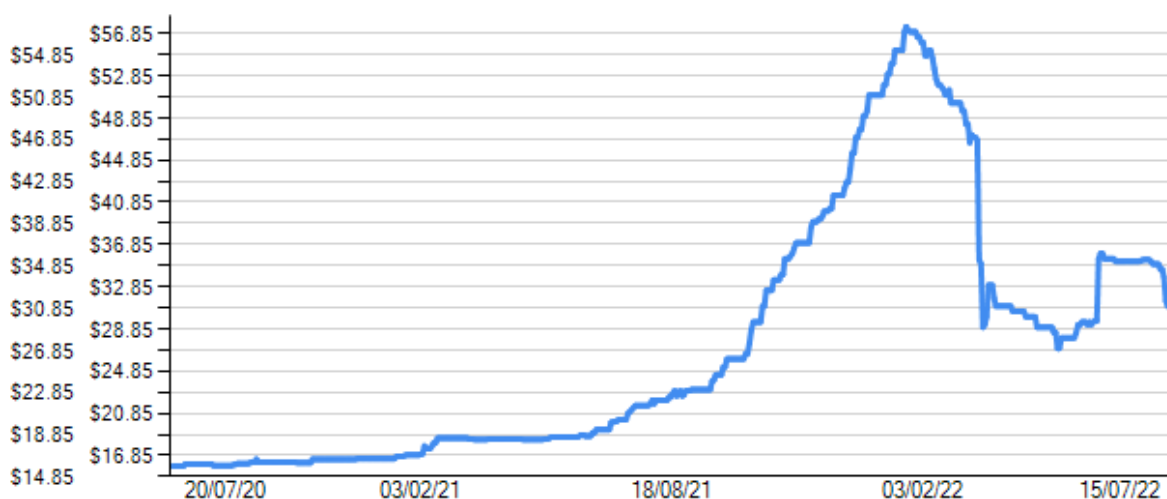
Australia's Emission Reduction Fund (ERF) is a federal government scheme that provides incentives for adoption of practices and technologies that reduce emissions. Various climate change mitigation activities are eligible under the scheme and participants can earn Australian Carbon Credit Units (ACCUs)<sup>10</sup> for emissions reductions. ACCUs can be sold to generate income, either to the Australian government through a carbon abatement contract or in the secondary market. To ensure these emissions reductions are not displaced significantly by a rise in emissions elsewhere in the economy, the ERF also includes a Safeguard Mechanism, which works to keep emissions of relatively large emitters within historical levels.<sup>11</sup>

<sup>10</sup> 1 ACCU equals 1 tonne of CO<sub>2</sub> equivalent.

<sup>11</sup> For more information, see <http://www.cleanenergyregulator.gov.au/ERF>.

The Australian government buys ACCUs in a biannual reverse auction process. Once registered with the regulator, projects can participate in government auctions held twice annually to secure forward sales of ACCUs from a project for a period of 10 years or sell ACCUs into the secondary market. The most recent April 2022 auction resulted in government purchase of 7.6 million ACCU's at an average price of AUD 17.35/ACCU. The ACCU spot market is trading higher with prices steadily rising in early 2022. The drop in spot market pricing in 2022 reflects a sudden policy announcement. The change in policy involved the Australian government allowing ERF contracts to be broken in order to enable suppliers to sell ACCUs into the spot market, given spot pricing has typically been higher than government auction prices. Expectation of greater supply of ACCUs in the open market led to downward pressure on the spot price.

**Figure 5 – ACCU Spot Prices<sup>12</sup>**



## Natural Climate Solutions in the ERF

Nearly 70% of ACCUs issued have been for projects related to Natural Climate Solutions, including climate change mitigation related to improvements in plantation forestry and agriculture, revegetation, conservation, and cool burning of savannahs to reduce emissions related with wildfire. Quantification and verification under the plantation forestry methods are relatively simple in the ERF. Project participants must use the Clean Energy Regulator's prescribed method<sup>13</sup> to calculate their project's average carbon stock. In general, abatement is calculated by subtracting the long-term average baseline carbon stock (where applicable) and any project emissions from the project carbon stock, with a cap on maximum abatement represented by the long-term average project carbon stock. Participants can choose either a 25- or 100-year permanence period. To ensure the plantation forestry method is consistent with the Carbon Credits (Carbon Farming Initiative) Act 2011, a permanence period discount of 25% is applied to a project's net abatement for short-rotation (20 years or less) plantation forestry projects that elect a 25-year permanence period. A 20% permanence discount is applied to all other plantation forestry projects.<sup>14</sup>

<sup>12</sup> Source: [www.accus.com.au](http://www.accus.com.au), adapted from Jarden, <https://www.comtrade.co.nz/>.

<sup>13</sup> This is the Full Carbon Accounting Model (FullCAM); see <https://www.industry.gov.au/data-and-publications/full-carbon-accounting-model-fullcam>.

<sup>14</sup> Clean Energy Regulator, Plantation Forestry Method, <http://www.cleanenergyregulator.gov.au/ERF/Choosing-a-project-type/Opportunities-for-the-land-sector/Vegetation-methods/plantation-forestry-method>.

The ERF also allows for the registration of agricultural projects that reduce methane emissions and capture incremental soil carbon sequestration. Project participants must use the Clean Energy Regulator’s prescribed method to calculate their project’s average baseline soil carbon.<sup>15</sup> Abatement is then measured as incremental additions to soil carbon volumes sampled at least once every 5 years during the projects crediting period of 25 years. Participants can choose either a 25- or 100-year permanence period.

## Investment Implications

ACCU pricing is creating new value for existing timber investments and opportunities for greenfield plantation development and ecosystem restoration. New Forests registered the first project under the ERF in 2018, which sequestered additional carbon by converting an existing short-rotation plantation forest (i.e. 10-15 years) to a long-rotation plantation forest (i.e. 25-30 years) for commercial harvesting of wood products. New Forests has registered a number of projects under this methodology and sold ACCUs through the government auction process. At prevailing prices these projects would be expected to incrementally add 75 to 125 basis points to the timber-only investment return.

New Forests is also actively looking at greenfield plantation development and ecosystem restoration opportunities, including for companies and financial investors who are primarily seeking generation of ACCUs rather than timberland returns—such investment strategies are increasingly linked to decarbonisation of Australia’s fossil fuel industry. The economics of greenfield plantations and ecosystem restoration, however, are challenged by rising rural land prices in Australia, which have been driven by low discount rates, favourable seasonal conditions and increased agricultural commodity prices, particularly for meat and grains.

## Conclusion—Role of Climate Finance in ANZ Investments

The climate change policy environment in Australia and New Zealand are already creating new economic opportunities for climate change mitigation in the land sector. New Forests believes managing landscapes for multiple economic, environmental and social objectives, including climate change mitigation and nature-positive action, is an increasingly important aspect of asset management in the Australian and New Zealand contexts.<sup>16</sup> New Forests recommends that investors start viewing management of landscapes for multiple values including sustainable production of timber and agricultural products integrated with forest conservation, reforestation and ecosystem restoration. This new view of integrated landscape management will require reallocation of capital and dynamic re-optimisation of returns linked to climate impact and portfolio decarbonisation.

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<sup>15</sup> Clean Energy Regulator, Estimating soil organic carbon sequestration using measurement and models method, <http://www.cleanenergyregulator.gov.au/ERF/Choosing-a-project-type/Opportunities-for-the-land-sector/Agricultural-methods/estimating-soil-organic-carbon-sequestration-using-measurement-and-models-method>.

<sup>16</sup> For more information on environmental and social considerations related to carbon markets, see New Forests’ paper “Managing Carbon from Investments in Natural Climate Solutions,” [https://newforests.com.au/wp-content/uploads/2022/04/New-Forests\\_Managing-Carbon-from-Investments-in-Natural-Climate-Solutions\\_April-2022-1.pdf](https://newforests.com.au/wp-content/uploads/2022/04/New-Forests_Managing-Carbon-from-Investments-in-Natural-Climate-Solutions_April-2022-1.pdf). For more information on demand-side and supply-side integrity in carbon markets, please see New Forests’ Position Statement on Carbon Credits Integrity, [https://newforests.com.au/wp-content/uploads/2021/12/NWF\\_-\\_301817\\_Carbon-Credits-Integrity\\_WEB.pdf](https://newforests.com.au/wp-content/uploads/2021/12/NWF_-_301817_Carbon-Credits-Integrity_WEB.pdf).