

Forestry and the New Zealand Emissions Trading Scheme

Overview

This paper outlines the New Zealand Emissions Trading Scheme (ETS) as it relates to forestry with the specific purpose of providing high level guidance to what needs to be considered when looking at investing in forests in New Zealand, particularly understanding the obligations of forest owners. The paper does not evaluate the case for carbon forestry as a driver for investment nor does it propose how carbon as a potential income stream should be covered in a valuation.

Entry Conditions

Under the United Nations Framework Convention on Climate Change and the Kyoto Protocol, New Zealand has commitments to reduce its greenhouse gas emissions. The New Zealand government has chosen the New Zealand ETS as its primary tool to reduce emissions.

Forestry entered the ETS on 1 January 2008. The ETS classifies exotic forests differently depending on whether they were first established before 1990 or after 1989, mirroring rules under the Kyoto Protocol.

Pre-1990 forests

- Was forest on 31 December 1989;
- Remained as forest on 31 December 2007; and
- Was predominantly exotic forest species on 31 December 2007.

Post-1989 forests must have been:

- Not a forest on 31 December 1989; or
- A forest on 31 December 1989 but deforested between 1 January 1990 and 31 December 2007; or
- A pre-1990 forest deforested on or after 1 January 2008 and where any deforestation liability has been met.

About Campbell Global

Campbell Global brings more than three decades of experience and leadership to sustainable timberland and natural resource investment management. As a full-service firm, we acquire and manage timberland for investors, while seeking to provide the highest quality service and expert management. Known for expertise and integrity, we seek to deliver superior investment performance by focusing on unique acquisition opportunities, client objectives, and disciplined management.

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Under the ETS, deforestation is a change of land use out of forestry and is not the same as harvesting.

Participation in the ETS

Participants can enter the ETS in two ways:

- Voluntary – when they choose to bring post-1989 forest into the ETS; or
- Mandatory – when non-exempt pre-1990 forest is deforested.

Landowners who owned less than 50 hectares of pre-1990 forests, or those deforesting land with specified tree weeds, could apply to be exempt from ETS deforestation obligations. The primary unit of trade in the ETS is the New Zealand Unit (NZU). One NZU represents one tonne of carbon dioxide, either released into the atmosphere (emission) or removed from the atmosphere (sequestration). NZUs are stored in a New Zealand Emissions Unit Registry (NZEUR) holding account. Any NZUs claimed for increases in net carbon stock are transferred into this holding account, and any NZUs that must be surrendered for reductions in net carbon stocks must be surrendered from this account.

Before 16 May 2014, post-1989 forestland owners could use other carbon units approved under the Kyoto Protocol—such as European Emission Units Certified Emission Units, and New Zealand Assigned Amount Units to meet their obligations if they were required to surrender units. After this date only NZUs can be used. New Zealand has since withdrawn from the second commitment period of the Kyoto Protocol.

Meeting ETS Requirements

Participants in the ETS have three core obligations:

- Monitor their emissions and/or removals of greenhouse gases;
- Report these to the Government by periodically filing an emission return; and
- Surrender units to cover their reported emissions, or claim units for their removals.

Deforestation emissions represent the forest carbon stocks at the year of forest clearing. These are calculated using look-up tables, a series of pre-calculated values of forest carbon stocks, by age and for a given forest type. The carbon stocks are represented in units of tonnes of CO₂ per hectare. The values are equivalent to the amount of CO₂ removed from the atmosphere and stored in the forest. This amount is the same as that which would be released back to the atmosphere if the forest was fully decayed.

Specific regulations govern the use of these look-up tables. Forest owners with 100 hectares or more of post-1989 forest registered in the ETS must use participant-specific tables generated from the Field Measurement Approach. Default tables must be used to calculate the reduction in forest carbon stocks that arises from deforesting pre-1990 forests. There are separate default tables for nine regions in New Zealand.

Calculating carbon emissions

The total amount of carbon emitted when an area of forest is deforested is calculated using the following formula: $E = A \times C$

Where:

- E = carbon emission due to the deforestation of the land in CO₂ equivalent terms;
- A = the deforested rounded to one decimal place; and
- C = value of carbon stock per unit area (CO₂ equivalent, from the appropriate look-up table).

A worked example: Deforestation of 173.2 hectares of pre-1990 forest in Northland aged 28 years:

- A = 173.2 hectares
- C = 807 tonnes of CO₂ per hectare
- E = 173.2 X 807 = 139,772.4 units required to be surrendered

Offsets and Obligations Faced by Forest Owners

Owners of post-1989 forests can choose to enter the ETS and earn NZUs as their forests grow. They did not receive an allocation of NZUs from the government because they do not face any mandatory obligations. Owners of pre-1990 forests face obligations if they deforest their property, because they received an allocation of NZUs from the government (in two tranches) intended to offset the decrease in land value due to decreased land flexibility.

The ETS regulations were amended to allow for offsetting as of 31 January, 2013. Offsetting provides pre-1990 landowners the opportunity to convert their forest to another land use without deforestation liabilities, provided they plant an equivalent new forest elsewhere. The new forest must be established on land that would be eligible as post-1989 land, and must be of at least the same area and achieve the same carbon stock as the original cleared forest. The new forest cannot be registered as post-1989 forestland and earn credits in the ETS. In recognition of these offset benefits, pre-1990 forestland owners who take up offsetting must to surrender or repay NZUs equivalent to the second tranche of the forestry allocation for the land being offset.

Forestland owners, both pre-1990 and post-1989, who have registered their forests in the ETS, are liable for emissions in the face of disasters that reduce the amount of carbon stored in their forests (e.g., through forest fires).

There are significant administrative costs associated with carbon accounting for post-1989 forests registered in the ETS. These costs are borne by the forest owners. Some post-1989 forest owners have chosen to surrender units to deregister from the scheme because of the high costs of administering the scheme relative to the value of the units.

What Happens When a Forest Changes Owners

NZUs are associated with the growing stock of a forest, rather than the land. When post-1989 forest (including growing stock) registered in the ETS is sold, the buyer and seller must notify the government within 20 working days. The buyer automatically becomes responsible for the NZU balance for the growing stock from the date of the sale, and the seller ceases to be a Participant with respect to the transferred land and trees.

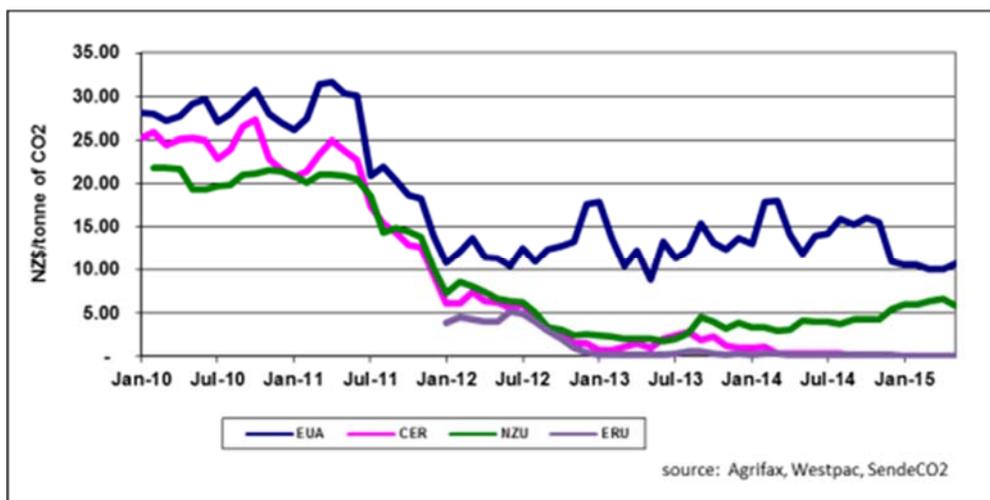
NZUs and Risk

Pre-1990 forest owners have no choice regarding their participation in the ETS, however post-1989 forest owner participation is voluntary. There are two major incentives why a forest owner might voluntarily participate in the ETS:

- The time value of money with units being received during the rotation and not having to be surrendered until after harvest
- Not all units have to be surrendered. Biomass left on the site after harvesting decays gradually and can be as high as 25% of the total calculated stocks at the time of harvest. The carbon units that do not have to be surrendered are often referred to as 'unencumbered'. Unencumbered units in a post-1989 forest are maximized when that forest has a normal age class distribution, i.e., the same area in each age class from establishment to harvest.

An inherent risk in monetizing carbon units earned is not knowing the value of the units until they are surrendered. Some forest owners deal with this risk by limiting any monetization of units to unencumbered units. There are also financial instruments available to forest owners to hedge the value of their units but they can be expensive.

What has Happened to the Value of NZUs?



Five Year
Carbon Price
Trend – NZD
Real CPI
Adjusted

- The price of NZUs peaked at around NZD 21 per NZU in in January 2011 and then fell to NZD 1 by October 2012.
- At the same time as NZUs were at NZD, 1 European Kyoto approved units were as low as 17 cents (NZD)
- The NZU price has trended up over the past two years and has been trading in the range NZD 5-7 in the first quarter of 2015.

Some Recent Developments

Some post-1989 forest owners deregistered from the ETS using cheap international Kyoto approved units, and then re-entered the scheme (as they were allowed to do at that time) to continue earning units. This arbitrage loophole was closed 16 May 2014.

Many forest owners are reported anecdotally to have banked NZUs purchased when prices were very low to cover their obligations in relation to harvesting post-1989 forests or deforesting pre-1990 forests.

Some post-1989 forests owners have chosen to surrender units to deregister from the scheme because of the costs of administration of the scheme.

Despite the government's intentions the ETS has not had a positive impact to date on the afforestation rate, which remains at an historically low level. Nor has the ETS deterred deforestation and land-use conversion – particularly to dairy farming.

Implications for Timberland Investment

Key considerations in relation to the ETS when looking at acquiring forests in New Zealand include:

1. What are the areas of pre-1990 and post-1989 forest?
2. Has any pre-1990 forest been deforested with the obligations for deforestation still outstanding?
3. Is any post-1989 forest registered in the ETS? If so, then what is the status NZERU Holding Account for that area in relation to credits earned versus credits held?
4. For any post-1989 forest registered in the ETS are the obligations around carbon accounting up to date?
5. What are the on-going administrative costs associated with any post-1989 forest registered in the ETS?
6. Has any post-1989 forest registered in the ETS been harvested or cleared (or otherwise destroyed) with the obligations for harvest still outstanding?
7. How should the liability for emissions from disaster, such as fire, be accounted for in assessing value?

About the Author

Rob van Rossen

Rob van Rossen joined Campbell Global in February 2015 as Director of Acquisitions, Australasia, leading the company's sourcing and evaluation of timberland investments in Australasia.

Rob is based in Ohope, New Zealand. With more than three decades of experience in the industry, Rob brings a deep understanding of timberland investments in Australia and New Zealand.



Prior to joining Campbell Global, Rob owned and operated Rob van Rossen Consulting Ltd, serving clients inside and outside the forest products sector. Rob's experience covers forest management and production, logistics, domestic and export log sales, R&D, sawmilling, medium density fiberboard manufacture, team leadership and change management.

Rob has held senior positions with some of Australasia's largest timberland companies. During his tenure with Rayonier New Zealand/Matariki Forests from 2010-2013, he was responsible for all sales and operations, and managed 130,000 ha forest under management. As former General Manager of ArborGen Australasia, he oversaw operations for forest nurseries, seed orchards, science and lab facilities, and tree breeding and clonal production.

Rob earned a degree in Forestry Science (Honors II) and a Post-Graduate Diploma in Business Administration from the University of Canterbury, and completed an Advanced Management Program at the New Zealand Institute of Management.

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