Native Forests in the Emissions Trading Scheme

Contents

Introduction

What about my native forest? This is a common question from landowners when discussing the Emissions Trading Scheme (ETS). Native forests can be eligible for carbon credits under the New Zealand Emissions Trading Scheme, provided they meet certain criteria. There are some unique challenges with native forests which we'll discuss in more detail below.

Afforestation Programmes

New native forests either planted or naturally regenerated after 1989, can participate in either the forestry provisions of the New Zealand Emissions Trading Scheme (ETS) or the Permanent Forest Sink Initiative (PFSI). MAF have more detailed information on these programmes on their website:

There are three main differences between the two programmes:

1. The PFSI involves a covenant on the title of the land, the ETS does not.
2. The PFSI restricts harvesting to a continuous cover basis; there are no restrictions on harvesting with the ETS, although there are harvest liabilities if you do.
3. The unit allocated for the PFSI is an Assigned Amount Unit (AAU) which is internationally tradable. ETS participants receive a New Zealand Unit (NZU) used for domestic trading. An NZU can be converted to an AAU for international trading but there are limitations on how many can be converted, this is at the discretion of the Minister for Climate Change.

While both the AAU and NZU equal 1 tonne CO2, some proponents of the PFSI suggest that because of the higher standards of the programme i.e. limited harvesting, the price paid for AAUs should be higher. At the time of writing AAUs and NZUs have been traded for over two years, and there has been no discernable difference in pricing. However, this may change in the future as the market matures.

Native Forest Establishment

A native forest can be either a planted or a naturally regenerated forest. To qualify for inclusion in either the ETS or PFSI a native forest must have been established after 1989, on land that was not previously forest land i.e. pasture. The area must be larger than 1 hectare and the forest canopy must cover more than 30% of the ground, with the trees reaching at least 5 metres in height.

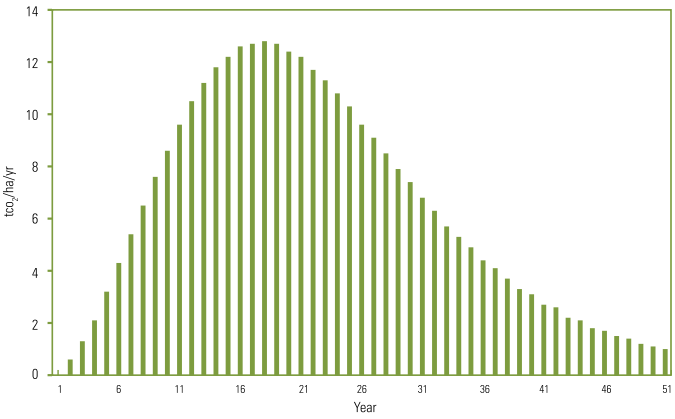
Determining the establishment date is relatively straight forward for planted forests as this is the date the trees were planted. However, this is more difficult for naturally regenerating forests. The establishment date is not necessarily the date the gate was closed, or the date a management decision was made. Consideration is also given to how much forestry there is i.e. it must cover more than 30% of the ground area, and the amount of regeneration that has occurred, as this could be well advanced if the forest was left to revert in the early 1990's. Successful techniques accepted by The Ministry of Agriculture and Forestry (MAF), that are being used to determine establishment date include; aerial photos taken over a period of time to approximately determine when 30% canopy cover is achieved and destructive sampling of existing vegetation, to count the growth rings of plants to estimate the establishment date. In both scenarios, MAF takes a conservative view and usually pushes the date forward by several years.

Rate of Carbon Accumulation

Under the current emissions trading scheme any indigenous forest less than 100 hectares in size must use the indigenous look up tables to calculate carbon accumulation rates: www.carbonfarming.org.nz/documents/2011-ETS-look-up-tables-guide.pdf. Forests over 100 hectares will be required to follow the MAF Field Measurement Approach (FMA). Under the FMA, MAF provides a set of plot locations and measurement guidelines. Measurements are taken by the forest owner and provided to MAF. MAF analyses the measurements and provides a property specific set of look up tables for the applicant to use. Over time, these measurements will be used to create a more robust look up table system for forests with less than 100ha. Currently, there is no data is available for the FMA approach, however, the table below gives an indication of the annual carbon dioxide accumulation provided for in the national look up tables.

The graph above shows that accumulation rates are initially low, but quickly increase to around 12 tonnes CO2 per hectare, per year. The maximum sequestration rate is reached at year 18, and slowly declines thereafter. It is understood that these accumulation rates are based on the natural establishment of indigenous forest on reasonably fertile ex-pasture sites, with modest rainfall. It is widely recognised that these rates are generally too high for most low moisture and low fertile sites in New Zealand. However, unless a forest is over 100 hectares and is required to be measured using the FMA, then these look up tables are all that can be used.

Accumulation Rates for Indigenous Forests



Additional Benefits of Native Forests

Establishing native forests offers additional benefits aside from carbon sequestration. These include: soil stabilisation, improved biodiversity of flora and fauna, enhanced water quality in catchments where the establishment occurs and improved aesthetics. There are also some potential alternative revenue streams that can come from establishing a native forest. Forest owners who allow manuka to establish and revert to native forest are receiving a supplementary income from the collection of honey. Other initiatives are also being investigated including the biodiversity offsets programme conducted by the Department of Conservation. More information on this programme can be found here: http://www.doc.govt.nz/upload/documents/conservation/biodiversity-offsets-programme.pdf

Summary

- New native forests can earn carbon credits provided they were planted after 1989.
- You can claim carbon credits using either the ETS or the PFSI. At present there is no advantage to participating in the PFSI over the ETS. It is also useful to note that the PFSI involves a more onerous process.
- Carbon accumulation in a native forest is about one third of radiata pine, but establishment costs through natural regeneration could be nil, so it provides a viable alternative to planting an exotic forest.
- There are significant additional benefits to be gained from establishing native forests including the potential for income from carbon and honey which could help them pay their way.

More Infomation

ETS — http://www.maf.govt.nz/forestry/forestry-in-the-ets/post-1989-forest-land-voluntary-participation.aspx

PFSI — http://www.maf.govt.nz/forestry/funding-programmes/permanent-forest-sink-initiative.aspx

Look up tables — www.carbonfarming.org.nz/documents/2011-ETS-look-up-tables-guide.pdf

Biodiversity offsets — http://www.doc.govt.nz/upload/documents/conservation/biodiversity-offsets-programme.pdf

Information prepared by the Carbon Farming Group in conjunction with P.A.Handford and Associates Ltd

Go to www.carbonfarming.org.nz for other info sheets on: Greenhouse Gases and Farming Livestock International Agreements Soil Carbon Carbon Trading NZ Government Initiatives Carbon Trading Voluntary Carbon Market Managing Emissions from Livestock Practical Case Studies Carbon Forest Management Risks and Liabilities