

December 2019 ETS and Carbon Update

The recent and on-going review of the NZ Emissions Trading Scheme (ETS) has resulted in a number of changes which will provide significant opportunities for some Forest360 clients. Here we summarise three new elements of the ETS that may be of interest to you:

1. 'averaging' as a way of forest carbon accounting.
2. a new 'Permanent Post-1989 Forest' category.
3. opportunities for older and second rotation forests.

1. Averaging and its implications for Post-1989 forest owners

To date, forest owners with post-1989 forests registered in the ETS have been able to claim the carbon units associated with 'safe' or 'enduring' carbon, and trade them without obligation – in other words, without having to be concerned about liabilities when the forest is harvested as long as the land is re-planted. Averaging will increase the number of obligation-free units available for forest owners to trade as and when they like.

Key conditions around averaging include:

- Only forests (of any species) which enter the ETS from 2019 onwards will be eligible for averaging.
- From the start of 2021, averaging will be mandatory for all forests entering the ETS.
- All first rotation post-1989 forests entering the ETS from 2019 till the end of 2020 will have the option of either saw tooth or averaging accounting (see Section 3 for how this may benefit owners of older forests).
- The amount of enduring carbon allocated will be calculated based on the anticipated rotation length of the first rotation of forest.
- In 2021 a decision will be made on whether older ETS forests can switch to average accounting.

The table below shows the anticipated amount and value of enduring carbon per hectare under averaging for a radiata pine forest with rotations of different lengths:

Rotation length: examples	NZU enduring carbon allocation*	Enduring carbon NZUs/ha**	Value @ \$25/tonne
30	First 18 years	473	\$11,825
40	First 24 years	685	\$16,175
50	First 30 years	855	\$21,375

** the exact way carbon will be allocated has yet to be confirmed, but at present we are basing estimates on 60% of the total volume at harvest which, depending on region and species, occurs at different ages.*

*** data from MPI/Te Uru Rākau Look-Up Tables - Auckland Region, radiata pine. FMA participants will use Participant Specific tables.*

2. New Permanent Post-1989 Forests Category

A new 'Permanent Post-1989 Forest' category is being introduced for forests created on previously unforested land that are unlikely ever to be harvested. The option may well suit:

- indigenous forests – planted or natural reversion.
- spaced poplar and willow pole plantings.
- exotic species forests where the plan is to operate on a continuous cover basis.

Permanent forests will have to maintain a minimum of 30% canopy cover, but this still offers plenty of scope for a range of forest types and management options. Plantations on steep ('red zone') land are one example of a forest type which may well be suited to the Permanent Post-1989 Forests option.

Landowners wishing to create permanent forests and register them into the ETS in the short term are advised to go ahead and do this, as we understand there will be an opportunity to elect to join the new category at the end of the next Mandatory Emissions Return period (the end of 2022).

Carbon repayment following adverse events

Another change in the ETS relates to adverse events and the repayment of carbon which has been claimed for trees which are lost. In the case of both forests managed under average accounting, and new Permanent Post-1989 Forests, owners will no longer have to repay carbon liabilities if the forest is damaged or lost through an adverse event, as long as the forest is replanted. The carbon account will be placed on a 'holiday' until the replacement planting reaches the age the forest was when damaged or lost.

Forests managed on a 'saw tooth' (stock change) basis will not benefit from this change in policy.

3. Older and second rotation forests

Until recently we have seen little advantage in entering 'older' (post 20 years) or recently replanted Post-1989 second rotation woodlots into the ETS. Changing circumstances means we are now recommending that these forests ARE entered into the ETS under the 'saw tooth' regime.

The basis for this change is a growing awareness of the dynamic carbon pricing model. This model assumes that the price of carbon will rise to a point when behaviour will change, and then will fall to a very low value eventually.

The clock is now ticking with these forests needing to be in the ETS before the end of 2020 to qualify for ongoing carbon credit allocation.

The example/graph on the next page makes the following **assumptions**:

- The forest is harvested at age 25 and replanted in 2020 (note that the important thing is to register even if still awaiting harvest).
- The forest is entered into the ETS under the 'saw tooth' accounting model.
- Minimal carbon will be sequestered in the first ten years of growth of the replanted forest.
- The price of carbon will climb to \$50/NZU by 2029 (lower than many commentaries are predicting), stay there till 2045 and then decrease at \$2 per annum until it is \$6/NZU in 2070 (dynamic price model). *This assumes that, as we approach 2050, behavioural change will result in a reduced demand for carbon and hence a declining price.*
- The forest is grown on a framing (unpruned other than edge trees) regime for a fifty-year rotation and then harvested.
- Carbon is sold annually and then repurchased at age 49 at a reduced price for surrender at harvest.
- At age 50 the trees are harvested, and carbon surrendered to cover the ETS obligation.
- There is no guarantee of carbon price, however, with carbon as a legitimate manageable forest product, forest growers can realistically consider longer rotations.
- Total carbon revenue of second rotation = \$44,599/ha.
- Surrender costs for 1,153 NZU/ha for \$6/NZU in 2070 = \$6,918/ha.
- Total carbon surplus (estimated after buy back costs are deducted) = \$37,681/ha.

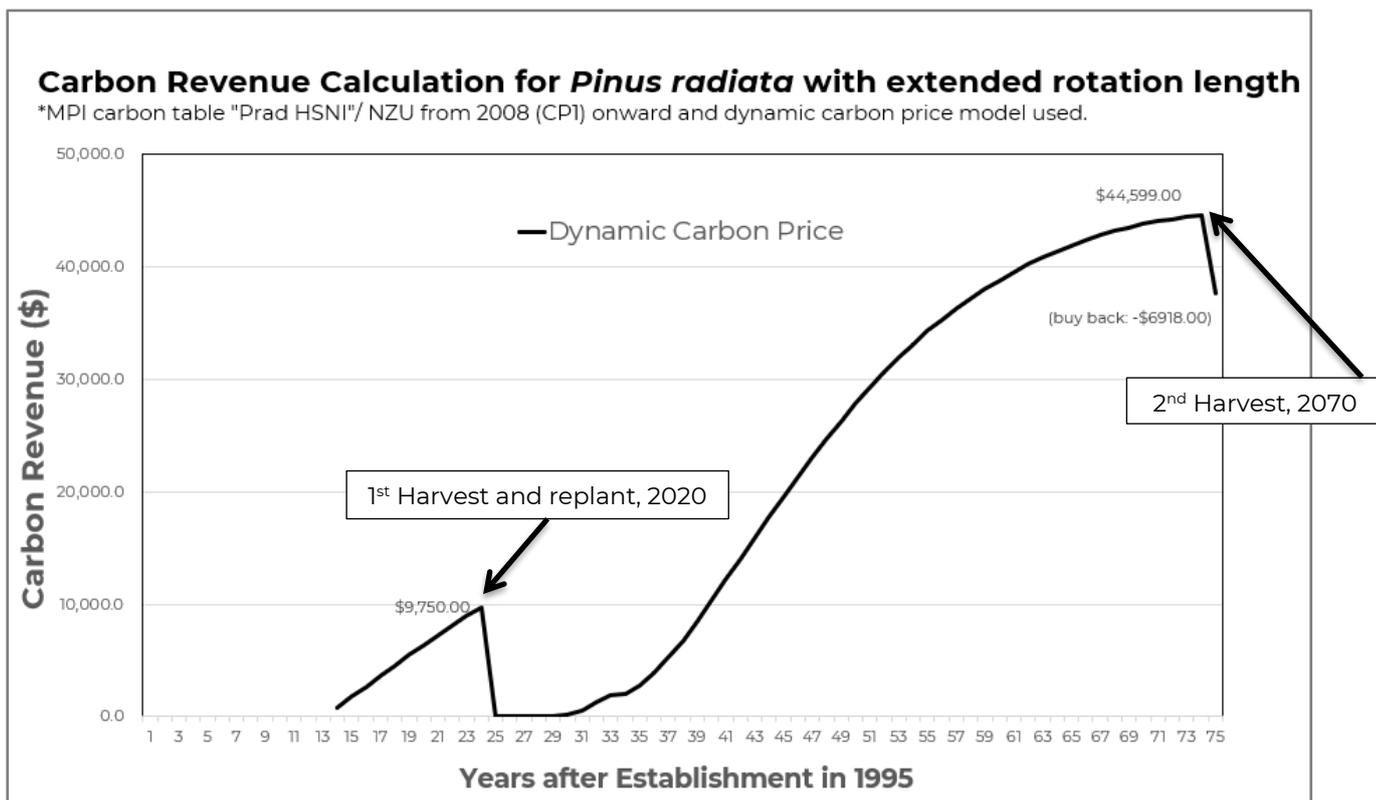


Figure 1: Graph showing indicative carbon cash flow over a longer rotation with the sawtooth model, using a dynamic carbon price (based on assumptions aforementioned).

NB. This graph shows only the carbon revenue and buy back price for the dynamic carbon price model. This is not a guarantee of what will happen but does demonstrate how a forest owner might take advantage of carbon given the price indications that are being discussed more publicly of late.

Greater harvest revenue from older forests

In addition to the carbon revenues generated in the long (50-year) rotation illustrated, the timber stumpage revenues should also increase. There will be more log volume to sell and the grade mix should be of better quality due to the additional time the trees have to grow.

Stumpage values of \$28,000/ha at e.g. age 28 years could increase to \$40,000 to \$50,000 per hectare. The timber revenue could result in an annual average surplus of \$800-\$1,000 (non-discounted) per hectare over and above potential carbon revenues.

Note that this option is only available under the saw tooth carbon accounting approach and to benefit from this, forests must be registered in the ETS before the end of 2020. Given the time ETS applications take to process, we recommend that any interested clients should get in touch with us as soon as possible.

The key thing is to understand how a forest perhaps planted in the early 1990s (that until now did not appear to have a good carbon potential) can take advantage of the limited time left to enter under the saw tooth model (realistically less than 12 months to allow MPI time to complete the processing).

Second rotation forest and averaging

Second rotation forests which are not already in the ETS can register before the end of 2020 and choose to enter under averaging or stock change (saw tooth) accounting. If registered from 2021 onwards, forests will be entered under averaging or permanent only: however, we understand that carbon will not be allocated until the forest age exceeds the original harvest age.

For example:

- First rotation forest which is not in the ETS is felled at age 28.
- This is in the perceived default age band of 26-30, giving an average age/carbon amount of 60% (18 years).
- The forest is registered for the ETS before the end of 2020 and the second rotation gets underway.
- When the second rotation forest grows into the next age band (e.g. 30-35 years) it will receive an additional allocation of credits. This is because the rotation length age has been increased and therefore 60% of the total carbon has also increased.

The ETS is complicated! Please don't hesitate to contact the Forest360 Land Use team (try Andrew, Michelle, Phil or Stuart) if you would like further explanation of these opportunities.



Andrew Buswell



Michelle McCabe

Final word from Stu....

Thank you for your support in 2019. It's been a busy and exciting year with a South Island manager (Phil Orme) appointed, the local team increasing in size, an office move, Margaret off on maternity leave, and now Christmas is looming!

With the Carbon Zero Bill passed, clarity emerging around forthcoming legislation and regulatory changes, and removal of the \$25 fixed price option (FPO) imminent, we expect 2020 to be the year the ETS finally approaches the potential it has to offer landowners.

On a personal note, I will be transitioning out of full-time management in the company in March next year. A sincere thank you to everyone I've worked with and clients who have made what we do possible. It is and will always be a privilege to be invited on to client properties, be entrusted with your position/vision and allowed to be part of your decision process. Thank you for your curly questions, hospitality and trust.

We wish you all the best for Christmas, the holiday season and the New Year ahead.

Stuart Orme and the Land Use Team



MERRY CHRISTMAS
& Happy New Year