

ETS Opportunities - Forestry

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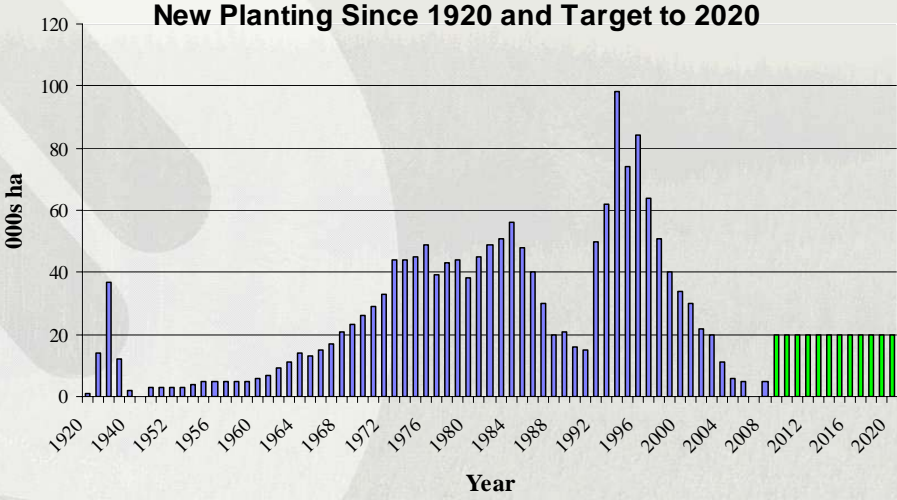
Climate Change Leadership Forum

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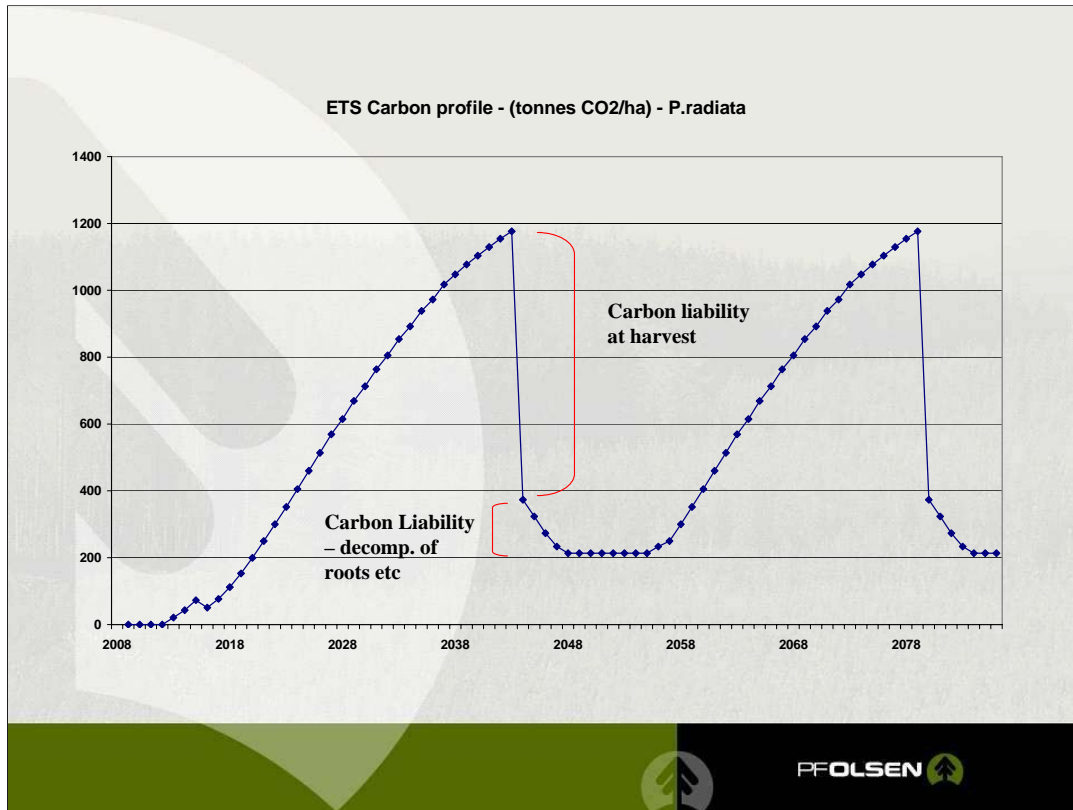
Historical Planting Rates



Economic Impacts – Plant 20,000 ha/annum

- Land purchase/lease - \$26 million/annum
- Planting / releasing, protection - \$20 mill/annum
- Multipliers on these x3 = \$138 mill/annum
- Some loss of pastoral production but this is lowest producing land.

It is expected that at least some of this would be new foreign capital injected into our economy.



- Absorption of carbon increases rapidly after age 5. Not much up til then.
- Can sell carbon as it is absorbed, subject to a good plan to manage harvest liability.
- Harvest occurs as absorption rate starts to level off
- At harvest approx. 70% of carbon is released, and must be purchased back. That is the “harvest liability”.
- Harvest log revenue will help to cover this.
- Replanting means the liability is a maximum of about 75% of the carbon sequestered.
- Flexibility in the term of the land lease is important to manage the harvest liability.

CP2 – CO₂ Absorbed

- Does nothing for CP1 (we really should have started this 5 years ago!)
- Approx 24 million tonnes CO₂ in CP2 (2008-2012).



The calculation is based on the Draft Forestry Regulation tables for the Southern North Island.

It is anticipated that the largest portion of new planting areas will be on erosion-prone soils in the Southern North Island and on the East Coast of the North Island. Farmer offset plantings will of course occur nationally.

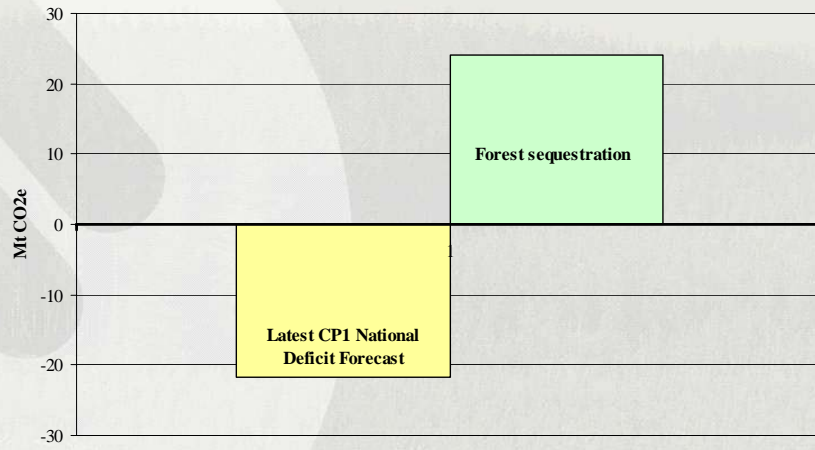
On the East Coast carbon stocks/ha in radiata forests tend to be higher, but lower in the rest of NZ.

No account is taken of emissions generated from the inputs to this planting activity. In relative terms these will be tiny as the activity is not particularly energy intensive.

Attention to correct siting of species, genetics that favour higher density crosses and clones and best-practice establishment and protection are all needed to maximise carbon storage in forests.

24 million tonnes is worth having!

CP2 Forest Sequestration - 20,000ha/annum



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Near-Term Business Activity



Afforestation should only be taking place on cleared land or where the scrub regrowth is scattered or new. This will leave large areas of regenerating manuka, for which the most economic use is honey production.

Expansion of genetically improved seed production is needed.

Tree seedling nurseries and planting activity will expand.



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Near-Term Business Activity



Inventory and tree measurement will become more intensified.
Many jobs will be created in forest planting.

Costs Avoided



The Manawatu flood in 2004 caused an estimated repair bill in the order of \$25 million. This is direct cash costs only and does not account for loss of soil and land productivity or for siltation of riverbeds increasing the likelihood of further breaches of stop banks.

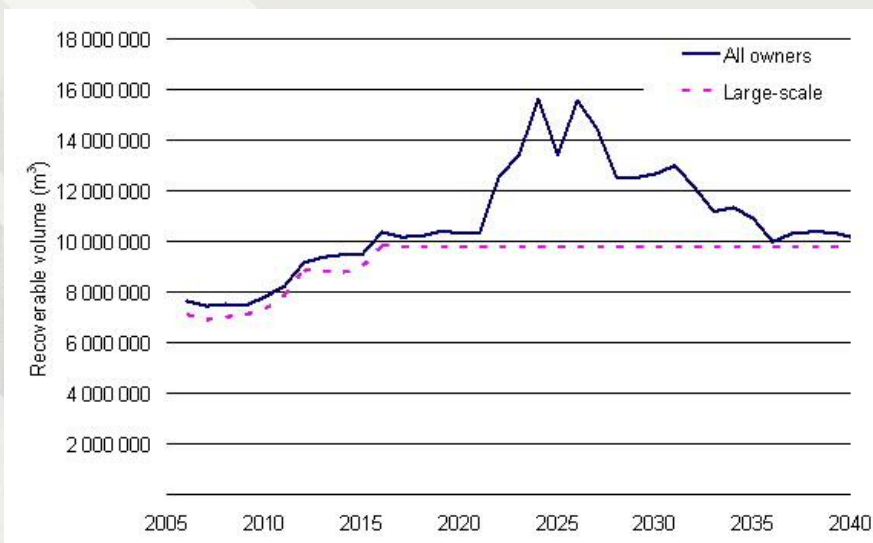


Impact of forests on soil erosion.



Acacia melanoxylon (Tasmanian blackwood) on Mike Malloy's property near Warkworth.

Wood Availability – CNI



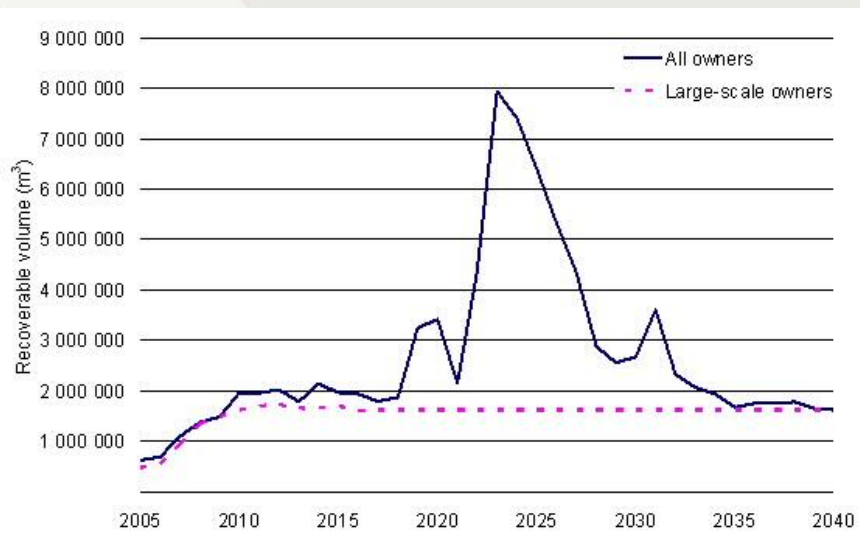
We need more wood processing investment in NZ to make the most of our existing forest estate.

The lack of planting since about 2000 has created a gap in our national forest estate that manifests itself in a rise log supply for a short period.

But this rise in supply is not sustained.

Investors in wood processing are looking for certainty of log supply over long time periods. That certainty would be supported by new planting now.

Wood Availability – East Coast



The situation in some of our new emerging forestry regions is much more marked.

Include Northland, Southern North Island, Nelson/Marlborough and Otago/Southland all in a similar situation.

Making it Happen

- Delay in ETS
- Dilution of market for NZUs
- Devolve AAUs until we have an All Sectors – All Gases ETS up and running.
- Remove deforestation tax – forever!

Delay in legislation, uncertainty as to rules and regulations, and the pushing out of transport and free allocation phase out works against investment in afforestation.

Perhaps a bigger risk that the NZU would be materially devalued if certain sectors were able to opt out of the ETS in favour of entering international sector agreements (cement, aluminium, dairy).

If it is deemed to be in the national best interest to dilute our market for NZUs so materially, it is likely that some different measures will be required to de-risk afforestation investments for Carbon/Timber.

Perhaps AAUs should be allocated for afforestation, rather than NZUs, at least until we have an ETS up and running with All Sectors and All Gases fully involved.

The proposed pre-1990 deforestation tax sends a very negative investment signal to put land into trees – who will ever trust a NZ government again not to restrict land use even for post-1989 forests while this unfair land-use treatment exists – Multiparty Agreement needed. Some controls needed for CP1 plus offsetting.

Land Availability

- Biggest constraint
- Pastoral land values high – doubled last 5 years
- Farmer confidence increasing
- Delays in entry to ETS and long phase-out period
- Little incentive to change land use or exit unsustainable farming



Land Availability

- No further softening of agriculture entry
- National Environmental Standard
- OIO Consents

A strong and preferably multi-party statement that there will be no further delays or softening of targets for agriculture is needed.

A National Environmental Standard covering controls that Regional Councils must impose on land use activities that are likely to cause erosion during high rain events, and pollute fresh waterways with nutrient runoff is urgently needed.

The Overseas Investment Office will need to be resourced properly to cope with foreign entity land purchase applications. The 3 – 12 month processing wait at this time is not helpful, for either investor or vendor certainty.

Labour

- 350 – 700 planters for 3 months
- 230 – 470 spot spray workers for 6 weeks following planting
- Temporary jobs – work permits needed

To plant between 20,000 and 40,000 ha requires a large pool of temporary labour.

The Department of Immigration may need to address this as a matter of policy, in the same way as it has for the fruit pickers.

Non-Wood Forest Products

- Bio-char
- Bio-energy

Bio-char can sequester carbon cheaply.

Charcoal can:

Act as a powerful fertiliser in soils, reducing reliance on energy intensive fertilisers and avoiding harmful nitrous oxide emissions.

Persist in soils for many centuries – acting as a permanent C storage facility.

Generates hydrocarbon gases and liquids during manufacture that can be burnt for energy.

Bio-char appears to increase soil microbial activity. It works best on skeletal and depleted soils rather than those already rich in organic matter. I understand there is some research under way as to what it do for NZ pastoral soils.

The promotion of bio-energy by the Energy Efficiency Conservation Authority, both feasibility studies for conversion from fossil fuels and capital grants for conversions should continue to be supported. As should ethanol from wood research at Scion.

Wooden Structures



The photographs are of PF Olsen Ltd's new office in Rotorua.

The policy that all government funded commercial buildings up to 4 stories high will need to have a wood-based option costed out is positive.

But to really make a difference to energy use and greenhouse gas emissions this should be extended to all buildings as part of the building consent process.

Growing Timber

- Addition of carbon revenues alone not sufficient.
- Must restore forest profitability for timber.



Key drivers of forest profitability are:

Efforts to reduce illegal logging that competes with NZ timbers in international markets.

Removal of trade access barriers for processed timber products.

Increased weights and dimensions and investment in the roads

R&D in harvesting steep terrain. Our productivity is going backwards while Sweden's is advancing rapidly using mechanisation and smart use of technology.