

# Getting the Incentives Right

## 6<sup>th</sup> Australia – New Zealand Climate Change & Business Conference

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The first point:

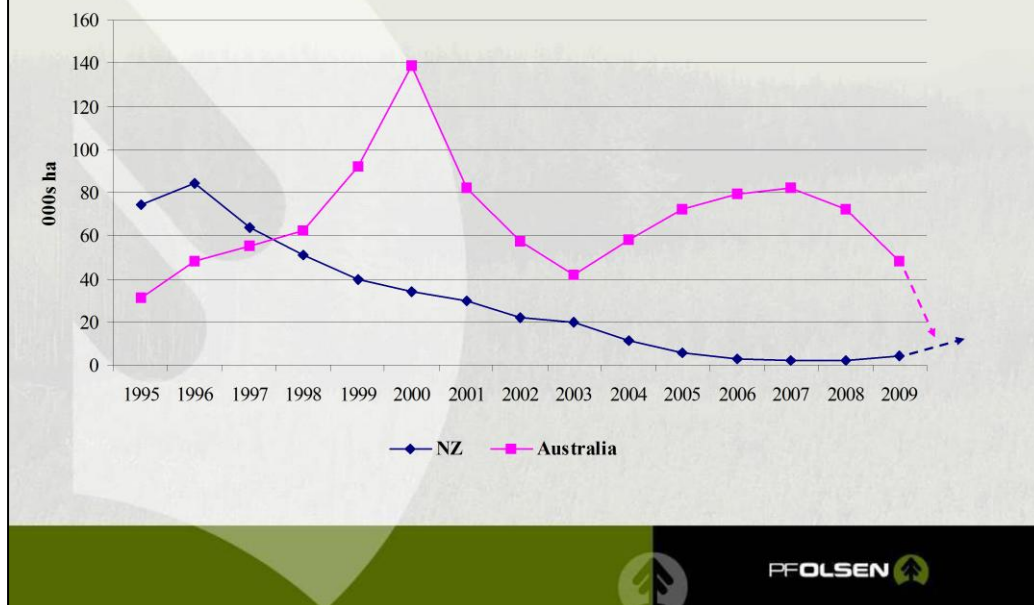
The NZ ETS is fundamentally right. The forest industry does not like the fact that pre-1990 forest land is effectively locked into forest use forever. Industrial emitters and agriculture are upset at an additional cost being placed on their business that competitors in Australia and elsewhere do not yet face. Struggling sheep and beef farmers see the additional fuel and fertiliser costs as the last straw that will break the camel's back – and that is before they become responsible for any on-farm emissions.

The scheme is designed to change behaviour by putting a price on greenhouse gas pollution, and rewarding greenhouse gas reductions or sequestration. It should achieve those objectives without putting either individual businesses or the NZ economy at risk.

The nice thing about the NZ ETS is it really leaves the door open to both industry and forestry to find their own way to minimise the cost or maximise the opportunity from the scheme. This flexibility is important to foster innovation, research and minimise the overall cost to the NZ economy.

My presentation is primarily a commentary on what could be improved in the NZ ETS, as it is up for review in 2011.

# Context – New Land Planting



## NEW ZEALAND

Aggressive new land planting in the mid-1990s was in response to high log prices in the early 1990s and plenty of land available at the \$900 - \$1,000/ha level. Forecast IRRs were in the 7 – 8% real range.

Land prices doubled in the early 2000s in response to good agricultural returns, especially dairy and dairy run-off. The ratio of Land price vs annual earnings has also risen suggesting either acceptance of lower return on capital, or greater expectation of on-going capital gains in land values.

At these higher land values, forestry earnings without carbon are now forecast at 2 – 4% real. That explains the drop off in planting over the last decade.

Forestry has been in the ETS since 1<sup>st</sup> January 2008. Despite the additional opportunity for carbon income, interest in new planting has been muted so far, but there are some promising signs.

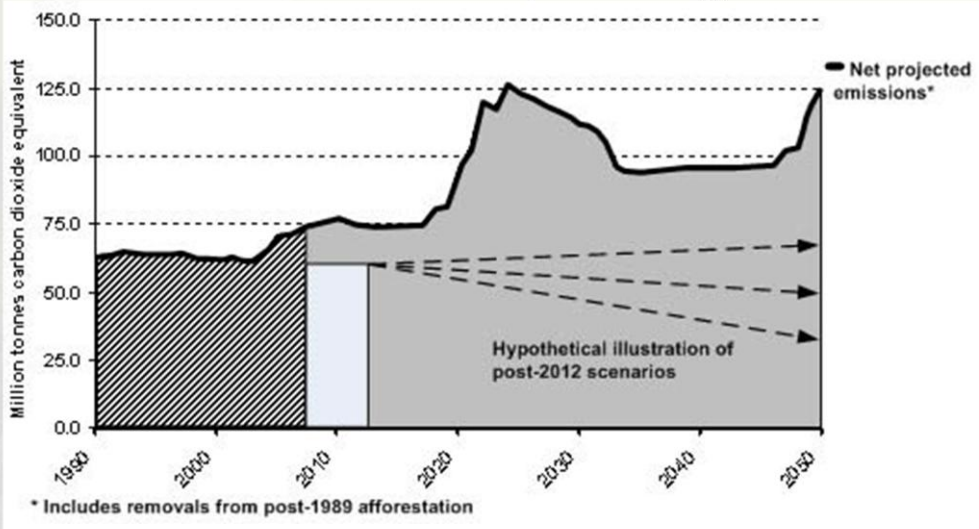
## AUSTRALIA

- 1 Afforestation over the last decade has been MIS driven.
- 2 The high profile collapse of the two largest MIS players has dented investor confidence in the model.
- 3 Some MIS planted land is not performing and is likely to return to pasture in due course.
- 4 Climate changes is making forestry more problematic in the dryer zones, reducing the suitable land area to meet domestic future timber needs.
- 5 A CPRS is needed to stimulate new planting.

## 2010 - 2011

Indications are for a significant drop in planting in 2010 & 2011 in Australia as a result of loss in investor confidence in the MIS model, and for modest increases in NZ with the increased understanding of NZ emitter needs within the ETS.

## Do we need more planting in NZ?



The large hump in emissions commencing 2020 is driven primarily from the harvest of post-1989 forests planted in the mid-1990s. The very same forests that are enabling NZ to meet its CP1 Kyoto commitments become a liability on harvest.

The best way to deal with this is to have some new forests planted now that will be sequestering CO<sub>2</sub> to help offset harvest emissions from 2020 onwards.

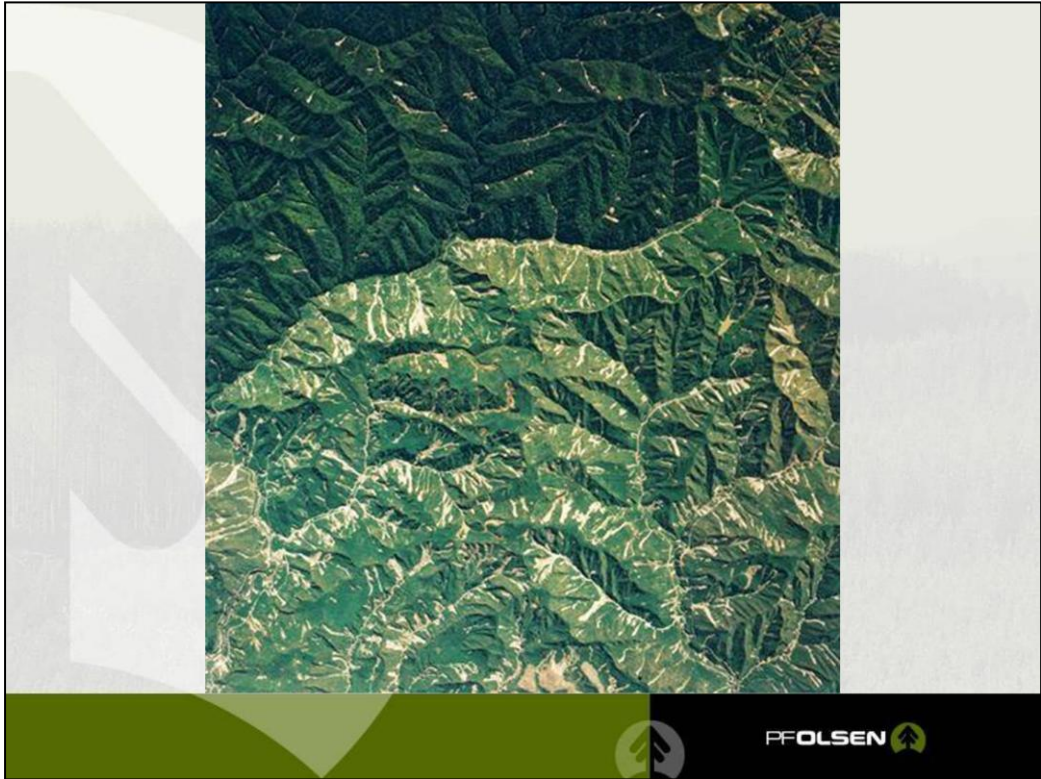


There are other reasons why more forests in NZ is a good idea.

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.



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Impact of forests on soil erosion.

# Water Quality



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Hawkes Bay Pakuratahi Study:

Forest produces less sediment, slightly more water, reduces soil erosion, has a positive effect on stream environment...



National Wine Centre, Australia. Wooden structures are low in both energy use and in greenhouse gas emissions relative to other construction materials.

Forests capture solar energy and turn it into wood that can then be used for building materials or turned into heat or liquid fuel.

# Blockages to New Planting in NZ

- Farmers not engaged
- Harvest liabilities
- Catastrophic loss of carbon

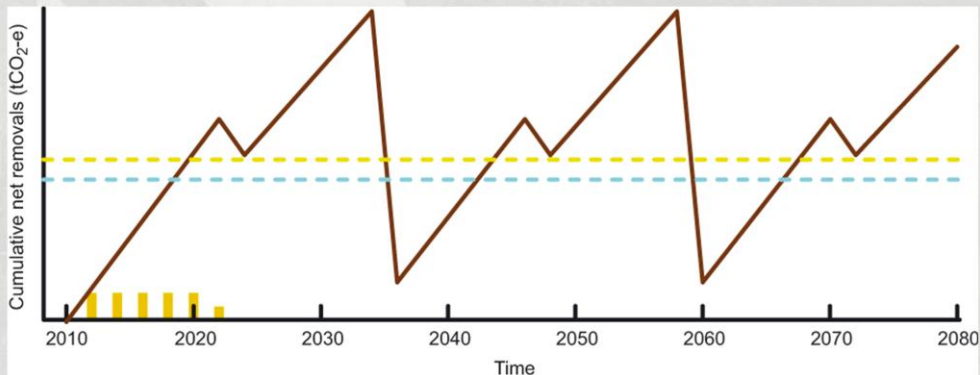
Of any group of potential investors, it is hill country sheep and beef farmers in NZ who are best placed to make money from planting of new forests. Their lobby group, Federated Farmers, has not been helpful but some individual farmers are seeing the opportunity. Most farmers are expecting their lobby machine to keep them out of the ETS forever. To get farmers more engaged I'd like to see:

1. Bi-partisan support for an ETS that includes agriculture in NZ, with the point of obligation at the farm level.
2. Increased education of pastoral farmers about the ETS opportunities from tree planting – the MAF / University of Canterbury seminars recently run around the country are a very good model to extend to smaller centres.
3. Banks to start insisting on farm plans that involve measures to offset exposure to future carbon liabilities as part of the lending criteria.
4. NZ ETS to be amended to include averaging as set out in the draft CPRS legislation – as an option. [Next slide]

# Averaging as Option

- Adopt CPRS model in NZ, as an option

Harvest Forests that are re-established over Time



Yellow line is 50% of the maximum carbon accumulated.

The blue dashed line represents the permit limit including the risk of reversal buffer.

The yellow bars indicate the permits issued.

The slide also represents how the Australian scheme is effectively dealing with the risk to any individual of catastrophic loss outside the reasonable control of the forest owner.

Fire, wind, disease and in NZ volcanic eruption are all real risks. Severe drought is a risk in Australia. Effectively the government covers this loss by holding back some units (the difference between the blue and the yellow lines). We would like to see such a scheme put in place in NZ. While commercial insurance may be available the risk is that the cost will be higher than a scheme underwritten by ALL ETS participants. Commercial insurers will also only offer annual contracts, adding long-term uncertainty.

## Durability of ETS and future price of carbon?

	Scheme Duration (Years)				
	10	15	20	35	50
IRR% @ NZ\$25	4.3%	8.7%	12.3%	14.1%	<b>13.9%</b>

The other main blockage is investor confidence in the durability of the ETS, and the future demand and price of carbon units.

Frankly, until we get some real traction in the international negotiations, this uncertainty is unsolvable by either the NZ or Australian governments.

But the news is not all bad. Modelling we have done of combination carbon / timber crop plantings suggest that if the ETS remains in place for the next 15-20 years, commercial returns of 10% real are achievable with a constant \$25/NZU price.

What if the price of carbon drops away? [Next slide]

# Low Carbon Price

	Carbon Price (\$/tonne)				
	\$15	\$20	\$25	\$30	\$35
IRR (%)	6.8%	10.7%	<b>13.9%</b>	16.5%	18.9%

Forestry offers a hedge for carbon emitters

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Returns look acceptable at the \$20 price, while if prices rise returns from combination carbon / timber forests look pretty good.

The signal to emitters right now is that unless we see US, China, Australia and other key trading partners put a price on carbon, the current 50% and \$25 cash alternative deal will remain beyond 2012. Such a message is not going to get them interested in forest planting. It is not until they get a signal that prices will revert to the international price of carbon for every unit that forestry becomes attractive.

Forestry offers a price hedge for carbon emitters.

# High Carbon Price at Harvest

	Carbon Price at Time of Harvest				
	\$25	\$30	\$35	\$50	\$100
IRR (%)	<b>13.9%</b>	13.8%	13.7%	13.5%	6.9%



What about high carbon price at the time of harvest?

- 35-45 year timeframe means impact of future price increases on IRR is minimal.
- Analysis is conservative as it assumes increase only associated with liability.
- There is however a cash flow risk at the time of harvest to be on top of.

## Harvested Wood Products (HWP)

- New Zealand has proposed the **Emissions to Atmosphere Approach**
  - simple
  - transparent
  - better aligned to what atmosphere sees
  - Increases incentives for long-term storage of carbon in wood
  - Could be applied from the start of CP2. All CP1 harvesting would have already been accounted for as instant oxidation.

- Applies only to forests covered by the Kyoto Protocol, not to existing wood products pool.
- Accounts for emissions when they occur, rather than instant oxidation when tree is severed from the stump.
- All wood in a forest area is allocated to different end-uses. An aggregate lifetime is calculated based on the average lifetime of these.
- Standard lifetimes for all wood products would be internationally agreed, or country-specific lifetimes applied.



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# Offsetting

Change in land use has been fundamental to NZ's prosperity as an agricultural economy for decades.

Pre-1990 land use restrictions are scary for future investors, raising the possibility of future restrictions on any forested land.



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Change out of forest use has been effectively disallowed under the NZ ETS for pre-1990 forest land. While partially compensated, such legislation knocks confidence in afforesting new land.

# Too Much Afforestation?

- Green NGO concerns about clearance of indigenous forest or scrublands.
  - Forest Accord
  - Pre-1990 forest land – no carbon sequestration benefit
  - Cost



Concerns are unfounded.

# Too Much Afforestation?

- Farmers fear land use change from pasture to forestry?



Increased tree planting is intended consequence of the ETS. Net positive for economy after considering environmental impacts.

Plant land that has lowest stock carrying capacity and intensify on the best land. Food security not undermined.

Concerns are unfounded.

# Summary

- New forest planting started but low level of activity.
- Enhancements to NZ scheme:
  - Bi-partisan agreement (durability & farmers in)
  - Price signal to emitters post-2012
  - Averaging
  - Govt run “insurance” for catastrophic loss
  - Offsetting
  - HWP – Emissions to Atmosphere method

1. We have a reasonable balance between putting a modest cost on carbon, without causing firms to go bust or leave NZ.
2. Planting is restricted to a few players. Farmers and NZ emitters mostly not committing yet. Forestry is a long-term solution to what they see is a short term problem.