

For this submission, I will focus primarily upon the Native Forestry sector of the Forestry industry. Normally government processes view forestry as a single entity, combining both plantation and native forestry, particularly when discussing Greenhouse Gas Emissions. There are several reasons for this including streamlining processes, and assumptions that when an ecosystem is logged, it simply grows back as before, recapturing all carbon released from the initial logging activity. This assumption is incorrect, worldwide research, including work performed within the forests of Australia contradict this assumption. For these reasons and those discussed below it is important to view native forests as a separate entity. The role of plantation forestry(an overall sequester) can be enhanced if viewed independently of native forestry(an overall emitter).

The recent United Nations Climate Change conference correctly identified the following points:

Acknowledging the contribution of the emissions from deforestation to global anthropogenic greenhouse gas emissions

Acknowledging that forest degradation also leads to emissions, and needs to be addressed when reducing emissions from deforestation¹

However when proposing action, only emissions from deforestation and forest degradation in **developing** nations were addressed. It is false to claim that emissions only occur when the activities take place within a developing country, are illegal or whether the activities are regulated. In Australia, literally millions of tons of carbon are emitted each year due to logging activities, particularly due to the clearfell & burn practices which are employed by the forestry industry. Whilst activities may comply with regulation, this regulation does not deal sufficiently if at all with greenhouse gas emissions.

Professor Brendan Mackey from Australian National University made a presentation to the parties at the conference speaking of the significance of Victoria's Mountain Ash forests. It would be fair to assume similar carbon pools for other ecosystems, particularly the tall forests of the Eastern seaboard, Tasmania and Western Australia. Commercially logged forests contain between 30-40% less carbon than an unlogged forest. This is particularly the case with the clearfell and burn regime. Each subsequent harvest continues to emit more CO₂ than it will ever regain. According to Roxburgh et al(2006)² a forest will take 152 years to recapture 90% of its carrying capacity after logging. Given that forestry cycles are often between 30 & 50 years then it is clear that this CO₂ is lost permanently from the ecosystem and must be accounted for.

¹ Decision -/CP.13 Reducing emissions from deforestation in developing countries: approaches to stimulate action

² Assessing the carbon sequestration potential of managed forests: a case study from temperate Australia. S. H. ROXBURGH. S. W. WOOD. B. G. MACKEY,. WOLDENDORP. and P. GIBBONS. Journal of Applied Ecology 2006Blackwell Publishing Ltd

It has previously been noted that Australia's ability to meet its Kyoto targets are due largely to a decision by the Queensland state government to end landclearing in the state. This is an accurate statement. It has been stated by some parties that this is an unrepeatable action. This is in fact untrue. With thousands of hectares logged annually in Australia. A decision to shift forests from management for timber to management for carbon could massively reduce Australia's CO₂ pollution.

State government forestry agencies such as Vicforests & Forestry Tasmania have struggled to make ends meet in recent years. For the last financial year, Vicforests reported an annual loss of \$17,000³. This figure however fails to take into account the grants and subsidies repeatedly given. For example a \$10million grant was given to Vicforests for salvage logging after the bushfires in 2006/07 and millions of dollars in funding for logging roads such as the South-Face Rd on the Baw Baw plateau giving access to previously inaccessible forests for logging. With the value of carbon predicted to increase over time it is likely to be far more profitable to the state to generate wealth through avoided deforestation & forest degradation by forestry practices.

Whilst emissions do occur during bushfires, it is important to note that in comparison to a clearfell & burn forestry regime the emissions are very minor. Also important to note is that most of the Eucalypts & other species will survive. During a trip to The Baw-Baw plateau in 2007, I observed a 'salvage' logging coupe before and after harvest. Most of the burnt trees were resprouting from epicormic shoots prior to harvesting. Tree-ferns and many other species had survived and were growing with great vigour. Indeed it is a well documented phenomenon that fire stimulates renewal in the Australian bush. This coupe was then clearfelled and reburnt, not only undoing the ecosystems renewed sequestration but destroying it. The logging activities would have dwarfed the bushfire in terms of CO₂ emissions, removing all vegetation and burning at temperatures above the ecosystem's capacity to survive. Wet sclerophyll, rainforest and many mature ecosystems, containing large pools of carbon have natural buffers to fire. These systems, left intact will reduce severity and intensity of fires & hence subsequent emissions. Research has shown many old trees have survived several major fires throughout their lifespan. Forest management for carbon needs to be based on science and maintain independence from politics and vested interests.

Current government work appears to avoid looking at avoiding emissions from forestry activities in native forests. Indeed most government material focuses primarily on the role of plantation forestry and ecological restoration while completely failing to identify forestry activities in mature and High Conservation Value forests. It appears that a lot of accounting calculates carbon through assessing harvested logs, assuming that forests are homogeneous. This approach fails to take into account the massive variation within and between forests. Species diversity, non-target species, woody debris, detritus, leaf litter and below ground biomass are under-accounted. There is no differentiation between different forest types in the accounting, stand density or non-target tree species. These factors greatly influence the amount and percentage of carbon actually leaving the site in. Often it is claimed that forestry activities and products sequester carbon. This is misleading at best. In

³ VicForests Annual Report 2007

Tasmania, over 90% of logs removed from native forests ends up as woodchips. In Victoria the figure is between 60-80%. This does not include the carbon left behind in the various carbon pools, which usually outweighs that taken away in logs, Under Kyoto, emissions at harvest are counted immediately as research shows that on average the carbon from woodchips or paper is released within 3 years. logs and that emitted directly through harvesting activities.

Emissions Trading Systems need to ensure that forests are fully accounted and paid for. If not, then this would represent a failure to reduce emissions. We cannot afford these emissions. Indeed avoided deforestation may be the low hanging fruit in the climate change challenge for Australia. A decision to act sooner rather than later is crucial, due to the rate and scale of logging and associated greenhouse gas emissions. Government subsidy of the industry & the predicted rises in the value of carbon combine to make it far more profitable to manage forests for carbon than for timber. There are also benefits to water yield and to biodiversity. Carbon asset protection similar to that provided within water catchments will be required. The resource for woodchips can be supplied by Australia's enormous & growing plantation estate. Practically it may be worth considering emissions from avoided forestry activities as offsets to other emissions, although they should be included as a source of emissions in their own right. Putting a value on the carbon within Australia's still considerable forests may in fact enhance their percentage of GDP.

On the matter of selling carbon credits there is considerable risk in selling carbon too far in advance of sequestration. With predictions of decreased rainfall across much of southern Australia, it is likely that growth rates in new plantings will be decreased, although the exact reduction is difficult to estimate years in advance. It is important to note as well that if carbon has been accounted as removed from the atmosphere, but has not yet been removed due to credits being given in advance of actual sequestration this will still cause problems with the climate in the interim. Particularly with positive feedbacks, this may counter the effect of the carbon sequestration accounted for.

Native forestry must be viewed as a source of emissions which must be removed. If taxpayer subsidies are required for forest harvesting practices to be economically viable, then management for carbon pools would surely benefit the climate and the economy. Other positive outcomes include improvements in water supply and biodiversity. Forestry is a burden to the public purse and to the climate and must be accounted for. It is an avoidable source of emissions.

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Reference:

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Growth Modelling of *Eucalyptus Regnans* for Carbon Accounting at the Landscape Scale.
Christopher Dean, Stephen Roxburgh and Brendan Mackey.

Loss of Carbon during controlled regeneration burns in *Eucalyptus obliqua* forest.
A Slijepcevic