

Carbon Credits from the Cessation of Harvesting in the Central Highlands

Brief for Federal Environment Minister, Hon Greg Hunt

Andrew Macintosh and David Lindenmayer, Australian National University

Introduction

This brief provides information on the following three issues:

- the additional carbon abatement from stopping native forest harvesting in Victoria's Central Highlands forestry region;
- whether shifting Australian Paper's Maryvale mill to wholly plantation-sourced pulplogs would negatively affect the abatement from stopping native forest harvesting (leakage impacts); and
- whether there are sufficient plantation resources to meet the needs of the Maryvale mill.

Additional abatement

1. The estimated 'additional' net abatement from stopping native forest harvesting in the Central Highlands is:

- 21.0-22.5 Mt CO₂ over the period 2014-2020 (3.0-3.2 Mt CO₂ per year); and
- 65.3-69.7 Mt CO₂ over the period 2014-2033 (3.3-3.5 Mt CO₂ per year).

This equates to roughly 5% of Australia's likely abatement task over the period 2014-2020 (~450 Mt CO₂-e).

2. There is currently no methodology for avoided native forest harvesting projects under the Carbon Farming Initiative (CFI). However, the Department of Environment currently favours an approach based on the average carbon stock difference between a harvest and no-harvest scenario over 100 years. In this case, the estimated average stock difference over 100 years is 170 Mt CO₂. Under the rules of the CFI, this amount would have to be reduced by 5% on account of the risk of reversal buffer (162 Mt CO₂). A deduction may also be made for leakage (see below). After these deductions, the credits would be allocated across a set time period.

The results from the abatement analysis are summarised in the table below. Details on methods are provided at the back of this brief (additional information can be provided on request).

Additional abatement from stopping native forest harvesting in Victoria's Central Highlands

Time period	Additional abatement if harvesting stopped (Mt CO ₂)	
	Government method	ANU method
<i>Cumulative</i>		
2014-2020	22.5	21.0
2014-2033	69.7	65.3
<i>Annual</i>		
2014-2020	3.2	3.0
2014-2033	3.5	3.3
<i>100-year stock difference</i>		
2014-2113	N/A	170

Leakage impacts

Shifting Australian Paper's Maryvale mill to wholly plantation-sourced pulplogs is unlikely to lead to an increase in emissions that would partly or wholly offset the carbon gains from stopping harvesting in the native forests of the Central Highlands.

Like the native forest sector, the domestic hardwood plantation sector has experienced a marked downturn since 2008. The major causes of this downturn are:

- unsustainable financial structures brought about by MIS-related tax subsidies; and
- subdued demand and low prices in the export woodchip market.

These factors are currently leading to the transfer of plantations back to grazing areas and croplands. The continuation of this trend could have a significant negative impact on Australia's abatement task over the period 2014-2020.

Any increase in domestic demand for plantation-sourced woodchips could assist the hardwood plantation sector and help persuade landholders to retain their plantations and regrow them post-harvest. Due to this, any 'leakage' associated with the proposal to shift the Maryvale mill to wholly plantation-sourced pulplogs is likely to be positive (i.e. it will lead to **additional** abatement by helping to ensure plantations are regrown post-harvest). These potential positive leakage effects have not been accounted for in the abatement estimates provided above.

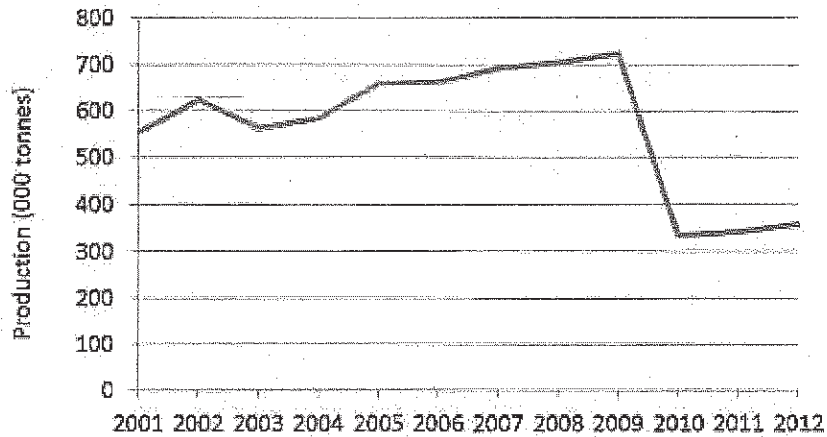
Availability of hardwood plantation resources for Australian Paper's Maryvale mill

Australian Paper has suggested it needs approximately 1 million m³ of hardwood or recycled paper per annum for its Maryvale mill. Based on information published by the industry and ABARES (*Australian Forest and Wood Products Statistics*), it is reasonable to assume that Australian Paper uses no more than 580,000 m³ pa of native forest pulplogs, 100,000 m³ pa of native forest sawmill residues and 310,000 m³ pa of hardwood plantation pulplogs (providing a total of almost 1 million m³ pa).

Australian Paper's future hardwood wood needs are uncertain. ABARES data indicate that Australian Paper's production has collapsed in recent years (Figure 1). The reasons for this are unclear. If there are negotiations with Australian Paper about the proposal to stop

harvesting in the Central Highlands, it will be important to clarify why production has dropped and whether the decline will affect future resource needs.

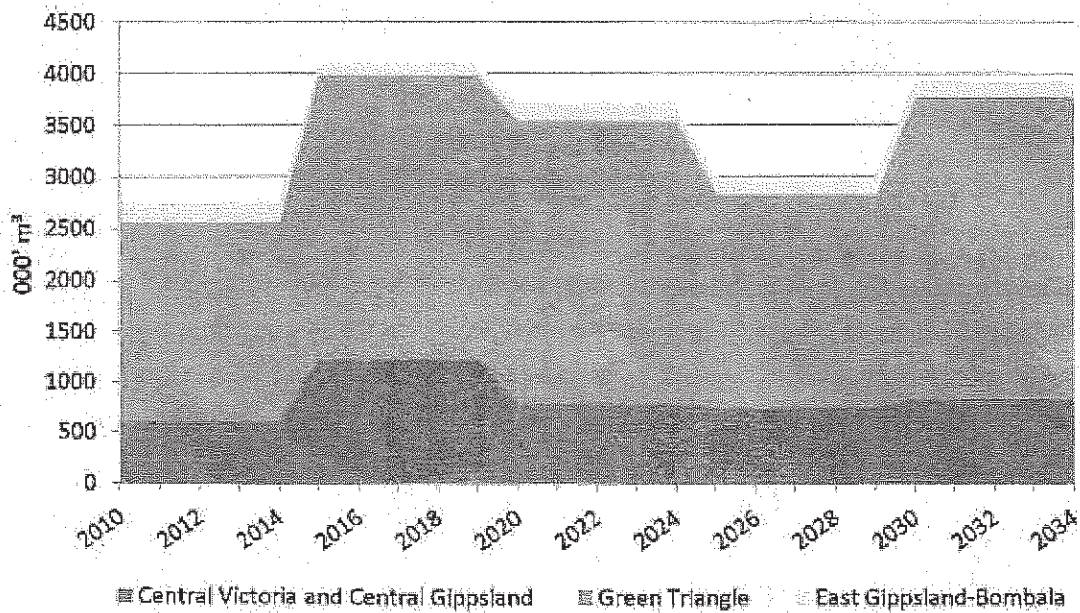
Figure 1 Australian (i.e. Australian Paper) production of printing and writing paper (ABARES Australian Forest and Wood Products Statistics 2011-12)



Is there sufficient plantation wood to meet Australian Paper's needs (assuming it is around 1 million m³ pa)?

Figure 2 below shows projected plantation hardwood pulplog supply from the regions closest to the Maryvale mill over the period 2010-2034.

Figure 2 Plantation pulplog supply from regions nearest to Maryvale mill (ABARES Australia's Planation Log Supply 2010-2054)



The data in Figure 2 suggest there is ample plantation resource to meet Australian Paper's needs. However, there are several additional factors that will affect the viability of a shift of the Maryvale mill to non-native wood fibre sources, including:

- the impact of the collapse of the MIS sector on the plantation estate in the closest plantation regions;
- how much of the available plantation resource in these regions is already committed to other buyers;
- the difference in price between native forest pulplogs and plantation-sourced pulplogs;
- the extent to which recycled fibre can substitute for native and plantation pulplogs; and
- additional transport distances and costs.

Note on abatement estimation methods

The above estimates of abatement were devised using two methods, called the Government and ANU Methods. The Government Method was a replica of the method currently used for forest management (FM) accounting in Australia's National Inventory Report. Estimates of log removals from the Central Highlands were used to allocate harvest areas across 54 nationally representative native forest *FullCAM* plots. These plots were used in *FullCAM* to project harvest slash emissions and post-harvest removals. A separate model, similar to that used in the National Inventory Report, was used to account for carbon stored in wood products.

The ANU Method used *FullCAM* but with different representative forest plots to model harvest slash emissions and post-harvest removals. The forest plots were designed to replicate the conditions and management practices in Ash and Mixed Species forests in the Central Highlands. The data used to devise the plots were obtained from ANU datasets and publicly available information released by VicForests. Carbon in the harvested wood products pool was estimated using the same model as was applied in the Government Method.