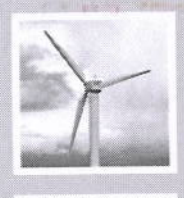
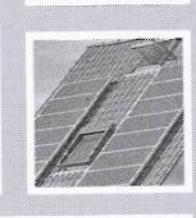
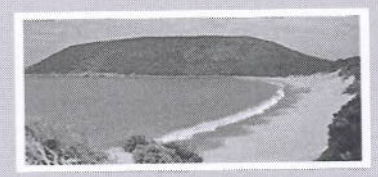
Tabled by Tasmanian Special Timbers Alliance
31 March 2014 – Hobart
Tasmanian wilderness inquiry

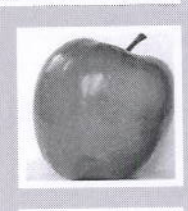
THE GREENS
Tasmania

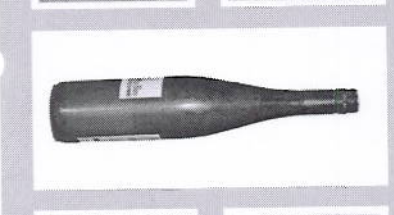


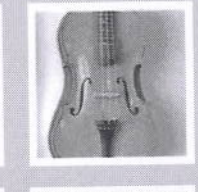










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Forest Transition Strategy

More Jobs - Less Logs

Launched by Nick McKim MP
and Kim Booth MP

Associate Professor Graeme Wells was commissioned by the Tasmanian Greens MPs to assist in the preparation of this Strategy.

March 2010

READY TO DELIVER

Protection of our world-class forests

542 new Timber Industry jobs

175 new Tourism Industry jobs

Specialty Timber Zones Created & Specialty Timbers Commission

Transition to low-volume high value forest industry

Ensure Forests contribute to Climate Change Targets

POLICY INITIATIVE
OF THE TASMANIAN GREENS MPs

Authorised by Nick McKim MP, Parliament House, Hobart, 7000

mps.tas.greens.org.au

Our Vision

Tasmania: World Leader and Globally Responsible Citizen

By taking pride in our internationally significant heritage and emphasising our natural advantages we will build a clean, green and clever economy. We will create a jobs rich, non-conflictive forest industry underpinned by current Forest Stewardship Council (FSC) certification requirements.

This path encompasses:

Forest Protection and Promotion

Tasmania's renowned and globally important high conservation value forests, including old growth and biodiversity, securely protected. Tourism industry expansion taking advantage of forest protection.

High Value Native Forest Industries

A shift to higher value-adding from lower volumes of timber, the creation of new Specialty Timber Zones, and provision for other users including honey production. Enabled by cessation of industrial woodchipping.

We will create more jobs from fewer logs with better career paths and higher skills, ending the conflict and creating an industry of which the community can be proud.

Jobs Rich Plantation Processing

Existing plantations used to expand domestic processing and produce a range of products. Large volumes coming on line allow significant jobs and wealth creation without more plantings. Wood production to be put on an environmentally, socially and economically sustainable footing.

Worker Support and Sustainable Communities

High levels of employment and robust economic value provided to local communities. Support for individuals and businesses to make the change to skills-based manufacturing and design. Livelihoods and water supplies secured by protecting native forests, limiting new water-hungry plantations and restoring local control over land. Renewed confidence from an end to conflict and a revamped open and responsive forest management system.

Forestry Transition Contributes to Climate Change Targets

Support for long term sawlog management of existing plantations to enhance carbon sequestration. Support for sawmills to increase recovery rates, with less wood entering the waste stream. Transition to high value, long life products rather than low value short life products such as paper and cardboard pulp. Enlarged reserves of carbon-rich old growth forests prevents carbon release under 'clearfell, burn, reseed' policies.

Executive Summary

The Greens' Forest Transition Strategy is designed to create more jobs and wealth from Tasmania's native forest and plantation resources whilst protecting its world-renowned high conservation value forests.

The Forest Transition Strategy argues that the Tasmanian timber industry needs to be restructured because increasing commodity exports are compromising the potential for the creation of local manufacturing and jobs. Industrial scale logging in native forests is destroying the potential for a viable specialty timbers industry in the future. Lack of transparency, exemption from planning and environmental laws, broad-scale clearfelling, regeneration burns, escalating woodchipping and use of poisons such as 1080 has alienated the Tasmanian community from the forest industry. Public consultation has demonstrated the overwhelming desire in the community for change.

The Forest industry has gone to some lengths to overstate the importance of the industry to the Tasmanian economy, and to instil fear into the Tasmanian community that reform of the industry will bring pain in terms of further job losses. The present state of the industry amply demonstrates the failure of blinkered pursuit of large scale industrial logging policies. This has to change. The Greens' Forest Transition Strategy demonstrates how change can occur in a way that provides a win-win scenario for Tasmania whereby the island's best forests are protected and there are enhanced social and economic benefits to the timber and tourism industries. The Green's positive roadmap and how it will be funded is summarised below.

World-class forests protected

The Greens are committed to the reservation of Tasmania's high conservation value forests and areas of important biodiversity. New reserves on public land would include:

- extensions to the Tasmanian Wilderness World Heritage Area (as originally identified by the Department of Parks, Wildlife & Heritage in 1990, and then expanded upon by the recent *Western Tasmania: Proposed Extension to the Tasmanian World Heritage Area* report [G. Law – September 2009]).
- the proposed Tarkine National Park
- unlogged forests in the proposed Styx Valley of the Giants National Park
- the proposed Great Western Tiers National Park
- the proposed North-East Highlands National Park & Blue Tier Nature Recreation Area
- proposed extensions to the Ben Lomond National Park
- proposed extensions to reserves at the Leven Canyon & Black Bluff
- proposed extensions to the Tasman National Park
- proposed new reserves in the Eastern Tiers
- unlogged areas at Reedy Marsh
- northeast peninsula of Recherche Bay
- Other smaller areas on Bruny Island, the Gog Range, the Dazzler Range, Mt Arthur, Weilangta, the Florentine and the remnant blackwood forests of the northwest.

Forest biodiversity, landscape values, water quality and quantity will be protected by restraint of broadscale vegetation clearance, investment in private land conservation measures, and reforming regulatory processes to end forestry exemptions.

Timber industry – 542 new jobs

Overall, the Forest Transition Strategy is jobs positive and is expected to result in a net increase of more than 542 direct timber industry jobs, 175 direct tourism industry jobs. It is also expected that downstream processing of specialty timbers will expand, creating more jobs in those industries.

Summary of the forest industry jobs transition

ACTIVITY	JOBS CHANGE
NATIVE FORESTS	
Cease logging in identified high conservation value forests	-306
Local processing and value-adding of exported regrowth peeler logs into LVL & plywood	+150
PLANTATIONS	
Additional high pruning of hardwood plantations	30
Two sawmills (softwood & hardwood)	200
Engineered strand lumber (ESL) (hardwood)	150
Retooling and expansion of existing sawmills	228
Community-based specialty sawmills and training centres	90
Total net increase in timber industry jobs	**542**

Looking after forest workers

Worker assistance will be provided for any timber industry workers affected by the Forest Transition Strategy. Assistance will include vocational training, wage subsidies, relocation costs, income support or redundancy payments and personal counselling.

To ensure that our previously announced forest contractors buy-out package – *'Buyouts not Bailouts'* – delivers its objectives, the $3 per tonne levy will apply to all timber sold from Crown land which is either woodchipped or exported as whole logs, whether from plantations or forest.

Summary of the forest industry funding package

FUNDED INITIATIVE	RESOURCES
Worker assistance package for retraining and re-skilling for the jobs in the restructured native timber industry, and exit assistance.	up to $8,000,000
Industry development to minimise the impact of changes in mill feedstock.	up to $30,000,000
Seed funding to develop incentives for processing infrastructure to create sawn timber, veneer, particle board, and engineered products	up to $25,000,000
High prune 14,000 hectares of existing plantations for sawlogs	$42,500,000
Establish Specialty Timbers Commission with representatives from a broad range of interest groups. Seed funding to develop, audit and manage new Specialty Timber Zones and develop training & skills centres	$5,000,000
Total State government funding package (approximately $5m per annum in early years and $1.5m in later years of a 25 year program)	**up to $110.5 million**

Note: The Greens' proposed Forest Contractors buyout package is additional to this table, which represents State-funded initiatives.

Tourism expansion – 175 new jobs

The additional reservation of Tasmania's world-class forests and the adoption of the forest industry restructure is a move that will shore up confidence in the State's expanding tourism industry by offering exciting new attractions, new opportunities for investment, new development and new employment prospects. Importantly, the rhetoric and reality of Tasmania as a clean green natural destination will match. Expanded reserves and tourism experiences will provide visitors with the maximum opportunity to experience Tasmania's wild places secure in the knowledge that none of the State's world-class landscapes and ecosystems are being compromised through inappropriate and short-sighted development.

In tourism, some 14,000 Tasmanians are directly employed. Other industries also depend on Tasmania's clean, green brand. Agriculture, fishing and food processing directly employ 15,000 people. By contrast, Tasmania's forest industry (harvesting and downstream processing) which employs 5,060 persons represents just 2% of the Tasmanian workforce.

There is significant potential for nature-based tourism in the proposed new forest reserve areas. The *Forest Transition Strategy* proposes ideas for specific new projects in all regions of the State to develop expand and enhance Tasmania's tourism industry. An estimated 175 jobs will be created.

Timber industry – more wood available

Although the area of production native forest will be reduced under the Forest Transition Strategy, approximately 450,000 hectares of regrowth production forest on public land will still be available to the timber industry. There will also be an increase in wood available to the Tasmanian timber industry due to a rapidly increasing supply of timber from the plantation estate. In the short term, mills using old growth timber will make a transition to using regrowth logs. Resources will be made available for some mills to retool so they can process smaller regrowth logs and plantation sawlogs of which there will be approximately 1,000,000 m^3 available annually by 2020 – enough to entirely replace the current native forest sawlog harvest. Plantations will be managed intensively to maximise production of clearwood for sawlog and veneer production. New Specialty Timber Zones will be created to sustain the valuable contribution of this sector to the Tasmanian economy.

Under the Strategy, export woodchip production from native forests will cease. Plantation wood is now becoming available and forecasts demonstrate that there will be over 4,000,000 tonnes of pulpwood available per annum from 2020 even with no further plantation expansion.

More efficient use of wood

Under the Strategy there will be more efficient use of timber whereby specifications and log grading ensure that all timber is allocated for the most appropriate use. Downstream processing opportunities within the State will be optimised under the strategy. This will be achieved through resource allocation to enhance investment and capitalisation for ventures to produce high value goods that are in demand on global markets.

Analysis in this document demonstrates that production of veneers, engineered and manufactured timber products such as plywood, LVL (laminated veneer lumber) and ESL (elongated strand lumber) are the best options for optimising Tasmania's plantation timber resource in terms of employment, investment and resource consumption. A pulp mill is not a favoured option as it would reinforce the 'quarry' status of Tasmania as a price taking undifferentiated commodity producer. A pulp mill is not in the best interests of Tasmania's strategic direction as a State of excellence producing high quality, low volume goods for the world's top niche markets.

Pulp mill perspective

If Tasmania's available plantation timber was allocated to a new pulp mill it would consume most of the resource and at best only create an estimated 300 new jobs for an investment of $2.6 billion. Alternatively a number of smaller but world scale enterprises based in regional areas, including new LVL, ESL, sawmilling and veneer plants could be established for a combined investment of $590 million. The combined initiatives would require less resource than a pulp mill (2,000,000 tonnes) and create twice as many jobs. A pulp mill strips regional centres of jobs-rich downstream processing. A case for a pulp mill is made even less attractive by the fact that it will be adversely affected by the introduction of a price on carbon emissions, and because the real world price for chemical wood-pulp is volatile and has been in decline in real terms since 1970. A pulp mill exposes Tasmanian taxpayers to a 'too big to fail' risk.

End plantation expansion

The Forest Transition Strategy highlights the increasing importance of the current industrial-scale plantation estate to the future of the State's timber industry. The Greens do not, however, condone further expansion of industrial-scale plantations. Issues in relation to conversion of diverse forest systems and productive agricultural land are at the forefront of this argument. There is also increasing concern over water quality and catchment water yields that are altered by plantation development, together with the heavy reliance on broadscale application of herbicides, pesticides, fungicides and inorganic fertilisers that are currently used to maintain plantation productivity.

Should it be confirmed that toxic trees in plantations have been established then these may need to be converted back to mixed forest consisting of Tasmanian species.

Contribution to Climate Change Targets

The strategy also makes an important contribution to carbon sequestration. It does this in several ways. The transition from low value commodities to high value products increases their storage life from an average of 3 years for paper to up to 90 years for furniture. Placing high conservation forests into reserves avoids carbon emissions consequent on conversion into production forests. Adoption of single-stem harvesting in Specialty Timber Zones preserves the carbon carrying capacity of mature native forests. Retooling sawmills to achieve higher recovery rates increases the proportion of sawn timber, increasing the carbon storage life of downstream products.

Table of Contents

Introduction

The need to resolve Tasmania's forests debate in favour of both forest protection and sustainable jobs has led the Greens to critically examine the forest industry and develop an outline for a process of transformation to alter the dynamics of the industry. The purpose of this document is to set out the Greens' vision for a way forward which resolves Tasmania's ongoing divisive forest debate by providing positive social, environmental and economic outcomes.

The Greens' Forests Transition Strategy has three objectives consistent with the 'triple bottom line':

- **Environmental** - To end logging in Tasmania's high conservation value forests, create new reserves protecting our awe-inspiring, globally significant forests and other conservation measures to protect biodiversity, water and landscapes across the range of land tenures. Promote forestry practices that maximise carbon sequestration.
- **Social** - Develop a jobs-rich value-adding stream; provide better career paths and skills development using native timbers and plantation wood to their highest value. Foster wood and design skills through development of training centres to ensure meaningful and rewarding work and to develop Tasmania's reputation of a centre of excellence and innovative opportunities. Enhance marketing of Tasmania's high value craftsmanship by expanding the role of Brand Tasmania.
- **Economic** – Channel investment into new enterprises that can add economic value to the State's natural resources, including financial and personal assistance to individuals to enable them to adjust to the necessary changes. Ability to market environmentally certified Tasmanian forest products under the internationally recognised and highly sought Forest Stewardship Council stamp of approval is expected if the plan is followed.

This strategy provides the roadmap to an exciting future for Tasmania, a future where the reality of Tasmania as a clean green natural destination fits the rhetoric and the image. A future where the global community has every opportunity to experience Tasmania's magnificent wild places secure in the knowledge that none of it is being compromised through inappropriate and short-sighted development. A future in which the Tasmanian timber industry is based upon respect for the resource, minimisation of waste, maximisation of downstream processing, innovation, design and generation of wealth for the whole Tasmanian community - a timber industry that can coexist with the broad spectrum of other uses that the community desire from their forests such as recreation, honey production, water supply, landscape and biodiversity. A timber industry which has moved to comply with current FSC certification standards.

SECTION ONE – FOREST PROTECTION

1.0 New Reserves on Public Land

The Greens Forest Transition Strategy is designed to create more jobs and wealth from Tasmania's native forest and plantation resources whilst protecting the world-renowned high conservation value forests threatened by current government policy.

Tasmania has some of the world's last great wild temperate forests. Their values including their World Heritage significance and wilderness value amongst the diminishing frontier forests around the globe have been documented in numerous expert scientific reports but many were nonetheless denied a lifeline in the Tasmanian Regional Forest Agreement (RFA) which was signed by Federal and Tasmanian governments in 1997. Also, when the eight bioregions of Tasmania were assessed by the RFA Comprehensive & Adequate Reserve System Scientific Advisory Group (CARSAG), it was found that additional action would be needed to meet the reservation targets for forest communities. On public land this involves about 100,000 ha of forest communities which overlap the World Heritage and wilderness reserve agenda.

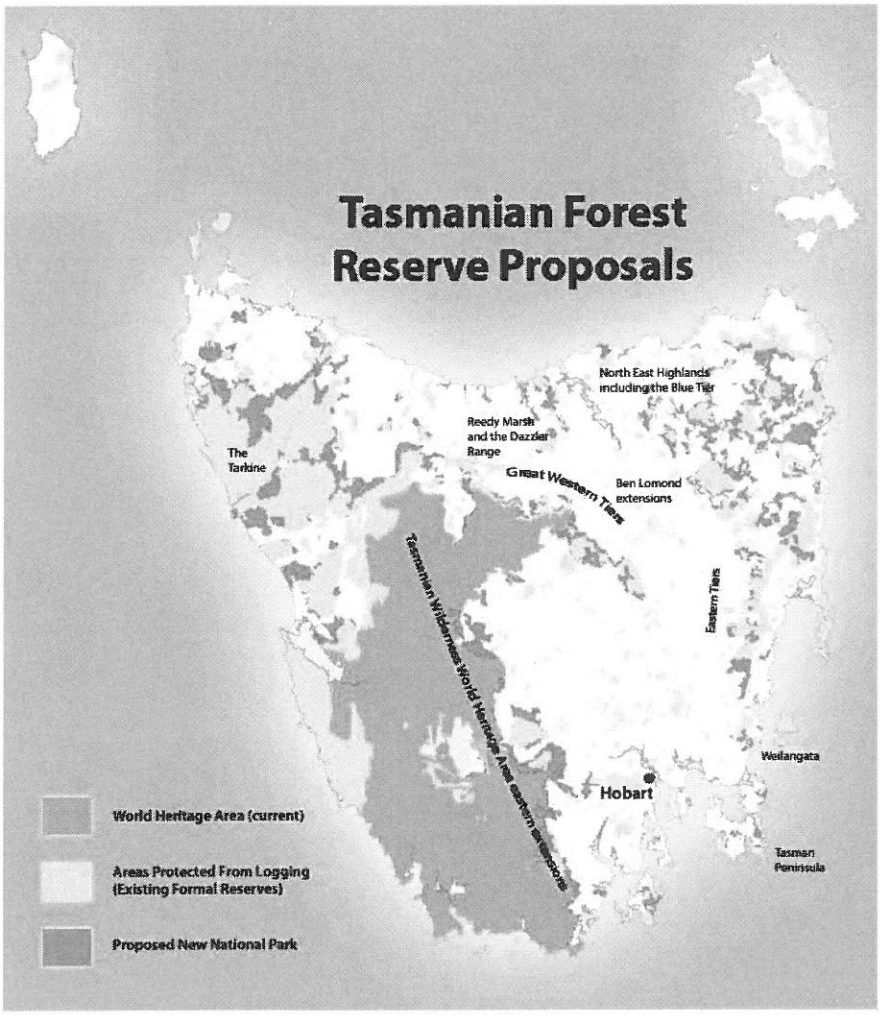
Additionally, the Tasmania Together consultation process commissioned by the Tasmanian Government identified forestry as a major issue of concern within the community. Consequently, the Community Leaders Group established a benchmark that clearfelling cease in forests of high conservation value by January 1st 2003. The Tasmanian Government refused to implement this target.

Based upon scientific advice including that of the RFA which has gone unimplemented, and the findings of community consultation under Tasmania Together, the Greens are committed to the reservation of the high conservation value forests. New reserves would include the Tarkine rainforests of northwest Tasmania which have Australia's greatest tract of temperate rainforest with links back over 100 million years of evolution to the ancient super-continent of Gondwana. Also, the forested eastern fringe of Tasmania's western wilderness contains the tallest hardwood forests on earth and the dry forests, woodlands and the relict rainforests of eastern Tasmania are havens of biodiversity immensely important for preserving threatened forest communities.

In summary, the areas on public land proposed for reservation include:

- extensions to the Tasmanian Wilderness World Heritage Area (as originally identified by the Department of Parks, Wildlife & Heritage in 1990, and then expanded upon by the recent *Western Tasmania: Proposed Extension to the Tasmanian World Heritage Area* report [G. Law – September 2009]).
- the proposed Tarkine National Park
- unlogged forests in the proposed Styx Valley of the Giants National Park
- the proposed Great Western Tiers National Park (Kooparoona Niara)
- the proposed North-East Highlands National Park & Blue Tier Nature Recreation Area
- proposed extensions to the Ben Lomond National Park
- proposed extensions to reserves at the Leven Canyon and Black Bluff
- proposed extensions to the Tasman National Park
- proposed new reserves in the Eastern Tiers
- unlogged areas at Reedy Marsh
- northeast peninsula of Recherche Bay
- Other smaller areas on Bruny Island, the Gog Range, the Dazzler Range, Mt Arthur, Weilangta, and amongst the remnant blackwood forests of the northwest.

Figure 1



For a larger version of this map, click HERE

2.0 Protecting biodiversity, landscape & water

When the high conservation value forests on public land are protected we will need to ensure that industrial scale logging, woodchip pressure is not simply transferred from Crown forests to private land, with capacity to destroy landscape, biodiversity, and water values.

There are already forest communities on private land for which the scientific targets of the RFA have not been met and must be fulfilled to meet CAR (Comprehensive and Representative Reserves) criteria. Additional forest communities are nearing the limits to logging in order to deliver RFA commitments.

CARSAG has recommended changes that must be adopted for native vegetation retention, for protection of rare, endangered and vulnerable forest communities and for forest sustainability. This is estimated to involve 165,000 ha of private land where opportunities cannot be met on public land.[1]

Federal and State governments must negotiate further with landholders to secure protection, and allocate additional monies to achieve this task, but also a more strategic approach to securing protection of the most endangered communities is necessary and urgent.

Large-scale vegetation clearance continues in Tasmania in contravention of the state's agreements with Canberra in both the RFA in which it was agreed that Tasmania would act on landclearing by 1999, and a subsequent agreement in relation to Natural Heritage Trust funding, but failed to do so. Substantial clearance is for the purposes of conversion of native forests to plantations, a practice which was recognised as inconsistent with ecologically sustainable management in the National Forest Policy Statement agreed between the Commonwealth, States and Territories in 1992.[2] Between 1996 and 2009, 141 811 hectares of native forest was converted to other uses. As the Forest Practices Authority notes, the rate of conversion is increasing, and such high levels of conversion have potentially long-term ramifications for the maintenance of regional biodiversity.[3] Tasmania remains the only State to continue this practice as was noted in the Senate Committee Report reviewing the 2020 Vision of Plantations.

The broadscale conversion of native forests to industrial-scale plantations is, in part, a consequence of the removal of federal controls on export of woodchips consequent on the introduction of regional forest agreements (RFAs). Subsidies to plantation establishment through managed investment schemes (MIS) have also played a role. The Commonwealth effectively has no power to regulate Tasmania forests because of exemptions under the Environment Protection and Biodiversity Conservation (EPBC) Act. There is no comprehensive Tasmanian policy for sustainable management of native forests and plantations. The door has been left open, and the plantation companies have charged through. Broadscale land clearing of both forest and non-forest vegetation must be ended through landclearing controls. This will require changes to both the *Forest Practices Act* and the Resource Management and Planning system.

Forestry impacts on water quantity and quality have been the subject of heightened community concern and emerging scientific evidence. The Senate Committee Report reviewing the 2020 Vision of Plantations for Australia has acknowledged water as a key issue and recommended that the Commonwealth urgently funds a water audit to assess the impact of plantation forests on both water quality and quantity.[4] Strong policy and action currently lacking in Tasmania is required to protect our water resource for its range of uses and values.

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[1] Tasmanian Conservation Trust. Sustainable Ecosystem Management in Tasmania. June 2004
[2] Commonwealth of Australia (1992) National Forest Policy Statement. p29
[3] Forest Practices Authority (1999), Annual Report on Forest Practices 2008–09.
[4] Senate Rural and Regional Affairs and Transport References Committee. Australian forest plantations. September 2004

Tasmania's forested and rural landscapes are being dramatically altered by forestry activities, with flow on impacts to the tourism industry and loss of cultural heritage. In an expert submission to the Senate Committee Ms Gwenda Sheridan argued that in her professional opinion:

> *"...If the present pattern is allowed to continue, then Tasmania's unique set of cultural landscapes, different in different areas of the state will be severely compromised, if not in places quite destroyed. Industrialised farming of trees in the twentieth century is a very different scenario to traditional farming, in methods, characteristics, ownership, internal farm boundaries, economic bottom line expectations and in end landscape result."*[5]

Landscape protection is impossible under current logging regimes and regulatory processes but social, economic and environmental imperatives dictate the need for urgent change.

The Policy on Agricultural land will be revised to actually protect significant areas of high quality farmland from both urban encroachment and industrial-scale plantations.

[5] Ibid.

3.0 Creating wealth from the new reserves

The reservation of Tasmania's world-class forests and the adoption of the forest industry restructure, outlined below, offers an exciting prospect for the Tasmanian community. It is a move that will shore up confidence in the State's expanding tourism industry by offering exciting new attractions, new opportunities for investment, new development and new employment prospects. Importantly, the rhetoric and reality of Tasmania as a clean green natural destination will match. Visitor experiences will no longer be marred by expansive clearfells, regeneration burns and controversies over the poisoning of native wildlife and tainted water supplies. Log truck movements will be reduced improving safety on our roads and reducing the negative associated images portrayed to the State's visitors. Expanded reserves and tourism experiences will provide visitors with the maximum opportunity to experience Tasmania's wild places secure in the knowledge that none of the State's world-class landscapes and ecosystems are being compromised through inappropriate and short-sighted development.

3.1 Living up to 'the brand'

It is time for the vision and rhetoric of Tasmania as a clean green natural destination to match in reality. The same government that has burdened the Tasmanian community with unprecedented levels of native forest clearfelling and record export woodchipping is also espousing the following 'brand message':

> *"The essence of the Tasmanian tourism brand is 'unforgettable natural experiences'. To deliver on this brand promise it is necessary to provide a range of visitor experiences based on the core appeals of nature, cultural heritage and food and wine."*[6]

A study called 'Nature-Based Tourism in Tasmania (1998 – 99) conducted by Tourism Tasmania demonstrated the importance of nature-based tourism to our visitors. The following findings arose from the report:

- Tasmania's natural environment sets it apart from the other States and Territories and is an important element of its image as a tourist destination.
- The majority of visitors to Tasmania (361,000 or 69%) participate in nature-based tourism. In particular, 86% of overseas visitors engage in this activity.
- Expenditure by nature-based tourists is substantially above-average, per visitor and per night.
- Visitors to Tasmania are aware of the State's natural attributes and the majority take the opportunity to indulge in nature-based tourism during their visits.
- Ecotourism and adventure-style holiday packages provide an opportunity for raising this level of participation.
- There are indications of increasingly genuine interest in nature-based tourism. This is encouraging news for industry operators contemplating the further development of facilities and services aimed at this market.
- It appears that the provision of a high standard of accommodation and associated travel services is a necessary precursor to the development of specific localities for ecotourism and adventure-style activities.
- Managed responsibly, Tasmania's natural environment will continue to be an important component in the further development of the State's tourism industry.

[6] Tourism 21, Tourism Tasmania.

Currently the vision, the brand and the resultant expectations of tourists to this island leave them feeling confused and misled when they become aware of the scale and destructive nature of Tasmania's industrial forest industry. Many tourist operators are often placed in the untenable and embarrassing situation to explain the reality of what is happening in Tasmania. Occasionally they lose customers because of the negative impacts of forestry activities on visitor experience.

The adverse impact of unsightly industrial logging in view-fields, choking smoke from huge forestry fires, cruel poisoning death of native animals specifically targeted with 1080 poison, and heavy log truck traffic on small country roads are important issues for tourism operators. The Tourism and Forestry Protocol Agreement is an ineffectual window-dressing exercise which acknowledged the problems after significant grass roots agitation, but gives obeisance to the favoured status of wood production in State forests and the forest industry in general. It relies on the goodwill of forestry, which may not be forthcoming, to improve tourism industry outcomes.

We cannot continue to erode the very thing that visitors come to see, to experience and to enjoy. The argument that we so often hear from timber industry representatives that Tasmania already has enough forests in reserves ignores the fact that this island is very special. Tasmania escaped the ravages of industrial development until relatively recently. Its vast expanses of wild lands are now incredibly special in a global sense and are becoming increasingly so as vast tracts of natural forests continue to be decimated and eroded around the globe. Tasmania's forests are an asset of immeasurable value and must be respected and nurtured for the benefit of generations to come. By preserving our natural capital Tasmania will be rewarded many times over with the 'interest' in terms of visitor numbers and enhanced wealth. The Green's Forest Transition Strategy will ensure that this happens.

3.2 *'Brand Tasmania' industries - much bigger than forestry*

Tasmania's food and tourism industries both rely heavily on the Tasmania brand and, in turn, Tasmania relies heavily on them. In agriculture and food processing, some 15,000 Tasmanians are directly employed[7]; in tourism there are 14,000 people directly employed.[8] There are nearly *six times* as many Tasmanians employed directly in Tasmanian Brand dependent industries as there are in forestry. Tasmania's timber industry employment (5,060) represents just 2% of the Tasmanian workforce (see **Section 7.1**).

[7] Data derived from Australian Bureau of Statistics cat.no. 6291.0.55.003, and Australian Innovation Research Centre (2008) *Structure, Business Demographics and Innovation in Tasmanian Manufacturing.*
[8] Data updated from Van Ho et al. (2008), *Tourism Satellite Accounts 2006-07: Tasmania* (Sustainable Tourism Cooperative Research Centre, Griffith University).

3.3 Tourism

An estimated 925,400 visitors came to Tasmania in the year ending June 2009, an increase of 74 percent over the 531,000 visitors for the year ending June 2001. Expenditure by domestic and international visitors in 2009 was some $2.2 billion, with a further $700 million attributed to intrastate tourism[9].

Tourism employment has continued to grow in importance, with more than 6 per cent of the Tasmanian workforce directly employed in the industry[10]; in terms of employment, it is three times as important as forestry and downstream processing.

Nature-based tourism is a huge drawcard in Tasmania and many visitors to the State are attracted by our National Parks and areas of unspoiled forest. In 2007/08 visits to National Parks totalled approximately 1,200,000 with the most popular parks being Freycinet, Tasman, Mt Field and Cradle-Mountain-Lake St Clair National Park. In the same year, 250,000 visits were made to Forestry Tasmania's state forest tourism and recreational sites.

Visitor numbers to other areas of great natural beauty such as the Bay of Fires – the Lonely Planet's hottest travel destination of the year in 2009 – are increasing.

The experience at the Tahune Air Walk demonstrates the value of providing a focal point for visitor interest and in marketing spectacular natural forests. The co-existence of such attractions with industrial forestry is deeply flawed with the forest industry becoming reliant on screening their clearfells and log truck traffic from tourists. Many tourists are not fooled by a thin veneer of trees between them and decimated forests or by endless forestry propaganda signs lining the route to their destination. In fact it simply makes them more cynical that Tasmania is not 'walking the talk' in relation to the tourism brand message.

The flow-on benefit of developments such as the Air Walk are of great economic and social benefit to the State. In its first season the Air Walk employed 35 people directly over the high season, falling to 22 over winter. Flow-on employment impacts are considerable amongst suppliers and in businesses in nearby Geeveston, as well as extending further throughout the Huon Valley. Return on investment at Tahune already exceeded 9.25 per cent at the beginning of 2003 according to Forestry Tasmania, an incredible difference to their logging activities which have earned notoriety for meagre returns of 1-2% on assets.[11]

The tourism industry has many advantages compared to old growth forest logging. The flow-on jobs impact in nearby areas is greater, profits are generally retained within the State and usually locally, and the employment profile covers a more varied range including a much greater proportion of women and young people. The skills learned in tourism are also more easily transportable.

Clearfelling old growth forests essentially provides a once-off harvest of quality timbers, under current management it will never be old growth again and will not provide another revenue stream until the next logging rotation. On the other hand, from an economic point of view, pristine forests can provide benefit and revenue flow to the community every day from a range of uses such as ecotourism, leatherwood resources and ecosystem services. The long-term benefit of preserving forests of high conservation value far outweighs the short-term gain from logging.

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[9] *Tasmanian Tourism Snapshot*, year ending June 2009.
[10] Tourism employment data are derived by applying industry weights as reported in Van Ho et al. (2008), *Tourism Satellite Accounts 2006-07: Tasmania* (Sustainable Tourism Cooperative Research Centre, Griffith University).
[11] Evan Rolley, managing director of Forestry Tasmania, House of Assembly Government Business Scrutiny Committee. Feb 2003

3.4 Potential expansion in forest tourism

The experience of the Air Walk development at Tahune, which has generated an eight-fold increase in visitor numbers to the Forest Reserve, has demonstrated the enormous potential of creating attractions that showcase Tasmania's amazing and unique natural forests. We know the market is there and we have been overwhelmed by the response to new ecotourism ventures. Newly protected forests will provide a secure resource for expansion of forest tourism. Specialty timbers and honey production zones, which are further forest areas removed from industrial scale logging, will also contribute to the tourism resource base.

The time has never been better for the establishment of new attractions and nature-based tourism ventures. The rapid growth in visitor numbers to Tasmania in recent years (74% since 2001) has put pressure on existing infrastructure in the State and many of our current reserves have been 'loved to death'. In some areas visitor numbers are restricted to reduce impact – for example the Overland Track. Hence, there is significant potential for nature-based tourism in the proposed new forest reserve areas. Ideas for specific new projects are briefly summarised as follows:

- **Tasmanian Tiger and Tall Trees Centre, Maydena** – Focussed on Styx Valley of the Giants and Tiger Range forests (site of capture of last wild Tasmanian tigers), with extension of operation of the Derwent Valley railway making Maydena a new tourism node. Forestry Tasmania have recently picked up on the potential of Maydena as a forest tourism node, and we see their Maydena Adventure Hub as capable of incorporating a working specialty timbers sawmill and being integrated with the tigers and tall trees focus.

- **Tarkine Rainforest** – tourism in the northwest packaged and marketed in an integrated way linking Cradle Mountain to Dial Range, Black Bluff, the Tarkine and the coastal and cultural heritage of the area. Rainforest interpretation, walking tracks, and establishment of an International Centre of Excellence in Education, Training and Leadership in eco-tourism, adventure activities and environmental education.

- **Blue Tier** – North East Forests walking track from the forests of the northeast highlands with their rich Chinese mining heritage to the spectacular Bay of Fires on the coast. Development of eco-tourism lodge accommodation and associated outdoor interpretation and activities.

- **Huon Valley** – expansion of the Tahune forest tourism node for ecology and eco-adventure forests experiences, and a Specialty Timbers tour including wooden boat school, specialty timbers sawmill, specialty timbers production forest visits. Potential to establish a living heritage village.

Expansion of forest tourism will also be underpinned by the ending of forestry exemptions to planning and environment laws (see **Section 4.5**). At present the lack of a level playing field severely disadvantages tourism operators who are denied a formal legal avenue to pursue their interests when they come into conflict with forestry practices which are proposed or already occurring.[12]

[12] These difficulties, and the change in forestry governance needed to overcome them, are detailed in CSDEV Associates (2010), 'Levelling the playing Field: Reforming Forestry Governance in Tasmania.

3.5 Funding tourism development

Significant resources are required to develop infrastructure to showcase the best of Tasmania's newly reserved forests, however, providing new attractions is a key to tourism growth – it is an investment in the future of Tasmania. New attractions provide economic value by increasing the average amount spent by visitors in the State. They also play a major role in the development of towns and regions by providing a focus for visitors, increased spending and the development of related services.

One indication of the possibilities is the strategy developed by the ACF and Wilderness Society.[13] This provided a detailed analysis of the resources required to develop tourism infrastructure in the newly created forest reserves. Analysis in the report demonstrated that there is potential to create 175 new jobs from investment in infrastructure development and management.

3.6 Promoting Brand Tasmania

Brand Tasmania has been established over the past decades partly by marketing, but mostly by the visitations of millions of tourists. Visitors experience Tasmanian food, wine and other products while they are here but can seldom get these in their home markets. It is important to be able to hold a $4000 guitar, to sit at a $7000 table, or feel the texture of fine woollen clothing. This is a lost opportunity, and an efficient product branding exercise should be established to keep tourists' visitation experience alive. Present marketing strategies rely on occasional trade fairs or initiatives of individual industry groups. What is needed is an ongoing presence, building on our image in a coherent way.

The Greens will investigate extending the role of Brand Tasmania to include the establishment of retail outlets where Tasmanian-made specialty products are sold directly into overseas markets. To be investigated is the potential establishment of such an outlet as a government owned enterprise. In the longer run a franchise model could be adopted, with the retail outlets being a franchise so that risks are shared. The GBE will then have the more limited role of marketing, certifying and co-ordinating supply. Certification would include compliance with the current Brand Tasmania criteria and also, in the case of specialty timber products, assisting with Forest Stewardship Council and chain of custody certification.

Expanding the market in this way could provide higher margins for suppliers and will allow boutique producers to access export markets that economies of scale would have otherwise prevented.

[13] Protecting Forests – Growing jobs. A strategy for the future of Tasmania's forests and forest-dependent industries. Australian Conservation Foundation & Wilderness Society (August 2004).

SECTION TWO - RESTRUCTURING THE FOREST INDUSTRY

4.0 Why we need to change

Tasmania's forest industries are in trouble. It has been estimated that there has been more than 600 million dollars of taxpayer support for the forestry industry over the decade to 2007-08, including through managed investment schemes in plantation forestry, payments under the Regional Forest Agreement and the Tasmanian Community Forest Agreement, and sub-par returns from Forestry Tasmania. Despite these hundreds of millions of dollars of taxpayer support, employment in the forest industries continues to fall[14].

The industry has become highly centralised, increasing the market power of the major players and drawing jobs away from regional areas. Workers at Scottsdale have lost their jobs with sawmill closures. Harvesting contractors who have staked their life savings on purchasing capital equipment are facing bankruptcy. Workers on the northwest coast are being made redundant with the closure of the PaperlinX mills. Gunns have recently announced the closure of the sawmill at Austins Ferry, near Hobart. The list goes on.

These trends are reflected in employment and profits. While other industries have expanded, employment in forestry and downstream processing has contracted. Ten years ago, the forestry industry employed four per cent of the Tasmanian workforce. Now it employs two per cent[15]. Far from maintaining forestry jobs, past government policy has seen the industry *halve* in terms of its importance to the Tasmanian economy.

4.1 Increasing exports compromise local manufacturing jobs

The signing and implementation of the Regional Forest Agreement (RFA) in 1997, and the Tasmanian Community Forest Agreement (TCFA) in 2005 has done nothing to arrest the decline in timber manufacturing jobs, despite promises to the contrary – when boosting the TCFA strategy, Prime Minister Howard and Premier Lennon promised that it would revitalise the forest industry, protect existing jobs and create new ones[16]. That promise has not been met.

The increase in export of raw materials together with centralisation and increased automation of the sawmilling industry has decimated both the number of sawmills and associated employment. The number of hardwood sawmills has declined from 205 in 1980[17] to less than 30 now[18] with a further two mills in the Hobart area closing recently.

The job losses in Tasmania's timber industry have met with no outcry from the government or unions; until recently they have refused to admit there has been a decline and have continually propped up their justification of the industry by citing inflated numbers of dubious source. The job losses in Tasmania's timber industry are not the result of conservation, but result from falling prices, industry rationalisation, automation and restructuring towards decreased downstream processing.

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[14] Support for Tasmania's forest industries is analysed in Wells Economic Analysis (2009), *Support for Tasmania Forestry 1997-98 to 2007-08*, and G. Wells, *'A Critique of 'Assessing Direct Government Subsidies Paid to Tasmanian Industries' (A Report by BS Felmingham, S Poate and I McMahon [IMC-Link], May 2009.for Forestry Tasmania and the Forest Industries Association of Tasmania)'*

[15] In 2002-03, FAFPESC reported employment in the forestry industry (excluding merchandising) of 8705 persons, or 4% of the 202,000 of employment. Schirmer (2008) reported that in 2005-06 there were 6300 jobs in forestry, downstream processing, and associated service industries (but not merchandising). This represented 2.8% of the 220,000 employed in 2005-06. With subsequently-announced job losses that number has fallen to 5,060, which is 2% of the Tasmania's current employment of 235,000. See Schirmer, J. (2008), 'Forestry, jobs and spending: forest industry employment and expenditure in Tasmania, 2005-06', CRC for Forestry Technical Report 184, June.

[16] J. Howard (1997). Media release from the office of the Prime Minister on the Tasmanian RFA, 8/11/97. J. Howard and P.Lennon (2005), 'A Way Forward for Tasmania's Forests'.

[17] Somerville, J. (1981). Tasmanian Timber Trees. Tasmanian Media Centre.

[18] www.twff.com.au (2004) Tasmania's Sawmills Briefing Sheet, August, and ABARE (2009) Sawmill Survey Report. Sawmills with a negligible annual log intake are excluded.

For most of the last decade Tasmanian forest policy has been preoccupied with a pulp mill cargo-cult mentality. TCFA funds have, largely, been spent on maintenance of business as usual, rather than fostering innovation in downstream processing. This has resulted in unfortunate outcomes and lost opportunities. For example:

Contractors who were told they had a future in the industry have been thrown on the scrapheap.

Harvesting strategies and long term supply contracts of Forestry Tasmania have for too long been dominated by the need to guarantee supply of pulp logs for woodchips. This strategy exposed the Tasmanian taxpayers to unnecessary risk and low returns. In the last four years Forestry Tasmania has paid less than 4 million dollars in dividends to Tasmanian taxpayers; at the end of 2009. Forestry Tasmania had more $40m of unspent TCFA funds which were intended for pruning and thinning for the production of hardwood sawlogs; the Tasmanian Audit office queried the use of these funds to prop up Forestry Tasmania's cash reserves and to provide extended credit terms its customers.[19]

Management strategies for private plantations have been oriented towards short rotation pulpwood supply, passing up opportunities likely to be more profitable in the long term.

[19] Report of the Auditor general No.2 (2009), November.

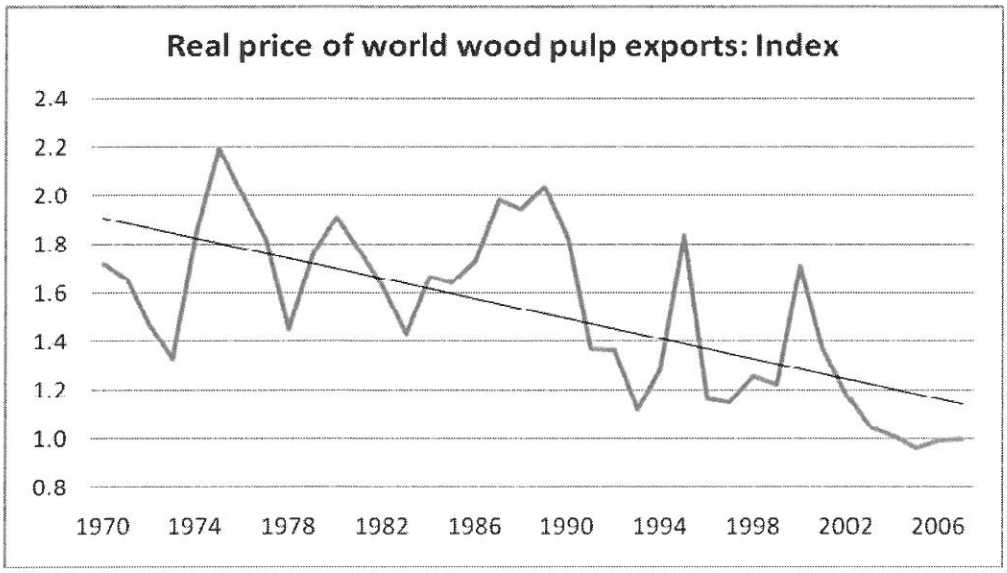
4.2 Domination of Tasmania's wood-based industries by commodity production

Commodities are homogenous products, differentiated in the market by price rather than by qualities like appearance or design. Woodchips, most sawn timber, wood-based panels, plywood, pulp and most paper are all commodities. Because price is critical, producers are under constant pressure to reduce costs so that they can maintain profitability. The market is moving against 'business as usual' for Tasmania's forest industries. Two factors are crucial.

There is a long-term decline in the real price of relatively unprocessed wood products

This trend can be illustrated with respect to two charts. Figure 2 shows the real world price of chemical wood pulp[20]. Although there are occasional peaks, each trough is lower than its predecessor. On these data the real price is only 60 per cent of what it was 40 years ago.

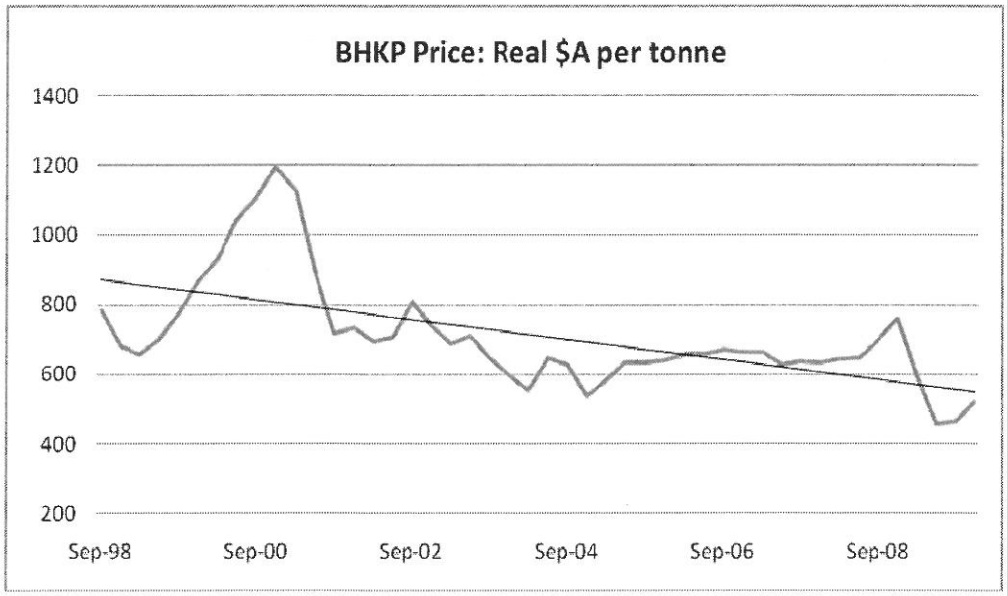
Figure 2



[20] Source: Original data from FAOSTAT, converted to real Australian dollars using the CPI.

Perhaps more relevant is the real price of bleached hardwood kraft pulp (BHKP), as this is the price to which Forestry Tasmania's long term wood supply agreement is indexed[21]. Although only a shorter series is available, these data show the same downward trend as for world exports of chemical pulp; the real price is a third lower than when the series began.

Figure 3



Markets have changed. Buyers prefer plantation-based or certified product

Increasingly, consumers are concerned about logging practices and destruction of forests with high conservation value. Multinational retailers such as IKEA or Home Depot, publishers such as Lonely Planet, and paper suppliers such as Fiji Xerox are sensitive to changes in consumer demand. These and a great many other multinational companies, including Japanese purchasers of woodchips, have responded to shifts in consumer demand by adopting certification by the internationally-recognised Forest Stewardship Council.

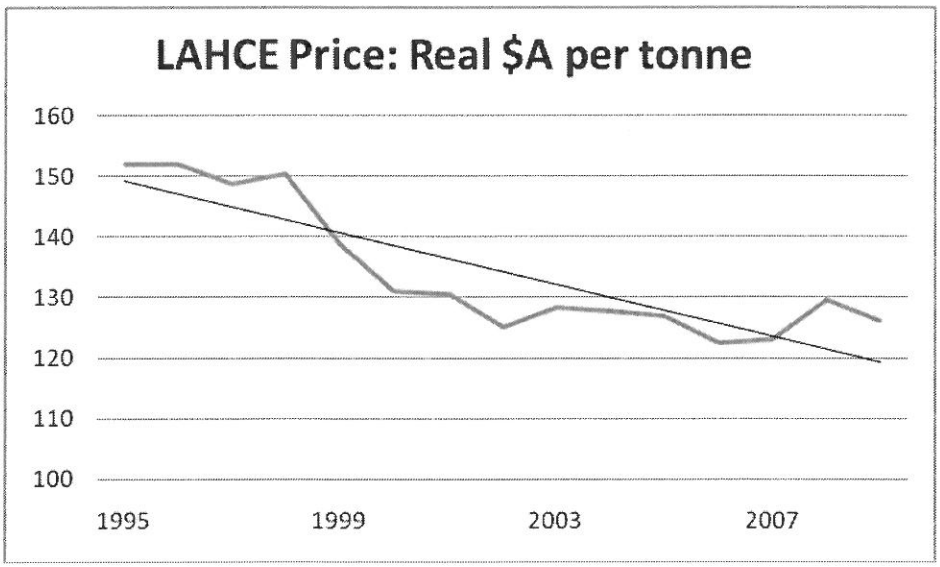
The change in market preferences towards plantation-based products has also accelerated the decline in both demand and price for the output of Tasmanian native forests. These trends have been recognised by forestry consultants for a number of years. In 2007, well before the onset of the global financial crisis, URS forestry said that it 'believes that the current downturn in demand for hardwood woodchips from Tasmania reflects more than a short term market movement. In particular, the increasing availability of hardwood woodchips from plantations in Australia and other countries will potentially reduce demand for native hardwood woodchip exports. Woodchip prices are expected to continue declining in real terms, with the premium paid for woodchips sourced from plantations to continue, if not increase'[22]

[21] Source: Original data from FOEX Indexes, converted to real Australian dollars using the CPI.
[22] URS Forestry (2007), 'Pressures facing harvesting contractors in the Tasmanian forest industry', report prepared for Department of Agriculture, Fisheries and Forestry, Canberra, 16 April.

The same year, Pöyry concluded that 'there is considerable evidence, both anecdotal and factual that would indicate that the downturn in the market for [Tasmanian] native forest hardwood woodchips is primarily driven by the preference of Japanese buyers for hardwood plantation woodchips.'[23]

In Tasmania, approximately 90 per cent of the annual native forest harvest volume is exported as woodchips and, along with relatively unprocessed wood products in general, the real export price has been falling over the longer term as consumers' preferences have towards plantation-based product. The result of these two effects is that the real price of native forest woodchips is 17 per cent lower than it was fifteen years ago (**see Figure 4**)[24]. Market forecasts are that this downward trend will continue. For example, in a comment which has proved remarkably prescient in view of Minister Llewellyn's overseas trips to boost flagging markets, URS Forestry was of the view that 'Over the next decade it appears unlikely that increasing volumes of hardwood pulpwood in Australia will be absorbed by existing export markets without real price declines. Given the market preferences for plantation pulpwood, it is expected that the greatest price pressure will be felt by native exports and native pulpwood may face difficulty in securing export markets.'[25]

Figure 4

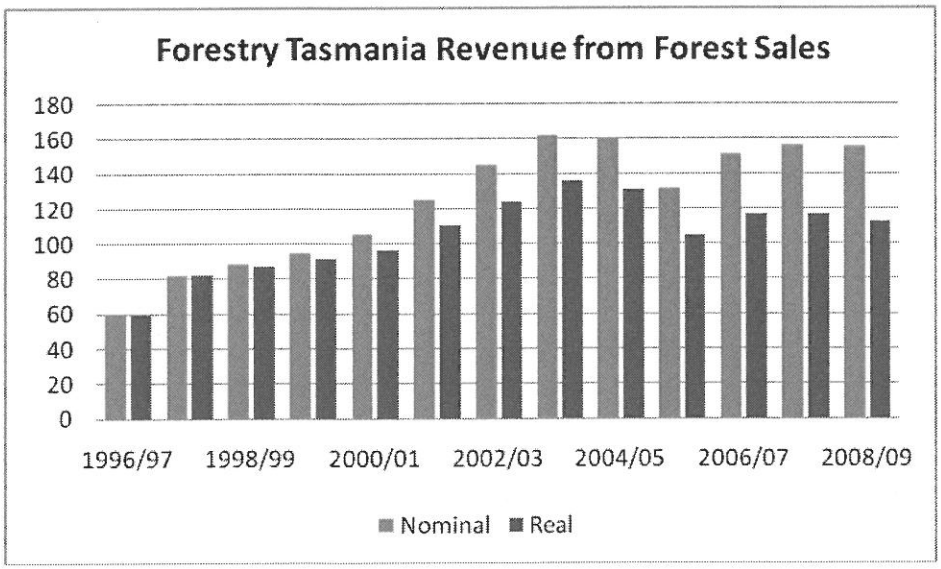


Approximately 95% of Tasmania's wood goes into commodity markets, mainly woodchips, and one company, which monopolises the woodchip market in Tasmania, is the primary beneficiary. Both native forest and plantation wood growers are locked into a competitive cycle where the constant need to cut costs sees jobs mechanised, environmental standards compromised and worker safety put at risk. In the process, the industrial imperative is destroying smaller-scale high value enterprises. Tasmania's specialty timbers industry and distinctive high value finished products should be icons of the State's timber industry; compared to industrial logging they have received no support. Also, sustaining other important industries from our forests, such as leatherwood honey resources, comes a long second to large-scale, cost-cutting industrial logging.

[23] Pöyry Forest Industry (2007), Review of URS Forestry (2007), a report prepared for Department of Agriculture, Fisheries and Forestry, Canberra, 19 December.
[24] The price series refers to the Leading Australian Hardwood Chip Export (LAHCE) price, which is negotiated annually between Gunns and Japanese buyers. It serves as the benchmark for Australian native forest woodchips.
[25] URS Forestry (2009), 'Markets and Market Prospects for the Forest products Sector in Tasmania', report prepared for the Forests & Forest Industries Council, 10 March.

These strategies have returned very little to Tasmanian taxpayers. Forestry Tasmania's real revenue from sales of products peaked in 2003/4, and has been declining since (**see Figure 5**). In the four years since the TCFA in 2005 its average rate of return on equity has been less than 1.5% and it has paid less than 4 million dollars in dividends.

Figure 5



The choice for Tasmania is whether to continue competing, from a small population and economic base, in global commodity markets where we have no influence on price. The alternative, which we advocate, is to switch government support and policy to favour high value products serving niche markets consistent with Tasmania's reputation for quality and environmental sustainability.

4.3 Low royalties and cheap land favour conversion of native forests to plantations

Since 1999, most of plantation expansion on private land and the majority on public land has come at the expense of native forests. Together with the subsidy provided by managed investment schemes, this 'forest mining' subsidises the cost of plantation establishment, making it cheaper than anywhere else in Australia. Tasmania has arrived at the situation where there is a race to the bottom in wood pricing. Managers of failed plantation schemes get whatever returns they can. Forestry Tasmania, desperate for short term profit, has to compete with these prices.

This situation has to change. Clearing native vegetation for plantations needs to cease in line with other States and will remove the comparative advantage for plantation establishment. The Greens advocate no further plantation expansion is needed as plantations already in the ground will increase wood supply substantially in coming years (**Section 6.1**). Forestry Tasmania's stumpages must be increased to reflect the long term value of this resource if it is put to higher value processing and carbon sequestration.

4.4 Specialty timber industry under threat

Industrial scale logging and the woodchip industry are destroying the future of the specialty timbers industry and of the unique, distinctly Tasmanian, high-value finished products which should be the icons of the State's timber industry. Tasmania's prized woods for furniture, boat building, interior design and crafts are being clearfelled and woodchipped or burnt whilst young, rather than being allowed to grow to maturity. The logged areas have been 'converted' to plantation or reseeded with eucalypt, both on rotations too short to sustain slow growing specialty timbers, many of which require 500 years to reach commercial maturity.

This 'conversion forestry' is reducing the availability of myrtle (Antarctic beech), blackwood, sassafras, celery-top pine, and leatherwood. Also, many other species are being largely ignored and treated as 'slash' or waste. These timbers are a mixture of endemic and native trees including: cheesewood, goldeywood, native olive, musk, native plum, horizontal, tea tree and silver wattle. The term 'specialty timbers' should arguably include high quality eucalypts marketed by their real names instead of their commodity term 'Tas oak'.

A recent report into the Tasmanian woodcraft sector identified important changes to current practice in order to sustain the supply of craftwood: 'Increasing the volume, range and return from [craftwood] harvest will require a combination of innovations in forest management and planning, coupe harvest planning, harvesting approaches, practices and techniques, in education and training to be linked with the harvesting, milling and making jointly to ensure all receive a return from such initiatives'[26].

As a way forward for the industry, this is hardly a ringing endorsement of the oft-made claim for the importance keeping on with current practice of industrial scale logging in old growth forests. Instead, what is required is a different approach for the supply of timber to the specialty timber industry. For this purpose the Greens propose the establishment of specialty timber zones to be administered by a Specialty Timbers Commission (Section 5.2.1).

[26] Creating Preferred Futures (2009), ' A Review of the Tasmanian woodcraft Sector for the Woodcraft Guild of Tasmania Inc & Forestry Tasmania', March.

4.5 Forestry exemptions & 'self-regulation' create an uneven playing field

The profitability of Gunns' Tasmanian operation depends on abundant supplies of cheap wood, a compliant government and a 'tailor made' regulatory regime. There is no level playing field in Tasmania when it comes to the timber industry. There has been ongoing controversy in Tasmania over breaches of the Forest Practices Code and ineffective regulation. Forestry Tasmania is severely constrained because Gunns purchases over 80% by value of its output.

A system of industry self regulation is designed for minimal prosecution and enforcement of penalties in favour of reliance on 'good will' from forest operators. This regulatory system stands alone unique to forestry, has been created by the industry and operates under explicit industry control. The corruption of forest management in Tasmania with little or no enforcement of the weakened Forest Practices Code and an internal audit system which has led to the misleading of the Tasmania Parliament was outlined by Forest Practices Officer of 32 years standing Bill Manning who gave evidence to the Senate of *'a culture of bullying, cronyism, secrecy and lies'*[27]. Minimalist intended changes announced by the Tasmanian government did not end industry self regulation, under which the vast majority of Forest Practices Officers are employed by the companies they are supposed to pull into line.

An infamous series of exemptions from planning and environment laws applies to the forest industry. The exemptions are from the *Land Use Planning and Approvals Act*, *Cultural Heritage Act* and the effective exemption from the *Threatened Species Act* which undermines threatened species protection by deeming a certified Forest Practices Plan to be the issuing of a permit to take (i.e. destroy) threatened species. The major concern with the Forest Practices System is that those undertaking forestry activities are enabled and encouraged to do so in a system that exempts their activities from provisions of national environment laws, of state environment and planning laws, and of local government planning schemes. What is intended to replace these safeguards – the Forest Practices System – is wholly inadequate because it does not have a set of clear objectives or measurable outcomes for sustainable forest management covering private and private land. Ending the exemptions will enable local communities to have a say on forestry activities in their area and ensure that environmental and heritage issues are managed properly on a level playing field.

The recent report *Levelling the Playing field: Reforming Forestry Governance in Tasmania*[28] provides numerous instances in which governance of the forest industry in general, and Forestry Tasmania in particular, leads to a bias in favour of management of native forests for wood production rather than biodiversity or other uses such as carbon storage. It documents the way in which Forestry Tasmania's joint ventures are exempt from the requirement of the Forestry Act 1920 to take into local jobs into account when making decisions about wood allocation. It details many instances of the unhealthy relationship between the forestry industry and government.

The Greens strongly support a comprehensive overhaul of Tasmania's forest management system, informed by a judicial Commission of Inquiry, to break the established culture, clean up the industry and restore public confidence. Forestry Tasmania must be restructured, with the Forest Practices Authority also being replaced, with the new entities separating the policy, regulatory and management functions.

[27] Senate Rural and Regional Affairs and Transport References Committee. Australian forest plantations. September 2004
[28] CSDev Associates (2010), *Levelling the Playing field: Reforming Forestry Governance in Tasmania. A report commissioned by Environment Tasmania.*

5.0 Native forest transition

5.1 *Wood supply substitution*

Under the Greens' *Forest Transition Strategy* there will be as much wood available to the timber industry into the future as there is now. Although the availability of native forest timber, particularly from mature forests, will decrease due to the reserve proposal outlined in **Section 1,** this will be more than compensated for by more efficient use of available native forest timber and the forecast massive expansion in the availability of plantation timber.

Forecasts show that approximately 530,000 million m^3/annum of plantation hardwood sawlog will be available by 2020 and overall plantation timber availability will almost triple to 6.3 million m^3/annum given no further expansion in the current plantation estate[29]. Obviously a medium-term transition away from milling old growth timber to regrowth and/or plantation timber will require adoption of new milling technology at affected mills and a 'structural adjustment' assistance package will be made available under this strategy to assist affected mills to adopt the new technology (**Section 7.3**). The shift to milling more regrowth and plantation logs under the Greens' *Forest Transition Strategy* involves bringing forward capital investment which is arguably required over the longer-term anyway as the State's old growth production forests continue to decline due to conversion forestry.

There are several options for timber processors affected by the immediate transition away from logging old growth and high conservation value regrowth forest:

- Immediate substitution of mature forest timber sawlogs with regrowth logs from non-contentious areas. Approximately 450,000 hectares of regrowth production forest on public land will still be available to the timber industry.
- Skills and experience to be transferred to the plantation sector where significantly higher volumes of sawlog and pulpwood will soon be available (see **Section 6.1**).
- The specialty timber sector has potential for expansion if given the right management framework. Ample supplies of timber for Tasmanian workers will be maintained under revised Specialty Timber Zones enabling current production to be expanded (**Section 5.2**).
- Wiser and more efficient use of native forest timbers (**Section 5.3**)

[29] Australian Greens (2004). Plantation forestry in Tasmania – the current resource, current processing and future opportunities. Consultancy report August 2004.

5.2 *Creation of Specialty Timber Zones (STZs)*

Current forest management primarily focuses on 'conversion' of mixed forests to plantation eucalypt or eucalypt regrowth and seeded regeneration on rotations too short to sustain slow growing specialty timbers such as myrtle, sassafras and celery-top pine, many of which grow to over 500 years. The Greens endorse the creation of new Specialty Timber Zones, to improve upon and relocate Forestry Tasmania's problematic STMU (special timber management units) which are currently heavily weighted in the rainforests of the Tarkine. Such a move would give resource security to the specialty timbers sector outside areas earmarked for reservation.

New specialty timber zones, as identified in a report by Timber Workers for Forests[30], involve more equitable distribution of specialty timber management forests across the State, meaning increases in areas allocated in the Bass, Derwent, Huon and Mersey forest districts. The forests concerned will lie close to an existing road network and would already be disturbed by previous logging, fire or developmental activities. Some of these forests contain old trees suitable for the needs of high value craft work. An extensive suitable zone containing sassafras, leatherwood, myrtle and other specialty timbers including eucalypt has already been identified within the Huon Valley. Other commercial activities would also have their future assured within such zones including honey production and pollination services (see **Section 5.2.2**).

Two thirds of Tasmanian volumes of specialty timbers such as blackwood are now being exported for manufacture outside Tasmania[31]. To support community forestry, policy settings will ensure that first priority for timbers extracted would be for processing in Tasmania, and preferably within the local region.[32] Under the *Forest Transition Strategy* the end use of Tasmanian specialty timbers will be in furniture manufacture, boat-building, panelling, joinery, flooring, and in craft and artwork products.

5.2.1 Specialty Timbers Commission

The responsibility for managing the Specialty Timber Zones would rest with a Specialty Timber Commission, not as an afterthought of industrial-scale logging. The Commission would be comprised of representatives of the specialty timber industry, the community, the tourism industry, beekeepers, conservation organisations, natural resource management officers and foresters. The Commission would develop detailed and comprehensive forest management plans for each small and distinctive area of forest. It would provide incentives for collaboration and training in specialised harvesting and milling techniques, and assist in increasing returns to local business by identifying market niches for high value wood products. Forest management plans would not only identify ecologically sustainable timber yield but would also identify areas of high conservation value and seek to maintain values such as ecotourism potential, cultural heritage, honey production and ecosystem services such as water yield, habitat and biodiversity.

A Specialty Timbers Commission will be able to promote the brand and provide complete chain of custody certification for end products.

Proponents of 'business as usual' often make the claim that cessation of industrial logging in old growth forests will destroy the specialty timbers industry. The opposite is true. The *Forest Transition Strategy* will increase resource security for Tasmanian industry and improve financial outcomes for its participants.

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[30] Tasmania's specialty timber industry – a blueprint for future sustainability. www.twff.com.au
[31] Creating Preferred Futures (2009) op.cit.
[32] Under Section 12A of the Forestry Act (1920), Forestry Tasmania 'must treat the level of employment deriving from the use of public forest resources as an important consideration when examining options for competing claims for Crown wood including the provision of wood supply agreements'.

5.2.2 Leatherwood honey production assured – a huge benefit

The creation of Specialty Timber Zones that will never be subjected to clearfelling or associated logging practices, is mutually compatible with the needs of Tasmania's leatherwood honey industry.

Tasmania's unique leatherwood honey is a special product ideally suited to Tasmania's clean, green niche market agricultural future. The pollination services provided by beekeepers to high value orchard and seed crops are also reliant on the continued viability of leatherwood honey production. Agricultural and horticultural industries dependent on pollination services contribute at least $110 million to the Tasmanian economy, according to the RFA social and economic figure from 1996.

The leatherwood resource is currently being reduced because of clearfelling and burning methods used in leatherwood-rich State forests intensively managed for eucalypt production. Beekeepers cannot lose any more leatherwood-rich forest coupes, yet the flaws in so-called multiple use forest management are clearly exemplified by their struggle to have their interests adequately addressed, and by the failure of government to recognise the flow on effects which will impact agricultural development strategies.

5.3 Wiser use of available native forest timbers

Historically, much of our native timber has been used in ways that do not reflect the value we are now beginning to place on our timber – including the 90% of forest logged which ends up as woodchips, plus the whole log exports and timber used in green-sawn form for house construction and utility grade timbers.

A substantial resource of regrowth forests from previous logging operations exists which is available to support Tasmania's timber industry. Our objective is that these native forests be used in applications that both recognise their quality and scarcity and which maximises the number of jobs that can be created within the higher value-adding stream. These forests should not merely be sacrificed by clearfelling and woodchipping under a 'business as usual' scenario simply because high conservation value and old growth forests are reserved.

5.3.1 Improving efficiency

Improving timber yields & recovery

Improving efficiency begins in the forest and carries through to the sawmill. The recent ABARE survey indicated that the average recovery rate of both hardwood and softwood sawmills was the lowest in Australia; in both cases a 14% improvement is required to meet the national average; more would be required to be an industry leader.[33] This improvement is an integral part of the restructuring of the Tasmanian forest industry. To facilitate an increase in efficiency, log specifications and grading must be reviewed so that high quality logs are not downgraded simply due to minor flaws, knots or fiddleback features. Pressure to improve milling yields from higher priced and less available native forest sawlogs will also help to increase efficiency and maximise the return of high value product from each log.

Sawmills currently utilising old growth category 1 & 2 sawlogs can be 'retooled' to use regrowth (category 3) and lower quality (category 8) logs or plantation logs. The milling of shorter lengths of timber can be supplemented with finger jointing and glue laminating to produce larger structural grades of product. Such a move simply means bringing forward the capital investment required to process different feedstock - a move that is destined to happen anyway if we continue with 'business as usual' and old growth timber availability ultimately declines.

[33] Australian Bureau of Agricultural and Resource Economics (2009), *ABARE 2007 sawmill survey report.*

Export woodchip transition

Under the Forest Transition Strategy, export woodchip production from native forests will end. Native forest regrowth pulp-logs will be prioritised to support high employment Tasmanian based industries, or engineered wood products (**Section 6.2**).

Wood allocation criteria

Under the *Forest Transition Strategy* wood allocation will be determined on the value-adding and downstream processing within Tasmania (including a jobs assessment component), and a pricing system which values the resource more highly and thus produces commercial pressure for high value end use. Where necessary, financial assistance will be made available to help processors adjust.

New contractual arrangements negotiated under our restructuring initiatives will support high levels of processing and will see the development of stronger linkages with downstream manufacturers. For specialty timbers, these links will be established by the Specialty Timber Commission. Such linkages will be important commitments in business plans put forward in the process of applying for wood supply contracts, and will be enforced through conditions in log supply contracts with each company. A similar approach has been adopted in Western Australia which will be refined and improved in Tasmania to overcome the loopholes which have become apparent in that state.

Changing specialty timber specifications

New specialty timbers specifications must be developed which focus on maximum recovery per tree, on a tree by tree basis. Trees not meeting a pre-determined commercial size would not be cut down but left to grow as future resource, a complete change from the current system which has classification occurring only after trees are cut down under a clearfelling regime. Many immature logs are thus chipped or burnt; a terrible waste of a scarce resource.

Single stem harvest of specialty timbers

An immediate end to clearfelling and burning in Tasmania's Specialty Timber Zones will be implemented, in favour of single stem selective harvest. Clearfelling is not an appropriate logging method as Tasmania's specialty timbers have evolved to regenerate without catastrophic disturbances such as fire and do so more effectively following small scale disturbance of the forest floor. Such a move will end the 'by-catch' status of specialty timbers and the destruction of future resource by industrial scale logging.

Considerable skills and experience in selective harvesting techniques exist with operators who have practised these methods for many decades although, as highlighted by Creating Preferred Futures (2009), such vital skills are being lost over time with the adoption of clearfelling instead.

A harvest sustainability objective will involve determination of annual growth rate of specialty timber trees and set harvest volumes at a discount below the estimated annual yield of the forests. Honey production management objectives will be accorded a priority, particularly ensuring retention of the leatherwood resource.

Other important objectives such as the maintenance of ecological services (e.g. clean, plentiful water production, carbon dioxide absorption), ecotourism potential, landscapes and cultural heritage significance will be incorporated into management planning.

6.0 Maximising the value of our current plantations

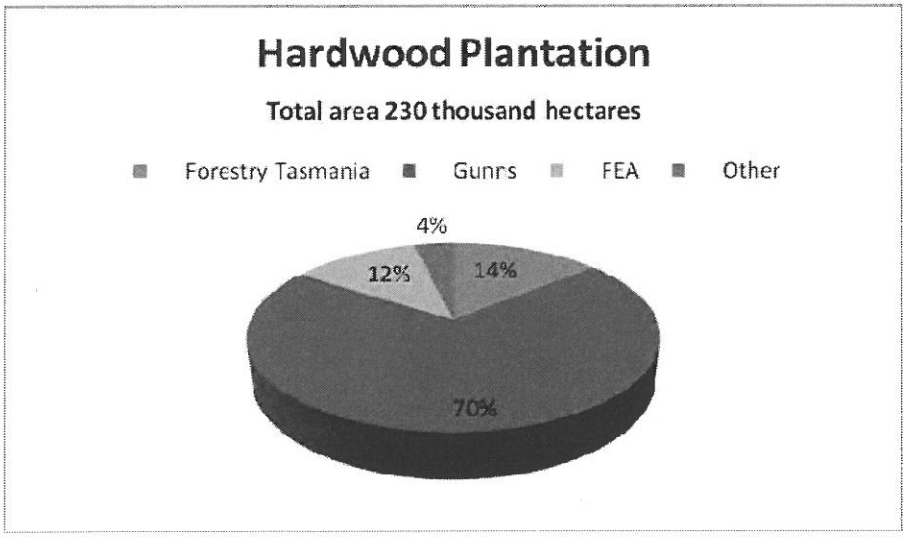
Plantations are tree crops planted to produce wood. Like other crops they are usually of one species and uniform age. Depending on the species, plantations can be managed by use of thinning and pruning to produce different types of crop. If managed for pulpwood, the usual regime yields thinning at 9 years and clearfell harvest at around 12-15 years. Using standard sawmilling techniques sawlogs can be harvested at 20-30 years, but modern mills such as those used by Forest Enterprises Tasmania (FEA) enable the sawing of unpruned plantation eucalypt as young as 10 years.

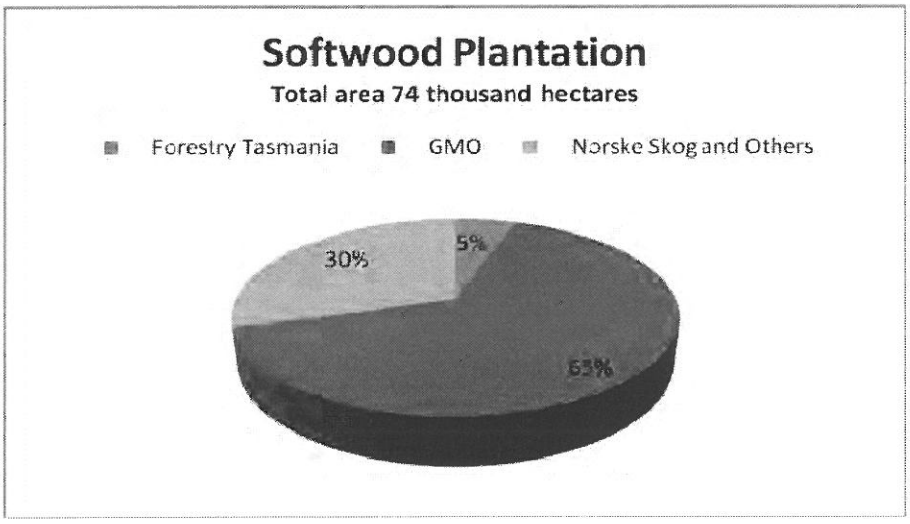
6.1 Current situation

Tasmania currently has 230,000 ha of hardwood and 74,000 ha of softwood plantations (as at 2009). The area of plantations represents about 17% of the total commercial forest in the State. The plantation estate has been expanding rapidly at an average rate of 15,000 hectares/year for the last 5 years, most of which is hardwood. Although Forestry Tasmania has stopped planning more conversion of native forest to plantation, expansion on private land is still occurring at the expense of native forest.

6.1.1 Plantation ownership

Private interests are becoming an increasingly dominant factor in controlling the product flow, marketing and end uses of Tasmania's plantation timber. Currently, 86% of hardwood plantation trees are privately owned; more than 90% of softwood plantations are privately owned or managed as joint ventures. (**Figures 2 and 3**).





The biggest private plantation manager is Gunns Ltd with 160,000 ha of eucalypts, some of which have been established as joint ventures with its Japanese woodchip customers; others have been established as Managed Investment Schemes. The largest softwood holding in the State is currently 48,000 hectares jointly owned by Forestry Tasmania and American multinational GMO Renewable Resources Ltd.

6.1.2 Overview of volumes

In 2008-09, 2.7 million cubic metres of plantation logs from public and private sources were produced. Most of these logs were chipped and then exported. Some were used for the production of paper at Wesley Vale and Boyer, some were used for the production of fibre-based panels, and some used by mills such as FEA and a few country saw mills for the production of sawn timber. A small quantity is sold as roundwood.

Table 3: Summary of Tasmania's plantation output in 2008-09 and 2020 (m^3)

	2008-09	2020
Hardwood pulpwood	1,220,000	4,171,000
Softwood pulpwood	765,000	666,000
Hardwood Sawlog	8,000	200,000
Softwood Sawlog	697,000	862,000
	2,692,000	**5,899,000**

Table 3 also includes a recently-published projection of plantation output in 2020[34]. Longer-term projections of plantation output are uncertain because of reliance on assumptions about management regimes and rates of replanting and new establishment. A ten-year forecast (as in Table 3) is more reliable as it is necessarily based on trees presently in the ground. The conservative approach adopted in this report is to assume that in the long term the total area of plantation is unchanged but that, beyond 2020, more intensive pruning and thinning regimes increase the proportion of peeler and sawlogs in the total output.

The full economic potential and the number of jobs from Tasmania's current established industrial plantation estate would be captured by ensuring the maximum domestic processing of this wood supply into high-value products. In consequence of the wasted years during which forestry policy has been focused on large-scale pulp mills, with increased emphasis on short rotation plantation hardwoods, this has not happened.

Instead, forestry policy has meant that plantation production has become increasingly export commodity driven and increasingly controlled by joint ventures with overseas partners. Until the onset of the global financial crisis, falling real prices were masked by higher volumes and temporarily high revenues from establishment of management investment schemes (see **Section 4**).

[34] FFIC (2010) 'The New Forest Industry', February.

6.2 *Using plantation timber more wisely*

More than 5,000,000 tonnes/annum of plantation timber are expected to be available in Tasmania within ten years. There will then be about four times the availability of plantation hardwood than there is currently. With the huge investment in the establishment of hardwood plantations in Tasmania, the time is right to begin positioning for new products and new markets that will ultimately be available for such a significant forecast increase in wood availability.

A strong argument can be made for diversifying away from primarily pulpwood products to capitalise on opportunities for value adding through solid wood production, particularly clearwood and veneers, and engineered products such as LVL (laminated veneer lumber), ESL (engineered strand lumber) or OSB (oriented strand board). Growth in reconstituted and glue laminated products favours plantation grown wood, with many of these products incorporating low-grade wood and small diameter logs from fast grown, short rotation plantations[35].

Processing of plantation eucalypt solid wood products is a relatively recent technological advancement. A number of countries around the world have built highly efficient world-scale production units, with annual usage of between 250,000 and 500,000 m3 of timber, dedicated specifically to converting eucalypt plantation wood into sawn timber, plywood, veneer and reconstituted lumber products.

Maximising downstream processing in this way has a number of important advantages:

- Regional development is facilitated. Instead of hauling logs to a central location such as the proposed pulp mill, processors are closer to sources of supply. An objective of Tasmania Together was to sustain employment in the regions. Value-adding with smaller processors means that jobs are generated in traditional 'timber towns'.
- Capital costs are lower. For example, the Ta Ann rotary veneer mills in Geeveston and Smithton currently use native forest pulp logs that were previously exported as woodchips. Plantation timber can be used as it becomes available. With a capital cost of $60m, the mills employ 130 workers and use 265,000 m3 of logs. In contrast, the proposed pulp mill has a capital cost of $2.5b; it would use more than 4 million m3 of logs and employ just 290 workers.
- Risks are spread. A number of smaller (but economic-scale) processors operating in different market segments expose the Tasmanian economy to lower risk than a very large single-product processor such as the proposed pulp mill.
- Smaller plants are more flexible. The Smithton Ta Ann plant, for example can be scaled up to three production lines at relatively low cost. Smaller processors can also respond more nimbly to innovations.
- Carbon sequestration in paper pulp is negligible; in engineered and reconstituted wood products it is much higher (see **Section 8**).

[35] ABARE (1999) Forest plantations on cleared agricultural land in Australia. Research Report 99.11

Increase intensive forest management for sawlog & veneer

Under intensive forest management, special thinning, pruning, fertilising and harvesting techniques are employed to maximise the scale, quality and economic value of plantation resources[36]. High pruning of softwood plantations produces clearwood, a premium plantation product with a stumpage value 7 times that of softwood pulpwood. For pruned hardwood plantation sawlogs, the stumpage is 3 times that of plantation pulpwood[37]. This premium is likely to increase as the availability of native forest timber falls.

Clearwood is the ultimate product for finest grade, knot and blemish-free timber for uses such as picture framing, carpentry and furniture. Careful planting, pruning and forest management will create clearwood. The timber also requires skilled milling, drying and storage to ensure a craftsmen-quality final product. Forestry Tasmania has strongly endorsed the use of high pruned plantation timber for fine furniture.[38]

Several existing mills can be progressively retooled to process plantation timber with no loss of jobs. There would be potential for such business activity to grow in line with an increased eucalypt plantation sawlog supply if management regimes became more integrated with sawlog production rather than focussing solely on pulpwood production.

The import of a Finnish sawmill enabled Forest Enterprises at Bell Bay to mill plantation eucalypt (*Eucalyptus nitens*) at as little as 10 years old. Subsequent purchase of a more flexible Optimil sawmill means the plant is now capable of producing up to 350,000 m^3 of sawn timber annually. Output includes Radiata Pine marketed as BassPine and plantation hardwood marketed as EcoAsh, which has achieved structural grading for studs, plates and trusses. FEA's EcoAshclear product, based on pruned plantation hardwood, competes in appearance-grade applications such as furniture and flooring. Clearwood ash flooring currently retails at between $650 and $1200 m3.

Initiatives of this type are positive for value adding, job generation and substitution of milled timber currently sourced from native forests. FEA employs 175 workers. There is room to invest in further expansion by other industry players into this newly pioneered option. Two new mills of comparable size to the FEA mill would provide long-term employment for 200 workers.

New technology and development for both sawing and drying plantation hardwoods will also improve production yields in the future.

Veneer Production

Due to the clearwood management regime of softwood plantations there has been an increase in the supply of softwood veneer logs. The Greens also advocate production of veneers (sliced and rotary peeled) from our plantation hardwoods. Hardwood plantation peeler logs should be used as input for at least one of the existing veneer mills as an alternative to native forest logs. There would be no net effect on jobs. A major export oriented plantation veneer industry has the potential to be developed. A new rotary veneer mill with annual log input of 200,000 m3 would employ 100 workers with a capital cost of $50m. There is also potential to further process the veneers into higher value products such as laminated veneer lumber, thereby generating more jobs.

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[36] See Beadle *et al*, 'Solid wood production from temperate eucalypt plantations: a Tasmanian case study', *Southern Forests* 2008, 70(1), 45-57.
[37] VDFC Forestry Consultants, 31 March 2009.
[38] See 'FT showcases the use of plantation timber for fine furniture', http://www.forestrytas.com.au/branchline/branchline-august-7-2009/ft-showcases-use-of-plantation-timber-for-fine-furniture .

Laminated Veneer Lumber

LVL is manufactured by bonding wood veneers together with an adhesive to form a solid billet the size of which is limited only by manufacturing and transport constraints. Its laminated structure results in higher bending strength and stiffness than the equivalent solid timber section. LVL is rapidly gaining acceptance and market share in the construction industry, where it is used in applications that previously used hardwood sawn timber or steel – floor bearers, beams, joists and, more recently, I-joists.

The veneers used in this process are obtained from so-called peeler logs of lesser quality than the veneer logs used to obtain decorative veneers. Either plantation or native forest logs can be used, and veneers such as those produced at the Ta Ann plants at Geeveston and Smithton could be used to produce LVL (the main differences between plywood and LVL manufacture relate to the thickness and orientation of the layers of veneer). Further processing from one of the veneer mills would have a capital cost of $20m and add 50 jobs.

Engineered Strand Lumber

ESL differs from LVL in that, instead of bonding wood veneers, wood fibre is oriented in a linear pattern, glued, and formed into billets. ESL has similar structural properties to LVL, and competes in many of the same markets. It has the advantage that it can be based on lower grade plantation pulplogs rather than the peeler logs required by the LVL process. ESL is gaining market share in the North American market and a Western Australian company, Lignor, has developed the process for hardwood pulplogs.

The output of a commercial-scale ESL plant would be 240,000 m^3 per annum[39]. URS estimate the capital cost to be $225m, with direct employment of 150. It would require approximately 550,000 tonnes of pulpwood per annum.

Community based sawmilling, processing and training centres

There is also a valuable role for smaller community based sawmills and processing centres, initially with an annual log input in the order of 10-20,000 m^3 per annum, including specialty timber. The Greens propose the provision of seed funding for three multifunction wood processing centres in regional towns such as Scottsdale; in other centres, existing mills may be reconfigured. The mills would be FSC certified. By employing a mix of traditional sawmilling techniques and radial milling technology developed by Radial Corporation, the mills will be able to extract higher quality sawn timber from smaller logs, including specialty timbers, with a variety of dimensions. By building in flexibility and scope for expansion from the outset, lower value output will be able to be manufactured into products such as pallets, carcase timber for furniture, and other uses. The centres will be a base for providing training opportunities and nationally-recognised certification, providing career paths for workers in the forest industry. With appropriate incentives the centres will provide a catalyst for on-site downstream processing.

It is anticipated that a local ownership model, including an input from the education sector, will developed for these mills. Our transition policy provides for seed funding of five million dollars, spread over a number of years, for these mills. It is anticipated that each mill will create up to 30 new jobs and training opportunities.

[39] URS Forestry (2009), 'Economic Impacts of Potential Forest Industry Developments in Tasmania', report for Forests and Forest Industry Council, 24 August.

6.3 *Choosing the best manufacturing options: The pulp mill is not the answer*

The information presented in **Table 4** summarises the previous section and provides a picture of the resource consumption, capital expenditure and jobs creation potential of several downstream processing options based on plantation timber. As well as the direct employment identified in Table 4, additional jobs will be created in service industries associated with these industries. We have not enumerated these additional jobs so as to be able to compare like with like.

The Greens advocate creating an economic and wood supply environment in which private investors will be able to create new value-adding industries of the kind represented by the first five options. Incentives will be provided to achieve this. These options leave plenty of room for existing processors to make the transition out of high conservation value forests which will be reserved.

Table 4: Profile of investment, jobs and resource requirement of plantation timber processing plants

	WOOD INPUT REQUIRED (M3/ANNUM)	CAPITAL EXPENDITURE ($ MILLION)	DIRECT JOBS CREATED
Veneer mill (hardwood)	200,000	60	100
Laminated veneer lumber (LVL)	Uses veneers as input	50	50
Two new sawmills (softwood & hardwood)	800,000	150	200
Engineered strand lumber (ESL) (hardwood)	550,000	225	150
Upgrades to existing sawmills	300,000	75	100
Community-based specialty sawmills and training centres	60,000	30	90
Pulp mill – closed loop, non-chlorine Kraft (hardwood)	4,000,000	2500	290

By contrast, the pulp mill would use at least 4 million m3 of pulpwood which, allowing for the fact that some of that is already committed to other uses, is *more* than the forecast 2020 supply of plantation pulpwood (see **Table 3**). Apart from the disadvantages of a single large processor previously discussed – lack of regional opportunities, high capital cost, high risk, and lack of flexibility – there is insufficient wood supply to allow for both a pulp mill, the other possibilities identified in **Table 3**, and reduced reliance on native forest[40].

[40] See also C.Beadle (2007), 'The Pulp Mill: The Forgotten Issue is Wood Supply', *Science Alert*, 6 September.

The pulp mill is not the answer.

- The first six options create 690 jobs in direct employment and allow for more flexibility in development of the forest industry as technologies evolve. These options provide room for existing processors to reduce reliance on native forests.
- The pulp mill creates half as many jobs at five times the capital cost. It locks up more than the entire uncommitted Tasmanian supply of plantation pulpwood. As has been so painfully demonstrated recently, employees and contractors are hostages to the fortunes of a single, large processor facing long term falls in the price of its output. The mill provides no additional employment in regional towns.
- The pulp mill locks plantations into low-value uses. Its profitability depends on a low price for pulpwood and, as URS Forestry point out, 'it may be difficult to compete with export parity for plantation pulpwood exports to Japan'[41]. The present plantation supply is available at low prices because investors have made irreversible decisions, many of which they now regret. Returns on managed investment schemes are lower than were spruiked at the beginning. Markets will insist on greater transparency and at least export parity when the time comes for replanting.

Based upon the evidence given above the Greens' preference is to pursue smaller (but world scale) developments for a range of plantation processing ventures rather than a pulp mill. In **Section 7** we detail the ways in which these and other initiatives will boost employment opportunities.

[41] URS Forestry (2009), 'Markets and Market Prospects for the Forest Products Sector in Tasmania', March.

6.4 Ending Plantation Expansion

With no further expansion in the plantation estate the volume of timber available is still set to expand significantly (up to three times) on current volumes as timber from the recent massive expansion in the estate becomes available (see **Table 3**). Despite the extension in reservation of high quality native forests under this Strategy - **there is no looming shortage of wood in Tasmania.** Hence the Greens advocate no further expansion in the current industrial-scale plantation estate.

Despite the positive benefits of plantation establishment in terms of generating manufacturing initiatives, replacement of commodities traditionally sourced from native forests, and potential to improve farm health and diversify production, there are many serious environmental factors that need to be taken into account. Paramount of these issues in Tasmania is the conversion of native forests for plantation establishment as discussed earlier in this report. In short the issues of concern in relation to further proliferation of plantations are:

- loss of native forest biodiversity
- reduced stream flow and consumption of groundwater
- toxic leaching from monoculture plantations
- chemical contamination of waterways following pesticide application
- poisoning of wildlife with 1080 baits used in browsing control
- plantations subsuming agricultural land
- soil compaction and erosion caused by harvesting operations
- soil nutrient decline and acidification
- visual impact following clearfelling.

The serious nature of these issues, particularly as many of the serious consequences will be a burden for future generations to bear, is the primary justification for the Greens being unable to support further industrial-scale plantation expansion. There also needs to be change in the way we manage the plantations we already have to address this range of serious issues.

7.0 Looking after the forest workers – job creation

7.1 How many existing jobs will be affected by the forest transition?

Few current forest industry jobs would be directly affected by the Greens' Forest Transition Strategy. Although access to high conservation value old growth and regrowth[42] forest will be significantly reduced, sawmilling and veneer processing may be maintained in the short–term by substitution of mature timbers with regrowth timbers.

Processing options will be broadened by the massive expansion in availability of plantation timber which is currently beginning (**Section 6.1**). The transition away from milling old growth timber to regrowth and/or plantation timber will require adoption of new milling technology at affected mills and a 'structural adjustment' assistance package will be made available under this strategy to assist affected mills to adopt the new technology. The shift to milling more regrowth and plantation logs involves bringing forward capital investment which is arguably required over the longer-term anyway as log diameters fall and the State's old growth production forests continue to decline due to conversion forestry.

The options for processors affected by the immediate transition away from logging old growth and high conservation value regrowth forest are summarised below:

- Immediate substitution of mature forest timber sawlogs with regrowth logs.
- The expanding large volumes of plantation wood and specialty Timber Zones proposed by this Strategy means that the current legislated requirement for 300, 000 m3 per annum of high quality native sawlogs is no longer necessary and the Greens will legislate accordingly.
- Skills and experience to be transferred to the plantation sector where significantly higher volumes of sawlog will soon be available (see **Section 6.1**).
- Skills and experience to be transferred into new processing initiatives that are possible by downstream processing wood that is currently exported and through potential new initiatives for processing plantation timber (see **Section 6.4**). By diversifying production Tasmania will no longer be reliant upon one big buyer of our forest product. Consequently it is less likely that we will be held to ransom by being predominantly price-takers.
- Retraining for employment in the burgeoning tourism sector.
- Pay-out through a structural adjustment package (see **Section 7.3**).

[42] Native forest regenerated following logging or fire.

7.1.1 Timber industry jobs

We need to examine the nature of employment in the Tasmanian forest industries to understand the employment impact of reserving forests of high conservation significance. In Table 8 we provide an estimate of current employment in the industry – 5,060 jobs, or 2% of Tasmanian employment.

Table 8: Employment in the Tasmanian forestry industry

CATEGORY	TOTAL
GROWING, HARVESTING & MANAGEMENT	
Harvesting, haulage & plantation establishment contractors	1,900
Forest management	500
Total	**2400**
NATIVE FOREST PROCESSING	
Sawmilling, dressing and woodchipping	1,100
Veneers and panels	200
Other processors	200
Total	**1,500**
PLANTATION PROCESSING	
Sawmilling, dressing and woodchipping	700
Newsprint	350
Panels	110
Total	**1160**
Total (all categories)	**5,060**

The aggregate timber industry employment number provided in Table 8 differs from another number that has been cited often. Schirmer (2008) provided a comprehensive survey of employment in the forestry industry, including Forestry Tasmania employees, contractors, processors, suppliers to the industry such as seedling nurseries and consultants, and downstream processors. Her estimate of 2005-06 employment was 6,296 people. Data in Table 8 take account of developments over the subsequent four years, including the closure of the PaperLinX mills at Burnie and Wesley Vale, sawmills at Scottsdale and Austins Ferry, the decline in contractors reported in Pöyry (2007)[43], the falloff in plantation establishment, and other layoffs as reported in press releases. Relatively minor offsets to these developments include the two Ta Ann mills and expansion of the FEA sawmill at Bell Bay.

It must be re-emphasised that throughout this report the emphasis is on *direct* employment. Industry advocates often quote 'direct' and 'indirect' jobs, so as to inflate the importance of their industry. Indirect employment is obtained by attaching a 'multiplier' to the number of people directly employed; the multiplier is usually a number around 2. The 'magic of the multiplier' is just that – it overstates the importance of changes in direct jobs. To see the logical fallacy in the argument, note that it could be applied to direct employment in *any* industry; if we applied it to all industries simultaneously, we would be claiming that the Tasmanian economy is twice as large as it actually is. For this reason bodies such as the Commonwealth Department of Finance warn against the use of multiplier analysis in the evaluation of policy alternatives.[44] We follow that advice in this report, focusing only on direct employment numbers.

[43] Pöyry (2007), 'Review of '*Structural Assistance Programme for Tasmanian Forest Contractors*' as proposed by Tasmanian Forest Contractors Association (TFCA)'
[44] *Handbook of Cost-Benefit Analysis*, Commonwealth of Australia (2006), p.43.

7.1.2 Old growth jobs

A fraction of the present 5060 timber industry jobs is reliant on the logging of old growth forests. How many jobs would be lost by cessation of old growth logging? The preferred estimate of Symetrics (2004)[45], when old growth logging was a larger proportion of Tasmanian timber supply than it is now, was that 128 jobs would be lost in forestry and 178 in downstream processing. This estimate is consistent with that provided by Gillespie Economics (2004).[46] The inference is that major parts of the Tasmania's timber industry (presently, 4750 direct jobs) do not use old growth timber. These will be largely unaffected by proposed new reserves and should be encouraged and strengthened as they are already based on processing regrowth or plantation timber, recycled fibre or imported pulp. Bearing in mind also that the supply of specialty timbers will be maintained, this is a far cry from claims that the forestry industry would collapse if old growth logging were to stop.

7.1.3 Options for 'old growth' job restructure

Policies to promote employment opportunities have many dimensions. Most workers change employment a number of times during their working career. Many change their occupation; many move to better opportunities in other towns. As people retire, younger people enter, many with different sets of skills and aspirations. Successful labour market policies do not attempt to keep employment patterns unchanged; they maximise opportunities for people to have satisfying jobs, whether in the forestry industry or elsewhere.

That said, it is important to recognise that none of the current jobs reliant on the logging of old growth forests need to be sacrificed with a move out of old growth logging. Certainly, the product mix of the Tasmanian forestry industry will change. This is inevitable – under a 'business as usual' the supply of very large old growth logs will come to an end as the resource is mined out.[47] The Greens' Forest Transition Policy takes a pro-active approach to providing alternative opportunities.

There are many possible options for feedstock replacement to retain existing jobs and for new innovation and downstream processing of currently exported raw materials to create new opportunities. A possible transition of the jobs currently in old growth forests is given in **Table 10** with greater detail of the new options for the Tasmanian timber industry given in subsequent sections. It is envisaged that in the short to medium term the use of regrowth timbers can be maintained for sawn timber production.

The main short-term employment adjustment associated with the transition in the timber industry will be associated with woodchipping and log cartage due to the reduction in the area available for logging and the more efficient use of available timber. Many of these jobs have already gone or are at risk with the current crisis in the industry. But in more normal times this impact will be reduced as the availability of plantation hardwood pulpwood increases dramatically over the next 10 years. Over the past few years the Tasmanian Forest Contractors Association has made submissions for structural adjustment packages to facilitate the change to plantation harvesting, and to exit the industry.[48] For a government in pursuit of the mirage of the pulp mill, these proposals have fallen on deaf ears. The Greens' *Forest Transition Strategy* recognises the concerns of the TFCA, and provides for adjustment assistance and assistance to exit the industry.

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[45] Unusually, Symetrics (2004) make it very clear that their preferred estimate is based on a 5% reduction in the value of final forestry industry sales, and that higher estimates, based on 10% and 20% reductions (the results of the 20% simulation are the those often cited by the forestry industry) were those proposed by Forestry Tasmania. See Symetrics (2004), 'Impact of the Policy to Cease Clearfelling of Old Growth Forests in 2010', May.

[46] Gillespie Economics (2004). Financial costs of an end to logging in Tasmania Together forests.

[47] See, for example, AIRC (2009), J, An Innovation Strategy for Tasmania: A New Vision for Economic Development, Appendix B.

[48] For reviews of these proposals, see URS Forestry (2007), 'Pressures Facing Harvesting Contractors in the Tasmanian Forest Industry', and Pöyry (2007), 'Review of '*Structural Assistance Programme for Tasmanian Forest Contractors*' as proposed by Tasmanian Forest Contractors Association (TFCA)'.

Table 10: Transition in timber industry jobs that currently use old growth wood

CURRENT ACTIVITY	CURRENT JOBS	NEW ACTIVITY TO MAINTAIN JOBS
Sawmilling & veneer	110	Process regrowth timbers with increasing input from plantations in the longer term
Craft & furniture	Not estimated	Current use retained – resource security ensured by new specialty timber zones and better recovery (see **Section 5.2**) and stockpiles of timber already salvaged
Growing, management & harvesting	128	Re-focus into Intensive Forest Management to produce clearwood, veneers & engineered wood products (see **Section 6.3**)
Woodchipping	30	Structural adjustment package (**Section 7.3**)
Transport	38	Structural adjustment package (**Section 7.3**)

7.1.4 Specialty timber jobs to be maintained

The Greens have been long-term supporters of Tasmania's specialty timber sector, a sector which is underpinned by traditional skills, innovation and design to produce quality products like wooden boats, furniture and craft – products that set Tasmania apart as unique and inspire respect for the islands native timbers. Perhaps the most reliable estimate of employment by users of specialty timber is provided by Green (2004), who estimated there were 339 commercial users, 394 semi-commercial users (income earning hobbyists) and a total of 642 full-time-equivalent employees in the sector. The *Forest Transition Strategy* will ensure that the significant economic and social contribution of the specialty timbers sector can be maintained by retaining access to native forest timbers in new specialty timber zones (**Section 5.2**) outside protected areas and threatened species habitat. The Specialty Timbers Commission will also play a positive role in growing value added in this sector (Section 5.2).

7.2 Summary of the job changes

In summary the Greens' *Forest Transition Strategy* is an exciting prospect in that it offers a way to create more jobs from logging less forest by increasing efficiency, upgrading technology, creating new processing initiatives and processing significant volumes of previously exported material. In short, the analysis demonstrates that:

- an estimated 690 new jobs can be created, with a net gain of 542 jobs (**Table 12**).
- 5,700 jobs will remain relatively unchanged.
- 238 jobs currently related to the logging of old growth forests will be maintained by altering feedstock to regrowth and plantation timbers, retooling mills & enhancing efficiency (by an estimated 20%) by milling shorter lengths of timber from timber that is currently being pulped.
- The main employment adjustment associated with the transition in the timber industry is envisaged to be associated with woodchipping and log cartage due to the reduction in the area available for logging and the more efficient use of available timber. Initial impact estimated at 65 jobs.

Table 12: Summary of forest industry jobs transition

ACTIVITY	JOBS CHANGE
NATIVE FORESTS	
Cease logging in identified high conservation value forests	-306
More intensive forest management	+128
Local processing and value-adding of exported regrowth peeler logs into LVL & plywood	+150
PLANTATIONS	
Additional high pruning of hardwood plantations	30
Two sawmills (softwood & hardwood)	200
Engineered strand lumber (ESL) (hardwood)	150
Upgrades to existing sawmills	100
Community-based specialty sawmills and training centres	90
Net adjustment to timber industry jobs	**542**

Our estimate of 542 additional timber industry jobs is conservative. It leaves scope for other jobs-rich initiatives to emerge as technology changes. It does not count the potential for growing jobs in niche markets industry based on specialty timbers, although it might be expected that with suitable promotion, better training and product certification employment could be increased by up to 100 jobs in the long run. The Greens' strategy does not trash jobs in our Tasmanian brand-dependent industries; rather, it allows scope for further expansion, particularly in forest-related tourism activities.

By contrast, a 'business as usual' approach is unlikely to grow jobs at all. The transition out of old growth logging, with consequent loss of jobs, is going to occur in any case. The pulp mill, which will absorb Tasmania's entire output of hardwood pulpwood, would only employ 290 people, leaving no net gain. Under a business as usual scenario other options, especially in downstream wood processing and tourism, are closed off.

7.3 *Funding the employment transition*

The Greens are committed to set in place mechanisms to support workers through the industry transition, rather than the present situation where they have been progressively losing jobs in the industry due to factors other than conservation (outlined earlier) without the benefit of planned transition strategies to assist them.

The Greens have researched the implementation of changed forest policies in other Australian jurisdictions, including the NSW and Victorian forest industry structural adjustment packages (FISAPs) and a study trip to Western Australia to examine their transition out of logging old growth forests. The aims of the transition in WA were substantially accomplished within three years with a lower impact on jobs than predicted and with a high level of success in worker retraining and placement. Due to Tasmania's tardiness in making a transition we are able to learn from, and improve upon, the structural adjustment initiatives implemented in the other states.

Structural adjustment packages from elsewhere in Australia had three main components which are adopted in this strategy:

- Worker assistance
- Industry development assistance
- Business exit assistance

7.3.1 Worker assistance

Workers whose skills are related to forest operations, particularly in old growth forests, will be less in demand. There is a need to sympathetically address the impacts of a cessation of logging the high conservation value forests on the workers directly affected.

Worker assistance will be provided. Assistance will include vocational training, wage subsidies, relocation costs, income support or redundancy payments, and personal counselling.

Every worker affected by changes will receive individual assistance. The plan has the objective of ensuring that each person moves across to suitable alternative employment. Each worker would have an individual plan developed for them, and someone who is accountable for that plan.

Retraining to work in other related parts of the industry will be a primary focus, in particular to enable workers to move into the manufacturing sector of the timber industry. Workers wishing to pick up new skills and/or move into other industries will be enabled to take their preferred path. As some older workers may prefer to take a redundancy, a scheme of voluntary redundancies will be established.

Support is expected to be in the order of $50,000 per affected worker depending upon the specific situation of each worker (**Table 13**), spread over a number of years. Support for exit assistance for contracting firms would be somewhat higher.

Table 13: Worker assistance funding

WORKER ASSISTANCE	
For retraining and re-skilling for the jobs in the restructured native timber industry, and exit assistance.	up to $8,000,000

7.3.2 Industry development assistance

The objective of Industry Development Assistance is to offer funding assistance to businesses for the implementation of initiatives that would contribute to the more productive, sustainable and responsible utilisation of the State's timber resources. In NSW the maximum funding for a proposal was $1 million with funding of up to 50% of the total cost of the proposal available. Industry Development Assistance in NSW under FISAP totalled $55 million for 88 individual projects[49].

In Victoria, applicants could receive up to $500,000 per annum to support investments in new equipment, construction of facilities. Interest rate subsidies were also provided. $43 million was allocated for FISAP in Victoria and by March 2004 60 % of this had been allocated to industry development[50].

The structural adjustment envisaged for Tasmania is shown in **Table 14**. These investment initiatives enumerate seed funding provided by the State government for the transition projects outlined in this Strategy. It is expected that other incentives will be available from the Commonwealth government, through an updated RFA for example.

Table 14: Timber industry structural adjustment package

RETOOL MILLS	
Industry development to minimise the impact of changes in mill feedstock.	up to $30,000,000
INVESTMENT IN DOWNSTREAM PROCESSING OF PLANTATION TIMBER & PREVIOUSLY EXPORTED TIMBER	
Seed funding to develop multifunction wood centres and provide incentives for processing infrastructure to create sawn timber, veneer, and engineered products.	up to $25,000,000
PLANTATION HARDWOOD SAWLOGS PROGRAM	
High prune and thin 14,000 hectares of existing plantations for sawlogs ($1.6m per annum on a 25 year rotation)	$42,500,000

based upon information from Gunn's prospectuses, the number of hectares required to create the plantation sawlog resource and prunings and/or thinnings.

ESTABLISH SPECIALTY TIMBERS COMMISSION	
Establish Specialty Timbers Commission with representatives from a broad range of interest groups. Seed funding to develop, audit and manage new Specialty Timber Zones, develop training & skills centres, and promote the Tasmanian Specialty Timber brand	$5,000,000
DIRECT JOBS: up to **100 jobs**	

Industry transition package - funding summary

- Total adjustment in timber industry jobs – up to 542 direct jobs
- Potential adjustment in specialty timbers – up to 100 direct jobs
- Total funding package – estimated $110.5m at a rate of approximately $5m per annum in the early years and $1.5m in later years of a 25 year program.

[49] Gillespie Economics (2004), 'Financial costs of an end to logging in Tasmania Together forests'.
[50] Ibid.

8.0 Climate Change – The Contribution of Forestry Transition

Other chapters have emphasised the part our Forest Transition policy plays in promoting economic activity and jobs. In this chapter we show how these policies contribute to mitigating greenhouse gas emissions and the fight against global warming.

The Greens' policy to make the transition from low-value commodities (chips or pulp) to high value products (plantation-based sawn timber products, veneers, or engineered wood products) has been shown to create jobs.

The strategy also makes an important contribution to carbon sequestration. It does this in several ways:

- The transition from low value commodities to high value products increases their storage life from an average of 3 years for paper to up to 90 years for furniture.
- Placing high conservation forests into reserves avoids carbon emissions consequent on conversion into production forests.
- Adoption of single-stem harvesting in Specialty Timber Zones preserves the carbon carrying capacity of mature native forests.
- Retooling sawmills to achieve higher recovery rates increases the proportion of sawn timber, increasing the carbon storage life of downstream products.

8.1 Current Legislation

Under Kyoto the federal government has adopted the target of containing 2020 emissions to 108% of 1990 levels. These targets have been pursued by a mix of regulation (for example, restrictions on land clearing), incentives for specific technologies (for example, insulation in houses) and market-based mechanisms (for example, tradeable renewable energy certificates [RECs] consequent on the introduction of the Mandatory Renewable Energy Target [MRET]).

The federal government has, so far, been unsuccessful in its attempts to introduce an emissions trading scheme. If it is legislated, the scheme will be a significant departure from past practice which has been dominated by regulation and specific incentives. Its central element is a system of tradeable emissions permits, where a permit is a tradeable financial instrument representing the right to emit one tonne of greenhouse gas emissions.

In the Australian proposal, it is proposed that some emitters such as agriculture will be excluded from the scheme because of difficulty in measuring emissions. It is also proposed that various emissions-intensive industries be given 'free' permits as a transitional measure. Putting those qualifications aside for simplicity, the objective of the scheme is to control emissions by controlling the number of permits. In turn, the price of the permits will be determined by the relationship between demand for and supply of permits. This price mechanism will give an incentive for firms and, because of downstream effects on prices, households to explore the least-cost ways cut emissions.

Were such a scheme to be introduced, carbon sequestered by 'Kyoto' forests would generate tradeable permits. To be eligible under the Kyoto protocol, forestry projects must meet a number of criteria as to the size and density of the forest. Additionally, the forest must have been planted since 1 January 1990, on land that was previously non-forest. In Tasmania, it is estimated that half of softwood and three quarters of hardwood plantation meets these criteria as it has been established since 1990 on non-forest land.

Under the Kyoto rules, it is assumed that all carbon stored in growing tree is released into the atmosphere at harvest. There is no allowance for carbon that remains stored in wood products after harvest. Alternative carbon accounting schemes have, however, developed alongside the Kyoto rules which allow for post-harvest sequestration. The International Panel on Climate Change has developed accounting rules that give credit to the increase in the amount of carbon stored in wood product and, under the United Nations Framework Convention on Climate Change, individual countries can adopt these accounting standards.

The current position is, therefore, that there are no tradeable rights to carbon sequestration. In the meantime, the federal government has created indirect rights to 'avoided emissions' by means of its Mandatory Renewable Energy Target. This target requires that a percentage (currently 20%) of all electricity be generated by a recognised renewable energy source. In broad terms, eligible suppliers receive one renewable energy certificate for each megawatt hour of electricity generated. These certificates have a market price which provides the incentive for generators to invest in higher cost (but cleaner) generation technology. At present RECs are trading at around $30, which is too low to justify investment in large scale investment in wind farms such as that proposed for Musselroe Bay.

Tasmania has also enacted legislation. In 2008 Tasmania was the second Australian State to legislate a greenhouse gas emissions reduction target. The Climate Change (State Action) Act established a target of 60 percent below 1990 levels by 2050. Although the carbon accounting methodology is not specified in the Act, it provides for the setting of interim and sector-based targets by regulation. The Tasmanian Climate Action Council was established under the Act, and provides advice to the Premier on climate change. Action to date has been limited to a number of relatively minor incentives. The Act will provide the basis for establishing better benchmarks for carbon accounting in the forestry industry.

Uncertainty as to future climate-change policy, whether internationally, at the federal level or the state level, does not mean that action to mitigate action to mitigate greenhouse gas emissions should be postponed indefinitely. Policy decisions should not be delayed until the position becomes clearer. Passage of the Tasmanian Climate Change Act clearly indicates that Tasmanians want action to reduce greenhouse gas emissions.

8.2 How Forest Transition helps meet Climate Change targets

The *Forest Transition Strategy* provides incentives for a number of regionally-located mills and processing plants which, together with changed harvesting regimes, will produce a lower volume of waste than at present. Much of the waste will be used on site for energy generation. That said, there may be scope for stand-alone plants which convert biomass into products such as wood pellets, biochar, liquid fuels or into electricity for sale into the grid. Which of these technologies becomes profitable will depend on future carbon pricing regimes. Our Policy is to defer decisions on the best use of biomass. We do not favour commitment to large scale electricity generating plants, with biomass recovered from clearfelling operations, because it will entrench the present practice of managing forests to produce low value outcomes. The Greens do not support industrial-scale power stations burning native forests or plantation harvest residue for the purpose of generating electricity.

Our *Forest Transition Strategy* takes a conservative approach where policies, desirable because they increase Tasmanian value added and increase Tasmanian jobs, have the added benefit of cutting greenhouse emissions.

8.2.1 Plantations

It is well-known that a positive price for carbon sequestration gives private plantation owners an incentive to harvest with longer rotations. Uncertainty over the future carbon price also gives present forest owners an incentive to wait before they exercise the harvesting option.[51] The *Forest Transition Strategy* includes additional incentives for owners of Kyoto-compliant plantations to cut greenhouse emissions by thinning and pruning trees so as to produce high quality sawlogs rather than pulplogs. As well as creating jobs in the forest industry, managing plantations for sawlog production increases sequestration in a number of ways:

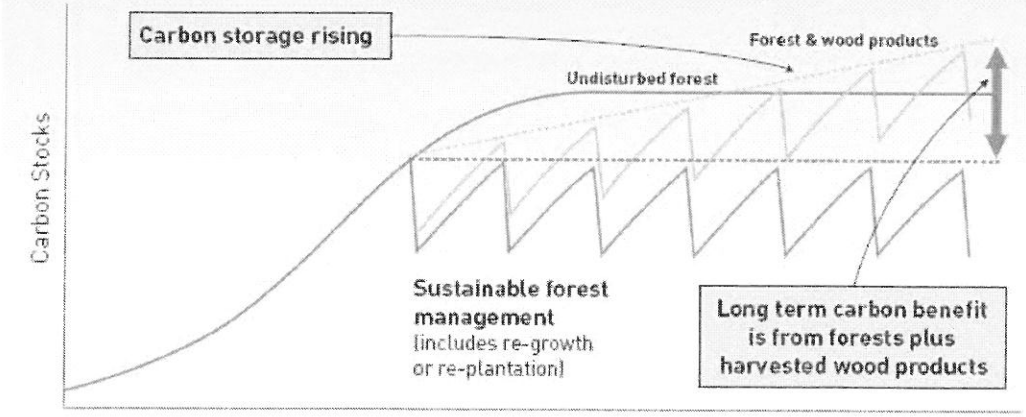
- rotations are longer; 20 to 25 years for clearwood, compared to 12 to 14 years for pulpwood,
- transport requirements are lower, both within the state and when it is transported to overseas paper manufacturers as either woodchips or pulp,
- the final product has a far greater rate of carbon capture. The products of paper pulp have an average storage life of 3 years, while hardwood flooring, boards and furniture timber have an average storage life of 90 years.[52]

8.2.2 Carbon sequestration and old growth forests

Our *Forest Transition Strategy* calls for more area of high conservation forests to be included in reserves. Maintenance of undisturbed mature forest, especially wet temperate hardwood forests of the type found in Tasmania, is an effective carbon sequestration strategy.

The science underlying this claim is disputed by some in the forestry industry. A recent Forests and Forestry Industry Council report illustrates the faulty analysis on forestry claims are based.[53] Like many advocates for current forest management practices, the report argues that, after allowing for carbon stored in wood products, a harvested forest eventually results in a higher level of carbon sequestration than an undisturbed native forest. The FFIC argument is encapsulated in their Figure 5, reproduced below.

Figure 5: Long term carbon benefit from forests plus harvested wood products



[51] Vas Kooten G.C., Binkley, C. and Delcourt, G. (2005), 'Effect of Carbon Taxes and Subsidies on Optimal Forest Age and Supply of Carbon Services', *American Journal of Agricultural Economics*, **77**, May, 365-374' . See also Meade, R., Fiuza, G., and Lu, A. (2008), 'Forest and Land Valuation: How to Value Forests and Forest Land to Include Carbon Costs and Benefits', New Zealand Institute for the Study of Competition and Regulation, August.
[52] George, A. (2008), 'Impact of Carbon Trading on Wood Product', Report for Forest and Wood Products Australia, January; Australian Greenhouse Office (1999), 'Usage and Life Cycle of Wood Products' National Carbon Accounting System, Technical Report No.8, November.
[53] Forests and Forest Industry Council (2010), 'The New Forest Industry', January.

Several features of this FFIC Figure are important:

- Without allowing for carbon embodied in wood products, a rotation-harvest forest never stores as much carbon as an undisturbed forest.
- With storage in wood products, it takes three rotations before the average carbon storage exceeds that of an undisturbed forest.
- The vertical scale of the diagram has no numerical dimension, so it is not possible to check whether the figure for carbon storage in undisturbed native forest actually refers to Tasmanian conditions,
- The horizontal scale has no numerical dimension so it is not possible to see how many years it takes for three rotations to take place.

The missing details are provided by the Australian Greenhouse Office, on which the FFIC Figure appears to be based.[54] These details are significant, and strengthen the argument that further harvesting of old growth forest will see an increase in emissions over any plausible timeframe.

First, analyse the FIIC Figure on its own terms. The Figure is based on 35-year rotations so that it would take more than 100 years before a policy of conversion of mature forest to production forestry yields carbon sequestration gains. The FFIC strategy makes a *negative* contribution to the target of a 60% cut in greenhouse gas emissions by 2050.

The actual picture is much worse.

First, the FFIC Figure is based on modelling which takes no account of carbon lost when forest is regenerated by using intensive fire to create ash for a seedbed. More than a quarter of the carbon in a mature rainforest is stored in the soil; much of this is 'burnt out' in Forestry Tasmania's management regime of 'clearfell, burn and reseed'. This is a one-off loss that is not taken into account in the FFIC Figure.

Second, the FFIC Figure assumes that mature native forest sequesters a little more than 200 tonnes of carbon per hectare. It is now known that this figure grossly understates the biomass carbon in Tasmania's wet temperate forests. Mackey *et al.* estimate that the true figure could be more than *four times* this amount.[55]

More research will no doubt give greater precision to these data. But it is clear that, even on the FFIC assumptions, a policy of transforming mature native forest to production forestry makes a *negative* contribution to carbon sequestration over any relevant timeframe. By placing more high conservation forests in reserves, the Greens will enhance Tasmania's contribution to carbon sequestration.

[54] See Figure 10 in Forest & Wood Products Australia (2006), 'Forests, Wood and Australia's Carbon Balance'.
[55] Mackey, B.G., Keith, H., Berry, S.L., and Lindenmayer, D.B. (2008), Green Carbon; The Role of Natural Forests in Carbon Storage, ANU E-Press.

8.2.3 Specialty Timber Zones

Under the *Forest Transition Strategy* the Greens will establish Specialty Timber Zones as part of a broader set of policies to support processors dependent on specialty timbers. Harvesting in these zones will be managed so as to result in minimal disturbance to the mature forests in which the specialty trees are located. Harvesting in this way avoids the carbon losses consequent on a 'clearfell, burn, and reseed' regime. Additionally, the high value products made from specialty timber have a much longer product life than the woodchips or pulp made from the pulpwood currently extracted from these areas of native forest.

Our policy for specialty timbers is a plus for jobs *and* a plus for carbon sequestration.

8.2.4 Retooling sawmills to increase recovery rates

Recovery rates in Tasmanian sawmills are significantly lower than the national average. An important part of the *Forest Transition Strategy* is to provide incentives to retool mills with a resulting increase in the proportion of solid timber. In turn, this increases the average life of downstream products.

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