



PRIMED FOR GROWTH

A situation analysis of the Tasmanian Forest
and Wood Products Sector

Prepared for

Tasmania Forestry Hub

August 2024



GREENWOOD
STRATEGY



CONTENTS

Contents	2
Disclaimer	4
Executive summary	5
Tasmanian timber is primed for growth	6
Introduction	6
About the Hub	6
Policy context	6
Establishment of the Hub	6
Growth and transformation themes	7
Fibre supply and demand	7
Investing in innovation	7
Carbon policies	8
Physical access to markets	8
Growth vectors	8
Solid wood	8
Engineered wood	9
Biofuels	9
This report	10
Current state	11
Timber production and economic contribution	11
Forest estate overview	11
Demand outlook	12
Other considerations	13
Native forest policy changes	13
Australian Carbon Credit Unit (ACCU) Scheme	15
Australian Forest and Wood Innovations (AFWI)	15
Future outlook	16
Solid wood manufacturing	16
Transition to long rotation plantations	16
Biofuels and biomass	17
Getting wood to the right place	17
Making it happen	19

Informing hardwood manufacturing..... 19
Providing investment certainty 19
Coordinating the infrastructure task..... 19
Value chain alignment..... 20

Cover image: Artist’s rendition of St Lukes timber high rise, Cimitiere St, Launceston
(Source: <https://cusp.com.au/journal/skys-the-limit-for-launcestons-mass-timber-build/>)



DISCLAIMER

The Tasmanian Forestry Hub (“the Hub”) engaged Greenwood Strategy Solutions Pty Ltd (“Greenwood Strategy”) to prepare this report.

This report has been prepared by Greenwood Strategy in good faith under the terms of the engagement. It is based on information provided by the Hub, from data, documents and resources made available by the Hub and from consultation with the Hub and external stakeholders. Where possible or relevant, the source of data has been quoted in this report.

Greenwood Strategy does not make any representation or warranty that the information in the report is accurate, complete or up to date. The information upon which this report is based, or draws from for its conclusions, contains various assumptions about prevailing circumstances, market conditions and policies, and if those circumstances, market conditions or policies change, the conclusions and opinions expressed in the report may change.

The report contains assertions and key findings which will be influenced by many factors which are unable to be predicted. Nothing in the report is, or should be relied upon as, a promise by Greenwood Strategy as to future investment outcomes, economic outcomes, prices or costs. Actual results and details may be different from the information presented in this report, as future events may not occur as expected and the variation may be significant.

This report is provided solely for the use of the Hub and for its purposes. The contents of the report are selective and the report does not purport to be conclusive.

Nothing in this report constitutes legal, financial, investment, accounting, tax or other advice.

Neither this report, nor any part of it, may be published in any way without Greenwood Strategy’s written consent.

To the extent permitted by law, Greenwood Strategy disclaims any responsibility or liability whatsoever (in negligence, contract or otherwise) in respect of any errors, misstatements or omissions in this report and in respect of any claims which may arise out of any reliance on the contents of it or its use for any purpose.

© Greenwood Strategy Solutions Pty Ltd 2024

ABN 56 635 341 721

This work is subject to copyright. The Copyright Act 1968 permits fair dealing for study, research, criticism or review. Selected passages, tables or charts may be reproduced for such purposes provided the acknowledgment of the source is included. Reproduction for commercial use requires prior expressed permission that must be obtained from Greenwood Strategy Solutions Pty Ltd. Requests and inquiries concerning reproduction and rights should be addressed to Pat Groenhout, by phone 0402 159 314 or email patrick.groenhout@greenwoodstrategy.com.au.



EXECUTIVE SUMMARY

Tasmania's forest and wood products sector is primed for growth. It is defined by world class forest resources a responsive and innovative wood processing sector, work underway to respond to new and emerging technologies and markets and a supportive policy framework. Consequently, Tasmania is better placed than any other Australian jurisdiction to transition to a new economy characterised by fibre, energy and carbon constraints.

The Tasmanian Forestry Hub has delivered a substantial body of work over the past five years. As a result, the Hub has been able to refine the themes for future focus of the industry. These focus areas include fibre supply and demand; investing in innovation; carbon policies; and physical access to markets. The vectors to deliver this revolve around increased on-island capability to deliver solid wood processing, engineered wood products and biofuels.

To fully realise this potential and continue its significant contribution to Tasmania's economy, the industry will need to work closely and collaboratively with policy and decision-makers at all levels of government and in complementary industries. The entire value chain needs to be focused on how to make these changes happen. The Hub, with its considerable convening power, is exceptionally well placed to continue to deliver a framework for collaboration that can drive change.

As well as opportunities, there are barriers to be addressed. These include:

1. Fundamental errors in the carbon accounting treatment for hardwood plantations which minimise the role that carbon credits can play in supporting expansion of solid wood production.
2. The absence of a carbon accounting option for sustainably managed regrowth native forests.
3. Negative perceptions about Tasmania as a preferred forest and wood products sector investment destination.
4. Continued infrastructure challenges which hamper the efficient movement of logs and manufactured wood products through the supply chain.

To make change happen, four actions are recommended:

1. **Inform hardwood manufacturing**: develop a detailed understanding of the requirements of hardwood sawmillers and manufacturers and undertake a targeted study of the hardwood resource which provides information back to processors and improves certainty and willingness to invest.
2. **Provide investment certainty**: for growers and current and potential processors, including resolution of the carbon credits anomaly and actions which drive on-island processing and value-adding.
3. **Coordinating the infrastructure task**: develop an industry-wide freight action plan to clearly document log and manufactured product movements, capture and describe key transport infrastructure problems and provide a framework for the industry and local and state Government to work together to secure funding for solutions.
4. **Value chain alignment**: apply the convening power of the Hub to ensure that all value chain actors can contribute to and benefit from actions to increase the value and contribution of the sector to Tasmania.



TASMANIAN TIMBER IS PRIMED FOR GROWTH

Introduction

Australia's forest and wood products sector is facing considerable change across multiple fronts and Tasmania is no different. There are both opportunities and challenges. Importantly, the industry in Tasmania is very well positioned to manage and benefit from the evolution of its operating environment, and the influence of local, national and global change drivers. Tasmania has world class forest resources, a responsive and innovative wood processing sector and a supportive policy framework. It also has significant work already undertaken around industry transition to a new economy which will be characterised by fibre, energy and carbon constraints. Tasmania's forest and wood products sector is primed for growth and transformation, continuing its long legacy as a powerhouse of forest management and timber products innovation in Australia. To fully realise this potential and continue its significant contribution to Tasmania's economy, the industry will need to work closely and collaboratively with policy and decision-makers at all levels of government and in complementary industries. This situation analysis provides a starting point for that collaborative work. It presents an overview of the current state of play for the Tasmanian forest and wood products sector and details emerging opportunities and barriers. It considers a range of future potential scenarios and what they might mean for commercial and policy settings for the sector. It is intended as advice for the Australian Government, in line with the Tasmania Forestry Hub's remit.

About the Hub

Policy context

In 2018 the Australian Government launched the **National Forest Industries Plan: Growing a Better Australia – A Billion Trees for Jobs and Growth**. A key outcome of the plan was the establishment of Regional Forestry Hubs to assist the Government understand the opportunities and barriers for the sector in key regions. The function of the Hubs is to undertake projects to:

- Analyse constraints that affect the productivity and efficiency of the forestry sector.
- Pinpoint opportunities for future investment in infrastructure and technology, and areas for potential expansion by forest industries.
- Identify and support business cases for the investment in new infrastructure, such as roads, bridges, ports, telecommunications and training facilities, thereby assisting forest service industries better plan their futures.
- Determine the potential for future plantation expansion within appropriate transport distances and near other existing sources of wood and fibre.

Establishment of the Hub

The Tasmania Forestry Hub (the Hub) was initially established in 2019 as the North North-west Tasmania Forestry Hub. In 2021 it was expanded to cover the whole state. It is one of 11 similar organisations located across Australia in areas where there are existing concentrations of wood supply resources, combined with significant existing wood products manufacturing operations, established transport links, and strong potential for growth. The role of the Tasmania Forestry Hub is to work with industry, state and local governments, and other key stakeholders to prepare and provide the Australian Government with strategic planning, technical assessments and analyses that aim to support growth in the forest industries in their region.



Growth and transformation themes

Since it commenced in 2019, the Hub has delivered a substantial body of work in line with its funding remit. The focus of that work, across eleven major projects, has included:

1. Assessment of current and potential fibre and timber products markets.
2. Current and future forest and fibre availability.
3. Carbon market opportunities.
4. Infrastructure requirements to facilitate efficient movement of fibre and timber products.
5. Workforce skills and training.

Industry consultation undertaken for this situation analysis demonstrates that these focus areas continue to be appropriate to the transformation task faced by Tasmania's industry. There are four important themes for the sector which need to form the basis of collaboration between the forest and wood products industry, governments, researchers and other aligned stakeholders.

Fibre supply and demand

Australia faces a critical shortage of fibre to support the construction activity required to house a growing population over the next three to four decades. About three-quarters of Australia's detached houses are built using timber framing, compared to about 14% from lightweight steel. However, about 20% of our softwood sawn timber is imported. Australia's population is expected to grow from 26 million in 2024 to between 34 and 40 million by 2050. The ability of the forest and wood products sector to meet the increased demand for building materials required to house this growing population is currently constrained. To increase the availability of fibre to meet future demand will require a mix of short to medium-term strategies¹. These include:

1. Increasing the amount of wood grown on the current estate (productivity).
2. Increasing the recovery of sawn timber from sawlogs (technology).
3. Increasing the proportion of logs used for sawn timber (technology and markets).
4. Increasing the volume of solid wood from each hectare (forest management, technology and markets).
5. Increase the use of wood in engineered wood products and their application (technology and markets, building systems).

In other words, we need to rethink how we grow wood, what wood we grow, how much of it we can grow and how we use it.

Tasmania is better placed than any other region in Australia to explore the full range of strategies to increase fibre availability for the Australian market. However, there are questions that need to be answered about the make-up of the future forest estate and the markets it looks to supply. For example, the availability of native forest fibre is declining and changing. There are also questions about whether to increase solid wood production from hardwood plantations or transition to softwood plantations, or both. Importantly, future uses for fibre may look quite different to current uses and there are options to explore – for example, is there a viable future for on-island manufacture of hydrogen and methanol as an alternative to woodchip exports? Similarly, is there scope for significant volumes of fibre to be used in the manufacture of engineered wood products for export to mainland Australia and other destinations?

Investing in innovation

If the Tasmanian forest and wood products sector is to fully realise its potential as the engine room of the Australian industry, Tasmania needs to be the most attractive investment destination for forest management and timber manufacturing capital. The answer to questions about what the future forest estate looks like, and what uses are made of the fibre produced, relies substantially on the willingness of investors to commit

¹ Greenwood Strategy (2023) Stage 1 Report: Building the case for supporting intervention to increase sawlog production from Australia's forests, Report prepared for the Tasmania Forestry Hub



capital to transition forest products manufacturing and related changes in forest management. Globally, there is an ongoing expansion of commercially viable uses of wood. Australia's traditional commodity markets of framing timber for construction and woodchips for export will, no doubt, continue to be important. However, as trade dynamics change, as building systems evolve and as industrial responses to climate change ramp up, there is ongoing focus on different ways that wood can be used to meet emerging needs. In Tasmania, opportunities for investment in advanced manufacturing of solid wood products, engineered wood products and biofuels are all potentially significant if the investment environment to support long term capital commitment exists. That includes creating an appropriately supportive policy environment, funding for research and innovation and secure access to forest product inputs.

Carbon policies

Carbon policies are both a driver of and barrier to investment in effective industry transition. In a positive sense, Australia's carbon policy framework supports expansion of plantations and transition from short rotation pulpwood plantations to long rotation solid wood plantations. It is also a positive for emerging opportunities in biofuel manufacture and the associated requirement for renewable energy inputs. On the other hand, poorly defined carbon modelling parameters are currently a barrier to transitioning to long rotation hardwood plantations because solid wood production is not recognised in the calculation of Australian Carbon Credit Units (ACCUs), even though Tasmania is demonstrably the only substantial producer of sawlog from hardwood plantations. Similarly, changes in management approach for native forest regrowth are not able to access the ACCU market. There is a real opportunity for carbon policies to be better aligned to deliver positive forest management and wood processing outcomes for the Tasmanian economy, while also delivering desired environmental and carbon capture outcomes.

Physical access to markets

Establishing a secure route to market for forest and wood products is essential. In the Tasmanian context, of particular importance is the reliability and suitability of transport infrastructure to support the efficient and effective movement of logs and timber products from the forest to manufacturing sites and then end-markets (especially domestic and international export markets). Continued exploration of efficient and cost-effective freight transport solutions, including efficient transition between different freight modes (e.g., road, rail and sea) is particularly relevant for the sector in Tasmania.

Growth vectors

It is unlikely that the available area of forest in Tasmania will expand in a meaningful way over the next few decades. There is considerable competition for productive land and plantations already occupy a much greater proportion of the available agricultural landscape than in any other Australian jurisdiction². However, there are changes in the proportion of logs from different sources (softwood plantation, hardwood plantation and native forest) as well as the proportion of different types of logs (sawlogs versus pulp logs). Because of this significant change in the nature of log production, some traditional products will become less important. At the same time, as described below, there are emerging products which have significant potential. A successful transition will result in diversification of wood products markets in the state. Future growth will likely result from a mix of traditional and emerging timber products, some of which are recognised for their high growth potential and suitability to fibre supply from Tasmania, which are briefly described below³.

Solid wood

Softwood solid wood production (i.e., construction framing) will continue to be an important part of the product mix from Tasmanian plantations. Although native forest sawlog production has declined, there has

² Greenwood Strategy (2020) *Access to land and land use policy for plantation forest investment*, Report prepared for the North-northwest Tasmania Regional Forestry Hub

³ Indufor (2022) *Demand outlook for Tasmanian wood products*, Report prepared for Tasmania Forestry Hub

been a relatively rapid increase in sawlog production from hardwood plantations (refer to Figure 2). There is also the prospect of bringing forward sawlog production from regrowth native forests on both public and private land. It is possible that hardwood plantation sawlogs can contribute to construction framing markets. However, with the cessation of native forest timber harvesting in Victoria, access to timber for pallet production is emerging as a serious growth vector for Tasmanian hardwood sawlogs⁴. There is also potential for growth in non-structural solid wood products, such as finger-jointed and laminated panels and veneers.

Engineered wood

Engineered wood products, for use either as framing (e.g., cross laminated timber (CLT) and laminated veneer lumber (LVL)) or structural panels (e.g., oriented strandboard (OSB)) are growing in application. Building systems are evolving and timber continues to be a preferred building material for many developers. Of particular interest is the role of manufactured timber products in the emerging prefabricated construction sector⁵ and mass timber construction. There has been considerable investment in developing and commercialising engineered wood products using Tasmanian-grown *Eucalyptus nitens*, including its use in Launceston’s St Luke’s high rise, located in Cimitiere St. With changes in softwood markets, the availability of pine fibre for engineered wood products is also likely to increase. The proposed Macquarie Point Stadium presents another very important opportunity to showcase and utilise Tasmanian grown and manufactured engineered wood products. The design concept currently includes *“A carefully designed cutting-edge design including a timber and steel framed fixed ETFE transparent roof, which will see Tasmania leading the world in structured timber roofing solutions”*⁶.



Figure 1: Design concept - Mac Point Stadium (<https://www.macpoint.com/stadium>)

Biofuels

There is considerable interest in the use of lower grade wood – either woodchip or residues - manufacturing biofuels and/or generating bioenergy. Tasmanian-made biofuels are likely to be cost-competitive in export markets because of efficient production and favourable geographic location and could provide a more stable

⁴ The original Indufor study was completed prior to the Victorian Government’s announcement and did not recognise pallets as a significant potential market.

⁵ PreFabAus (2023) Australia’s Smart Building Revolution: A Prefabrication Industry Roadmap 2023-2033 – Building the Future We Want

⁶ <https://www.macpoint.com/stadium> (Accessed 05 August 2024)



price point than alternative fibre markets⁷. Challenges include the ability for biomass markets to compete on price with export woodchip and the suitability of existing extraction and haulage solutions handle harvest residues. Also, there are concerns about the potential impact of excessive removal of forest residues on future plantation productivity.

Lower grade logs (pulp logs) have historically been woodchipped and exported (hardwood and softwood) to Asia for use in the manufacture of cellulose, paper and packaging products, or processed domestically for newsprint and magazine paper (softwood). Residues have either been burnt or left on site to decay.

The future of newsprint manufacture is uncertain, and woodchip markets are volatile, at least in relation to volume demand if not price. Bioenergy opportunities are now progressed well beyond the initial stage. Credible developers are well advanced in proving the concept and establishing the feasible availability of inputs, including fibre and energy requirements. There are potential synergies with other renewable energy projects, important for delivering Tasmania's ambitious 2040 renewable energy targets.

This report

This report aims to achieve three objectives:

1. Summarise and consolidate the Hub's work to date.
2. Analyse the Hub's work to identify emerging trends and opportunities for the sector.
3. Describe future state scenarios based on those opportunities and identify actions for industry, Government and other stakeholders to realise those scenarios.

⁷ S. Talbot (2024) pers.comm.



CURRENT STATE

Timber production and economic contribution

The forest and wood products industry is a significant contributor to Tasmania’s State economy. In 2020/21, approximately 5.3 million m³ of native hardwood, plantation hardwood and plantation softwood logs were harvested from public and private forests in Tasmania, with an estimated log value of \$395 million (ABARES, 2022). The economic contribution of the sector to Tasmania’s economy for the same year is estimated to be \$1.028 billion (Forest Practices Authority, 2023). The Tasmanian industry is also a significant contributor to the sector in the Australian economy more broadly, representing 20% of total national log production and 18% of total national log value. Table 1 provides a comparison of key production and economic statistics for the Tasmanian industry.

Table 1: Comparison of key production and economic statistics for the Tasmanian forest and wood products sector (Sources: ABARES, 2022; Forest Practices Authority, 2023)

Forest type	Logs harvested ('000 m ³)	Percent of national harvest	Value of logs harvested (\$ million)	Percent of national value	Total economic contribution (\$ million)
Native hardwood	1,308	39%	73	24%	224
Plantation hardwood	2,622	37%	226	35%	691
Plantation softwood	1,368	8%	96	8%	293
Total	5,299	20%	395	18%	1,028

Forest estate overview

Tasmania’s commercially productive forest estate comprises hardwood plantations (193,000 ha), softwood plantations (77,000 ha) and native forests (3 million ha), located on both public and private land across the north, east and south of the State, as summarised in Table 2.

Table 2: Distribution of Tasmania’s commercial forest estate (Sources: Forest Practices Authority, 2023; Wilson & Tys, 2022)

Forest type	Public land (ha)	Private land (ha)	Total
Native (gross)	2,230,000	842,000	3,072,000
Hardwood plantation	16,000	177,000	193,000
Softwood plantation	4,000	74,000	78,000
Total	2,249,000	1,093,000	3,342,000

In relation to native forests, the net available area on public land is estimated at 471,000 ha. The private land area availability is less certain. Wilson & Tys (2022) modelled approximately 329,000 ha as harvestable, although 149,000 ha is low quality and 23,000 is non-eucalypt. In addition, much of the private native forest estate is either difficult to access or is logistically challenging with respect to distance to market. Of this area, approximately 144,000 ha is classified as regrowth, of which an estimated 50,000-70,000 ha is medium to high quality regrowth forest which is likely to be viably accessible.

⁸ Summarised from Greenwood Strategy (2023) and Indufor (2022)

⁹ Estimated by calculating distribution of total value (Forest Practices Authority, 2023) pro-rated to value of logs produced (ABARES, 2022).

Demand outlook

Indufor (2022) completed a comprehensive demand outlook for Tasmania’s wood products sector. The report identified a number of emerging themes which provide important context for this case study. These are briefly summarised in the section below.

Changes in supply profile

The log supply profile from Tasmania’s forest estate has changed considerably in the decade from 2009/10 to 2022/23. In particular, the contribution of native forest logs reduced from 56% to 18% of total log supply, even though total annual log production increased by 5% from 4.8 to 5.0 million m³. Over the same time period, the contribution of hardwood plantation pulp log increased from 21% to 43% and total hardwood plantation log production has grown to 51% of log output (refer to Figure 2). Importantly, most of this sawlog is currently exported – either internationally or to mainland processors. Improving on-island capacity and capability to process solid wood from hardwood plantations is a critical focus for policy and development efforts.

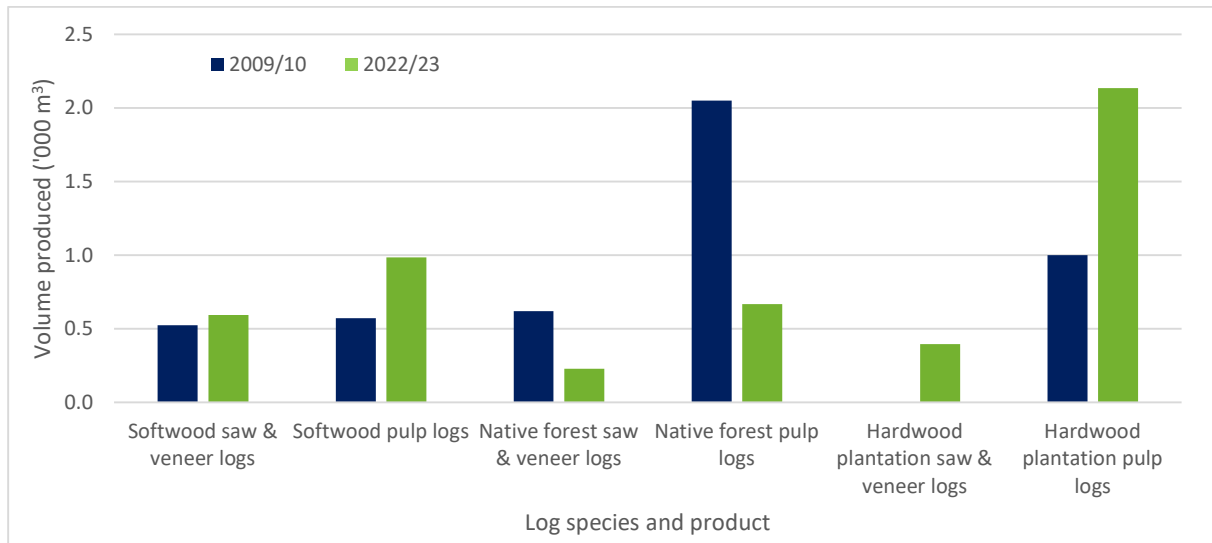


Figure 2: Change in Tasmania's log supply profile (2009/10-2019/20) (Sources: Indufor, 2022; ABARES, 2024)

Emerging opportunities

The Indufor report notes that Tasmania’s opportunity to meet increased domestic demand for sawn wood and wood panels arises from supply scarcity in other states and the ability of Tasmania’s wood products manufacturing sector to compete with imported products. In that context, opportunities to improve the short to medium term availability of high-quality logs will contribute further to Tasmania’s ability to address scarcity in other states, while also providing improved supply scale and confidence for manufacturing investment. The report identifies six wood products for which the demand outlook is high or is increasing and that present opportunities for the Tasmanian sector, as summarised in Table 3.



Table 3: Demand outlook for selected forest wood products (adapted from Indufor, 2022)

Product	Category	Demand assessment	Drivers/considerations
Sawn timber	Hardwood	High	Supply scarcity
	Softwood	High	Housing demand
Panels	Plywood	High	Competitive markets
	MDF	Moderate	Competitive markets
	Particleboard	Stable	Competitive markets
Engineered wood products (EWP)	OSB	Moderate	Competitive markets, low demand
	LVL & I-joists	Increasing	Competitive markets
	CLT & GLT	High	Uncertainty about market scale
Paper	Packaging	High	Changing markets and industry
	Newsprint	Declining	Digital revolution
Exports	Plantation logs	High	Competitive markets
	Plantation fibre	High	Competitive markets and fibre yields
Bioenergy and bio-composites		Increasing	Policy signals, technology developing, emerging markets

The Indufor report notes a strong industry focus on encouraging increased domestic processing and investment in Tasmania, while improving carbon sequestration and storage and reducing emissions, supported by clear policy signals. It further identifies eight specific processing investment opportunities, some of which (e.g. CLT) are already being pursued. At appropriate scale, these investment opportunities represent demand for up to 1 million m³/yr of log input which can be enabled by actions to improve the short, medium and long-term availability of high quality logs through appropriate changes in silvicultural practice. These opportunities are explored in more detail through this case study.

Other considerations

Native forest policy changes

In 2023, the Victorian State Government announced that it would bring forward cessation of public native forest harvesting from 2030 to 2024. The Western Australian State Government also introduced an unexpected ban on public native forest harvesting implemented in 2024. This is a material change in market dynamics with important implications for Tasmania’s native and plantation hardwood sectors.

Most notably, Tasmania is now the major supplier of hardwood log products throughout Australia and dominates the production of saw and veneer logs, particularly from hardwood plantations. From 2024 onwards it is estimated that Tasmania will produce 50% of all Australian native forest hardwood sawlogs, 80% of plantation hardwood sawlogs (45% of all hardwood sawlogs) and one-third of all hardwood log production in Australia¹⁰. Plantation hardwood has also become the dominant log source for Tasmania, increasing from 12% in 2011/12 to 50% in 2022/23 (refer to Figure 3; note that total Tasmanian log output grew from 1.2 million m³/yr to 5.1 million m³/yr over the same period).

¹⁰ Author calculation based on ABARES data and estimated future production

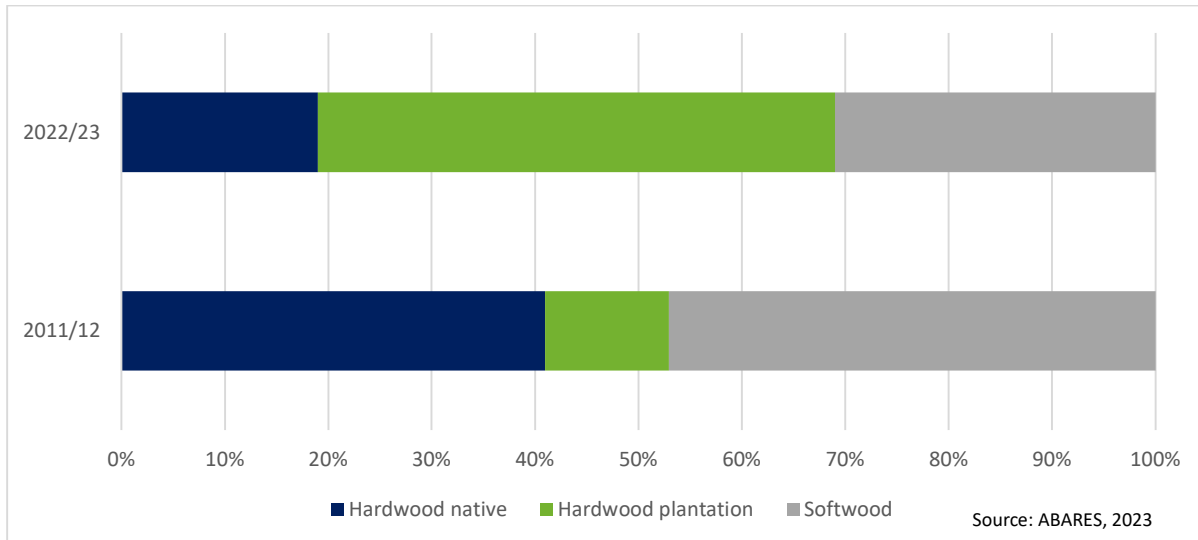


Figure 3: Changes in source of log production for Tasmania from 2011/12 to 2021/22

This situation presents some unique challenges and opportunities. As an emerging example, lower quality native forest sawlogs to the hardwood pallet market have historically been sourced from Victoria’s public native forest estate. Increasingly, it appears that plantation grown *Eucalyptus nitens* from Tasmania is being applied as a substitute for pallet manufacture. Some *E. nitens* has been exported to the mainland in log form for this purpose and some has been processed in Tasmania. In June 2024, Pentarch closed its pallet manufacturing plant in Dandenong on the outskirts of Melbourne¹¹, which was producing 700,000 pallets annually. The potential to increase pallet manufacturing capability in Tasmania, using Tasmanian hardwood plantation sawlogs, is significant. Hardwood pallets are highly sought after because of their strength and durability compared to pallets manufactured from alternative materials (including softwood).

A side effect of public native forest supply reductions on the mainland has been increased demand from mainland processors, particularly in Victoria, for privately grown plantation and native regrowth hardwood logs which are transported by truck and ferry to Geelong and then on to other mainland destinations. Export of higher quality plantation and regrowth logs, while entirely legal (and even supported by the freight equalisation scheme), is inconsistent with State policy and the principles of increasing on-island value-added manufacturing and continuing innovation in emerging products such as CLT.

To this point, the potential of plantation and regrowth hardwood in advanced manufacturing applications is another substantial emerging opportunity for investment in Tasmanian timber processing and manufacture. CLT is already being explored, for example in northern Tasmania and Tasmanian hardwoods and specialty timbers are used in a range of panel and solid wood feature uses manufactured locally. However, exported hardwood logs are used to produce plywood in Malaysia and high-end non-structural uses such as kitchen benches, floors, mass timber, door frames and stairs in Victoria. These are all activities that could potentially occur on-island with the right investment environment.

Importantly, *E. nitens* is the only Australian plantation hardwood timber grown at large scale which is proven for commercial scale application in sawn and manufactured solid wood applications on reasonable investment timeframes of less than 35 years – which is one of the reasons that mainland and international manufacturers are buying it. A policy and regulatory environment that actively supports and attracts investment in on-island solid wood processing and innovation is essential to ensuring that Tasmanian wood is processed and value-added in Tasmania, creating jobs and economic activity before products are exported.

¹¹ <https://www.timberbiz.com.au/pentarch-closes-pallet-mill-due-to-vic-government-native-timber-decision/>



Australian Carbon Credit Unit (ACCU) Scheme

The Australian Carbon Credit Units (ACCU) Scheme is intended to provide an incentive to invest in projects which result in reduced carbon emissions or increased capture and storage of emitted carbon. One of the best ways to achieve the capture and storage of carbon is to establish new plantations or grow existing plantations for longer. The Australian Government's forest policy framework recognises the important role that plantations fulfil in addressing climate change. It also recognises that the Scheme is a very important policy instrument to support the increased production of solid wood, which stores carbon for extended periods of time, and therefore help to bridge Australia's growing supply/demand gap for construction timber to build houses.

Schedule 2 of the Scheme is designed to encourage forest owners to transition to long rotation silviculture. The ACCUs accumulated reflect the additional capture of carbon over the longer time frame and the extended storage of carbon in service for solid wood products. The basis for calculating ACCUs is determined by the Full Carbon Accounting Model (FullCAM) modelling parameters.

Tasmania's hardwood plantation estate is the best candidate for this strategy because of:

1. The particular suitability of plantation grown *E. nitens* for solid wood processing and applications.
2. Considerable technical research (both silviculture and tree improvement) supporting long rotation eucalypt plantations in Tasmania.
3. Innovative processing research and commercial trials in Tasmania particularly, aimed at addressing specific manufacturing challenges with younger, fast grown eucalyptus logs.
4. A processing industry that is already actively using Tasmanian plantation grown eucalypts for solid wood production and is planning to increase the rate of use.

However, in Tasmania the FullCAM modelling parameters do not recognise the production of solid wood from long rotation hardwood plantations, even though Tasmania is clearly producing more hardwood plantation sawlog for domestic processing than any other Australian jurisdiction.

This has the effect of significantly discounting the quantum of ACCUs generated when transitioning from short to long rotations. Consequently, growers do not have access to the intended incentive which would justify the investment required to implement a change in silviculture. This represents a significant anomaly which is restricting the delivery of the Federal Government's forest policy objectives.

Tasmania's major hardwood plantation owners are actively considering the transition of a portion of their estates for longer rotations to support solid wood production. However, the availability of ACCUs to underpin that transition is an important financial incentive. There is a strong likelihood that, if a transition is to occur it will be achieved by a switch to *Pinus radiata*. Alternatively, most of the hardwood plantation estate could remain in short rotation silviculture regimes to produce pulp logs for the woodchip export market.

Resolution of this significant regulatory anomaly will open up a full suite of opportunities for existing and potential growers to explore alternative management regimes which increase forest value and contribute to Australia's medium term construction timber supply deficit.

Australian Forest and Wood Innovations (AFWI)

AFWI is the National Institute for Forest Products Innovation. AFWI is headquartered in Launceston in partnership with the University of Tasmania, with \$100 million funding until 2026/27 to deliver an Australia-wide industry research capability. It is supported by research centres at the University of Melbourne and the University of the Sunshine Coast. While it is a national institute, the physical presence of an AFWI research centre in Tasmania presents a significant opportunity for the Tasmanian forest and wood products sector and the Tasmanian Government to establish collaborative research effort to progress the sector.



FUTURE OUTLOOK

The Tasmanian forest and wood products sector operates in a dynamic policy and regulatory environment, with multiple commercial interests for independent actors and exposure to global and domestic economic factors. Consequently, the industry can potentially develop on a number of different fronts, which are difficult to predict. Business managers and policy makers need to make informed decisions and those decisions need to consider viable future scenarios.

Solid wood manufacturing

The majority of Tasmania's hardwood plantation timber production is currently exported either as woodchip or in log form. End markets for woodchip are predominantly China and Japan, while log export destinations include Malaysia (for plywood) and mainland Australia (for pallets and non-structural sawn timber). There is growing recognition of the potential for *E. nitens* plantations to produce sawlog grade material for use in manufacturing pallets, panels and engineered wood products such as CLT. In November 2023, the State Government¹² announced the release of a large volume of plantation hardwood sawlog (c. 125,000m³/yr) from State forest, with the expectation that it will be processed in Tasmania. The Government's On-Island Processing Program is specifically targeted to increase the proportion of Tasmanian grown timber which is value-added in Tasmania, creating jobs and enhanced economic activity.

Without any changes to current silvicultural practices, there is baseline capacity for production of 500-600,000m³/yr of *E. nitens* sawlog. As noted in this report, CLT is already being produced in Tasmania, plywood is manufactured offshore and a range of sawn products, including pallets and non-structural panels, are being manufactured from Tasmanian grown plantation logs, both in Tasmania and Victoria. Importantly, the continued availability of carefully managed native forest regrowth sawlogs, from both public and private land, is essential for the industry to facilitate the transition with respect to maintaining log and timber quality and achieving scale for the emerging industry.

To maintain or increase the level of solid wood manufacturing production from hardwood plantations requires a strong price signal to growers, markets for the full range of log products and the presence and scale of appropriate processing capacity. To achieve these three things sustainably requires enhanced and overt Government support for capital investment in advanced processing in Tasmania. Existing and potential processors require investment certainty in relation to policy settings and Government support. Investment certainty also provides comfort to growers about long term forest management decisions geared towards sawlog rather than woodchip markets.

A strong and vibrant hardwood processing sector also needs a consistent supply of high quality and sustainably grown regrowth native forest timber. Therefore, the requirement for investment certainty extends to ensuring that access to publicly and privately owned native forests is sustained through appropriate policy settings.

Provision of investment certainty and active steps to drive increased hardwood solid wood processing and manufacturing in Tasmania will reinforce the State's unique position as the most important hardwood growing and processing centre in Australia.

Transition to long rotation plantations

Tasmania's private hardwood plantation estate was established primarily to be managed on short rotations for the production of pulplog to service the woodchip export market. There is a growing focus on the potential for higher quality sites to be transitioned to long rotation and focused on solid wood production, whether as softwood or hardwood. There is a cost associated with this transition and Australia's ACCU Scheme provides a specific incentive for this, allowing transitioned plantations to participate and generate

¹² https://www.premier.tas.gov.au/site_resources/2015/additional_releases/more-tasmanian-plantation-hardwood-logs-to-boost-on-island-processing



revenue from the Scheme. However, problems with the FullCAM methodology mean that there is more benefit to be gained by growers if changing species from hardwood (specifically *E. nitens*) to softwood (*Pinus radiata*).

If plantations are maintained as hardwood, the transition timeframe from pulpwood only regimes to sawlog production can deliver increased sawlog from clearfell operations within 16 years. There are two reasons for this: first, if existing hardwood plantations are younger than 10 years there is no silvicultural impediment for a move to sawlog production; second, newly established stands can produce sawlog from clearfell operations from as young as 23 years. If hardwood plantations are replaced with softwood, the lead time to sawlog production is naturally longer and clearfell operations would not occur for at least 27 years.

Work undertaken for the Hub¹³ estimates that if 10% of the current northern Tasmanian hardwood plantation estate was converted to long rotation hardwood over the next decade, that would result in an annualised increase in sawlog production of 234,000m³ at maturity – an increase of more than 30% of current plantation hardwood sawlog production and more than current native forest sawlog production. If that area is converted to softwood, it could add an estimated additional 120,000m³/yr of sawlog and 200,000m³/yr of pulplog at maturity.

Individual growers will choose species based on the commercial drivers of their investors and forest owners. There is currently a desire to grow longer rotation eucalypt plantations, which would feed an expanded hardwood solid wood processing industry on island. However, the main policy lever to support rotation change is the ACCU Scheme which strongly favours transition to pine. If the Tasmanian forest and wood products sector is to succeed in becoming the leading centre for hardwood timber products manufacturing.

Biofuels and biomass

There is considerable interest in establishing a significant bioenergy industry in Tasmania, based on underpinning supply of wood products. It is increasingly seen as a viable alternative to woodchip export for lower grade wood, if it can consistently compete on price. There is potential for up to \$4.5 billion investment in Tasmanian-based biofuel projects, which includes the integration of wind and solar to provide the required energy inputs, contributing meaningfully to Tasmania's 2040, 200% renewables target. In particular, using Tasmanian wood to produce e-fuel (methanol) has potentially significant economic and environmental benefits. Efficient production systems and geographic location mean that Tasmanian manufactured biofuels are likely to be very cost-competitive in export markets. Demand is increasing, especially in the shipping sector.

Biofuel production is scalable at wet biomass input levels of 500,000 tonnes per annum per unit, of which an estimated minimum of 150,000 wet tonnes would need to be sourced from forest (other sources include oversized chip, sawmill residues and green waste). Each unit represents an investment of about \$1.5 billion to construct. Construction of three units would require an estimated 350,000 to 450,000 t/yr of forest-sourced biomass. Ideally, that could be sourced from within the existing woodchip production capacity. Alternatively, forest (harvest) residues could provide the feedstock. However, even if the price of forest residues is low, the cost to extract and transport is likely to be very high. In practice it requires pulp logs or woodchips. The question that needs to be answered is whether biofuel proponents can compete with the export woodchip price and, if not, are there other policy levers available that could alleviate cost pressure in favour of supporting the establishment of a significant new wood-based industry in Tasmania.

Getting wood to the right place

Safe, efficient and cost-effective transport of raw materials from forest to market is an important focus for the industry in Tasmania. There are challenges associated with the concentration of processing in northern Tasmania, suitability of local and regional road networks for high productivity freight vehicles, efficient access

¹³ Greenwood Strategy (2023)



to port facilities and efficiencies associated with intermodal facilities and freight transfer. Considerable work has been undertaken to address some of these issues. An excellent example is the use of rail for transport of logs from southern to northern Tasmania. However, this also highlights the fact that the log-tainers used by TasRail for this transport are slightly too wide for legal use on-road. A solution to this problem would dramatically reduce the need for double handling if log-tainers could be transported to and loaded in the forest, for example. The main point is that there is an ongoing need to find more efficient and more cost effective ways to get the right raw materials to the right markets in order to underpin the sector's growth.

It is also important to recognise that changing markets and log mix will have an impact on the freight task. For example, freight dimensions for sawlogs are different than for pulp logs. This has implications for truck and trailer configurations and potentially for road infrastructure, particularly closer to the forest.



MAKING IT HAPPEN

The convening power of the Hub is a critical element in bringing together industry, all levels of Government and other important stakeholders to work towards growth and enhancement of Tasmania's vibrant forest and wood products sector and growing its contribution to the Tasmanian economy. The Hub has undertaken a considerable amount of work over the past five years and is now in a position to deliver a refined program of work which can guide this growth.

In order to make this happen, there are four actions which need to be taken, as summarised below.

Informing hardwood manufacturing

In order to drive the development of a world-class, sophisticated hardwood advanced manufacturing capability in Tasmania requires the development of a detailed future needs/demand study specific to the hardwood resource. Indicatively that would consider:

1. A more detailed understanding of the future needs of sawmills and manufacturers with respect to potential volume, wood properties and log dimensions for different product types.
2. Understanding the requirements of growers for them to provide security of supply to underpin a hardwood solid wood processing sector.
3. Development of a program for measuring, recording and analysing wood properties and dimensions throughout the hardwood plantations estate.

Providing investment certainty

To provide investment certainty to existing and future processors, the most fundamental task is to ensure continuity of supply. If the future for solid wood manufacturing investment is with hardwood, then the most challenging barrier to continuity of supply is the absence of a financial incentive through the ACCU Scheme to shift from short- to long-rotation hardwood plantations.

Work has been done by growers to quantify this issue at a strategic level. There is a need to prepare a detailed study which accurately quantifies the growth of Tasmanian hardwood plantation sawlog production and use in solid wood applications and provides specific advice about redefining the FullCAM modelling parameters.

The availability of local markets reduces investment uncertainty, especially for smaller and independent forest growers that do not have access to commodity export markets. The existing solid wood processing sector in Tasmania has responded to this challenge. However, there is still a considerable volume of plantation and native forest hardwood which is being exported to the mainland and overseas, and smaller softwood plantation owners have challenges with accessing on-island solid wood markets. There is a clear need for continuing and enhancing policy and investment focus around domestic (on-island) solid wood manufacturing and providing support for smaller growers to understand the emerging opportunities and how to access them.

Coordinating the infrastructure task

There is merit in developing a whole of industry infrastructure and freight action plan in collaboration with State and Local Government and industry representative organisations. All forest growers are currently required to develop a three-year log haulage plan, there is a clear understanding of how and where wood moves and a common understanding of the major road blocks and barriers. In some other jurisdictions, a collaborative approach to this task has delivered strong results for all parties. Leading examples include the Softwoods Working Group in the south-west slopes of NSW, the Green Triangle Freight Action Plan and Victoria's Timber Industry Road Evaluation Study. In all these examples, the collaborative effort has facilitated informed discussion and decision-making about infrastructure funding priorities to improve road safety, mass limits and road quality.



Value chain alignment

Equal in importance to resolving physical solutions along the supply chain is addressing policy, market and commercial solutions along the value chain. The previous three issues all rely on legislators, policy makers, growers, processors and other supply chain actors developing a shared understanding of where and how value is maximised and working collaboratively to realise that value for Tasmanian forest and wood products sector and the broader Tasmanian economy. The Hub brings considerable convening power to drive collaboration and crystallise where value maximising decisions and actions can be made.