

**Strategic Advice to inform the  
Department of State Growth on options  
to maximise the value of forest resource  
opportunities from the Southern  
Tasmania forest region**

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## Introduction

The Tasmanian State Government is implementing policy settings to stimulate private sector investment to grow and value add the public and privately grown timber resources of the State. Recognising that wood is the “ultimate renewable resource” and that the Tasmanian forestry sector has resource potential for further growth in a diversified regional economy, prevailing market conditions and strong international demand currently favour growth for the production of a range of wood products.

Worldwide, wood products are being increasingly valued for their sustainability features as communities increasingly understand the renewable carbon storage features of timber products sourced from regrown forests and plantations.

Tasmania has a long history of successfully growing forests and manufacturing timber products that meet the expectations of international markets. Tasmania was home to the first successful commercial manufacture of paper from eucalyptus, which in turn sustained communities over many generations across regional Tasmania.

However Tasmania, like every other jurisdiction, is in an international race to remain sustainably competitive. This market reality applies to most of the products and services that the Tasmanian economy relies on to financially support the employment and expectations for government services from the community.

There is a clear role for governments to ensure that key logistical infrastructure is available for both the “services” and “production” sectors of the economy so that they function efficiently. The forestry sector, like all of agriculture, aqua culture, mining and tourism depend on efficient infrastructure to sustain profitable production and permit growth.

Previous decades of purely political and not commercial market decisions have adversely affected the timber industry, particularly in relation to infrastructure availability. While these decisions have

significantly reduced the previous economic scale of the forest industry there is now a strong resurgence in the sector that is rebuilding the employment and economic value to Tasmanians.

Recent independent studies (Shirmer et al 2018) show that the diverse forestry sector, comprising native forests, hardwood and softwood plantations provides State-wide a direct value of output of some \$710million/annum or \$1277million/annum with flow on from forest industry direct spending. Of this value of direct spending \$425million/annum was in the Southern Region of Tasmania. The flow-on effects highlight that the majority of jobs are in the processing sector and these employment opportunities need to be expanded wherever commercially feasible for the increased generation of jobs and wealth. Of the 5,700 direct and indirect jobs State-wide in forestry, 1014 were in the Southern region with 41% related to native forests, 33% in softwood forests and 26% in hardwood plantations.

Past decisions by governments around forestry sector infrastructure in the late 1980's, 1990's and by Gunns Ltd in the 2000's were driven by political considerations and were clearly not commercial market decisions. These purely political decisions have removed from commercial use the least socially impactive and the lowest cost port and roading options for the export of forest products and forest residues in Southern Tasmania. This has had serious adverse effects on the Huon Valley forest growers and timber processors (with the closure of Port Huon, the port site planned to be used by Huon Forest Products) and has seriously affected the southeastern Tasmanian forest growers and sawmills (the closure of the Gunns Ltd, Triabunna export port site).

In southern Tasmania, the lack of certainty around the long term use and development of critical transport infrastructure to link public and private forest supply and log processing chains to national and international markets is restricting growth, private investment in value-adding and new employment opportunities.

When trees are harvested, multiple products are generated for potential processing uses. The highest value proportions of logs go to sawmills and veneer mills but the higher volume proportion in most logs is

currently graded as pulp wood and is best commercially suited to a range of wood fibre applications and engineered wood products. While the proportions of recovered product vary with different forest types the commercial reality remains for all forests that absent adequate markets for the full suite of products from a tree that is harvested the overall supply chain is not financially sustainable in the medium and longer term.

Artificially restricting uses, including infrastructure access to one portion of a harvested log (for example, woodchips) is illogical and completely perverse if the policy objective is to maximise value adding, profitability and employment creation.

The owners of the forest residues on public and private forests from solid wood harvesting operations and the owners of residues from the processing of hardwood logs in mills in southern Tasmania face restricted, long term commercially viable access options to reach potential markets.

Private native forest owners in southern Tasmania have been particularly affected over the past decade by the inability to access markets for residues from any sales that the landowner proposes of native forest sawlogs or veneer logs. The infrastructure deficiency to permit competitive market access is affecting profitability throughout the whole supply chain.

Southern Tasmania, for the purposes of this report, encompasses the public and private forest resources south of an east-west line through Oatlands.

The consultant has been asked to assess public and private sustainable wood flows over the next 10-15 years in southern Tasmania, forest management considerations, consider infrastructure constraints and opportunities, emerging markets and the broader social, economic and environmental aspects of the related infrastructure use.

A key consideration in this report is taking a longer-term view (10-15 years) and looking towards options that are likely to have intergenerational benefits.

Recommendations are derived from analysing the inputs from personal meetings to discuss infrastructure issues with key stakeholders, site visits to the forest, mill visits, targeted consultation with key industry leaders (Appendix 1) and personal sighting of the existing infrastructure. In this assessment process over the past two months, confidential commercial matters have been privately discussed and while the communication of the business strategies for private firms must remain confidential the broad implications for infrastructure have been summarised for this report.

This report specifically builds on the industry and State Government agreed Strategic Growth Plan (2017) which looks to double the economic value of the forest industry State-wide.

### **Executive summary of key findings and advice**

Unsurprisingly, there is no single “silver bullet” that will adequately deal with both the geographical distribution of the Southern Tasmanian forest residue resources or with the likely nodes for value-added domestic processing both now and into the future.

However, what is clear is that the absence of a clear Plan and operational pathway with clear timelines will most likely lead to the progressive closure of existing manufacturing businesses, the reduction in second rotation plantings a loss of private investment, reduced employment and the loss of additional value-adding that could be realised.

All stakeholders have agreed that the State Government’s main policy focus should be on a specific “New Forest Industry Domestic Processing Plan” that supports the private sector to accelerate delivery of new sustainable value adding domestic processing projects. These projects must focus on profitably utilising residues and diversifying product markets, which will in turn create more employment in the region.

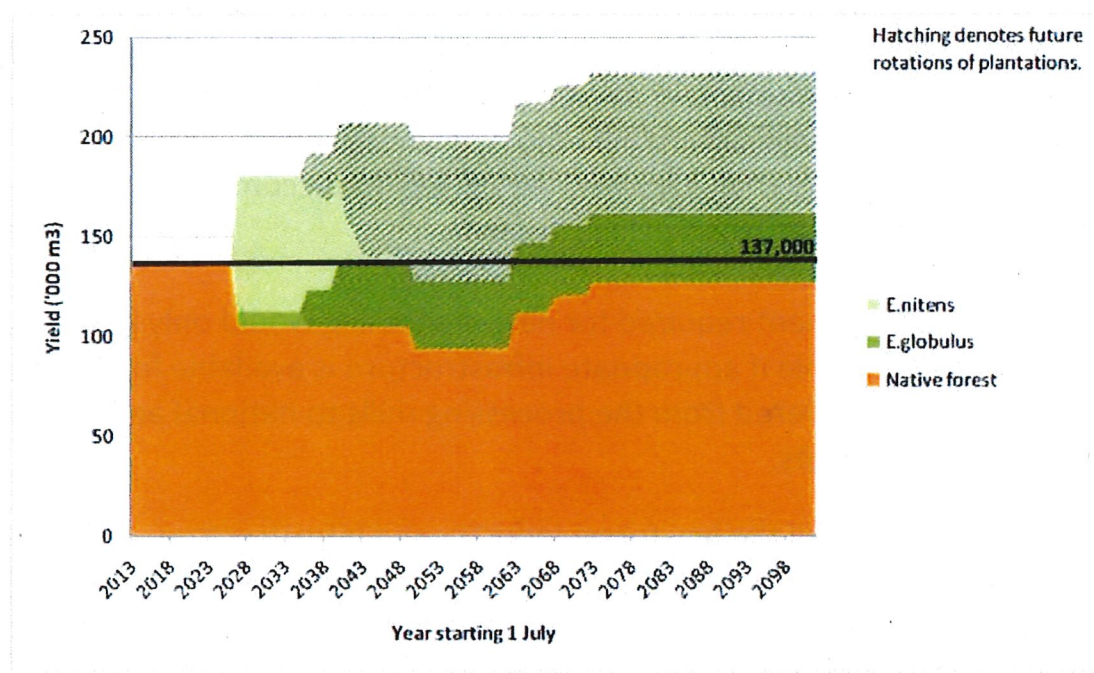
Any new infrastructure should improve the existing economics of the

forestry sector, avoid creating new conflicts with different sectors of the economy, wherever possible, and be intergenerational in intent and not made redundant as processing modes invariably change over decades due to changing resources, markets and economic circumstances.

The most suitable Port for export of forest products, excluding woodchips, is Hobart Port. The most sustainable infrastructure option for residue pulp logs for woodchip markets is via an upgraded Plenty Link Road onto upgraded rail to Bell Bay for the Huon and Derwent forests. For the southeast forests, the best infrastructure for logs for woodchips is rail to Bell Bay via upgraded Parattah facilities.

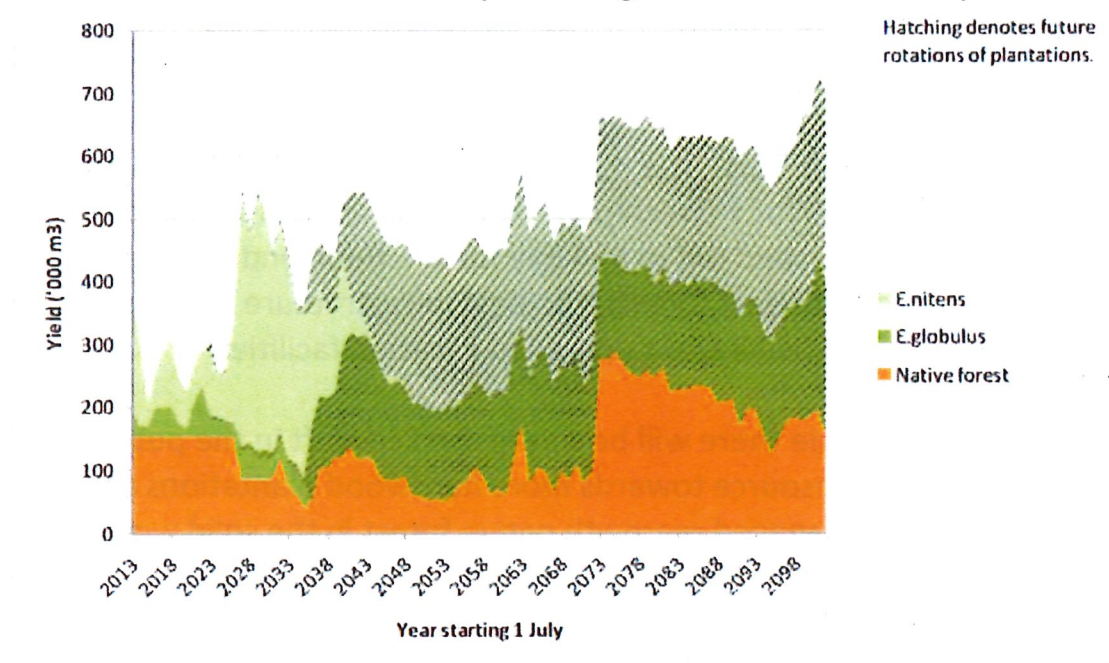
Over the next decade there will be a very marked shift in the public native forests log resource towards more hardwood plantations and more intensively managed regrowth native forest in the solid wood supply to processing mills. (See Figures 1 and 2 below).

**Figure 1 - Predicted yield of high quality eucalypt sawlogs from Permanent Timber Production Zone Land (excluding Future Reserve Land)**



Sourced : FT Sustainable Wood Supply Report 2013.

**Figure 2 - Predicted yield of eucalypt peeler billets from Permanent Timber Production Zone Land (excluding Future Reserve Land)**



Sourced : FT Sustainable Wood Supply Report 2013.

This shift towards significant volumes of hardwood plantation logs is already in place for the total volume of production from privately owned forests. This log resource mix change will require additional processing investment to economically handle the new younger logs. Existing manufacturing modes and capacity are unlikely to be commercially viable without new processing investment.

The private investment required for new processing would only be commercially feasible if appropriate infrastructure is available for wood products to be delivered from the processing mills to national and international markets.

Most importantly, all the key forest industry and infrastructure stakeholders are looking for long-term infrastructure certainty to underpin private capital investment in all aspects of the supply chain. Infrastructure certainty is critical to private sector investment in second rotation plantations, investment in more intensive silviculture to

improve native forest productivity, investment in the purchase of more efficient harvest, haulage and transport equipment and investment in new value added domestic processing.

Findings in this report are shaped by consideration of the Industry and State Government's Forest Industry Growth Plan (2017) and the Federal Government's recently released National Forestry Plan - Transforming Australia's Forest Industry (2018).

### **Key findings:**

1. Policy settings to accelerate new domestic value adding of southern forest residues must be given the highest priority.

A "New Forest Industry Domestic Processing Plan" is urgently is required as soon as practicable.

The development of the Plan will require focused support from within the Department of State Growth with assistance from experienced independent forest industry professionals. Given the past market and resource uncertainties any major new domestic processing projects will require some initial co investment by governments. Bio-products have been identified by some companies, fuel wood pellets and new engineered wood products are also commercially feasible. The resource mix change towards younger wood and smaller diameter hardwood plantation logs that face the conventional hardwood industry, requires immediate co-investment in practical research and development to map out new value added investment opportunities. Critical to these new value adding domestic processing projects will be internationally recognised certification including the PEFC endorsed Responsible Wood\* and progressing FSC\* for Sustainable Timber Tasmania and other private growers, so that international markets can be accessed with less contention.

2. A long term Port in southern Tasmania must be available for a proportion of the forest products produced including the future forest products from the most likely new domestic processing options.

3. Examining alternative new Port infrastructure that does not infringe on existing marine farm leases in the southern region has produced only one new technically feasible solution which would be south of Port Esperance and north of Southport. This Port site could be a single purpose wood chip loading facility at an estimated cost of \$35-40million. This project would require complex planning approvals over many years (2-3 years) and potentially requires a Bio Security Management Plan to be agreed with the aqua culture industry. Environmental and social factors would be challenging. The potential siting has exposure to the south and east which would likely lead to risks of costs associated with missed shipments due to unsafe sea conditions. This Port option would only provide the lowest cost delivery, on a sustained longer-term basis, for approximately 3 to 400,000 tonnes/an of hardwood chips, as it is located well south of the general centre of gravity of the likely long-term wood supply. At this volume of activity, a single purpose product use investment at this capital level is not likely to be commercially sustainable. This is also not a commercial solution to timber residue supplies from public and private forests north of the Wellington Range and does not offer a Port that is suitable for other break bulk freight including logs and veneer and any future new value added forest products for export.
4. Triabunna and the East Coast near Orford have never been long-term economic, cost effective Port solutions for the wood residues from the Huon and Derwent Forests. Any new East Coast woodchip export Port would not easily handle other break bulk freight tasks including logs, veneer and any new value added forest products. A new East Coast Port would be both costly to build (circa \$50 million on private land) and would require major Capex for new road infrastructure to resolve the safety issues in amongst other localities the Tasman Highway through the Prosser River Gorge. Emerging growth in tourism numbers promoted on the Tasman Highway to the East Coast would be incompatible with a major heavy log freight task.
5. The existing commercial and multi- use zoned parts of the Port of Hobart represent the lowest cost and best southern

Port solution and must be permanently zoned and developed for amongst other uses, intergenerational forestry and general freight tasks.

A new northern roadway access (potentially covered) from the Domain in Hobart to Macquarie berths 4 and 5 is essential to remove the heavy freight task from Evans Street and should provide unimpeded access for all export freight.

A new northern road access will become highly desirable as the Macquarie Point development concepts materialise.

Depending on markets and customers and with the proposed new northern access route onto the existing Hobart Port for loading from Macquarie 4 and 5 wharves there is existing capacity for 300,000-400,000gmt/ann. for export of mixed forestry products. The use of the Hobart Port, long term and the Macquarie wharves in particular, is critical to maintaining access to competitive international markets and to the ongoing economics of the closer to Hobart grown private plantation logs, break bulk freight including existing veneer exports and for the export of future new value added forest products.

6. Reducing log truck and heavy freight from the public road network via mixed modal terminals to the State government owned rail network improves safety, reduces road maintenance costs and reduces congestion in built up urban areas. Rail also significantly reduces the costs/tonne in the cartage task over reasonable distances if the log handling systems at the mixed modal terminals are smart and deploy the new technology that is now available for rapid log handling and weighing systems (eg Loadright)
7. Splitting the infrastructure considerations for the Southern timber lower grade residue resources between the South east corner and the Huon and Derwent Valleys provides an opportunity to optimise the heavy freight task onto different railheads with some associated existing roading upgrades and is the most cost effective, immediate infrastructure approach. This approach will also have the least environmental impacts, be more socially desirable and has long term value for that portion of residues best suited to pulp and

paper manufacture. Using the existing Bell Bay woodchip export facilities and the rail network will increase their scale activity and should therefore further reduce transport, chipping, handling and loading costs and should be a profitable supply chain.

8. The Parattah Rail head can be upgraded on existing TasRail land with an “open access” policy for the South east corner public and private forest logs (120-150,000 gmt/annum) to be transported cost effectively to Bell Bay. At Bell Bay, a short rail line extension to meet an additional export customer’s requirements is well advanced in planning. Opportunities to handle 20 foot containers filled with sawmill residues, including containers with sawmill chips, that can also be placed on rail are possibilities while the new domestic processing opportunities in the south are fully developed.
9. The Derwent and Huon Valley lower grade logs can be transported via an upgraded Plenty Link Road (\$38 million, which includes a new single lane “freight only” bridge over the Derwent River) to either new railheads at Lawitta, Boyer or the existing Brighton Transport Hub for railing onto Bell Bay (240-400,000 gmt/annum). As the volume of future wood production has moved further east in recent decades following the creation of new conservation reserves, the previously identified options at Karanja/Westerway for intermodal hubs are less economically attractive given the size of the total Capex and the wood volumes involved.

The option of various sites in the vicinity of Lawitta (with a single lane “freight only” bridge over the Derwent River) would be a preferred way to get the log freight task onto rail and most importantly, avoid additional log traffic through the built-up areas of New Norfolk.

10. The Plenty Link Road upgrade needs to be considered as essentially a “private freight route”. The link road would remove most of the log transport task from Macquarie and Davey Streets in Hobart with significant social and environmental benefits. Upgrading the Plenty Link road to the National Highway standard for general public transport uses, beyond the capital required for the proposed freight task, has a higher Capex (estimated in 2015 at \$48 million) and

would still mix heavy freight and public transport over a very challenging terrain. The privately owned freight route components of the Plenty Link Road maintain the diesel rebate advantage for primary industry users. The range of freight task benefits extend beyond the forestry sector to other primary industries, who would benefit from this road upgrade.

11. Boyer/ New Norfolk/ Brighton should be considered as a possible “Southern Hub” under the Federal Government’s newly announced National Forest Plan. The Plan objectives of concentrating investment in innovative new forest products, new plantation establishment in partnership with private landholders and related infrastructure are well aligned for this locality. This locality already has forest resource scale and opportunity for growth, a committed and supportive community, workforce skills base, adequate water, HV electrical infrastructure, and an existing industry anchor firm (Norske Boyer Mill) that is focused on its future through investment in new products and processes. The road/rail and Hobart Port infrastructure outlined in Points 5, 9 and 10 above are a practical long term strategic fit for this potential southern “Forestry Hub” under the Federal Government’s Plan and should attract Federal Government financial support.
12. Full scale operational trials need to commence at the Southwood sites to explore increasing log value recovery through efficiently designed “log merchandising”. “Log merchandising” involves taking the longest truck able lengths of non-sawlog/veneer log to a site (Southwood) for careful electronically scanned processing to recover short solid billets for value added processing. These logs would otherwise have been loaded into the pulp log residue stream or burnt in the forest.

This “merchandising approach” has the potential to both increase value recovery and revenue to forest growers, increase suitable materials for value adding, reduce contractor log handling costs on small log landings and also reduce forest residue waste in the forest.

13. The State government should map out a staged commitment to a preferred long-term infrastructure investment plan that essentially makes best use of the existing State owned infrastructure assets and improves them as described above. If this approach is taken, then the certainty that is required for longer-term private sector investment in new wood domestic processing and the development of new export markets for Tasmanian wood products can be assured.

## Background Information

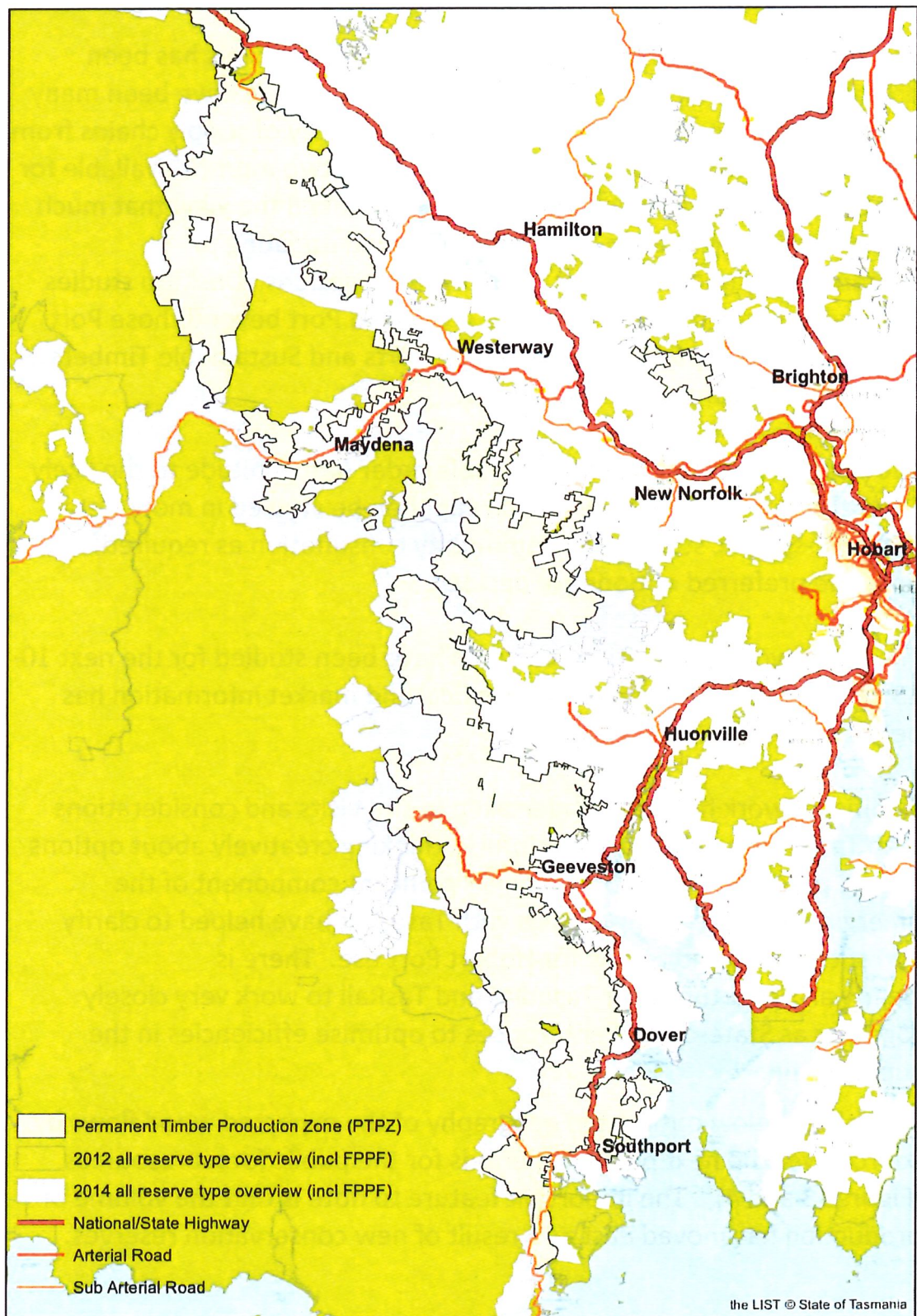
The request for advice on strategic infrastructure options has been premised on the fact that over the past 10 years there have been many studies exploring options to improve the efficiency of supply chains from the Southern forests to export markets. In the two months available for this current strategic level appraisal we have taken the view that much of the earlier engineering work simply needed updating to contemporary understanding of pricing assumptions. Desktop studies have been made on an option for a greenfield Port beyond those Port options previously fully assessed by Tasports and Sustainable Timbers Tasmania and considered by Cabinet.

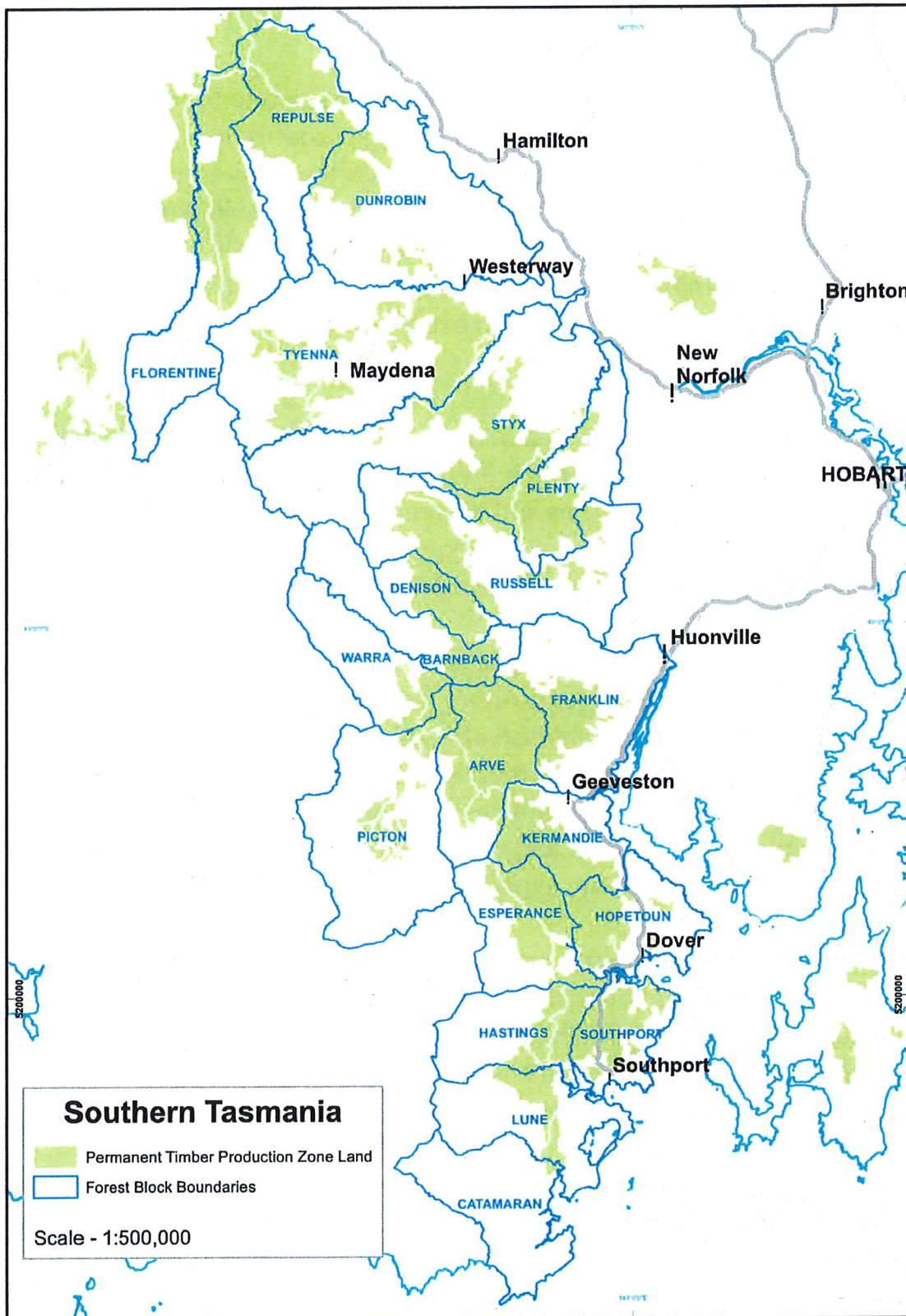
The approach taken gives a reasonable order of magnitude to the likely Capex for preferred options, which can then be studied in more detail with site-specific studies and community consultation as required, once the preferred options are decided.

The latest wood production scenarios have been studied for the next 10-15 years and new log handling, logistical and market information has been assessed.

Significant work has been undertaken in site visits and considerations with TasRail who have been helpful in thinking creatively about options for the potential of rail to take on a significant component of the emerging freight task. Meetings with Tasports have helped to clarify current options and zoning for Hobart Port use. There is clearly an opportunity for Tasports and TasRail to work very closely together as State-owned enterprises to optimise efficiencies in the supply chain.

The tables below outline the geography of the expected wood flows by source over the next planning periods for the public forest resources. (Figures 3 and 4). The important feature to note is that the volume of production has moved east as a result of new conservation reserves.





Wood Production Forests have been moved east with new conservation reserves.

The earlier Figures 1 and 2 highlighted the transition to more hardwood plantation log supplies, which will on average produce logs of smaller diameter and different density characteristics than currently processed. The log resource mix change over the next five years will require serious investment in new forms of domestic processing at scale. Splitting the pruned and thinned hardwood plantation log volumes up into small parcels for delivery on a pro rata to existing sawmills will not likely prove to be economic.

Initial studies, funded by Industry, growers and the Forest and Wood Products Association of Australia (FWPAA) have clearly indicated that different processing methods and different products will need to be developed for the hardwood plantation resources if we wish to move beyond a sole focus on log exports or hardwood chips.

Tasmanians increasingly expect the social contract with industries whether tourism, forestry, agriculture, aquaculture or mining to deliver on ways to operate that minimise disruption to the lifestyle values and improve the Brand positioning that helps make Tasmania the special place to live, work and raise families. The proposals developed for infrastructure in this Report and the focus on domestic processing is aligned to these community expectations.

With limited Capex funds for major infrastructure investment to upgrade public road networks to handle heavy freight tasks associated with forestry, agriculture, and mining we need to look creatively to the State owned railway network which has had significant recent capital upgrades, has surplus capacity and is suitable for intermodal solutions.

Separating the heavy freight task wherever commercially feasible from increased tourism traffic and the general travelling public is highly desirable.

Studies for the Productivity Commission confirm cost advantages for efficient rail over road for heavy freight tasks even before considering the externality benefits of freight on rail versus road. Growing tourism

numbers will further reinforce the benefits of rail use. Costs of rail can be further improved through handling efficiencies, improvements to the rail network and rolling stock. R&D opportunities already have seen “logtainer” investments led by Elphinstone and TasRail and additional practical research can be made to further improve handling efficiency and reduce costs.

The rail freight opportunities reduce the need to permit “A doubles” on the Midland Highway, giving potentially more cost effective solutions and extracting value from the taxpayer funded existing investment in the north-south rail. The rail with some new investments in rolling stock, engines and new log handling systems can handle the freight volumes and be very safe. This mode of log transport will also improve brand values and community acceptance for the forestry sector.

Use of existing infrastructure that is upgraded and repurposed is the fastest way to get immediate cost benefits to the forest supply chain and will have flow on benefits to other primary industry sectors where the freight task is vital to competitiveness.

There is a growing place internationally for niche, Tasmanian branded forest products for specialised wood markets. These markets should be developed alongside but not instead of, scale production of forest commodities, which meet international market demands. Diversity in products and markets provides greater social and financial stability for the Tasmanian economy.

Tasmania is endowed with exceptional growing conditions for forests and plantations and a successful sustainable economy needs international scale for the range of forest products that can be commercially produced for export markets. We have the natural resources, skills base, technology platforms, R&D capabilities and innovative players who can be globally competitive as long as we have access to efficient managed linked infrastructure from the forest, via processors to export Ports.

In current operations on both public and in some private forests the opportunities to increase value recovery from existing harvesting

operations are evident. In suggesting that new “merchandising” trials be conducted these can be done as trials at relatively low operational costs (\$50-100,000) over a three/four month period to get a commercially meaningful result. There is significant small log volume waste in current operations (Photo 1).



While merchandising was trialled at the Southwood Huon site in 2006-2008 and proved to be non-viable at the time, this related to several factors that have changed in the past 10 years. In 2006, the average diameter of hardwood logs being processed was 45-55cms, the technology deployed was older and had been adapted from New Zealand experience with Douglas fir, (a softwood) and the log handling and scanning technology was in its infancy. Today's logs and future

plantation logs are much smaller, approximately an average of 35cms diameter, the “in forest” landings are now much smaller due to regulatory pressures to reduce the heavily worked area in the forest coupe. This regulatory pressure in the wetter forest types has raised contractor log handling costs. The new IT now available and the more sophisticated scanning systems are also now more robust and warrant trials to see what investment opportunity now exists to reduce waste and increase value adding.

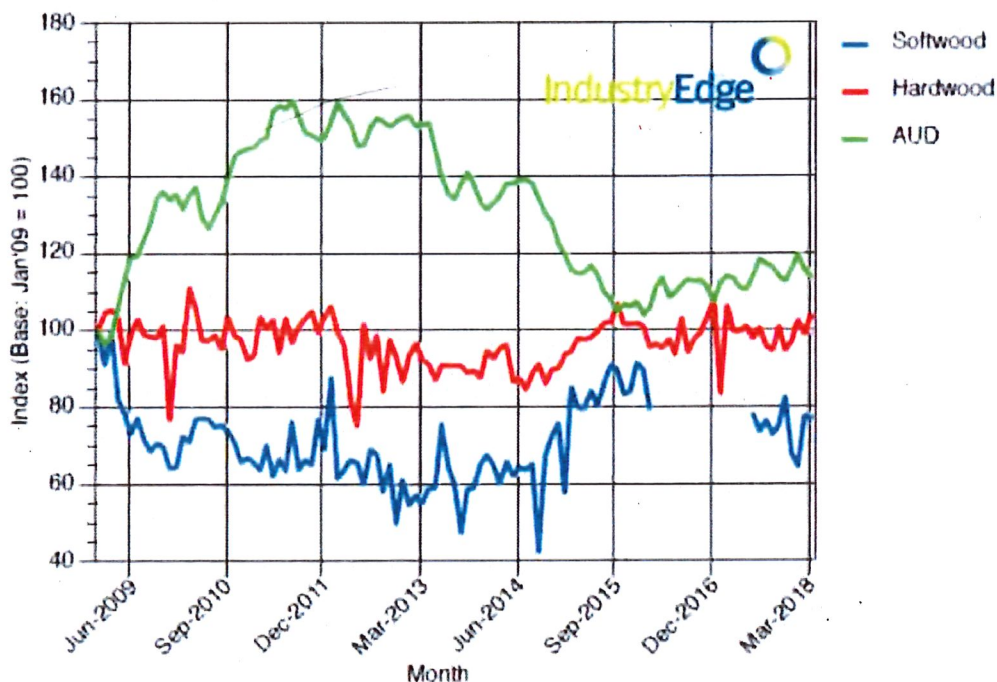
Residue markets comprise opportunities in hardwood chips for pulp and papermaking, a range of bio fuels, bio chemicals and biomass for heating, drying and electrical energy. Engineered wood products are being processed from Tasmanian *E.nitens* plantation logs (container floors with an OSB product).

Plywood, Glulam and Laminated Veneer Products (LVL) can be manufactured from the eucalypt resources currently available in Tasmania. Wood pellet markets are becoming competitive at scale for both domestic and export markets.

In relation to wood pellets it should be noted that this month (October 2018) in Queensland, Altus Renewables and Mitsu have announced a new 100,000tpa wood pellet plant using wood residues for export to Japan and are studying another option in SA in the Mt Gambier region for wood residues to be converted to wood pellets.

The hardwood chip markets after going through a major transition in the last decade have stabilised and the outlook with the Australian dollar in the mid \$0.70's is positive for profitable returns. These are commodity markets and like all commodities that cycle through the impacts of global factors are beyond the ultimate control of Tasmanian enterprises. However, hardwood chip exports remain an important part of a diversified portfolio of forest products for export. The changes in recent years in these markets can be seen in the figure below. (See Figure 4 below is sourced from Industry Edge 2018).

**Fig 5: Australian Woodchip Export Price Index: Jan '09 – Mar '18**  
(Index: Base: Jan '09 = 100) (AUD)



Source: ABS & Uni of BC

**Source: Wood Market Edge, 2018**

For Tasmania, this global commodity reality simply means that we are best to encourage through public policy, including practical research, approaches that develop a mix of export forest products for diversified markets. This diversification will help provide more economic stability for our relatively small regional economy.

In developing the assessment of Port options it has been clear that the high Capex for new greenfield Ports can only be justified if the Port has multi use capabilities. The long lead times for planning and environmental approvals and the challenges for new green field sites that always deliver social tension make the focus on using existing Port infrastructure an absolute priority. To mitigate challenges for the existing Hobart Port the focus has been on maximising the use of its existing capability and ensuring that the new access proposed provides

real benefits for the Macquarie Point Developments.

It should be noted that Tourism industry advice is that at neither the Port of Burnie nor the Port of Hobart has there been adverse experience for cruise ships in relation to the working freight aspects of these Ports.

The other related Port development opportunity that has been explored and exists today is to take advantage of the capacity on the Nyrstar fortnightly shipping to Adelaide Ports, which have direct shipping links to international markets.

This opportunity builds on the significant existing spare TEU capacity that may assist for logs in containers and other forest products freight that is destined for international markets. The Nyrstar fortnightly shipping service could load containers from the Hobart wharf.