

**INQUIRY INTO LONG TERM SUSTAINABILITY AND
FUTURE OF THE TIMBER AND FOREST PRODUCTS
INDUSTRY**

Organisation: Hyne Timber
Date Received: 27 May 2021

27 May 2021

The Honourable Mark Banasiak, MLC
Chair Portfolio Committee No.4 - Industry
Parliament House, Macquarie Street
SYDNEY NSW 2000

Dear Mr Banasiak and Committee Members,

Re: Hyne Timber submission - Parliamentary Inquiry into the long-term sustainability and future of the timber and forest products industry.

Hyne Timber welcomes the opportunity to provide a submission to the NSW Legislative Council's Inquiry into the long-term sustainability and future of the timber and forest products industry. Hyne Timber, and the industry more broadly, is often widely misunderstood or at least unappreciated for its value to the economy, environment and regional communities and inquiries such as this provide a formal avenue for the facts, challenges and opportunities to be formally tabled.

Hyne Timber was consulted with and broadly endorses the submissions by the Australian Forest Products Association (as it applies to softwood plantation) and the South West Slopes Softwood Working Group. This submission is therefore kept specific to Hyne Timber and not intended to duplicate the information provided in these other submissions.

Background - Hyne Timber

Proudly established in 1882, Hyne Timber is a privately owned, Australian company now in its sixth generation with operations throughout the Eastern Seaboard. It is one of the largest, softwood manufacturing companies in the Southern Hemisphere.

In 2001, the company expanded out of Queensland and bought an old mill in Tumbarumba NSW and have invested over \$200 million to develop a state-of-the-art, softwood sawmill which today, employs 210 people and further supports approximately 600 contractors/local businesses who depend on the Mill.

This investment has resulted in a Mill with the capacity to process up to 1 million cubic metres per year. The investments in the Mill have also been made to ensure it can efficiently process the mix of log sizes and grades as forecast by the plantation growers.

The Tumbarumba Mill represents half of Hyne Timber's national softwood timber production and is by far, the single, largest, non-government employer in Tumbarumba. By way of volume, the structural framing produced on site each day would stretch from

Tumbarumba to Melbourne and is estimated to be the construction framing of one in every four new homes built in NSW.

Utilising world class technology, the Tumbarumba Mill processes 30-year-old plantation pine, which was harvested within a viable freight distance and strategically located as part of an integrated supply chain. This strategic location was disrupted as a result of the 2019/20 bushfires which impacted 40% of this feedstock. Hyne Timber is now forced to source pine from further afield with crippling freight costs.

As an industry leader, Hyne Timber is focussed on emerging technology, innovation and 'manufacturing 4.0'. Recent optimisation initiatives include the installation of robotics which are unique to the timber industry and accurately stack timber into packs. This is otherwise labour intensive with safety risks presenting ongoing recruitment challenges.

Another initiative as part of ongoing, private investment in the Mill was the installation of state-of-the-art visual scanning technology, installed to support the supply of timber to the new XLam Cross Laminated Timber (CLT) manufacturing facility in Wodonga, Victoria.

The XLam manufacturing facility is a world class, automated CLT plant, commissioned in March 2018 following an investment of \$56 million by the Hyne Group and is a demonstratable example of an innovative value adding opportunity for our industry.

It is the only large-scale manufacturer of plantation softwood Cross Laminated Timber in Australia and is experiencing increasing demand for its renewable, next-generation, commercial scale building solutions. XLam sources 100% of its timber supply from the Tumbarumba Mill.

The Tumbarumba Mill has a range of customers including those trading and manufacturing building frames products such as Bunnings and many frame and truss plants. Many of these customers want to source locally produced and sustainably managed timber wherever possible, supporting local jobs with secure supply chains, not subject to international freight, fluctuating exchange rates in an uncertain global economy.

Other customers include those dependent on our sought-after by-products (bark, sawdust and shavings) such as Visy, ensuring that there is no waste generated by the process.

Hyne Timber supplies NSW customers from the Mill directly, or from a distribution warehouse in Newcastle.

Our Community and Bushfire Impacts

Hyne Timber underpins the economic success of Tumbarumba, providing significant employment opportunities both directly and indirectly while further enabling Tumbarumba to be a vibrant community through provision of partnerships, sponsorships and grants.

In 2020, Hyne Timber engaged highly regarded economic analysts and modellers REMPLAN to undertake an economic impact analysis of the bushfires on the Tumbarumba community due to the loss of log supply from the pre-bushfire log suppliers. A copy of this report is included as Appendix 1.

The REMPLAN analysis and modelling found that over the next three years alone, the loss of local supply to the Tumbarumba sawmill would result in an estimated 157 fewer jobs across the Snowy Valleys, with around 140 of those jobs lost in Tumbarumba across a range of industries, as a result of direct and in-direct economic loss.

This included a loss of \$177 million in gross revenue in Tumbarumba alone and a significant reduction of by-product supply to local downstream manufacturers such as Visy.

Hyne has been able to secure log supply from alternative sources, further afield with crippling increases to the cost of manufacturing due to the increased freight costs. However, Hyne is committed to the Tumbarumba community and the long-term supply of softwood for the construction sector. As a result of Hyne maintaining higher log volumes to the mill, the REMPLAN modelling indicates that \$244 million in gross revenue in NSW including \$144 million locally in Tumbarumba will be supported. This represents up to \$8 of retained revenue across NSW and up to \$5 of retained revenue in Tumbarumba for every \$1 of Hyne Timber's investment in extra log with additional freight costs.

It is important to note, that the extra log Hyne Timber has secured was otherwise being exported with no additional value add to the Australian economy. A failure to process these logs onshore would also result in an increase of imported timber for our construction sector and a need for by-product customers to seek alternative materials for solutions such as animal bedding and commercial scale potting mix for our agriculture/fresh food sector.

The bushfires also stopped the process to potentially sell Forest Corporation NSW with this Government owned entity doing all it could to support the industry, salvage burnt logs, re-plant and no doubt, assist informing policy decisions such as support to store burnt logs or processed, finished goods.

The salvage operation was unprecedented. The level of collaboration is commendable, resulting in 1.6 million burnt logs being processed at the Tumbarumba Mill alone with volumes of timber processed as a result, able to almost wrap around the world twice being over 75 million linear metres.

NSW Government Bushfire Industry Recovery Package

Unfortunately for Hyne Timber, while stream one, 'Supply Chain Support Grants', was well intended, the guidelines and criteria determined the grants financially unviable.

What was intended to support increased salvage and storage, maximising value from bushfire impacted plantation, this was limited to \$10/tonne and therefore favoured wood

chips for example as opposed to finished, structural timber goods and their warehousing requirements.

Hyne Timber applied for support with logical formulas that made financial sense but unfortunately this was rejected and only the \$10/tonne offered which left Hyne with no financially viable choice but to decline.

Under Stream 2, 'Sector Development Grants', Hyne Timber submitted two applications. The preferential application was for the grant limit of \$10 million to provide three years of support to freight logs into our Mill from further afield as a result of the bushfires. This provided a compelling, economic and jobs benefit but was unfortunately rejected by the NSW Government.

Hyne Timber's second application was to support mill optimisation noting the Tumbarumba Mill is already highly optimised following a \$200 million, private investment already. Therefore \$2,989,522 was requested from the potential \$10M limit due to the requirements for the company to ensure a 50% co-contribution. This is very much appreciated and will assist in reducing the increased costs of manufacturing due to the increased freight costs and reduction in overall volumes as a result of the bushfires.

COVID-19 Impacts on Hyne Timber

It is widely known that there is currently a significant timber supply shortage and increasing timber costs. While the global pandemic is the cause, more specifically:

- The strength of the construction sector was identified as critical for Australia's economic recovery;
- The timber industry was identified as essential;
- Both the Australian Government and NSW Government stimulus and incentives to build have resulted in strong construction activity;
- Decreasing production in Europe due to COVID illness has reduced imported timber;
- Increased demand and cost for shipping containers has resulted in reduced imported timber;
- The sale price of timber in the US and Europe has increased by up to 400% therefore a more attractive market for importers than Australia;
- Australian increased demand for locally produced, sovereign manufactured goods; and
- Spike in the renovation market due to more people working from home and/or diverting funds from overseas holidays into their home improvements.

Hyne Timber continues to operate at capacity and has invested \$14m into its Queensland operation to further increase capacity to assist in making up the supply shortfall from Tumbarumba as a result of the bushfires.

Plantation Supply Challenge

As outlined in both the AFPA and Softwood Working Groups submission to this Inquiry, increasing the plantation estate within NSW (and across Australia) is critical for the future growth of our industry and increased investment in value adding products for more sustainable construction such as glue laminated timber and cross laminated timber which replaces concrete and steel in commercial scale construction.

This is a great opportunity to create jobs, improve our environmental footprint through increased managed forestry estates, contribute to our economy and grow the potential for Australian construction solutions / by-product supply.

Concerningly, not only is the plantation estate not growing, projects seemingly fail to appreciate the value of plantation and propose to reduce it such as the Humelink project currently out for public consultation at the time of writing this submission.

In addition to policies and incentive to grow plantation, existing plantation must be protected. It should not be an option for any project proposals to reduce the much-valued plantation without so much as a mitigation strategy to replant at the very least.

Supply Chain Resilience

Saw logs are highly sought after due to high demand on their products and as a result of the bushfires.

It should be of national concern that European manufacturers can manufacture finished goods and ship them to Australia at a competitive rate to the Australian timber manufacturers.

Freight costs are increasing significantly due to the further distances' logs are now being freighted.

The NSW Government could look to upgrade existing road and rail infrastructure to make it more cost-effective to transport logs (and other commodities) longer distances. This could include optimising truck routes and capacity (e.g. fast-tracking new A double routes and bridge upgrades), improving rail infrastructure including at strategic intermodal terminals and innovation support to develop a system to backload log trucks.

Conclusion

Hyne is committed to the Tumbarumba community and our operation into the future including the supply of good quality timber for the Australian construction sector.

It is important the Government recognises and appreciates the scale, value and interdependencies this industry brings/has for our economy, jobs and supply chain resilience.

Protection and growth of the plantation estate in NSW is critical for the industry's future.

Provision of value adding, innovation and automation support will continue to see the industry confidently invest for growth and diversity.

Should you require any further information, please contact Katie Fowden, Strategic Relations Manager in the first instance

Yours sincerely

Jon Kleinschmidt
Chief Executive Officer

APPENDIX 1

REMPLAN Economic Analysis 2020

Post Bushfire Log Supply Impacts

Tumbarumba



REMPPLAN



Economic Impact Assessment

Tumbarumba Mill Supply Chain Mitigation Strategy

Project undertaken for Hyne Timber
October 2020

Tumbarumba Mill Supply Chain Mitigation Strategy: Economic Impact Assessment

This project has been conducted by REMPLAN

Project Team

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October 2020

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Disclaimer

Hyne Timber provided key data inputs in relation to the project. Regional economic profiling and data presented in this document have been informed by data sourced from the Australian Bureau of Statistics (ABS), and other government agencies. Using ABS datasets, the regional economic modelling software REMPLAN, developed by REMPLAN has been applied to generate industrial economic data estimates. This document is provided in good faith with every effort made to provide accurate data and apply comprehensive knowledge. However, REMPLAN does not guarantee the accuracy of data nor the conclusions drawn from this information. A decision to pursue any suggestions mentioned in the report is wholly the responsibility of the party concerned. REMPLAN advises any party to conduct detailed feasibility studies and seek professional advice before proceeding with any action and accept no responsibility for the consequences of pursuing any of the findings or actions discussed in the document.

RESOURCES

All modelling has been undertaken using REMPLAN™ software that has been authored by Principal Research Fellow (ret.), Ian Pinge, at La Trobe University Bendigo.

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Executive Summary

Economic impact of 2019/20 bushfires and associated loss of log supply to Tumbarumba Mill over 3-year period:



140 fewer jobs in Tumbarumba

157 fewer jobs across Snowy Valleys



Loss of \$177M in gross revenue in Tumbarumba

Loss of \$193M in gross revenue across Snowy Valleys



Up to **16 jobs lost** due to reduced demand in NSW transport sector



Significant reduction in by-product supply to local downstream manufacturers

Economic benefit of proposed supply chain mitigation strategy over 3-year period:



79 jobs retained in Tumbarumba

93 jobs retained across Snowy Valleys

193 jobs retained across New South Wales



\$144M in gross revenue supported in Tumbarumba

\$155M in gross revenue supported across Snowy Valleys

\$244M in gross revenue supported across New South Wales



Up to **63 jobs supported** in the Victorian transport sector



Continued supply of by-product to local downstream manufacturers and the Australian supply of finished timber goods for the construction sector

Regional Economic Context

Australian owned Hyne Timber¹ operates the Tumbarumba Mill which processes New South Wales and Victorian grown plantation pine. The Mill directly employs around 210 workers, and provides significant flow-on benefit for Tumbarumba and the wider Snowy Valleys region through contractor supply, transportation requirements, site services and timber by-products.

The softwood timber industry underpins the economic prosperity of many rural and regional communities in Australia. This is particularly the case within the townships of the Snowy Valleys. Employment and economic activity in Tumbarumba are particularly concentrated in forestry and wood and fibre processing, the Tumbarumba Mill alone supports 212 workers in a town with a population of just 1,860.

Total employment in the Snowy Valleys Council area is estimated at 6,140 jobs and key industries linked to the softwood timber industry represent over 1,100 local jobs or one in five local jobs. This does not include other associated industries that benefit directly (such as transport) and in-directly through demand for inputs and goods in the supply chain or downstream through household consumption.

Figure ES-1 Tumbarumba Mill



Industry Outlook

The Standing Committee on Agriculture and Water Resources (the Committee) called submissions for the enquiry into the *“Timber supply chain constraints in the Australian plantation sector”* (submission window now closed). A review of submissions relevant to the impacts of Hyne in the Snowy Valleys region identify a consistent message from Industry around the constraints regarding timber supply chains, and more particularly, overcoming constraints to viable economic haul distances to ensure ongoing local processing of fibre within the Snowy Valleys local government area (LGA).

There is clear recognition from the submissions to the enquiry that the shortfall in plantation establishments over the last 10 to 15 years and exacerbated impacts of the bushfires will have negative

¹ <https://www.hyne.com.au/>

consequences for the economic prosperity of the region, and more specifically key locations in the Snowy Valleys Council (Tumut & Tumbarumba).

The 2019/20 bushfires decimated supply of log to the local timber milling industry. Bushfire impact to feedstock supplies will have long term economic implications for the sawmill timber industry. The nature of softwood plantation management and supply of log to local timber milling will be impacted for the next 30 years, however the immediate impact is the significant fall in supply over the next three years.

Strategic and long-term investment to re-establish fibre supply levels to pre-fire levels is required to support local industry base to remain viable.

Regional Economic Outlook

The 2019/20 bushfires have reduced log feedstock to the Tumbarumba Mill by an estimated 40%. As a major employer and a critical component in a highly integrated local supply chain, the impacts on the regional economy will be extensive.

The bushfire affected log supply levels will not sustain current levels of employment in timber related industries in Tumbarumba and Snowy Valleys. A fall in supply from a five year average of 718,000 m³ to 431,000 m³ (2021/22) can only support 149 workers, this is a downsizing of the Mill workforce by 63 employees.

Using data supply by Hyne, REMPLAN conducted economic impact modelling over a 3-year study period to determine the direct and indirect effects of the loss of log supply to the Tumbarumba Mill, on the local regional economies including the Tumbarumba Economic Zone (EZ) (Tumbarumba EZ includes Tumbarumba township and surrounding areas to enable economic analysis – Section 2.2.1).

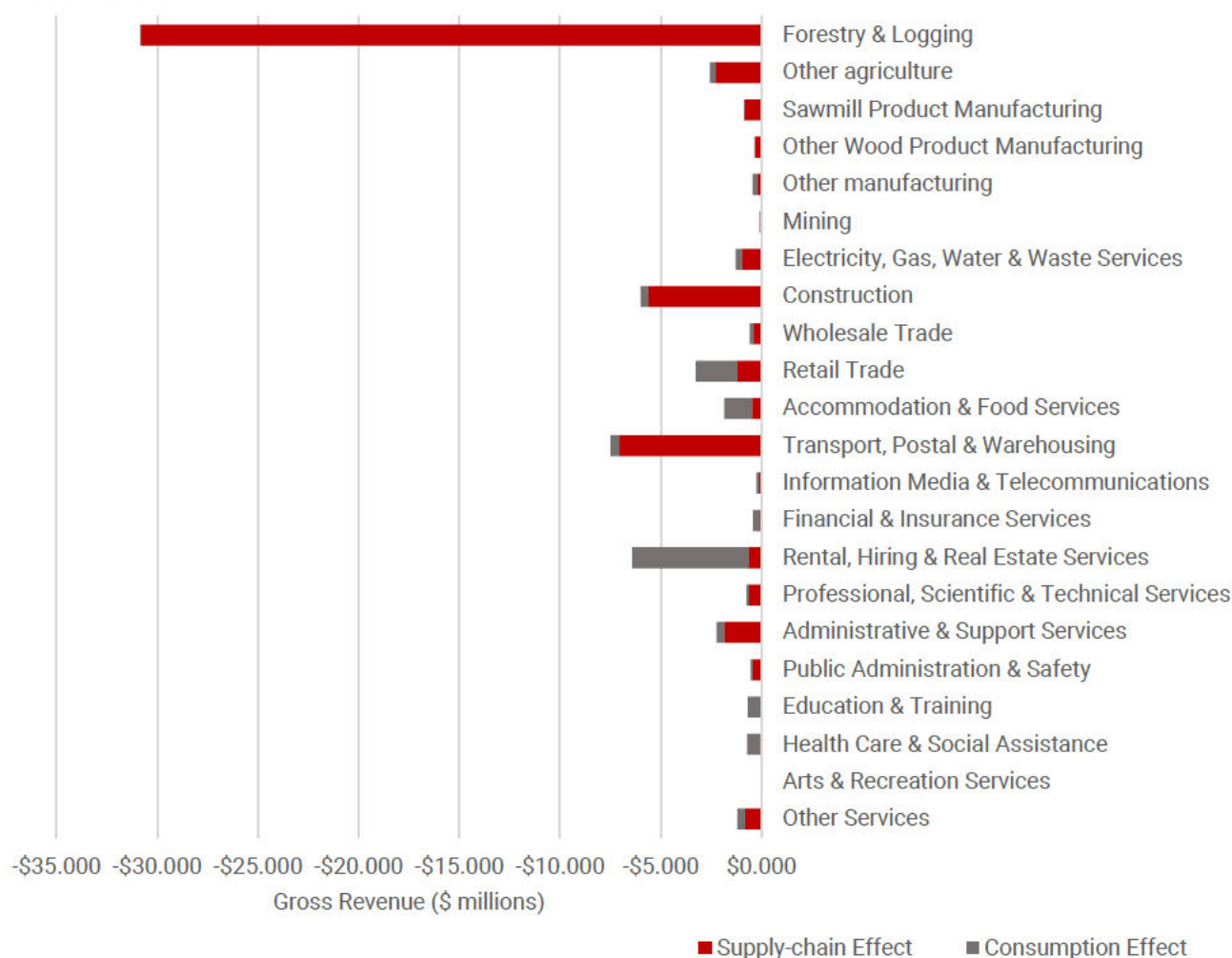
In summary, economic modelling on a scenario where no intervention or mitigation occurs, has determined the loss of log feedstock and associated loss of employment at the Tumbarumba Mill is likely to have the following economic impacts over the 3-year study period (inclusive of flow-on supply chain and consumption effects):

- Loss of revenue in Tumbarumba EZ: \$177.142 million
- Loss of revenue in Snowy Valleys: \$192.647 million
 - *inclusive of effects on Tumbarumba EZ*
- Loss of employment in Tumbarumba EZ: 140 jobs
 - *the employment multiplier is 2.222, that is for every job lost at the Tumbarumba Mill, a further job will be lost in Tumbarumba EZ.*
- Loss of employment in Snowy Valleys: 157 jobs
 - *inclusive of effects on Tumbarumba EZ*

Figure ES-2 below demonstrates the supply-chain and consumption effects on industries operating within the Tumbarumba EZ. The supply-chain effects reflect the multiple rounds of flow-on effects, as servicing sectors decrease their own output and demand for local goods and services in response to the direct change to the economy. The consumption effect estimates the loss of local spending by local workers in Tumbarumba EZ.

The figure below demonstrates the integrated nature of industry within Tumbarumba EZ. The largest loss of output in terms of supply chain and consumption effects is estimated to occur in Forestry and Logging (-\$30.828 million), Transport (-\$7.484 million) and Rental, Hiring and Real Estate Services (-\$6.429 million).

Figure ES-2 Supply-chain and consumption effects on gross revenue by industry over 3-year period - Tumbarumba Economic Zone



Supply Chain Mitigation Strategy

Hyne Timber has identified an opportunity to increase domestic value-add on log stock destined for offshore processing. The supply has been identified in interstate locations, outside what is considered to be a normal freight zone. Accessing this stock will keep local jobs, local skills and local economic activity in Tumbarumba and Snowy Valleys. There will be significant downstream benefits to local industry in terms of continued supply of by-product (such as bark, wood chip and shavings) supplied to other local manufacturing sub-sectors.

Processing of roundwood domestically has flow on benefits for downstream industries by ensuring ongoing supply of inputs, as well as capturing opportunities for growth in Australian industries that may currently be captured by other countries. Modelling undertaken by Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) indicates that diverting roundwood (sawlogs) from log exporters can be a more efficient method of ensuring supply than establishing new plantations.

Hyne Timber is proposing the *supply chain mitigation strategy*, to ensure viable production rates are maintained through accessing the interstate supply of log stock. This strategy proposes a three-year partnership between Hyne Timber and the State and Federal Governments for transportation support to fast track the new supply channels and ensure timber milling remains a viable industry in Tumbarumba and Snowy Valleys, while bushfire and COVID-19 recovery continues.

Hyne Timber are looking to invest up to \$42 million to access the additional log supply, and are seeking just under \$29 million in Government support to maintain sawmilling industry employment in Tumbarumba for the next three years.

Hyne Timber is unable to progress contractual arrangements with log suppliers for the additional log supply over three years without the required transport support in place. Hyne recognises Government support for log supply transport costs is not a long term solution to the log supply shortages caused by the bushfires. With Government support for the next 3 years, Hyne will develop and implement alternative and additional strategies to mitigate the impacts including but not limited to sourcing more logs within the normal supply region as they become available, innovative transport methods, and mill and market reconfigurations to allow the processing of the post fire log mix available from within the region.

Regional Economic Benefit of Proposed Strategy

The *supply chain mitigation strategy* will enable the Tumbarumba Mill to potentially access up to 441,500 m³ of log feedstock over a 3-year period. This log is currently destined for export with no Australian customer nor the opportunity for domestic manufacturing to value-add to the raw product. While total annual supply volumes will remain impacted by the bushfire, accessing the additional stock will recoup some of the forecast loss in production and retain jobs in Tumbarumba.

Economic impact modelling over the 3-year study strategy period was conducted to determine the direct and indirect benefits of accessing the additional log supply for the Tumbarumba Mill.

The Supply Chain Mitigation Strategy is estimated to have the following economic impacts, inclusive of flow-on supply-chain and consumption effects, over the 3-year period:

- Within the Tumbarumba Economic Zone:
 - Output – \$143.742 million in gross revenue (output)
 - Employment – Retain and support 79 jobs
- Within Snowy Valleys LGA (inclusive of effects on Tumbarumba EZ):
 - Output – \$155.270 million in gross revenue (output)
 - Employment – Retain and support 93 jobs
- Across New South Wales (inclusive of effects on Tumbarumba EZ and Snowy Valleys LGA):
 - Output – \$243.699 million in gross revenue (output)
 - Employment – Retain and support 193 jobs

While businesses based in the Snowy Valleys and the township of Tumbarumba deal with the consequences of the bushfires and the COVID-19 recession, the proposed *supply chain mitigation strategy* presents an opportunity to keep jobs in Tumbarumba. Retaining local workers, local skills and local production will keep Tumbarumba vibrant and ensure the region's traditional industry strength in timber processing remains sustainable into the future.

1. Introduction

1.1 Purpose

The Snowy Valleys local government area (LGA) and the Tumbarumba local area are endowed with resources to support traditional industry strengths in forestry and associated timber product processing. Tumbarumba has long been established as a forestry hub with softwood timber milling directly supporting one in ten workers across Snowy Valleys and in the Tumbarumba area. Timber milling has been recognised in the Snowy Valleys Regional Economic Development Strategy (developed by New South Wales Department of Premier and Cabinet) as requiring support to ensure the region works towards a sustainable path to economic prosperity and improved quality of life for residents.

Australian owned Hyne Timber² operates the Tumbarumba Mill which processes New South Wales and Victorian grown plantation pine. The Mill directly employs around 210 workers, and provides significant flow-on benefit for Tumbarumba and the wider Snowy Valleys region through contractor supply, transportation requirements, site services and timber by-products. The pine is produced from 100% sustainable chain of custody certified Australian resources³. The daily volume of structural framing produced on site would stretch from Tumbarumba to Melbourne, 500 kilometres away. The sawdust powers the Mill's kilns, and the residue goes to a number of by-product customers including but not limited to Visy's paper mill in nearby Tumut, resulting in a no waste production stream.

As a major employer and key component of an extensive supply chain, the Tumbarumba Mill is recognised as critical infrastructure for Tumbarumba. In January 2020, the Mill underwent an extended delay to the annual restart as the community dealt with the aftermath of the bushfires that tore through the region over the New Year period. While dealing with the emergency the community had to come to terms with the loss of an estimated 25,000 hectares of native bush, 50,000 hectares of pine plantation and the economic consequence for a region heavily reliant on forestry and timber processing industries.

Figure 1-1 Tumbarumba Mill



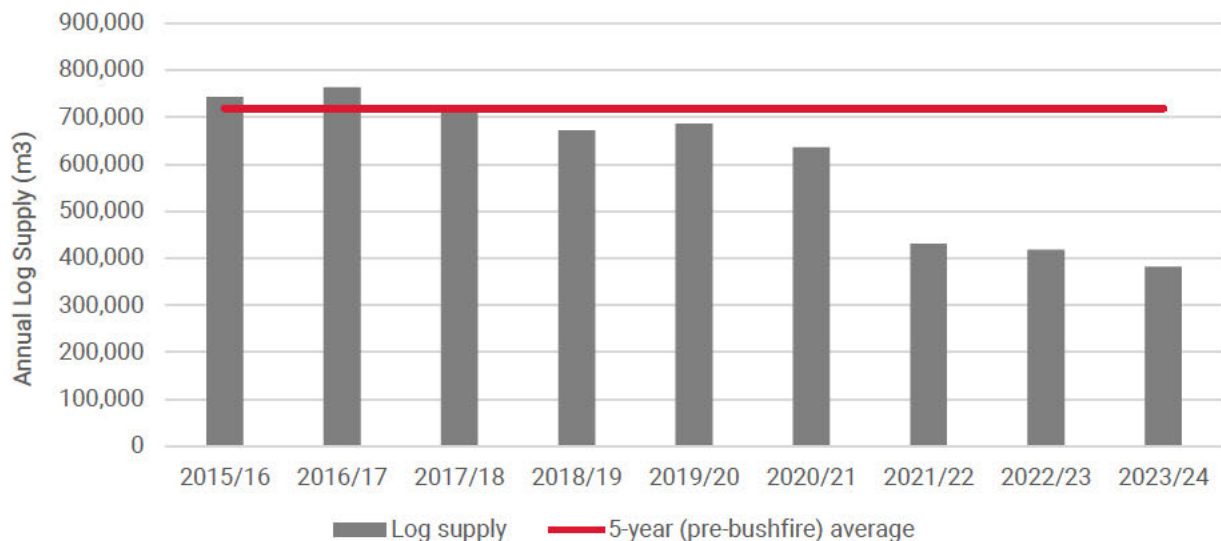
Source: www.hyne.com.au

² <https://www.hyne.com.au/>

³ <https://au.fsc.org/en-au/standards/chain-of-custody>

The 2019/20 bushfire decimated the planned future supply of log to the local timber milling industry and the impact to log feedstock will have long term economic implications for the timber industry. Hyne Timber has made efforts to salvage much of the burnt log. However, the fire-killed timber, while still standing, is at risk of rapid deterioration due to weather exposure, which can render the log unusable. Salvaging the fire-killed timber will not stave off a shortage of supply in the future. The bushfire has resulted in an estimated 40% reduction in log feedstock to the Tumbarumba Mill (by 2021/22). Levels of supply will continue to fall and by 2023/24 supply will only achieve half of the 5-year historical average (Figure 1-2).

Figure 1-2 Forecast Tumbarumba Mill Log Supply (m³)



Source: Hyne Timber.

Prior to the bushfire, total annual gross revenue for Snowy Valleys was estimated at \$2.404 billion, the loss of log supply to the Tumbarumba Mill alone will result in an estimated -\$87.623 million fall in gross revenue in a single year (a 4% contraction). Over the 3-year period (of the proposed mitigation strategy), this fall in revenue increases to \$192.647 million, due solely to the loss of log supply to the Mill, without the incorporation of further likely economic impact due to the COVID-19 Pandemic.

For every job lost at the Tumbarumba Mill it is estimated that due to flow-on supply-chain and consumption effects, Snowy Valleys local government area (LGA) will lose an additional one and a half jobs, while the equivalent effect on the State economy will be the loss of three additional jobs.

Impacts of the 2019/20 bushfires on the timber milling industry have been compounded by the COVID-19 Pandemic. The Tumbarumba Mill is focused on manufacturing timber products (such as structural framing) for domestic markets. As demand in Australia responds to a post-COVID economic recovery, products normally manufactured at the Tumbarumba Mill will need to be imported unless supply chain mitigation strategies are adopted.

Hyne Timber has identified an opportunity to increase domestic value-add on log confirmed as having no domestic customers and is destined for offshore processing. The supply has been identified in various interstate locations and outside what is considered to be a viable transport zone for the Tumbarumba Mill. Accessing this stock will keep local jobs, local skills and local economic activity in the Tumbarumba and Snowy Valleys LGA. There will be significant downstream benefits to local industry in terms of continued supply of by-product (such as bark, wood chip, sawdust and shavings) to other local manufacturing sub-sectors.

In order to access the supply of interstate log stock, Hyne Timber are proposing the *supply chain mitigation strategy*. This strategy proposes a three-year partnership between Hyne Timber and the State and Federal Governments for transport support to fastrack the new supply channels and ensure 441,500 m³ of softwood log processing is retained within the Australian manufacturing industry. This three-year bridging solution will ensure direct and indirect employment associated with timber milling operations is retained in Tumbarumba while bushfire and COVID-19 recovery continues.

In the medium term (after 3 years of support) Hyne will have:

- developed, in conjunction with freight partners, more efficient transport solutions to source logs from greater distance through innovative freight mechanisms, truck reconfiguration, backloading routes and the potential use of rail.
- access to wood, surplus to contract commitments within our supply zone based on current wood flow forecasting provided by growers.
- invested in advanced manufacturing to allow for the utilisation of the changed log mix profile (age, density and length) from within our normal supply zone.
- developed markets to utilise the products from the changed log mix profile as demonstrated by Hyne's successful development of XLam and Cross Laminated Timber value added products.

1.2 Scope

This report outlines the critical role of the timber milling industry in Tumbarumba and Snowy Valleys, and challenges the industry is currently facing. The report articulates the alignment of the proposed *supply chain mitigation strategy* with current government strategy and policy.

Economic impact analysis was conducted in September 2020 to determine the likely economic impact of the loss of log supply (due to bushfire) on the Tumbarumba Economic Zone, Snowy Valleys LGA and State economies. Further economic impact analysis has been undertaken and demonstrates the regional economic benefit of ensuring adequate rates of log feedstock supply are maintained. The regional economic benefit is discussed in terms of local jobs, local income (sales / gross revenue) and local value-added. The detailed results of the economic impact analysis are presented in Appendix E.

Unless otherwise stated, economic data and analysis in this report has been sourced from REMPLAN – *regional economic modelling and planning system*⁴. All expenditure, revenue and employment assumptions outlined in the report are sourced directly from Hyne Timber. Economic analysis in this report has not included financial review of the proposed supply and demand but has rather provided an independent assessment of broader economic benefits that result from Hyne Timber's annual activity within the softwood industry.

In order to estimate the likely flow-on impacts in terms of output, employment and value-added, impacts of the bushfire (loss of supply) and accessing additional supply (supply chain mitigation) have been applied to the latest REMPLAN models of Tumbarumba Economic Zone, Snowy Valleys LGA and New South Wales (State) (see Appendix D). The regional models incorporate data sourced from the ABS 2016 Census (Place of Work), 2016/2017 ABS National Input / Output Tables, and ABS Gross State Product (June 2019).

The economic impact modelling contained in this report is based on pre-COVID-19 regional economic data. In determining the economic impact associated with loss of supply due to the bushfire and the benefit of accessing additional supply, modelling has not factored in any shock to the economy due to the COVID-19 Pandemic.

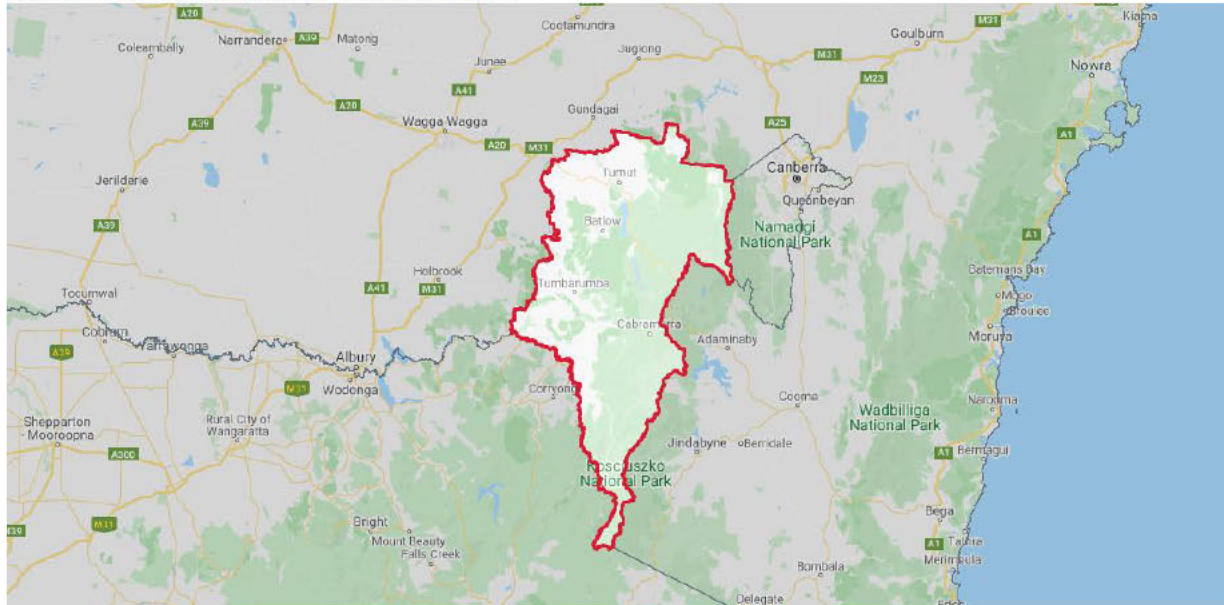
⁴ <https://www.remplan.com.au/>

2. Regional Economic Context

2.1 Snowy Valleys Local Government Area

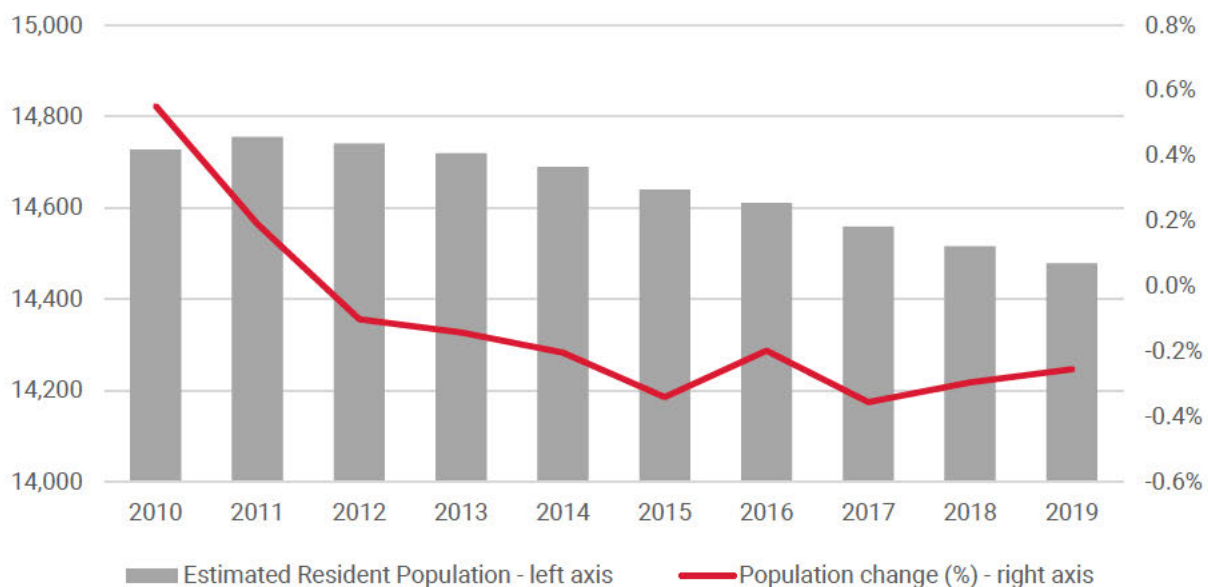
The Snowy Valleys LGA, located in the western foothills of the Snowy Mountains, is home to around 14,500 residents. Tumut and Tumbarumba, the two major industrial and population centres, both within a three hour drive from Canberra International Airport. The Region is also within a one to two hour drive to the major regional centre of Wagga Wagga. The Snowy Mountains Highway is a major transport corridor within the Region and connects with the Hume Highway⁵.

Figure 2-1 Snowy Valleys Local Government Area



Since 2011 the estimated resident population has contracted at an annual average rate of -0.2%, falling from 14,756 residents to 14,479 in 2019 (Figure 2-2).

Figure 2-2 Population Change, 2010 to 2019



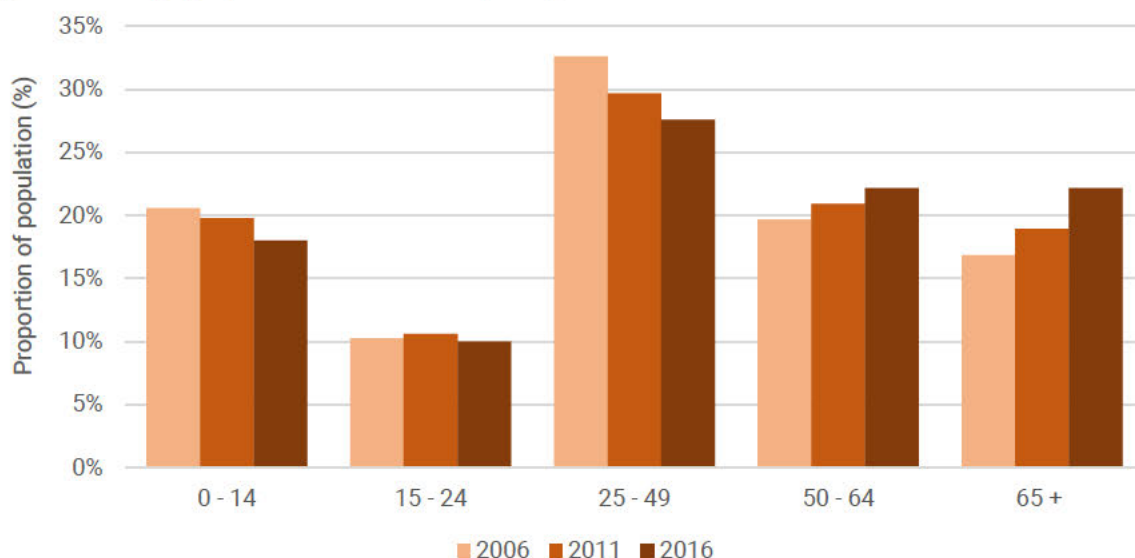
⁵ NSW, Department of Premier and Cabinet, 2018.

The local population is characterised by an ageing demographic. Figure 2-3 illustrates the falling proportion of younger working aged residents between 2006 (33%) and 2016 (28%), and the rise in the older age cohorts.

Loss of industry can have significant impacts on the structure of a local population, with younger workers likely to move to regions where appropriate employment can be maintained. Retaining younger workers in a region has several flow-on benefits for local community in terms of consumption and demand for local health, education, and other community related services.

Reflective of the resident age profile, Snowy Valleys' workforce has a higher proportion of older workers (28% aged over 54, compared to 20% for New South Wales).

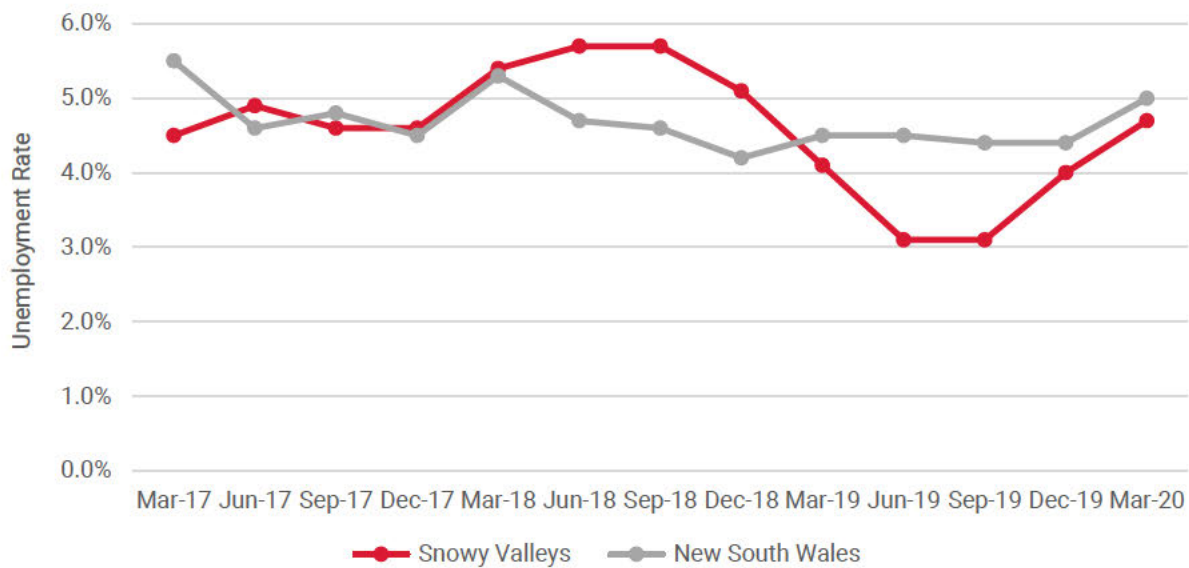
Figure 2-3 Changing Population Profile of Snowy Valleys, 2006, 2011 and 2016



The unemployment rate in Snowy Valleys has increased sharply since mid-2019. Figure 2-4 below reflects unemployment data for March quarter 2020 and illustrates the fall in unemployment in Snowy Valleys to 3.1% during 2019, however the latest figure for March quarter 2020 indicates unemployment is 4.7%, slightly below the state average 5.0%.

It is expected that the unemployment rate for the June quarter will increase again due to the impacts of the COVID-19 Pandemic. COVID-19 impact modelling undertaken by REMPLAN (for further detail see Section 2.3) indicates over the June quarter the workforce in Snowy Valleys contracted by around 3%, the equivalent to a loss of almost 200 jobs. As of October 2020, REMPLAN COVID-19 impact modelling points to a gradual recovery over the next 12 months, however, economic activity and employments levels are likely to remain below pre-COVID levels for Snowy Valleys and New South Wales.

Figure 2-4 Quarterly Unemployment Rate, Snowy Valleys LGA and New South Wales

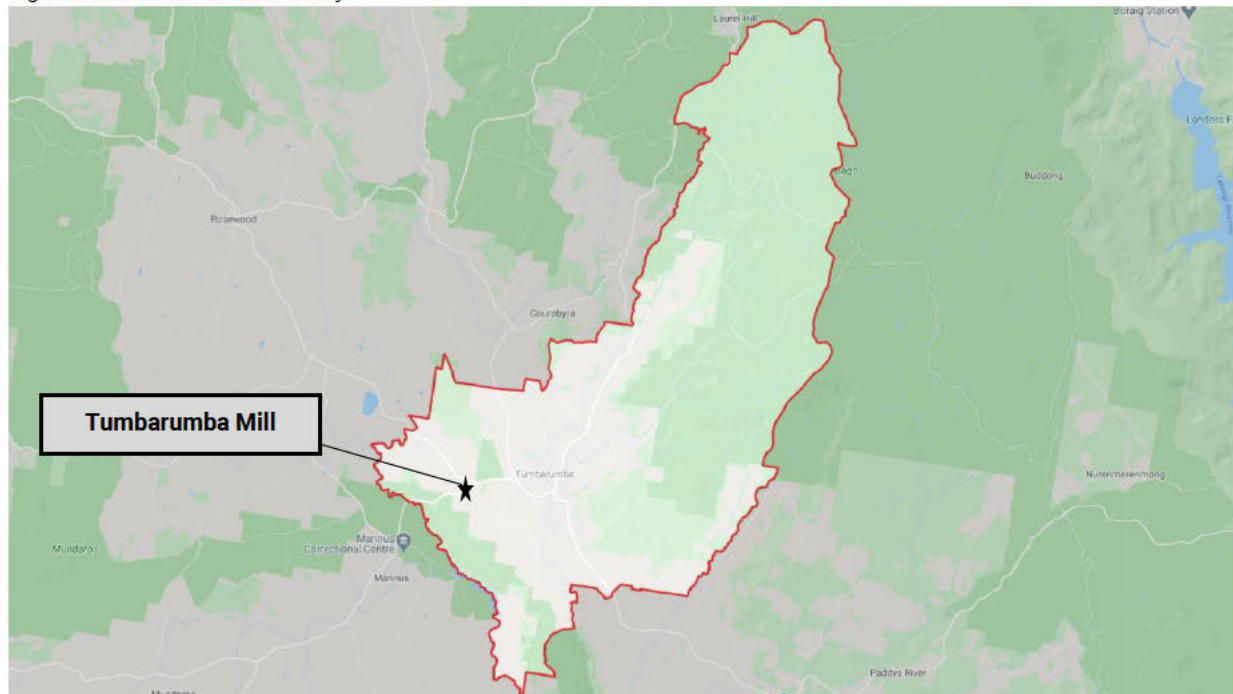


Source: Department of Education, Skills and Employment, Small Area Labour Markets.

2.2 Tumbarumba Township

The town of Tumbarumba (Figure 2-5), located within the Snowy Valleys LGA, is home to around 1,860 residents. At the 2016 Census Tumbarumba was home to a similar proportion of residents considered to be of young working age (25 to 49 years) at 27%, compared to the LGA (28%). Likewise, residents aged over 65 account for a similar proportion in Tumbarumba (24%) as compared to Snowy Valleys (22%).

Figure 2-5 Tumbarumba Locality



MapBuilder link: <https://remplan.co/3krY6Xb>

The Australian Bureau of Statistics (ABS) has developed a suite of indexes from social and economic Census information called Socio Economic Indexes for Areas (SEIFA), which rank areas across Australia in terms of their relative socio-economic advantage and disadvantage (see Appendix F for further

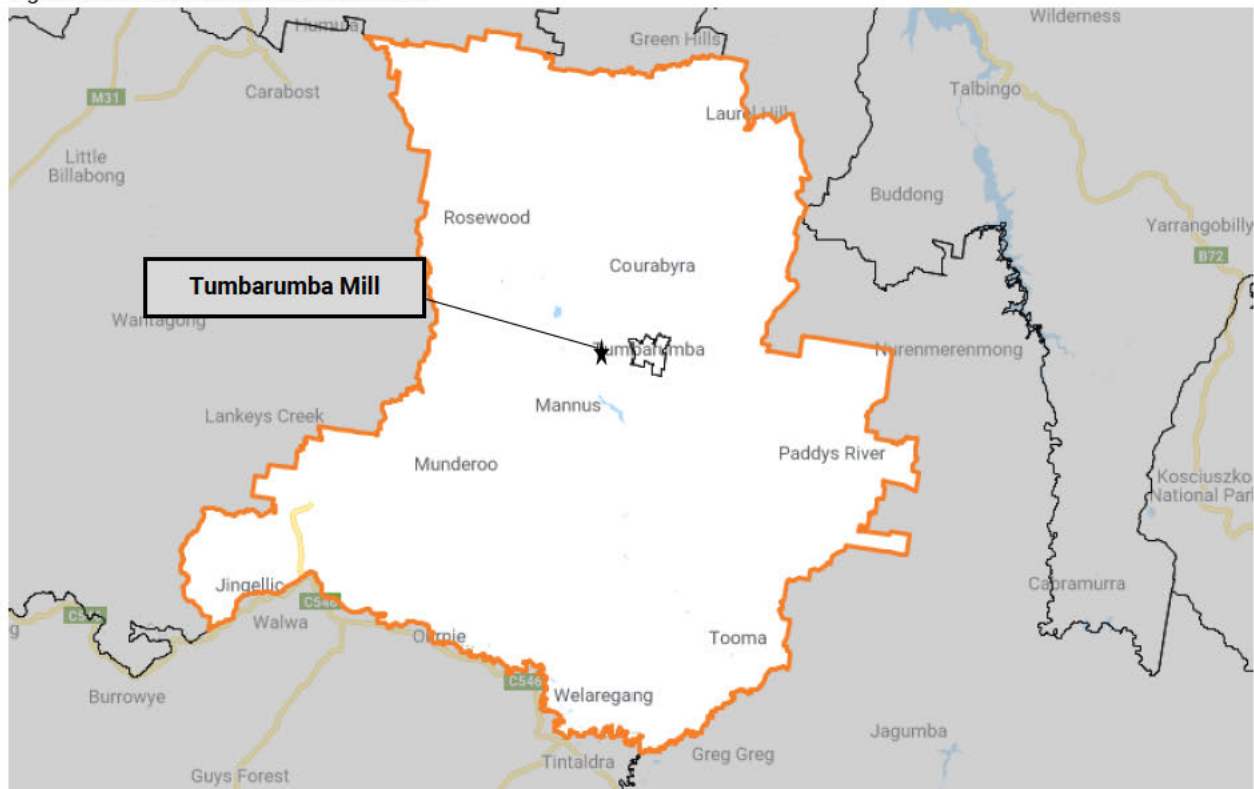
information). The SEIFA index of disadvantage score for Snowy Valleys is 951, 918 for Tumbarumba, , in comparison to 934 for Tumut. This indicates a higher level of socio-economic disadvantage in Tumbarumba compared to Tumut and the LGA average.

Note: all economic impacts described in this report referring to 'Tumbarumba EZ' reflect a broader geographic region as described below as the Tumbarumba Economic Zone.

2.2.1 Tumbarumba Economic Zone

For the purpose of profiling workforce, economic output and modelling of economic impacts the Tumbarumba Economic Zone (EZ) has been utilised and is based on destination zones (an ABS geography used for work place data)⁶. The Tumbarumba EZ is illustrated in Figure 2-6 below.

Figure 2-6 Tumbarumba Economic Zone



MapBuilder link: <https://remplan.co/2ZDF7jK>

Business and industry within the Tumbarumba EZ support an estimated workforce of 1,280, equivalent to one in five of Snowy Valleys' workforce. Within Tumbarumba EZ agriculture, manufacturing (almost exclusively sawmill product), public administration and retail trade are the largest industries employing two thirds of Tumbarumba EZ's workforce.

Economic contribution by industry in terms of employment and gross revenue is presented below in Figure 2-7. Manufacturing has been broken into Sawmill Product Manufacturing and the balance of the manufacturing sector (titled Remainder Manufacturing). The charts clearly highlight the concentration and specialisation of agriculture and sawmill operations in Tumbarumba EZ and Snowy Valleys.

In Tumbarumba EZ 15% of the local workforce are employed in sawmill product manufacturing, in Snowy Valleys this figure is 7%.

⁶ <https://www.abs.gov.au/ausstats/abs@.nsf/Lookup/2901.0Chapter29302016>

REMPPLAN impact modelling on Tumbarumba EZ demonstrates any change in employment in the sawmill product manufacturing sub-sector has an employment multiplier of 1.730. This means any change in employment will result in additional 'in-direct' employment impacts, the additional employment impacts are due to the supply chain and (worker) consumption effects in the local area.

For example, a loss of 100 jobs within the sawmill product manufacturing sub-sector in Tumbarumba EZ will result in further 73 jobs lost in the local area due to flow-on supply chain and consumption effects. Alternately 100 jobs retained in the sub-sector supports a total of 173 jobs across Tumbarumba EZ (inclusive of the additional 73 jobs supported through supply chain and consumption effects).

Figure 2-7 Industry contribution to total employment, Tumbarumba Economic Zone, Snowy Valleys LGA and New South Wales

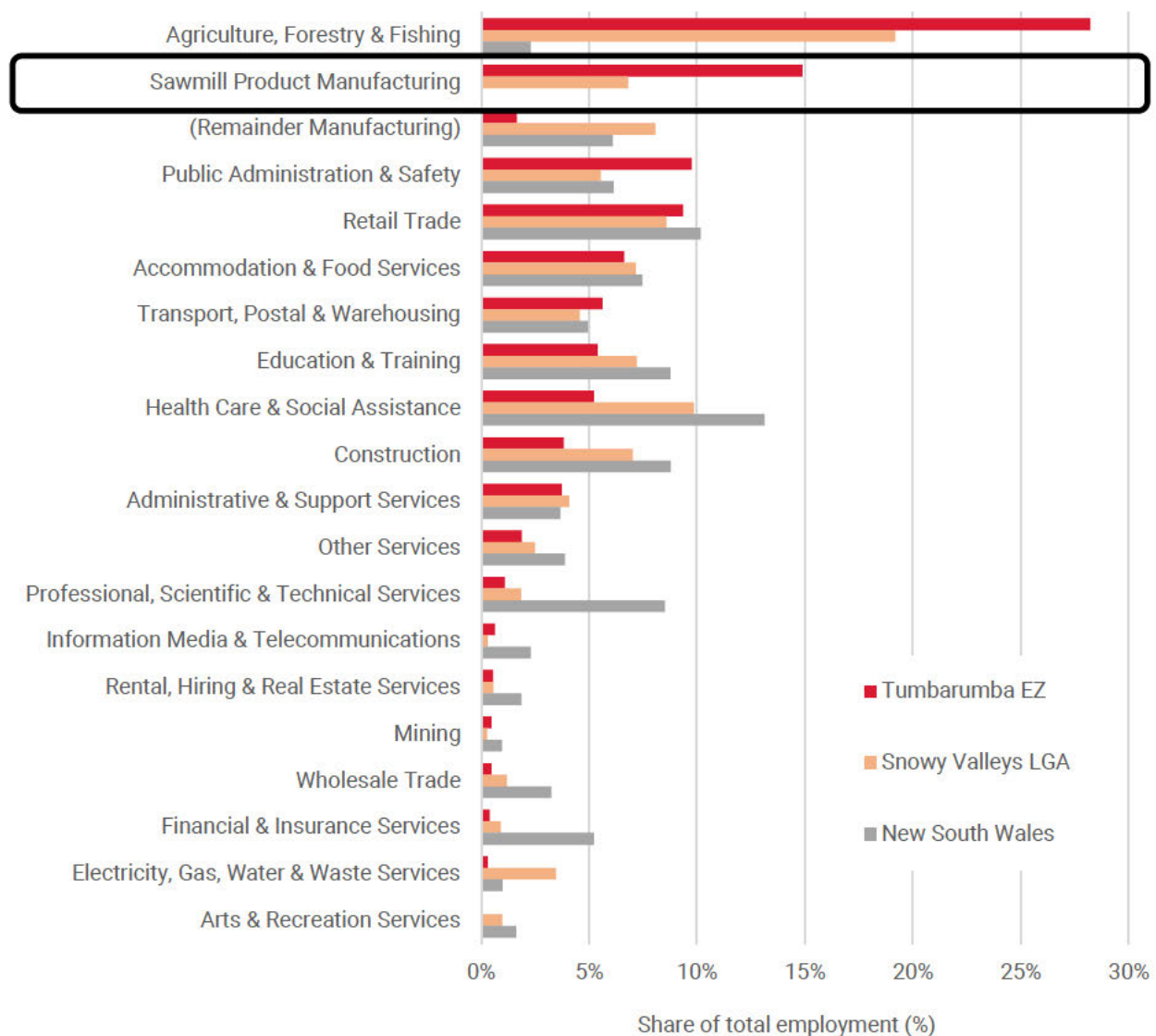
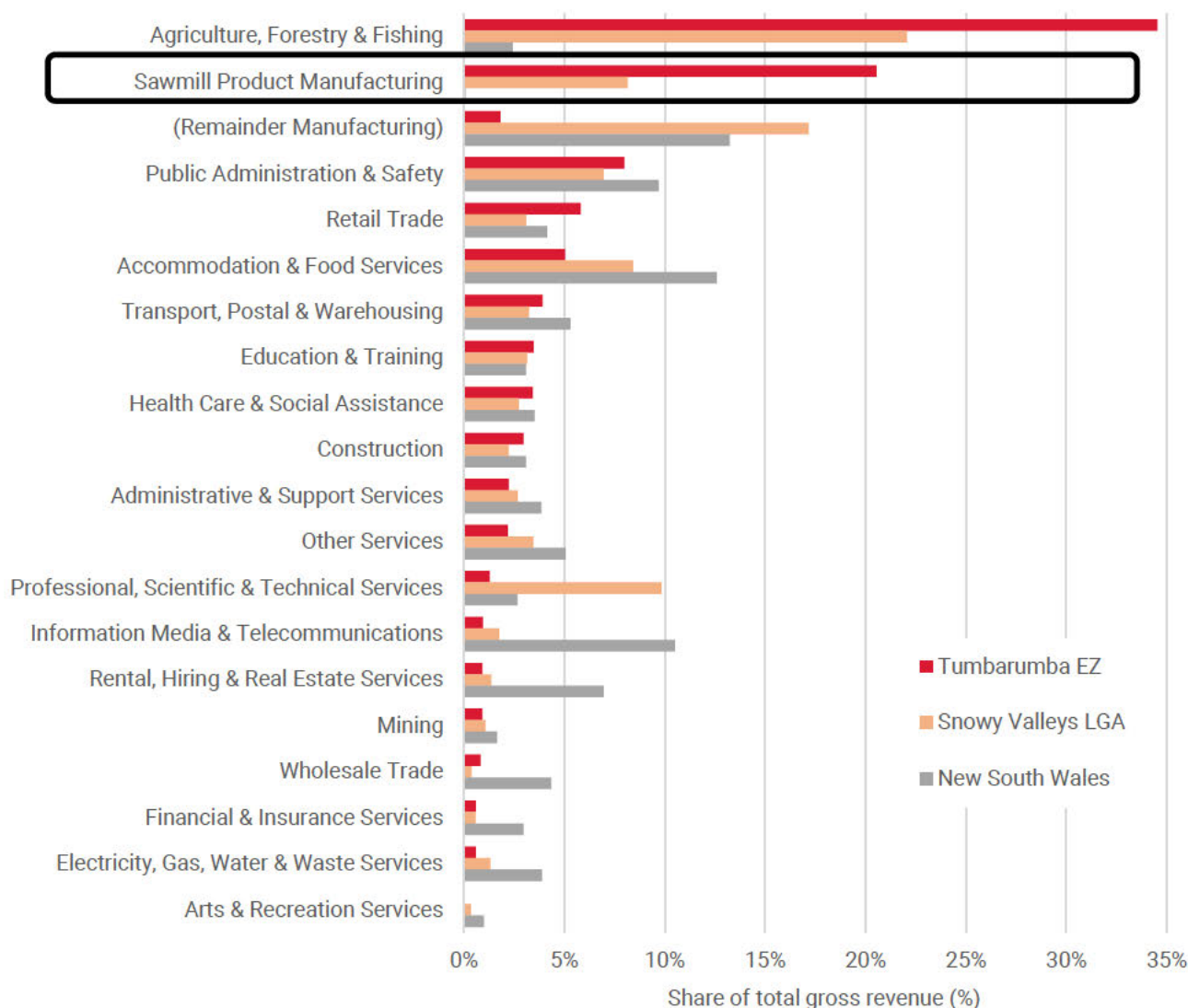


Figure 2-8 Industry contribution to gross revenue (Output), Tumbarumba Economic Zone, Snowy Valleys LGA and New South Wales



2.3 Impact of COVID-19 Pandemic on Snowy Valleys LGA

The current COVID-19 Pandemic is having wide ranging impacts on all facets of Australian life, resulting in rapid transformation of the Australian economic environment. Businesses are experiencing unprecedented changes to trading conditions on a massive scale. The diversity of the national economic landscape, and the unique industrial make-up of each state and region requires an understanding at a local level to gauge the potential impacts of the COVID-19 Pandemic.

REMPPLAN has conducted COVID-19 economic impact modelling which incorporates findings from the Australian Business Economic Impact Survey (ABEIS), which has been running since March 2020⁷, together with the ABS National Accounts, Weekly Jobs and Payroll data and economic and demographic data, to form the basis upon which the economic impacts for the Snowy Valleys economy have been estimated. The timing of impacts across respective local industry sectors over coming months has been incorporated.

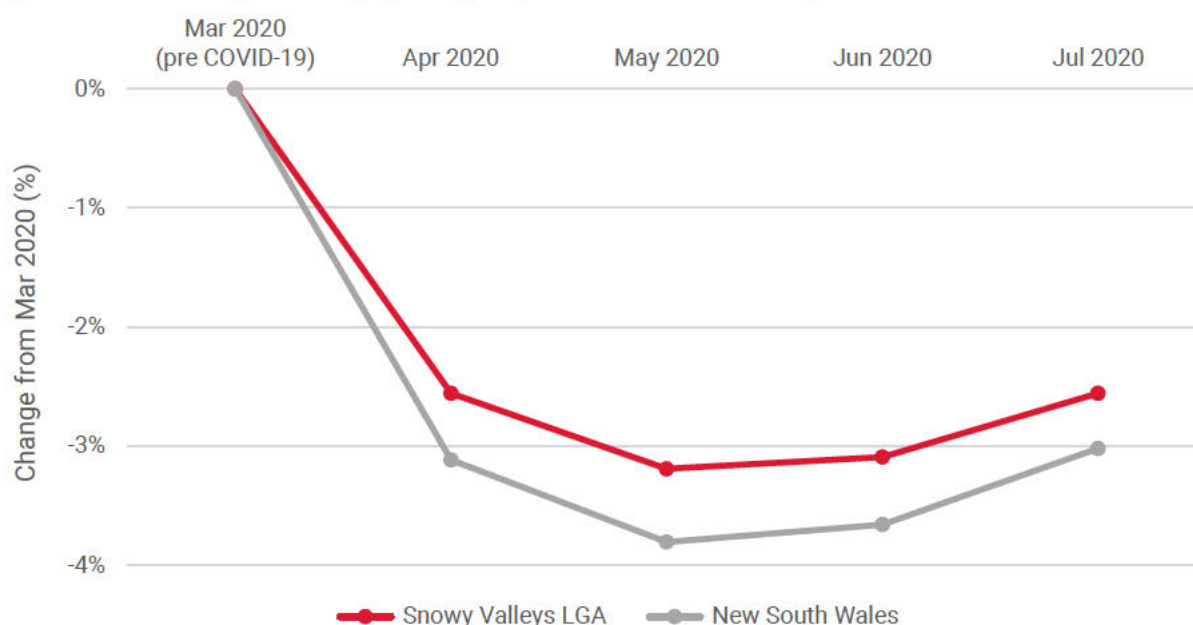
⁷ <https://surveys.rempplan.com.au/s3/REMPPLAN-COVID-19-ABEIS>

Impacts have been assessed against the pre-COVID baseline of the Snowy Valleys LGA and New South Wales economies. The economic baselines were established using REMPLAN – regional economic modelling and planning system, and incorporates data sourced from the ABS 2016 Census (Journey to Work), ABS 2016/2017 National Input / Output Tables, ABS Gross State Product (June 2019).

REMPLAN acknowledges at the time of writing the economic and social context for the nation is changing rapidly in response to the COVID-19 Pandemic.

The results of the COVID-19 economic impact modelling on Snowy Valleys LGA and New South Wales is presented in Figure 2-9 below. In the Snowy Valleys, prior to the COVID-19 Pandemic, total jobs were estimated to be 6,143, by April the local economy is estimated to have lost 2.6% of the workforce, increasing to 3.2% in May 2020. A similar rate of job loss was felt across New South Wales, -3.1% in April and -3.8% in May 2020.

Figure 2-9 COVID-19 Impact on Employment (change from Pre-COVID baseline)



In terms of impact by industry, modelling was undertaken at the 19-sector level. The highest rate of job loss (in percentage terms) has been felt in the accommodation and food services industry at 12.3% in May.

Pre-COVID-19 the number of jobs supported by the Agriculture, Forestry and Fishing industry was estimated at 1,179 in Snowy Valleys LGA. Modelling indicates the industry has undergone a small rate of job loss since the Pandemic began with jobs falling (-0.8%) to 1,170 in June.

The proportion of jobs lost in Manufacturing (which includes the Sawmill Product Manufacturing sub-sector) in Snowy Valleys is slightly higher (-0.9%) than for New South Wales (-0.8%). The implication being the flow-on supply chain and consumption effects associated with this loss of employment and output for Snowy Valleys, given the critical role manufacturing (in particular sawmill product) plays in the local economy.

Table 2-1 COVID-19 Pandemic Impact on Gross Revenue, July 2020 compared to March 2020 (pre-COVID-19)

	Change in Gross Revenue Pre-COVID to July 2020 (\$ million)		% change in Gross Revenue Pre-COVID to July 2020	
	Snowy Valleys LGA	NSW	Snowy Valleys LGA	NSW
Agriculture, Forestry & Fishing	-\$1.037	-\$66.928	-2.3%	-2.7%
Mining	-\$0.013	-\$99.384	-1.1%	-3.3%
Manufacturing	-\$0.980	-\$243.771	-1.9%	-1.8%
Electricity, Gas, Water & Waste Services	-\$0.289	-\$55.253	-1.5%	-2.1%
Construction	-\$0.643	-\$504.185	-3.8%	-4.0%
Wholesale Trade	-\$0.166	-\$228.267	-6.3%	-5.8%
Retail Trade	-\$0.595	-\$440.378	-10.9%	-12.4%
Accommodation & Food Services	-\$1.261	-\$444.905	-20.0%	-14.3%
Transport, Postal & Warehousing	-\$0.244	-\$376.111	-3.8%	-7.0%
Information Media & Telecommunications	-\$0.056	-\$215.162	-7.1%	-4.9%
Financial & Insurance Services	-\$0.180	-\$434.027	-5.1%	-4.1%
Rental, Hiring & Real Estate Services	-\$0.652	-\$610.971	-4.7%	-6.2%
Professional, Scientific & Technical Services	-\$0.108	-\$213.648	-4.0%	-3.0%
Administrative & Support Services	-\$0.245	-\$278.167	-5.5%	-8.9%
Public Administration & Safety	-\$0.140	-\$90.130	-2.3%	-2.2%
Education & Training	-\$0.448	-\$386.912	-8.3%	-10.0%
Health Care & Social Assistance	-\$0.290	-\$189.227	-4.2%	-3.7%
Arts & Recreation Services	-\$0.112	-\$121.037	-15.5%	-12.1%
Other Services	-\$0.251	-\$228.439	-11.9%	-13.7%
Total	-\$7.710	-\$5,226.903	-3.8%	-5.2%

3. Industry Context

The Standing Committee on Agriculture and Water Resources (the Committee) sought submissions for an enquiry into the *“Timber supply chain constraints in the Australian plantation sector”*⁸. A review of submissions relevant to the Tumbarumba Mill and the role within the Snowy Valleys region identify a consistent message from industry and a clear and current context for the softwood plantation industry in New South Wales’ South West Slopes Region.

An overview discussion is presented in Appendix B and highlights key points from relevant public submissions. These submissions recognise a collective view of constraints regarding timber supply chains, and more particularly, overcoming constraints to viable economic haul distances to ensure ongoing local processing of wood and fibre within the Snowy Valleys LGA.

There is clear recognition from the submissions to the enquiry that the shortfall in plantation establishments over the last 10 to 15 years and exacerbated impacts of the bushfires will have negative consequences for the economic prosperity of the region, and more specifically key locations in the Snowy Valleys, such as Tumut and Tumbarumba.

The additional loss of significant regional plantation supply resulting from the 2019/20 bushfires will disrupt forecast annual production. Strategic and long-term investment to re-establish fibre supply levels to pre-fire levels is required to support the viability of the local industry base.

The Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) estimates that a total area of 130,200 hectares (6.7%) of Australia’s commercial plantations was in the fire extent of the 2019/20 bushfires. Of the plantation area within the fire extent the vast majority was in New South Wales (71%), followed by South Australia (13%), with the region around Tumbarumba being severely impacted (see Figure A-3 Appendix A).

Further discussion around the bushfire impact on softwood plantations is presented in Appendix A.

Domestic demand for logs (and in particular softwood sawlogs) is expected to grow over the coming decades in line with Australia’s demand for new housing. While the slowdown in the construction industry brought on by the COVID-19 pandemic is likely to dampen demand in the short-term, analysis by ABARES estimates that domestic supply of softwood will not be sufficient to meet demand in the Australian market.

With the current risk to domestic supply, there is potential for retaining export wood for the domestic market. Processing of roundwood domestically also has other flow-on benefits for downstream industries by ensuring ongoing supply of inputs, as well as capturing opportunities for growth in Australian industries that may currently be captured by other countries. Modelling undertaken by ABARES indicates that diverting roundwood (sawlogs) from log exporters can be a more efficient method of ensuring supply than establishing new plantations.

⁸ https://www.aph.gov.au/Parliamentary_Business/Committees/House/Standing_Committee_on_Agriculture_and_Water_Resources/Timbersupply

4. Economic risk associated with loss of log supply

4.1 Regional Economic Impact

The 2019/20 bushfires have resulted in an estimated 40% reduction in log feedstock to the Tumbarumba Mill. As a major employer and a critical component in a highly integrated local supply chain, the impacts on the regional economy will be extensive.

Based on a 40% fall in log feedstock, Hyne has indicated annual revenue generated by the Tumbarumba Mill will fall almost \$10 million in the first year. Over the following 2 years revenue is expected to continue to decline with a total loss of \$108.506 million anticipated by over the 3-year period.

More critically for Tumbarumba and the Snowy Valleys LGA the bushfire affected log supply levels will not sustain current levels of employment. A fall in supply from a five year average of 718,000 m³ to 431,000 m³ (2021/22) is expected to see a downsizing of the Mill workforce by 63 employees to 149 during the 3-year period.

4.1.1 Impact on Tumbarumba Economic Zone

Economic modelling on a scenario where no intervention or mitigation occurs, has determined the loss of log feedstock and associated loss of employment at the Tumbarumba Mill is likely to have the following economic impacts over the 3-year study period.

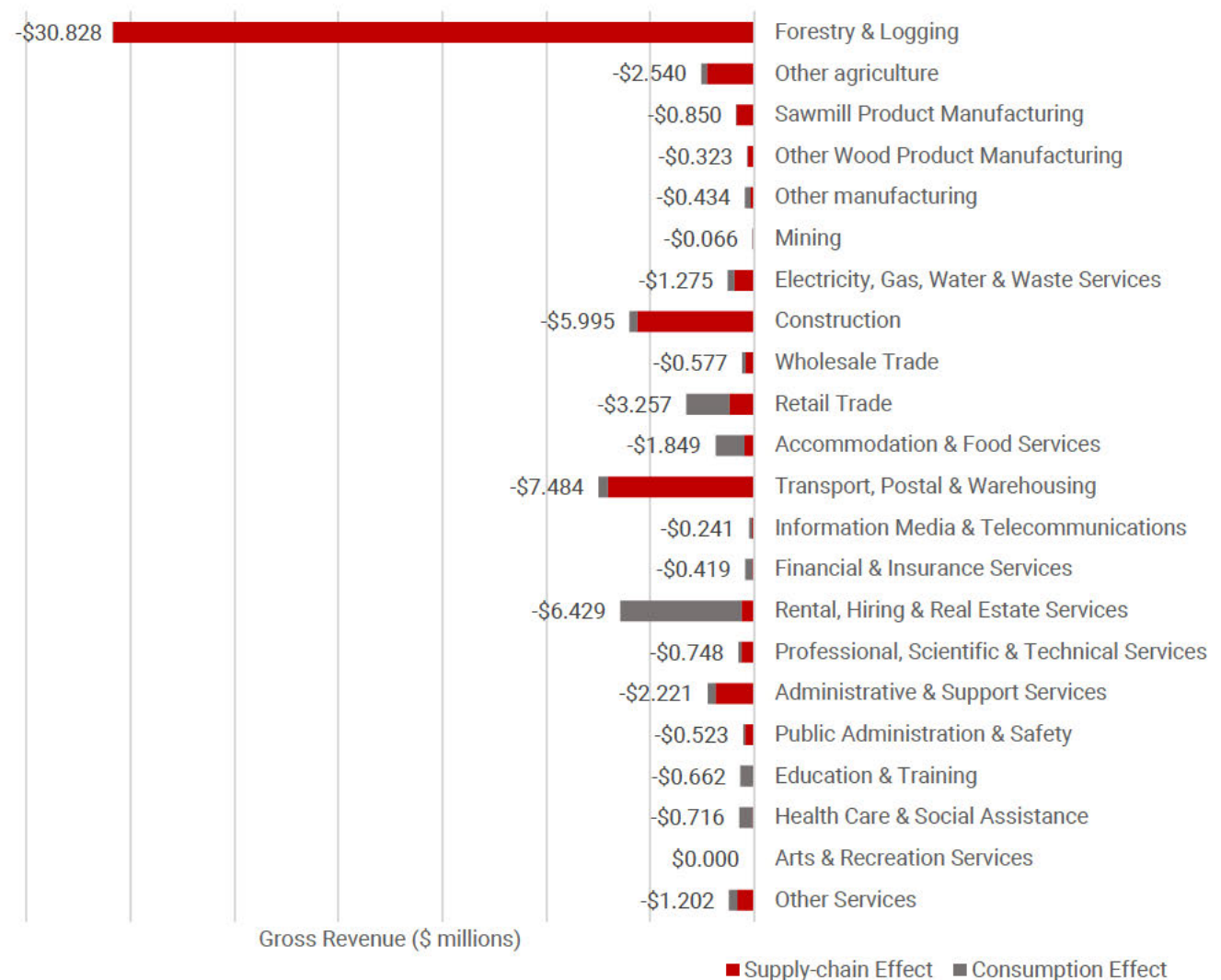
Supply Chain and Consumption Effects

The loss of supply due to the 2019/20 bushfires are likely to result in a direct loss of 63 jobs and \$108.506 million in revenue from the sawmill product manufacturing sub-sector in Tumbarumba EZ over the 3-year study period. This direct contraction in the economy, has significant flow-on supply chain effects across the economic zone in terms of local purchases and demand for intermediate goods and services. It is estimated that these indirect impacts would result in the loss of a further 56 jobs and \$54.783 million in gross revenue (output).

The contraction in direct and indirect output and the corresponding loss of employment throughout the Tumbarumba EZ will see a fall in local wages and salaries paid to employees. A proportion of these wages and salaries are typically spent on consumption and a proportion of this expenditure is captured in the economic zone. However, the loss of employment and associated consumption under this scenario is estimated at a loss of \$13.853 million in output, and a further loss of local jobs of 21.

The flow-on supply chain and consumption effects on gross revenue (output) outlined above are illustrated in Figure 4-1 below. The chart demonstrates the supply chain and consumption effects on industries operating within the Tumbarumba EZ. The chart below demonstrates the integrated nature of industry within Tumbarumba EZ. The largest loss of output (in terms of flow-on impacts) is estimated to occur in Forestry and Logging (-\$30.828 million), Transport (-\$7.484 million) and Rental, Hiring and Real Estate Services (-\$6.429 million).

Figure 4-1 Supply-chain and consumption effects on gross revenue, by industry, within Tumbarumba Economic Zone, over 3-year period



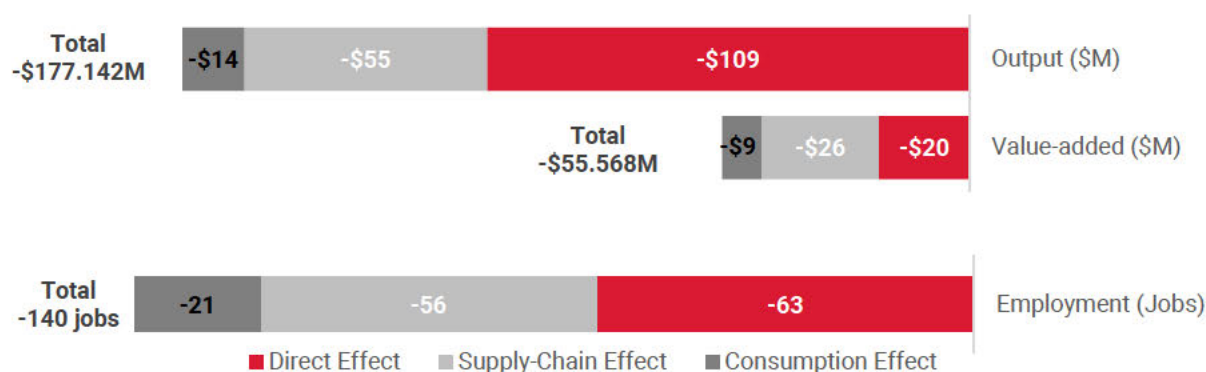
Summary

Modelling of a scenario where no intervention or mitigation occurs, has determined the loss of log feedstock and associated loss of employment at the Tumbarumba Mill is likely to have the following economic impacts on the Tumbarumba EZ over the 3-year study period (inclusive of flow-on supply chain and consumption effects):

- Output – \$177.142 million loss in gross revenue (output)
- Employment – Loss of 140 jobs
- Value-Added – \$55.568 million loss in value-added.

The employment multiplier under this scenario is 2.222, that is for every job lost at the Tumbarumba Mill, the workforce in Tumbarumba EZ will lose and additional job (or 1.222 jobs).

Figure 4-2 Economic Impact of Loss of Log Supply Over 3-year Period – Tumbarumba Economic Zone



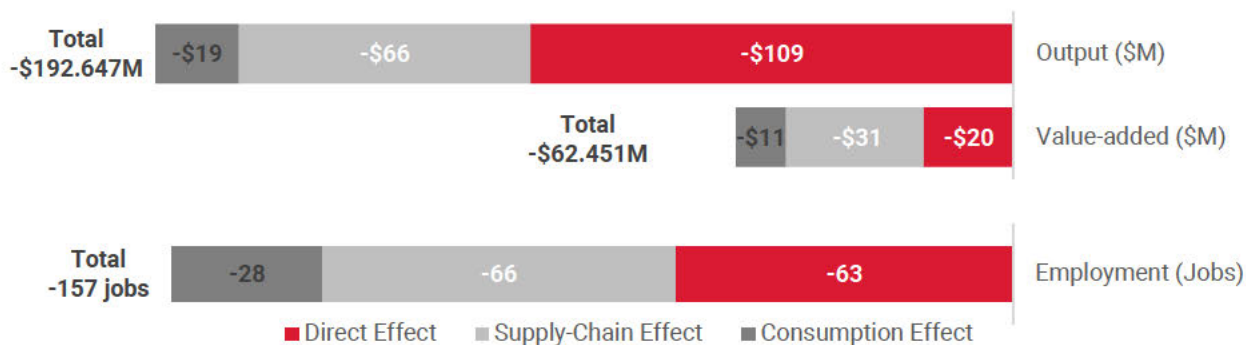
4.1.2 Impact on Snowy Valleys LGA

Modelling of a scenario where no intervention or mitigation occurs, has determined the loss of log feedstock and associated loss of employment at the Tumbarumba Mill is likely to have the following economic impacts on the Snowy Valleys LGA over the 3-year study period (inclusive of flow-on supply chain and consumption effects):

- Output – \$192.647 million loss in gross revenue (output)
- Employment – Loss of 157 jobs
- Value-Added – \$62.451 million loss in value-added.

The employment multiplier under this scenario is 2.492, that is for every job lost at the Tumbarumba Mill, the workforce in Snowy Valleys LGA will lose up to an additional one and a half jobs (or 1.492 jobs).

Figure 4-3 Economic Impact of Loss of Log Supply Over 3-year Period – Snowy Valleys LGA



4.1.3 Impact Summary

In summary, economic modelling on a scenario where no intervention or mitigation occurs, has determined the loss of log feedstock and associated loss of employment at the Tumbarumba Mill is likely to have the following economic impacts over the 3-year study period (inclusive of flow-on supply chain and consumption effects):

- Loss of revenue in Tumbarumba EZ: \$177.142 million
- Loss of revenue in Snowy Valleys LGA: \$192.647 million
 - Loss in GRP for Snowy Valleys LGA: \$68.709 million
- Loss of employment in Tumbarumba: 140 jobs
- Loss of employment in Snowy Valleys: 157 jobs

Table 4-1 summarises the estimated economic impact of loss of log supply on Tumbarumba EZ, Snowy Valleys LGA, and New South Wales over the 3-year study period.

Table 4-1 Economic impact of Loss of log supply over 3-year period – summary

	Direct Effect	Supply-chain Effect	Consumption Effect	Total Effect	Type 2 Multiplier
Tumbarumba Economic Zone					
Output (\$M)	-\$108.506	-\$54.783	-\$13.853	-\$177.142	1.633
Employment (Jobs)	-63	-56	-21	-140	2.222
Value-added (\$M)	-\$20.298	-\$26.491	-\$8.779	-\$55.568	2.738
Snowy Valleys LGA					
Output (\$M)	-\$108.506	-\$65.526	-\$18.615	-\$192.647	1.775
Employment (Jobs)	-63	-66	-28	-157	2.492
Value-added (\$M)	-\$20.298	-\$30.936	-\$11.217	-\$62.451	3.077
New South Wales					
Output (\$M)	-\$108.506	-\$107.424	-\$66.761	-\$282.692	2.605
Employment (Jobs)	-63	-112	-88	-263	4.175
Value-added (\$M)	-\$20.298	-\$48.774	-\$34.779	-\$103.851	5.095

4.2 Loss of Transportation Expenditure

Transport is an integral part of the log supply chain. The reduction in local supply caused by the bushfires will have flow on effects for the local transport industry as the contraction in supply will result in reduced demand for transport.

The impacts modelled under Section 4.1 capture the direct impact of the loss of supply to the Tumbarumba Mill and the downstream industries, including transport. Transport has been highlighted in this section to reflect the significant impact on the local transport industry of the bushfire impact supply of log.

The modelling for New South Wales examines the impact on employment due to reduced volumes delivered to the Tumbarumba Mill. Modelling applies the difference between the volume of 2019/20 log supply (base year) compared to the forecast log supply in subsequent years excluding the volumes identified under the *supply chain mitigation strategy* (see Figure 5-1).

The impact on revenue for the road transport sector is based on an average haulage cost of \$15/m³. The figures applied in the modelling are outlined in Table 4-2.

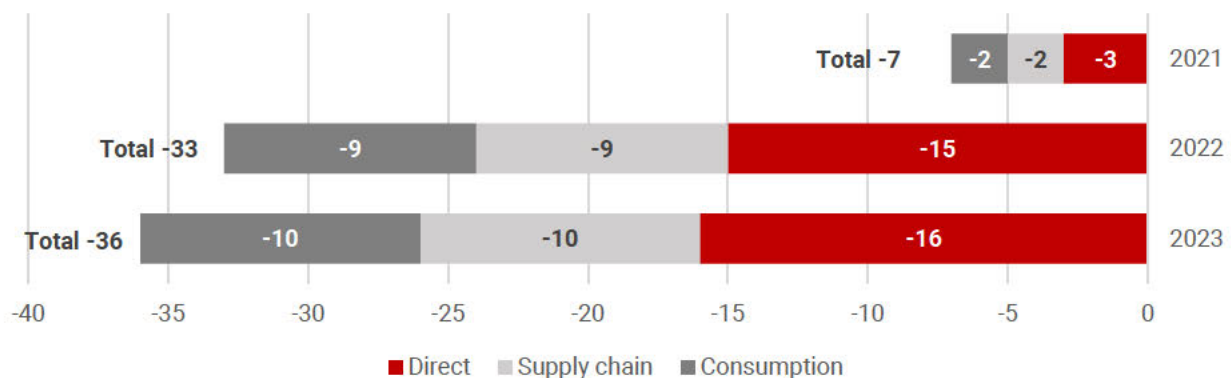
Table 4-2 Change in haulage expenditure in New South Wales

	2020 (baseline)	2021	2022	2023
Volume	686,580 m ³	636,261 m ³	432,881 m ³	418,000 m ³
Total haulage expenditure	\$10,298,694	\$9,543,918	\$6,493,211	\$6,270,000
Change in haulage expenditure (from 2020 baseline)	-	-\$754,776	-\$3,805,483	-\$4,028,694

The impact of reduced supply has a substantial impact on employment, both directly for the road transport sector and indirectly for other industries. Figure 4-4 outlines the potential job losses resulting from drop in transport demand. Note that these represent a worst case scenario and are not cumulative annually. For example, the 15 direct jobs lost in 2022 would include the 3 direct jobs from 2021. It is also important to note that these impacts are not ongoing and would likely revert back to previous levels once Hyne is again able to source log volumes more locally.

Direct jobs are related to employment within the road transport sector. Indirect jobs are from various other sectors, the main impacts likely to be experienced in Professional, Scientific & Technical Services, Repair & Maintenance Services, and Retail Trade.

Figure 4-4 Impact of reduced transportation expenditure on employment, New South Wales



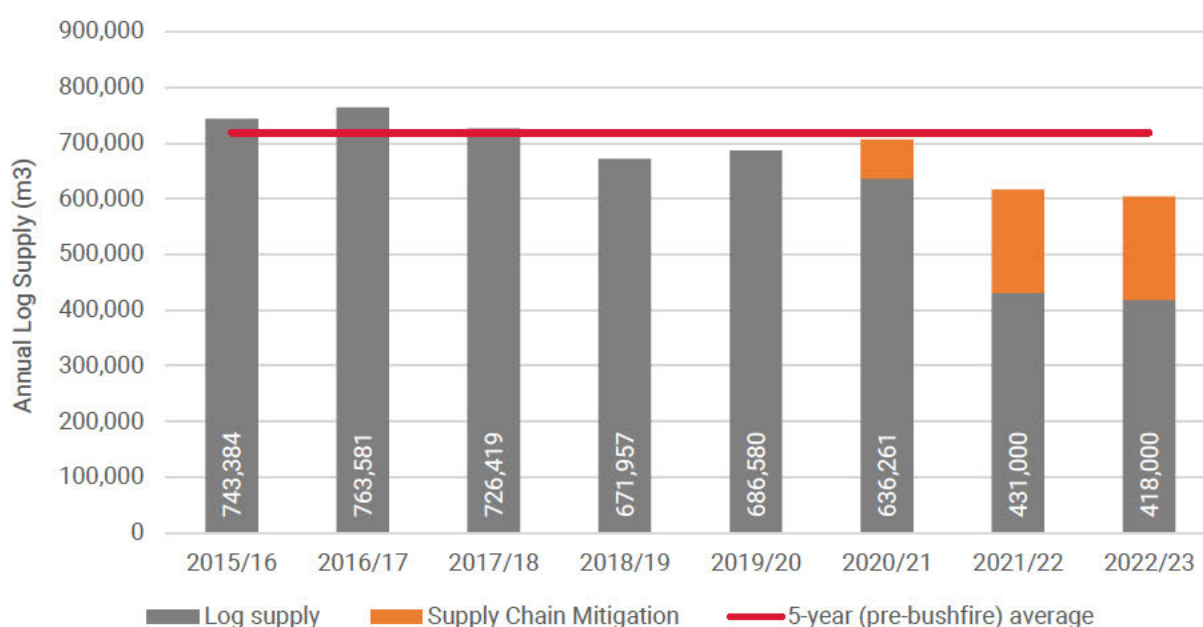
5. Supply Chain Mitigation

5.1 Supply Chain Mitigation Strategy

The forecast shortfall in plantation timber and compounding impacts of the bushfires have significantly reduced local log feedstock to the Tumbarumba Mill by an estimated 40% to only 431,000 m³. Ensuring access to adequate log feedstock volumes for the Tumbarumba Mill are central to the *supply chain mitigation strategy*.

Discussions with interstate private growers has presented options for Hyne Timber to access sustainably grown plantation pine to ensure operational scale can be maintained and impacts to the regional economy can be managed over the next three years. The interstate log supply opportunities would address some of the bushfire impacted short fall by enabling Hyne to potentially access 441,500 m³ of log feedstock for the purpose of supplying the Tumbarumba Mill. Total supply inclusive of the additional feedstock will remain impacted by the loss of supply due to the fires and will be the equivalent of 86% of historical levels (i.e. 5 years pre-bushfire average).

Figure 5-1 Annual log supply inclusive of supply chain mitigation strategy



Source: Hyne Timber.

Hyne Timber are proposing the *supply chain mitigation strategy* to ensure viable production rates are maintained through accessing of interstate supply. This strategy proposes a three-year partnership between Hyne Timber and the State and Federal Governments for transportation support to fastrack the new supply channels and ensure timber milling remains a viable industry in Tumbarumba and local jobs are retained while bushfire and COVID-19 recovery continues.

Hyne Timber are looking to invest up to \$42 million in transportation costs to access the additional log supply, and are seeking just under \$29 million in Government support to keep the sawmilling industry in Tumbarumba operating whilst plantations recover.

Hyne Timber is unable to progress contractual arrangements with log suppliers for the additional log supply over three years without the required transport support in place, or alternative support to address the increased manufacturing costs as a result of the bushfires, enabling the company to privately invest in additional transport costs.

5.2 Regional Economic Benefit of Supply Chain Mitigation

The proposed *supply chain mitigation strategy* will enable the Tumbarumba Mill to retain processing volumes by up to 441,500 m³ of log feedstock over the three year period. This supply will increase total annual processing volumes from the current outlook of 60% of the five year pre-bushfire average, to almost 86% of the five year pre-bushfire average volumes. For the local sawmill product manufacturing sub-sector this will directly support and retain and estimated 24 jobs and \$106.600 million in gross revenue (output) over the 3-year period.

The *supply chain mitigation strategy* is estimated to have the following direct and flow-on effects over the 3-year study period on the economies of Tumbarumba EZ, Snowy Valleys LGA and New South Wales. In summary the total impact over the 3-year study period, inclusive of flow-on supply chain and consumption effects include:

- Within Tumbarumba EZ:
 - \$143.742 million in gross revenue supported
 - 79 jobs retained and supported
- Within Snowy Valleys LGA (inclusive of effects on Tumbarumba):
 - \$155.270 million in gross revenue supported
 - 93 jobs retained and supported
- Across New South Wales (inclusive of effects on Tumbarumba and Snowy Valleys):
 - \$243.699 million in gross revenue supported
 - 193 jobs retained and supported

5.2.1 Impact on Tumbarumba Economic Zone

The additional log supply potentially accessed through the proposed *supply chain mitigation strategy* is estimated to have the following impacts on Tumbarumba EZ.

Hyne has reported that the additional log supply will retain an estimated 24 workers to support continued manufacture of finished timber product and by-product. The retained production is estimated to generate \$106.600 million in revenue. This direct activity in the economy, has significant flow-on supply chain effects across the economic zone in terms of local purchases and demand for intermediate goods and services. It is estimated that these indirect impacts retain 35 local Tumbarumba EZ jobs and \$23.538 million in gross revenue (output) over the 3-year period.

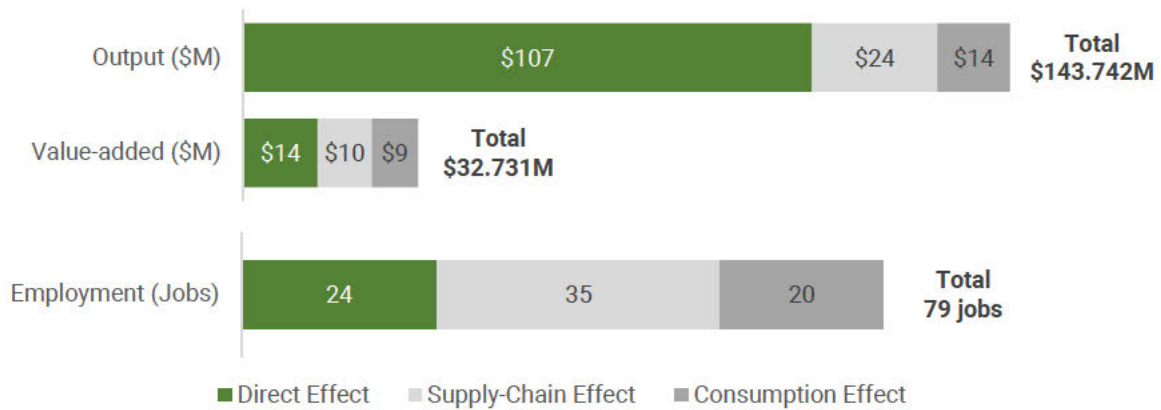
The support of direct and indirect gross revenue and employment in Tumbarumba EZ supports the payment of local wages and salaries. A proportion of these wages and salaries are typically spent on consumption and a proportion of this expenditure is captured in Tumbarumba EZ. The consumption effects under this scenario are estimated at \$13.605 million in output, and further support of 20 jobs.

Under a scenario where Hyne is able to access the additional interstate log supply the following economic impacts have been estimated for Tumbarumba EZ, inclusive of flow-on supply-chain and consumption effects, over the 3-year period:

- Output – \$143.742 million in gross revenue (output) supported
- Employment – Retain and support 79 jobs
- Value-Added – \$32.731 million in value-added supported.

The employment multiplier under this scenario is 3.292, that is for every job retained by the *supply chain mitigation strategy*, a further two jobs in the Tumbarumba EZ are supported.

Figure 5-2 Economic Impact of supply chain mitigation strategy over 3-year period – Tumbarumba Economic Zone



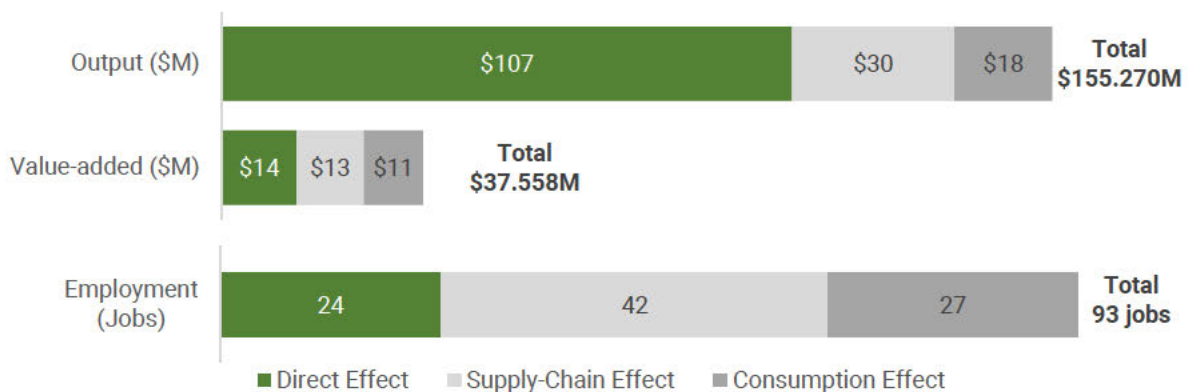
5.2.2 Impact on Snowy Valleys LGA

Under a scenario where Hyne is able to access the additional interstate log supply the following economic impacts have been estimated for Snowy Valleys LGA, inclusive of flow-on supply-chain and consumption effects, over the 3-year period:

- Output – \$155.270 million in gross revenue (output) supported.
- Employment – Retain and support 93 jobs
- Value-Added - \$37.558 million in value-added supported.

The employment multiplier under this scenario is 3.875, that is for every job retained by the *supply chain mitigation strategy*, the workforce in Snowy Valleys LGA will retain almost another three jobs (or 2.875 jobs).

Figure 5-3 Economic Impact of supply chain mitigation strategy over 3-year period – Snowy Valleys LGA



5.2.3 Impact on New South Wales

The *supply chain mitigation strategy* is estimated to have the following economic impacts on the economy of New South Wales, inclusive of flow-on supply-chain and consumption effects, over the 3-year period:

- Output – \$243.699 million in gross revenue (output) supported
- Employment – Retain and support 193 jobs
- Value-Added - \$78.212 million in value-added supported.

The employment multiplier under this scenario is 8.042, that is for every job retained by the *supply chain mitigation strategy*, an additional seven jobs are supported in New South Wales (or 7.042 jobs).

5.3 Transportation Expenditure Benefit

The proposed *supply chain mitigation strategy* counteracts the loss of activity for the local transport sector by increasing demand from interstate log suppliers. Accessing supply from further afield will result in a significant increase in cost for Hyne. However, this increased cost directly translates to revenue for the transport sector.

The analysis provided below examines the impact for the transport sector as a result of the proposed supply chains and are in addition to the benefits outlined above. Economic analysis is limited to the benefits from additional transport demand and do not consider broader effects of this proposal. For example, the existing established export activity closer to the source of the saw logs or potential costs associated with increased transport demand on the regional road network.

The *supply chain mitigation strategy* will access additional log volumes from interstate maintaining feedstock for the mill. However, the distance to transport the logs are substantially greater than current sources substantially increasing transportation costs for Hyne. In turn this presents an increase in revenue for transportation companies.

The analysis in this section models the impact of the additional revenue for the Victorian road transport sector. Preliminary estimates of transport costs have determined by Hyne Timber and represent a scenario of the most cost-effective method for transporting logs from interstate regions.

Total cost in 2021 is estimated to be \$5.446 million. The large increase in volume in 2022 and 2023 will see the cost escalate to an estimated \$14.897 million per year (for 2022 and 2023).

This additional expenditure has been modelled in the Road Transport sector in Victoria. In 2021, the level of direct expenditure has a total effect of \$5.446 million and would support 52 jobs once supply chain and consumption effects are considered.

In both 2022 and 2023, the impact increases significantly. The \$14.887 million per annum expenditure for haulage could have a total impact of generating \$40.722 million in revenue and support a total of 143 jobs. The results of the analysis for each year are presented in Table 5-1.

Table 5-1 Economic impact of increased transport expenditure on Victoria (State) over 3-year period

	Direct Effect	Supply-chain Effect	Consumption Effect	Total Effect	Type 2 Multiplier
Year 1					
Output (\$M)	\$5.446	\$4.501	\$4.940	\$14.887	2.734
Employment (Jobs)	23	14	15	52	2.261
Value-added (\$M)	\$2.444	\$1.971	\$2.517	\$6.933	2.836
Year 2 and Year 3 (per year)					
Output (\$M)	\$14.897	\$12.312	\$13.513	\$40.722	2.734
Employment (Jobs)	63	39	41	143	2.261
Value-added (\$M)	\$6.686	\$5.392	\$6.886	\$18.963	2.836

As with the impact for New South Wales outlined in Section 4.2, the impact for Victoria is also short-term. The net result of the decrease in economic activity in New South Wales and the increase in activity in Victoria would be an increase in revenue, employment and value-added.

The annual net result (i.e. benefit for Victoria less impact on NSW) for 2022 and 2023, when volumes of supply from Victoria is the greatest, is summarised as:

- Increase of \$30.903 million in gross revenue for businesses
- Support for an additional 110 jobs
- Generation of \$14.307 million of value-added.

5.4 Downstream Supply Chain Benefits

The nature of the forestry, wood and fibres product industries, in particular around Tumbarumba and in the Snowy Valleys LGA, means any fluctuation in supply of by-product has significant impacts to downstream production.

The South West Slopes is identified as an example of a highly integrated processing hub, in which a number of processing facilities have been established and enable use of all parts of the logs harvested from the softwood plantations. As a by-product to the milling process woodchips and shavings are utilised by downstream manufacturers in the production of paper, cardboard, animal bedding and landscaping materials, all of which currently occurs in the Snowy Valleys and is heavily reliant on the by-product of the Tumbarumba Mill⁹.

The need to source fibre from outside the region at a time of falling supply presents some challenges for the industry, with several processors in the South West Slopes unable to source additional fibre inputs within a viable transport distance of their mills.

Adoption of the *supply chain mitigation strategy* will enable the Tumbarumba Mill to retain production volumes of finished timber for the construction of up to 10,000 new homes. The by-product from the processing of the log accessed through adoption of the Strategy will directly benefit the following local manufacturers.

Visy's Tumut Pulp and Paper Mill produces high quality paper and packaging for domestic and international markets¹⁰. The recent \$50 million upgrade of the Tumut Pulp and Paper Mill enabled the adoption of further innovative processes across their range of products. The *supply chain mitigation strategy* will ensure Hyne continues to deliver the required inputs into production for the Visy Tumut Mill, by securing a supply of 104,526 tonne of chip.

Corkhill Bros is a family owned and operated business with several locations around the Canberra area¹¹. Operations include the extraction, processing, sourcing and delivery of a range of soils, mulches, sands and gravels to private and commercial customers. Corkhill Bros rely on the Tumbarumba Mill for 70% of their supply. The *supply chain mitigation strategy* will ensure Hyne Timber can supply the site at Laurel Hill with 24,457 tonnes of bark.

Shandleys Transport, Bulk Sawdust and Shavings Suppliers based in Holbrook have supplied litter to the poultry industry for over 50 years¹². Shandleys Transport specialises in bulk bedding for the poultry, dairy and equine industries, and offers a range of products that can be used as animal bedding and for liquid waste and composting. The supply of animal bedding for the commercial food sector in turn supplies

⁹ Schirmer et al (2018).

¹⁰ <https://www.visy.com.au/pulp-and-paper/paper-mills/tumut-kraft-mill>

¹¹ <https://www.corkhillbros.com.au/>

¹² <http://www.shandleystransport.com/>

major supermarket chains nation-wide. The product is warehoused in Holbrook and there is no suitable alternative material. Accessing the additional log feedstock will see Hyne continue to deliver up to 14,109 tonnes dried wood shavings.

XLam provide design and manufacturing of cross laminated timbers¹³. XLam's state-of-the-art Cross Laminated Timber Plant in Wodonga is the first of its kind in Australia (which opened in 2018). The factory was supported by the Australian Government, securing a \$2.5 million grant from the Commonwealth Government's Next Generation Australian Industry Grants, and a \$450,000 grant from the Victorian Regional Development Authority to support job development¹⁴.

Access to the additional log supply through the adoption of the *supply chain mitigation strategy* will maintain Hyne's specialised feedstock supply to XLam, who further value-add forest products into contemporary Cross Laminated Timber for the commercial construction sector. XLam is 100% reliant on Hyne Timber and employs a further 50 people.

Figure 5-4 XLam Australia Wodonga Facility



Source: Hyne Timber.

¹³ <http://www.xlam.com.au>

¹⁴ <https://logicwodonga.com.au/tenants/20189434698.asp>

6. Policy Alignment of Supply Chain Mitigation Strategy

6.1 Snowy Valleys Regional Economic Development Strategy, 2018 - 2022

The New South Wales Department of Premier and Cabinet assisted Snowy Valleys (and other local councils) to develop a Regional Economic Development Strategy (REDS). The intent of the REDS is to provide a clear economic development strategy for regions developed through a process of detailed data analysis and extensive stakeholder and community consultation. REDS articulate a framework for identifying actions crucial to achieving the regional vision.

The regional vision for Snowy Valleys is:

*The Snowy Valleys will work towards a sustainable path to economic prosperity and quality of life through building on its economic strengths in forestry and timber, agriculture and tourism*¹⁵

As outlined in the REDS for Snowy Valleys, the LGA is home to natural endowments which provide the foundations for the region's strengths in Agriculture, Soft Wood Forestry, Timber Product Processing and Tourism.

Three core strategies have been developed to capture the opportunities identified for Snowy Valleys:

- Support the growth of the **Forestry and Timber Processing and Agriculture** sectors through improving access and reliability of infrastructure and utilities.
- Continue to develop and grow the Tourism sector to diversify the Region's economy.
- Boost and sustain the supply of skilled workers for the core industries with emphasis on regional skills development and initiatives to attract new residents.

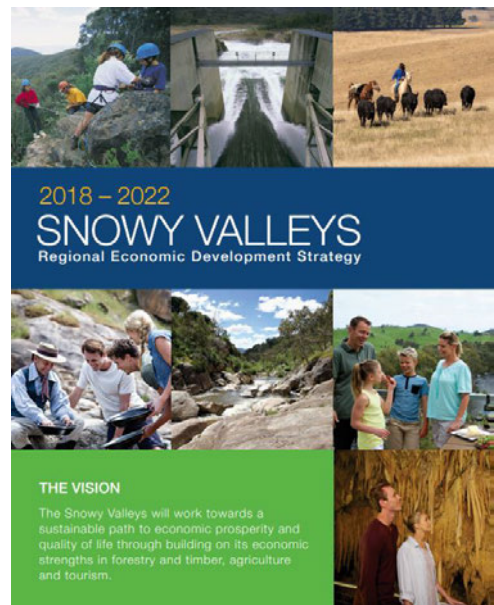
The REDS document identifies risks to current specialised industries. Risks identified for Forestry and Timber Product Processing include:

- Sourcing ongoing supply of softwood timber.
- Sourcing appropriately skilled workers.
- Road transport issues.

The subject of this report, the *supply chain mitigation strategy* proposed by Hyne Timber directly addresses ongoing softwood timber supply by sourcing logs destined for export over the next three years while local supplies recover from the 2019/20 bushfires. Keeping softwood supply maintained will ensure the local skilled workforce is retained.

The *supply chain mitigation strategy* directly addresses the key risks identified in the document while ensuring the local industry can continue working to see Snowy Valleys achieve the aspirations of the REDS vision.

Key actions in the Strategy include: working in partnership with Industry NSW, RDA Murray and RDA Riverina to explore regional advanced manufacturing clusters to value-add to local forestry timber processing, collaborating with the Softwoods Working Group to formalise a position on the future of



¹⁵ Department of Premier and Cabinet, 2018.

timber resources in the Snowy Valley region. Snowy Valley Council's local EDS is clear in the role of forestry and the timber processing industry as a current and emerging economic driver.

6.2 Advocacy Plan 2020 - 2021 Partnership for growth and recovery (2020)

Snowy Valleys Council has prepared an advocacy document that responds to the significant and wide-ranging impacts of bushfires in December 2019 and January 2020. The impact extends across the LGA and included impacts for community, environment and industry that sustain the region.

The Advocacy Plan¹⁶ identifies five priority areas including:

- Transport;
- Industry & Employment;
- Bushfire recovery;
- Tourism;
- Community.

Supporting the re-establishment of softwood forestry related activities is identified as a key priority action for industry and employment.

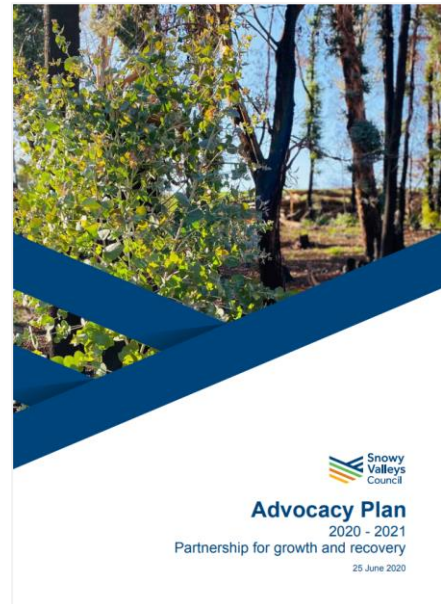
The priority to support the re-establishment of the softwood industries recognises the link between local softwood supply and employment for over 1,300 people in the Snowy Valleys region. The industry is recognised as the major generator of local household income, underpinning household consumption and demand for local services. In response to the impacts on the industry through bushfires, Council has identified funding is required for:

- repair and maintenance of damaged industry infrastructure
- salvage of burnt timber
- forestry replanting
- nursery operations
- Freight subsidies are required to mitigate the expected financial cost of bringing in timber from non-local plantations so timber processing and manufacturing facilities can meet their contracts and continue to function and employ local people.

The request to government is clear and straightforward, requiring a 10-year implementation process of:

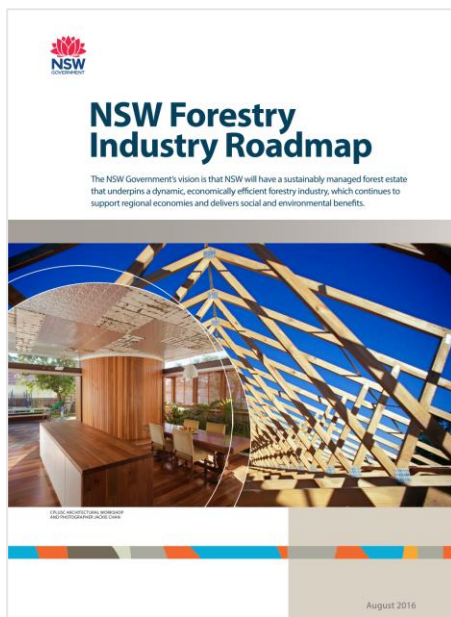
'sustained support from all levels of government – through advocacy, funding commitment and subsidies - for the re-establishment of the softwoods industry.'

The proposed *supply chain mitigation strategy* directly supports the intent of this advocacy plan by ensuring local timber milling jobs are retained in Tumbarumba, and industry and employment related to local downstream processing continues in the Snowy Valleys.



¹⁶ <https://www.snowyvalleys.nsw.gov.au/News-Media/Council-advocacy-plan-focuses-on-partnership-for-growth-and-recovery>

6.3 NSW Forestry Industry Roadmap



The NSW Government has developed a vision and plan to ensure the forestry industry is economically viable and ecologically sustainable into the future. The NSW Forestry Industry Roadmap¹⁷ is the NSW Government's strategic action plan to build a stronger, more competitive and ecologically sustainable forestry industry.

The Roadmap identifies the importance of keeping timber processing onshore, with Australia importing more forest products than it exports, the State's forestry industry is competing with cheaper imports from countries where environmental standards are often inferior.

Hyne Timber's proposed *supply chain mitigation strategy* enables access to interstate log supply destined for export markets. Keeping the processing of the raw product local will ensure the retention of local processing and employment and environmental standards maintained.

More than 3,300 people are employed in NSW forestry and logging, timber wholesaling and forestry support services and an additional 19,000 are employed in NSW paper and wood product manufacturing sectors. Almost half of these jobs are based in regional NSW.

The Roadmap identifies four priority pillars:

1. Regulatory modernisation and environmental sustainability.
2. Balancing supply and demand.
3. Community understanding and confidence.
4. Industry innovation and new markets.

The NSW Forest Industries Taskforce identified the need and opportunity for increased softwood and hardwood plantations. The softwood industry in particular requires more plantations to drive industry growth.

6.4 Growing a Better Australia

The Australian Government's Plan for the forestry and timber processing industries¹⁸ outlines the Government's vision and priorities to provide the forestry industry with the certainty it needs to invest. The overall aim is to ensure the industry continues to be an engine for economic growth. The goal of a billion plantation trees to meet future needs for wood and fibre recognises growing demand and growing opportunity for domestic industry to expand, provided adequate supply is maintained.

New trees will result in new jobs, particularly in rural and regional areas. The jobs will be across the value chain, from establishing and managing plantations through to manufacturing wood and fibre products, to research and development.

¹⁷ https://www.dpi.nsw.gov.au/__data/assets/pdf_file/0005/711851/nsw-forestry-industry-roadmap.pdf

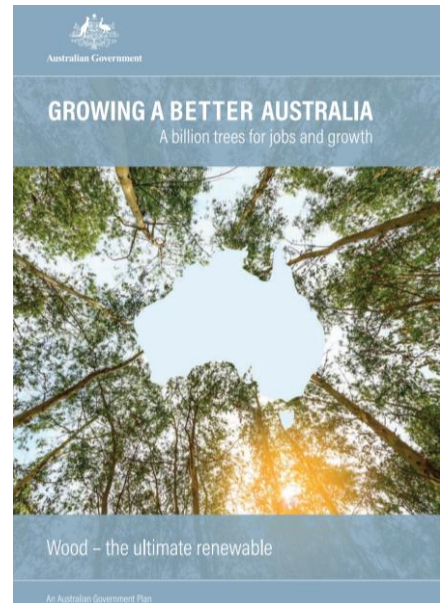
¹⁸ <https://www.agriculture.gov.au/sites/default/files/sitecollectiondocuments/forestry/national-forest-industries-plan.pdf>

To support the delivery of this goal, the Australian Government is focusing on:

- Driving plantation growth by creating Regional Forestry Hubs, with a focus on existing softwood plantation and processing regions.
- Delivering the policy mechanisms and on-ground support within the hubs.
- Reducing barriers to forestry expansion and supporting the planting of more trees.
- Using our forestry resources smarter.
- Growing community understanding of forestry.

Regional Forestry Hubs are a commitment in the Morrison Government's National Forest Industries Plan to support strategic planning of future needs for the industry. New South Wales' South West Slopes was identified as a pilot Regional Forestry Hub, highlighting the role Snowy Valleys plays in terms of supply of softwood plantations and manufacture of wood and fibre product.

Adoption of the *supply chain mitigation strategy* will ensure wood product processing remains sustainable in the Snowy Valleys and the downstream manufacturers continue to source by-product locally.

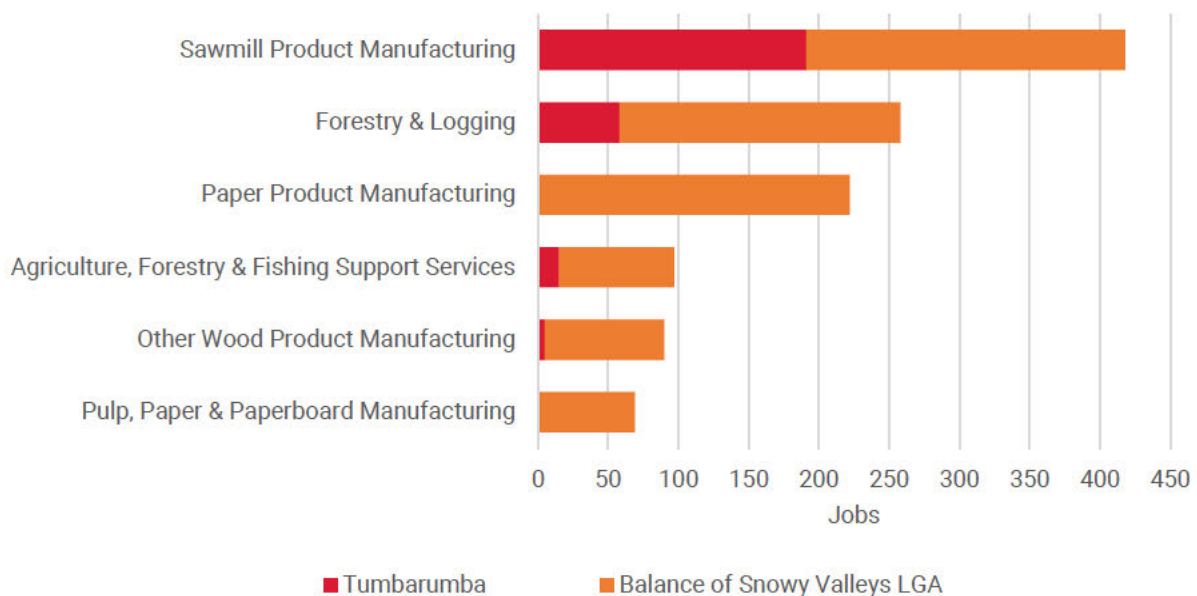


7. Demonstrated Commitment to Australian Manufacturing

The softwood timber industry underpins the economic prosperity of many rural and regional communities in Australia. This is particularly the case within the townships in the Snowy Valleys LGA. Total employment in Snowy Valleys LGA is estimated at 6,143 jobs and key industries linked to the softwood timber industry represent over 1,100 local jobs or 18.8% of local employment. This does not include other associated industries that benefit directly (such as transport) and in-directly (such as pulp and paper) through demand for inputs and goods in the supply chain or downstream through household consumption.

Figure 7-1 illustrates employment related to the softwood timber industry in Snowy Valleys LGA inclusive of the share in Tumbarumba.

Figure 7-1 Softwood Timber Industry Related Employment (Jobs) - Snowy Valleys LGA



Further analysis to isolate the benefits of the Sawmill Product Manufacturing within the Snowy Valleys LGA demonstrates its contribution and linkages to other local businesses. The Sawmill Product Manufacturing sector contributes \$196.129 million (8.2%) of total output within the LGA.

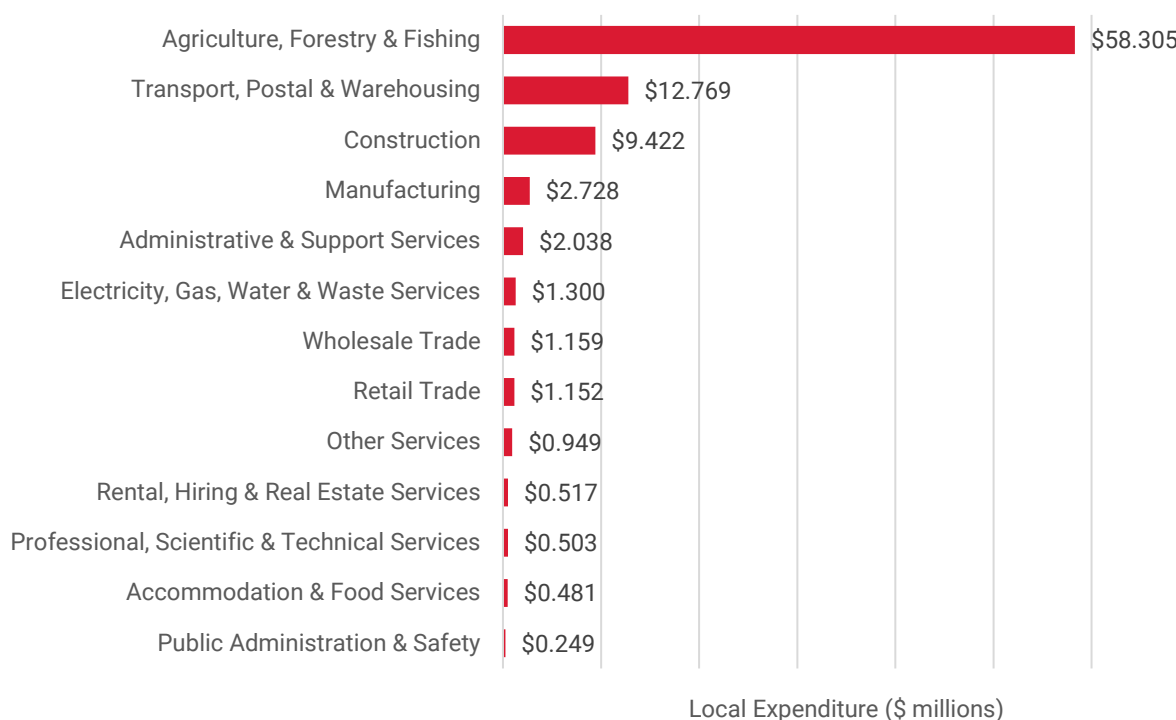
Local expenditure refers to the value of intermediate goods and services purchased by local industry sectors within a region. A high level of local expenditure on intermediate goods and services proportionate to total output is indicative of well-developed local supply chains and that any expansion in this sector would typically deliver broad based benefits for the region's economy.

The total local expenditure estimate for Snowy Valleys LGA is \$577.061 million. The Sawmill Product Manufacturing sector contributes an estimated \$92.020 million (15.9%) of total local expenditure, in other words the Sawmill Product Manufacturing sector within Snowy Valleys purchases an estimated \$92.020 million in goods and services from other industry within Snowy Valleys. This is an indication of well-developed local supply chains and is reflective of the high level of integration between industries involved in forestry and timber milling.

Key local sectors directly benefit from demand driven from Hyne's annual operation. REMPLAN estimates (see Figure 7-2) demonstrate the strong reliance on the Agricultural, Forestry & Fishing Sector for log

supply, the Transport, Postal & Warehousing Sector for haulage and export activity and the construction and Manufacturing sector in supporting ongoing maintenance, renewal and capital expenditure.

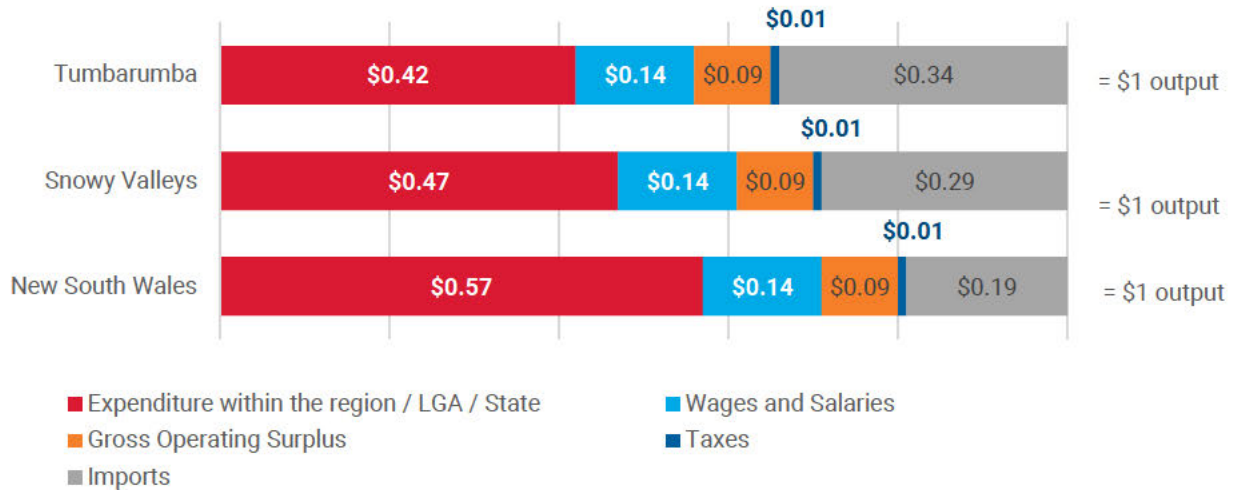
Figure 7-2 Sawmill Product Manufacturing Snowy Valleys LGA – Key Local Expenditure Sectors (\$ millions)



In addition to local employment and business to business local expenditure, the operations clearly provide a contribution to Gross Regional Product. Value-Added data represents the marginal economic value that is added by each industry sector in a defined region. Value-Added can be calculated by adding the Wages & Salaries paid to local employees, the gross operating surplus and taxes on products and production. Value-Added by industry sector is the major element in the calculation of Gross Regional Product.

Assessment of the value of Sawmill Product Manufacturing to local, regional and state economies of these operations articulates these benefits clearly. For every single \$1 of total revenue (output) Sawmill Product Manufacturing generates between 42 to 57 cents in local expenditure, and wages and salaries and operating surplus represent another 25 cents (Figure 7-3).

Figure 7-3 Input required for every \$1 of output from Sawmill Product Manufacturing Sub-sector

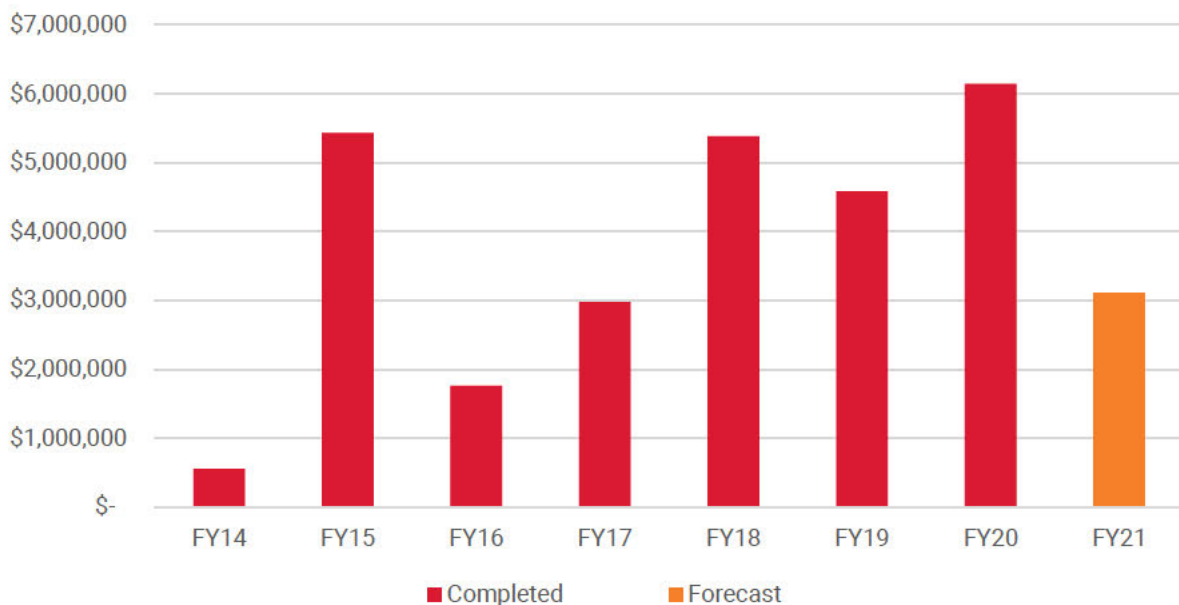


The integrated nature of the industry sectors within the softwood timber sector and their relative importance within regional communities like Snowy Valleys LGA and the town of Tumbarumba make them vulnerable to impacts of the scale of the 2019/20 bushfires.

In 2001, Hyne Timber purchased the Tumbarumba Mill and invested over \$200 million to develop a state-of-the-art, softwood sawmill which today employs 212 people. The investment has resulted in a Mill with the capacity to process up to 1 million cubic metres per year. The investments have ensured the Mill can efficiently process the current and (pre-fire) projected mix of log size, and the Mill remain adaptable and processes remain innovative.

Since 2014 Hyne's Capital Expenditure (CAPEX) at the Tumbarumba site has totalled close to \$30 million (including forecast 2021 budget) since 2014. This has included maintenance and access upgrades as well as ongoing investment in process improvements to plant and equipment ensuring the site is future proofed for ongoing operations (Figure 7-4).

Figure 7-4 Hyne Timber Annual Capital Expenditure - Tumbarumba Mill



Source: Hyne Timber

Softwood sawmilling operators are facing increasing pressure due to increased international competition for processed product. In the absence of product diversification and lack of growth in scale of production many smaller domestic manufacturers are rendered uncompetitive in the global market.

Hyne Timber reported a \$3.7 million investment over 2019/20 for the installation of seven robotic timber stackers tasked with stacking timber into packs. A procedure generally associated with a high risk of injury and an area of the Mill difficult to staff, the adoption of this improved process enabled processing efficiency gains and a redeployment of staff to other roles. Six existing team members undertook professional development to operate the robots while others who previously worked in the area were trained to be re-deployed elsewhere in the Mill.

Hyne Timber are committed to the adoption of sustainable and innovative processes. For example, Hyne Timber was the first Glue Laminated Timber (GLT) manufacturer in Australia to provide Building Information Modelling (BIM) content for GLT in accordance with recently developed AS/NZS BIM standards.

The Tumbarumba Mill has the capacity (but since the bushfires, not the log supply) to process up to 1 million cubic metres of log per annum, a benchmark often used to determine whether or not a mill is internationally competitive.

Figure 7-5 Robotic Timber Stacking, Tumbarumba Mill



Source: Hyne Timber.

8. Summary

Tumbarumba has long been established as a forestry hub with softwood timber milling supporting one in ten workers across Snowy Valleys LGA. The Tumbarumba Mill is a key employer for the township of Tumbarumba and is highly integrated in terms of supply of by-product to local downstream producers.

The 2019/20 bushfires are estimated to have reduced log feedstock to the Mill by 40%. The fall in processing activity through the Tumbarumba Mill will lead to direct job loss. The integrated nature of the industry in the local economy will result in further job loss in Tumbarumba, Snowy Valleys and New South Wales.

The loss of log supply due to the 2019/20 bushfires is likely to result in 63 jobs being lost at the Tumbarumba Mill and a direct reduction in gross revenue of \$108.506 million. This direct contraction in economic activity and employment within Tumbarumba, has significant flow-on supply chain effects in terms of local purchases and demand for intermediate goods and services sourced from within the local area. The loss of employment both direct and supply-chain related will result in a fall in local consumption.

The loss of log feedstock to the Tumbarumba Mill is estimated to result in a fall in economic output (gross revenue) totalling \$177.142 million and the displacement of up to 140 workers in Tumbarumba over the 3-year period (inclusive of supply-chain and consumption effects).

Hyne Timber's proposed *supply chain mitigation strategy* will assist in addressing the 40% deficit in log feedstock supply. The proposed partnership between Hyne Timber and State and Federal Governments will ensure operational scale can be maintained and impacts, particularly job loss, to the regional economy can be managed over the next three years.

The *supply chain mitigation strategy* has identified log supply opportunities in interstate regions with the potential to supply up to 441,500 m³ of log feedstock to the Tumbarumba Mill over a 3-year period.

Additional log supply will help to directly retain 24 Mill workers supporting continued manufacture of finished timber product and by-product at the Tumbarumba Mill. The retained production is estimated to support up to \$106.600 million in gross revenue. Retaining this activity in the local economy, has significant flow-on supply chain effects in terms of local purchases and demand for intermediate goods and services. Additionally the direct and indirect employment associated with the retained activity at the Tumbarumba Mill supports local consumption.

The *supply chain mitigation strategy* is estimated to have the following economic impacts on the Tumbarumba EZ, inclusive of flow-on supply-chain and consumption effects, over the 3-year period:

- Output – \$143.742 million in gross revenue (output)
- Employment – Retain and support 79 jobs

Hyne Timber is committed to innovative and sustainable manufacturing processes. The Tumbarumba Mill employs 15% of Tumbarumba EZ's workforce, with many more local workers across the Snowy Valleys LGA benefiting from the extensive supply chain associated with the Mills operations (i.e. transport, by-product).

While businesses based in the Snowy Valleys and the township of Tumbarumba deal with the consequences of the COVID-19 recession, the proposed *supply chain mitigation strategy* presents an opportunity to keep jobs in Tumbarumba. Retaining local workers, local skills and local production will keep Tumbarumba vibrant and ensure the region's traditional industry strength in timber processing remains sustainable into the future.

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Appendix A: Industry Outlook

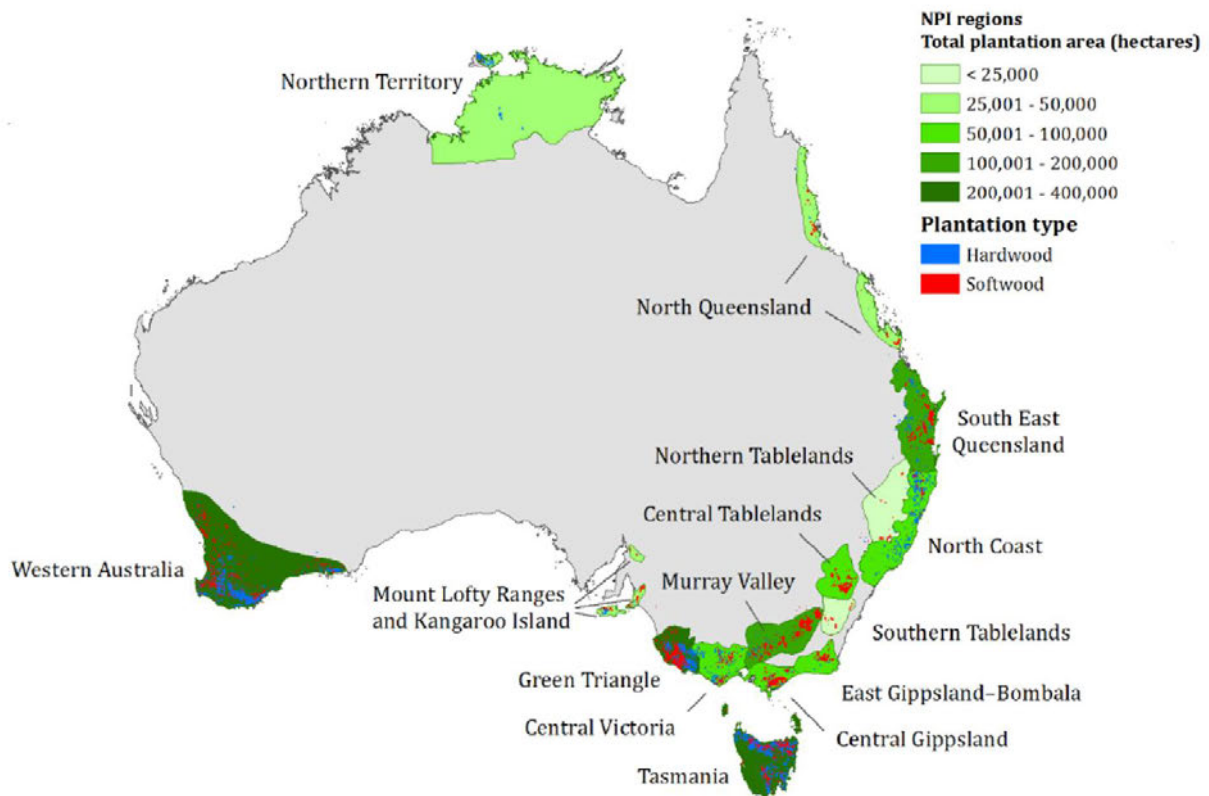
Softwood Plantations

Softwood plantations throughout Australia are primarily managed to produce sawlogs for sawnwood providing for construction. The softwood plantation estate is relatively concentrated geographically (Figure A-1), with the Murray Valley, Green Triangle and South East Queensland accounting for more than half of the national estate. This concentration is important for the viability and efficiency of the sawmill industry as proximity to log feedstock is critical for supporting large-scale mills.

While hardwood plantation areas have generally been decreasing since 2008/09, the total softwood plantation area has remained relatively stable and is currently at a historic high of over 1 million hectares (Figure A-2). However, research by the Australian Government¹⁹ suggests current levels of softwood estate will not meet growing domestic demand.

Over recent years, Western Australia has accounted for the majority of new softwood plantations. The major regions in New South Wales and Victoria have accounted for very limited amount of new softwood plantations. While softwood plantations have not experienced the contraction seen in the hardwood plantations, the lack of an expanding supply is contributing to constrained growth for the domestic manufacturing sector²⁰.

Figure A-1 National Plantation Inventory regions (regional hubs)

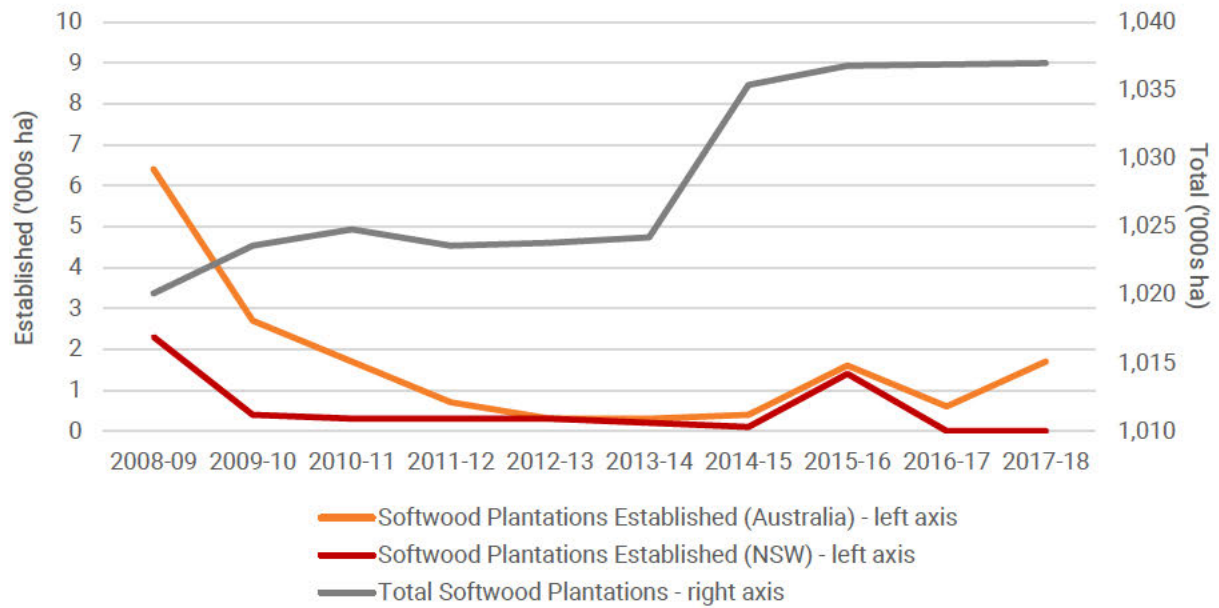


Source: Reproduced from Downham & Garvan (2019) Map 1.

¹⁹ Whittle, L & Downham, R 2019.

²⁰ Ernst & Young 2016..

Figure A-2 Total Australian Softwood Plantation Area and Softwood Plantations established

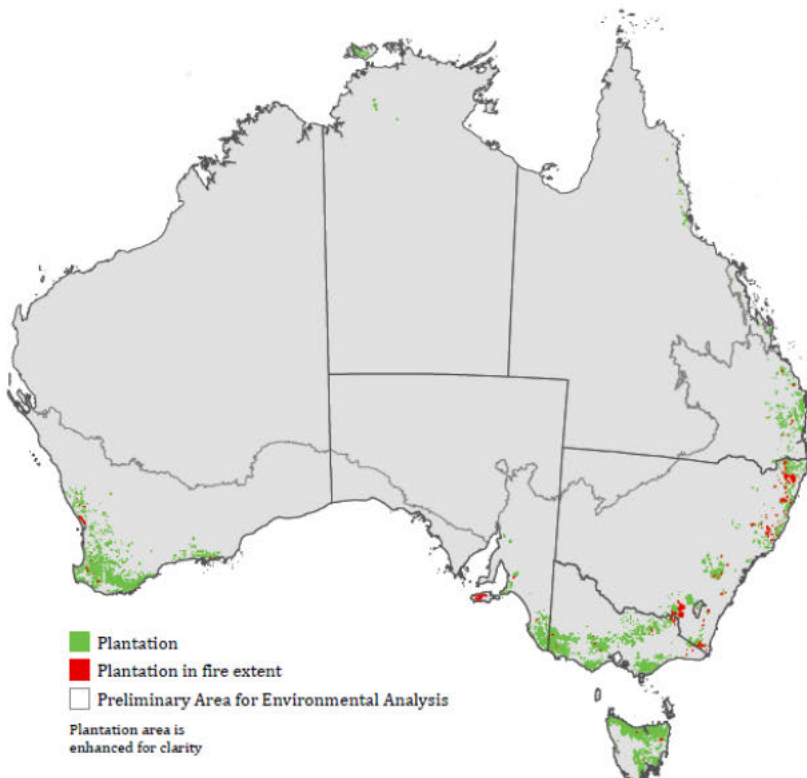


Source: ABARES 2019.

Bushfire Impact on Plantations

The Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) estimates that a total area of 130,200 hectares (6.7%) of Australia's commercial plantations was in the fire extent of the 2019/20 bushfires. Most of the plantation area in the fire extent was in New South Wales (71%) and South Australia (13%) (Figure A-3), with the region around Tumbarumba being severely impacted.

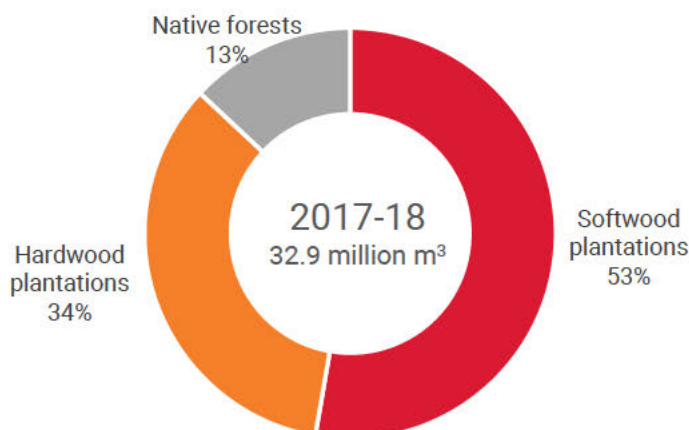
Figure A-3 Plantation area in fire extent, 2019-20



Source: reproduced from Downham & Gavran (2020) Map 1.

Assessment of the bushfire impacted forests identified around 8.3 million hectares of native forests, 130,000 hectares of commercial plantations of 22,000 hectares of other forests having been affected to varying degrees. Despite the smaller area, commercial plantations account for the vast majority of log harvest in Australia each year (Figure A-4), producing a much higher volume of wood per hectare each year. However, this higher productivity also translates to higher impact for plantations due to the bushfires.

Figure A-4 Australian log harvest in 2017-18



Source: ABARES 2019.

The ultimate impact of the bushfires on log supply are not completely known and will depend on factors such as fire severity in respective regions along with individual decisions around harvesting and replanting. However, recent analysis of the bushfire impact on the industry²¹ indicates that softwood harvest volumes are likely to increase in short term as many fire-affected softwood stands are expected to be salvageable. In order to recover fire-affected trees before they deteriorate, NSW Forestry Corporation is significantly increasing the number of harvesting crews and expects harvest rates to be two to three times higher than normal in some fire-affected regions.

Despite the expected short-term increase in volumes, the 2019/20 bushfires are likely to have more serious impacts over the medium to long term. The early harvesting and subsequent replanting of fire-affected areas, particularly in New South Wales, will alter the age profile of softwood plantations. These unplanned changes to supply are likely to have implications for the domestic processing industry.

Meeting Domestic Demand

Domestic demand for logs (and in particular softwood sawlogs) is expected to grow over the coming decades in line with Australia's demand for new housing. While the slowdown in the construction industry brought on by the COVID-19 pandemic is likely to dampen demand in the short-term, analysis by ABARES estimates that domestic supply of softwood may not be sufficient to meet demand in the Australian market.

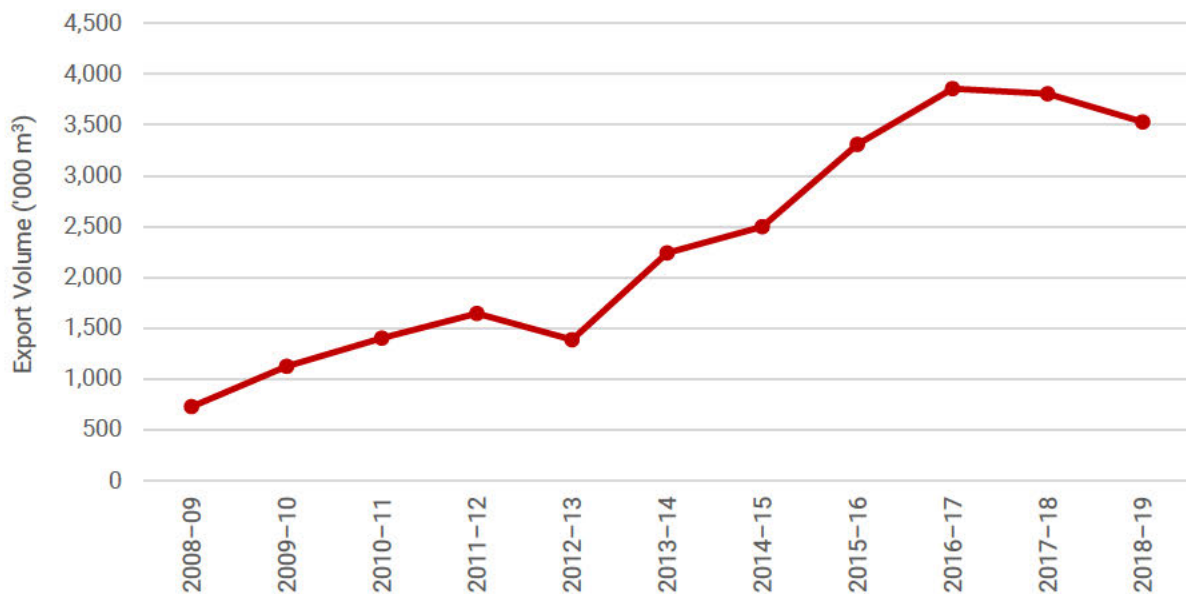
Australia also exports large volumes of softwood in the form of unprocessed roundwood. Since 2013, volumes have increase substantially. In 2018/19, Australia exported more than 3.5 million cubic metres of roundwood softwood (Figure A-5).

In value terms, Australia is a net importer of wood products. This is a result of the types of products imported and exported, where the nation imports higher value processed products (such as paperboard,

²¹ Whittle 2020.

wood panels and sawn wood), and exports lower value less processed products (such as wood chips and roundwood).

Figure A-5 Volume of exports of roundwood softwood, Australia



Source: ABARES 2019.

With the current risk to domestic supply, there is potential for retaining export wood for the domestic market. Processing of roundwood domestically also has other flow on benefits for downstream industries by ensuring ongoing supply of inputs, as well as capturing opportunities for growth in Australian industries that may currently be captured by other countries. Modelling undertaken by ABARES indicates that diverting roundwood (sawlogs) from log exporters can be a more efficient method of ensuring supply than establishing new plantations.

Appendix B: Timber Supply Chain Enquiry

The Standing Committee on Agriculture and Water Resources (the Committee) is currently receiving submissions for an enquiry into the “*Timber supply chain constraints in the Australian plantation sector*”. Assistant Minister Duniam referred the enquiry to the Committee in June 2020.

Submissions closed on 2nd October 2020.

The following short discussion highlights key points from relevant public submissions that recognise a collective view of constraints regarding timber supply chains and more particularly overcoming constraints to viable economic haul distances to ensure ongoing local processing of fibre within the Snowy Valleys LGA.

Softwoods Working Group²²

The submission by the Softwoods Working Group (SWG) is representative of the softwood plantation interests across suppliers, manufacturers, industry representatives and regional government including local government. The submission identifies the following key points about the importance of the softwood industry in the South West Slopes Region of NSW:

- It is the most significant economic driver in the region, supporting \$1.2 billion in Gross Regional Product (value-added)
- The region’s processors require the supply of 3 million tonnes of fibre each year, however, the plantations of the region can only supply 2 million tonnes.
- The Dunns Road and Green Valley fires of January 2020 have further exacerbated the fibre supply constraints with loss of around 40% of the regional plantation resource

Relevant insights from the submission highlight:

- Forecasts of supply show a declining yield into the future as softwood plantations in the SW Slopes have plateaued at 2 million tonnes per annum prior to the bushfires.
- Virtually no plantation establishment on new land has occurred over the last 10-15 years.
- The shortfall in local supply has driven industry to import an additional 50% (approximately 1 million tonnes per annum) of plantation softwood from outside of the region.

The additional loss of significant regional supply as a result of the 2020 fires will disrupt forecast annual production. Strategic and long-term investment to re-establish fibre supply levels to pre-fire levels is required to support local industry base to remain viable.

Visy Pulp and Paper Pty Ltd²³

Located in Tumut within the Snowy Valleys Council LGA, the submission by VISY highlight both the impact and role of their Tumut facility in the region. The submission specifically observes the shortfall of new plantation expansion over the last decade and conversion of timber plantations to other agricultural land use.

The direct impact for VISY has been the need to source approximately 900,000 green tonnes per annum of pulpwood from locations outside of the South West Slopes region. The direct loss of 58,000 hectares of softwood plantations (40% of the resource) in the Tumut / Tumbarumba region and the need for ‘at

²² SWG (2020) House of Representatives Standing Committee on Agriculture and Water Resources Timber Supply Chain Constraints in the Australian Plantation Sector. Submission 3

²³ VISY (2020) House of Representatives Standing Committee on Agriculture and Water Resources Timber Supply Chain Constraints in the Australian Plantation Sector. Submission 13

least 12 to 15 years before pulpwood quantities from this region begin to recover to pre-2020 levels' is presented in the submission.

VISY also identify the levels of softwood fibres bound for export markets at the risk to local Australian processing. Citing over '1.3 million green tonnes of softwood pulp logs and almost 800,000 green tonnes of softwood woodchips have been exported from Australia'.

VISY call for significant investment in supporting transport infrastructure and increased fire prevention measures to safeguard local processors operations to improve 'haulage efficiencies to reduce costs of logistics for pulpwood that will need to be sourced from distant plantations'.

Australian Forest Products Association²⁴

The Australian Forest Products Association (AFPA) has identified the complexity of the forestry supply chain for both domestic and export markets and the intrinsic links to many Australian rural communities.

The AFPA identify the link to Australia's forest plantations providing more than 80% of the wood fibre and timber for our national forest product industries and specifically call out the lack of growth in new plantations as a major challenge facing Australia's forest products supply chain. The impacts of both the COVID-19 pandemic and 2019/20 bushfire season has increased the impact of timber resource shortage in key regions.

Fundamentally the AFPA submission calls out the decline in Australia's plantation estate despite policy commitments by the Federal government to deliver new plantations.

The long lead time (10 to up to 45 years) and as a result impact on ROI is highlighted as an inhibitor in establishing timber plantations as a long-term agricultural crop for landowners. As result of these confounding factors, local regionally available log supplies are available in volumes under the existing demand and the AFPA recognise the issue for processors facing significant cost impacts to access log supply in locations too far from their operations. Quite simply the 'cost of hauling timber can be prohibitive' identifying these constraints 'could be addressed through a freight assistance program'.

The AFPA also identify a \$2 billion trade deficit in wood products, suggesting the context of the export and import volumes within Australia present and opportunity to increase the plantation estate to give processors long term security to invest in technology to process wood.

Relevant to the assessment of the *supply chain mitigation strategy* for Hyne, the AFPA suggest the following recommendations:

- *A Federal and state freight support scheme to underpin the increased cost of hauling timber greater distances following the 'Black Summer' bushfires.*
- *Federal and state governments work together to increase the allowable footprint and types of more efficient log truck configurations.*
- *Facilitate further domestic processing and internationally competitive scale projects (including investment sourcing) that will be critical in ensuring future value.*

²⁴ AFPA (2020) House of Representatives Standing Committee on Agriculture and Water Resources Timber Supply Chain Constraints in the Australian Plantation Sector. Submission 9.

Appendix C: Hyne Timber Inquiry Submission (Sub 024)

https://www.aph.gov.au/Parliamentary_Business/Committees/House/Standing_Committee_on_Agriculture_and_Water_Resources/Timbersupply/Submissions (accessed 21/10/2020)

Inquiry into the timber supply chain constraints in the Australian plantation sector
Submission 24

ABN 67 009 460 995

**HYNE TIMBER**

21 September 2020

Committee Secretariat
Standing Committee on Agriculture and Water Resources
Timber Supply Chain Constraints
PO Box 6021
Parliament House
CANBERRA ACT 2600

Hyne Timber Submission to the House of Representatives Standing Committee on Agriculture and Water Resources Timber Supply Chain Constraints in the Australian Plantation Sector

Hyne Timber welcomes the extended opportunity to provide comment to the Standing Committee.

Hyne Timber was consulted with and endorses the submissions by the Australian Forest Products Associations and the Softwood Working Group. Most of the issues that impact the plantation timber supply chain are industry-wide, and we encourage the Standing Committee to work closely with AFPA and the other relevant industry bodies to remove constraints and improve efficiencies across the entire plantation supply chain.

Our submission is limited to one specific aspect of supply chain failure, its impacts on Hyne Timber's Tumbarumba sawmill and the supply chain challenge faced by this facility. This submission outlines a solution to the short-term supply chain failure caused by the recent devastating bushfires and loss of resource around the Tumbarumba Mill. This failure can be overcome with just three years of Government support to help divert approximately 150,000 cubic metres per year from the 2 million cubic metres of plantation softwood sawlogs exported from Australia annually.

Background - Hyne Timber, Tumbarumba

Proudly established in 1882, Hyne Timber is a privately owned, Australian company now in its sixth generation. In 2001, the company bought an old mill in Tumbarumba and have invested over \$200 million to develop a state-of-the-art, softwood sawmill which today, employs 210 people and further supports approximately 600 contractors/local businesses who depend on the Mill. This investment has resulted in a Mill with the capacity to process up to 1 million cubic metres per year. The investments in the Mill have also been made to ensure it can efficiently process the current and expected future (pre-fires) mix of log sizes and grades as forecast by the regions' growers.

The Tumbarumba Mill represents half of Hyne Timber's national softwood timber production and is by far, the single, largest, non-government employer in Tumbarumba. By way of volume, the structural framing produced on site each day would stretch from Tumbarumba to Melbourne.

Utilising world class technology, the Tumbarumba Mill processes 30-year-old New South Wales and Victorian plantation pine, harvested within a viable freight distance and strategically located as part of an integrated supply chain. This integrated supply chain within the South West Slopes region alone, supports 5000 jobs and almost \$2 billion of economic activity.

As an industry leader, Hyne Timber is focussed on emerging technology, innovation and 'manufacturing 4.0'. Recent optimisation initiatives include the installation of robotics which are unique to the timber industry and accurately stack timber into packs. This is otherwise labour intensive with safety risks presenting ongoing recruitment challenges.

Another initiative as part of ongoing, private investment in the Mill was the installation of state-of-the-art visual scanning technology, installed to support the supply of timber to the new XLam CLT manufacturing facility in Wodonga, Victoria.

The XLam manufacturing facility is a world class, automated CLT plant, commissioned in March 2018 following an investment of \$56 million by the Hyne Group and with support from the Australian and Victorian Governments.

It is the only large-scale manufacturer of plantation softwood Cross Laminated Timber in Australasia and is experiencing increasing demand for its renewable, next-generation, commercial scale building solutions. XLam sources its timber supply from the Tumbarumba Mill.

The Tumbarumba Mill has a range of customers including those trading and manufacturing building frame products such as Bunnings. Many of these customers are concerned they risk sourcing imported timber as a result of the bushfires. They want to source locally produced and sustainably managed timber wherever possible, supporting local jobs with secure supply chains, not subject to international freight, fluctuating exchange rates in an uncertain global economy.

Other customers include those dependent on our sought-after by-products (bark, sawdust and shavings) such as Visy, ensuring that there is no waste generated by the process.

Bushfire Caused Timber Supply Chain Constraints and the Solution

As a result of the 2019/20 bushfires, log feedstock to the Tumbarumba Mill will be decimated by 40% to only 431,000m³ per annum. This supply chain problem presents significant inefficiencies of scale at a Mill designed to ultimately process 1 million m³ log per annum.

Manufacturing costs will increase significantly, and when coupled with the capital-intensive reinvestment requirements and no ability to pass these costs on to customers, the Mill will become unviable.

Addressing the inefficiencies of scale requires more log supply, which, as a result of the bushfires, must come from outside the current supply zone. Securing log feedstock for the Mill, which is

currently being exported¹ without processing or value adding, from outside the existing viable freight distances with partial financial support from the NSW and Australian Governments is critical.

Through preliminary discussions with existing and potential, private growers, Hyne Timber has identified log availability subject to bridging transport support for a period of three years. This is documented in a commercial-in-confidence appendix which is not for publication

The identified log is confirmed as being surplus to current domestic customer needs, is exported, and can be contracted to Hyne Timber. It is from various, small pockets of plantation compartments.

This three-year bridging solution to the timber supply chain, ensuring an additional 441,500m³ softwood log processing within Australia will supply:

- timber for 10,000 new homes (the only alternative being imported timber or less sustainable building materials),
- 104,526 more tonnes of chip to Visy in Tumut for essential paper and packaging,
- 24,457 more tonnes of bark to Corkhills in Laurel Hill for commercial applications including potting mix to grow the nations fresh food. They rely on supply from Hyne Timber for 70% of their business,
- 14,109 more tonnes dried wood shavings to Shandleys in Holbrook, supplying animal bedding for the commercial food sector which supplies Woolworths, Coles and Aldi nationwide. The product is warehoused in Holbrook and there is no suitable alternative material. Shandleys have advised significant disruption to the food supply chain without timber supply chain solutions.

In addition to the timber supply chain itself, the benefits from the retention of jobs, supporting the Tumbarumba community and the broader economy cannot be underestimated.

In the medium term (after 3 years of support) Hyne will have:

- developed, in conjunction with freight partners, more efficient transport solutions to source logs from greater distance through innovative freight mechanisms, truck reconfiguration, backloading routes and the potential use of rail.
- access to wood, surplus to contract commitments within our supply zone based on current wood flow forecasting provided by growers.
- invested in advanced manufacturing to allow for the utilisation of the changed log mix profile (age, density and length) from within our normal supply zone.
- developed markets to utilise the products from the changed log mix profile as demonstrated by Hyne's successful development of XLam and Cross Laminated Timber value added products.

Conclusion

Hyne is committed to the Tumbarumba community and our operation into the future. However, this is under threat as a result of the bushfires and the subsequent reduction in local supply of saw log for the next three years.

With Government support, the impacts on the timber supply chain can be mitigated.

¹ Over 2 million cubic metres of unprocessed softwood sawlogs are exported from Australia each year. Hyne is seeking deliver to the Tumbarumba sawmill approximately 150,000 cubic metres per year for the next three years.

Recommendation

That the Australian Government provides short-term supply chain cost support for businesses, and therefore the communities that depend on them who were severely impacted by the recent bushfires through existing programs, or by the establishment of a process for industry led bushfire recovery solutions where no current avenue for support exists.

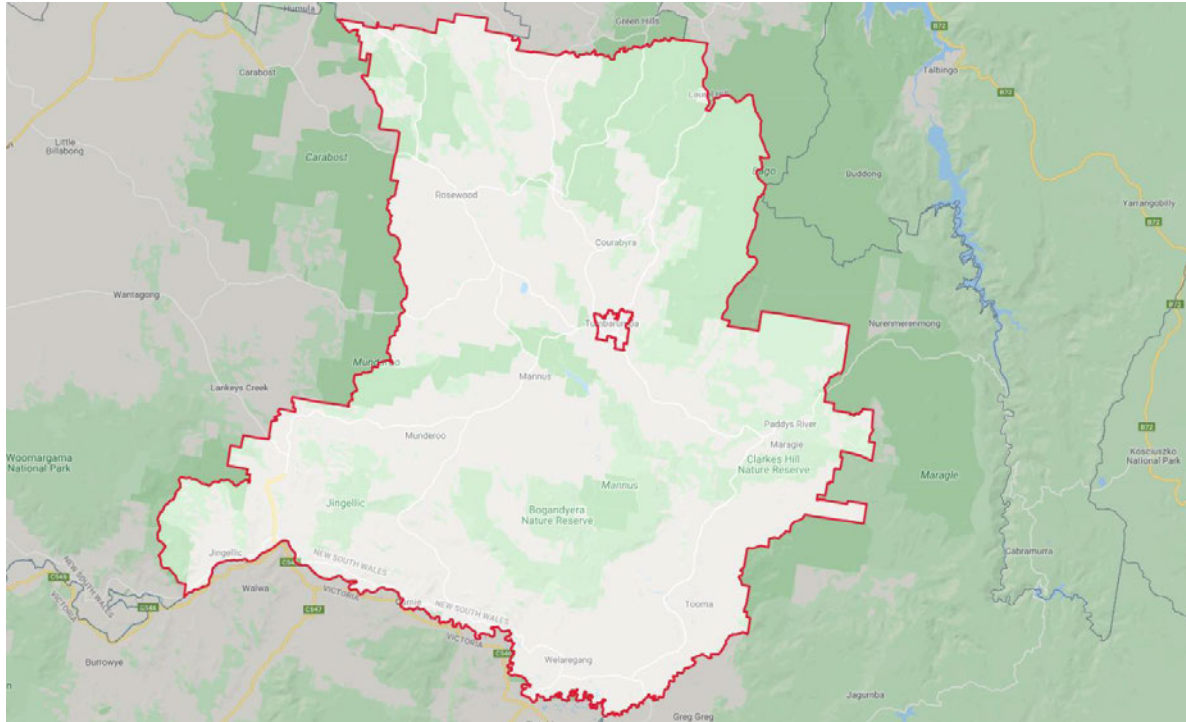
Yours sincerely

Rachael Armistead
A/Chief Executive Officer

Appendix D: Geographical Definitions

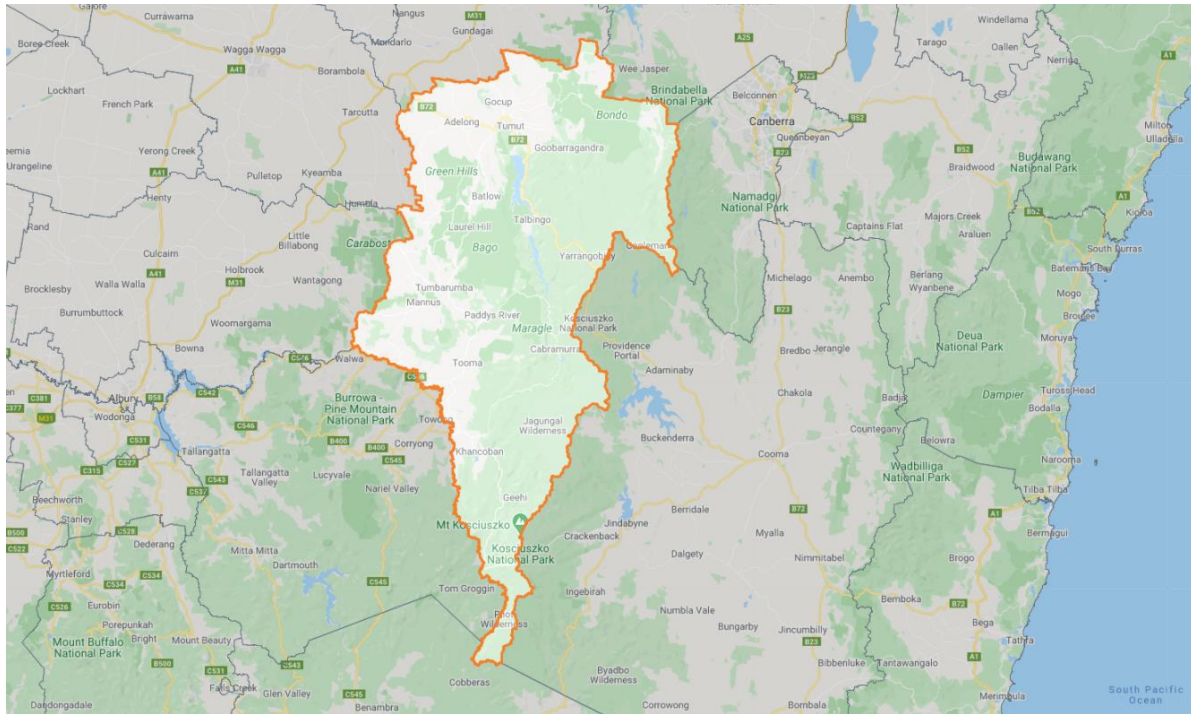
Profiling and analysis have been undertaken in the context of Tumbarumba Economic Zone (defined by 2016 ABS Destination Zones 112608847 and 112608848), Snowy Valleys LGA (Snowy Valleys (A)) and the state of New South Wales.

Figure D-1 Tumbarumba Economic Zone



MapBuilder link: <https://remplan.co/2ZDF7JK>

Figure D-2 Snowy Valleys LGA



MapBuilder link: <https://remplan.co/35BxfmB>

Figure D-3 New South Wales (State)



MapBuilder link: <https://remplan.co/3hDpvTQ>

Appendix E: Economic Impact Analysis

The following economic impact analysis was conducted in September 2020. All expenditure, revenue and employment assumptions outlined in the report are based on data provided to REMPLAN by Hyne Timber.

The economic impacts have been determined using REMPLAN data for Tumbarumba Economic Zone (EZ), Snowy Valleys LGA, and New South Wales (see Appendix D).

Economic impacts are reported in terms of:

- Output / Revenue (\$M)
- Employment (Jobs)
- Value-added (\$M)

Output data represents the gross revenue generated by businesses/organisations in each of the industry sectors in a defined region. Gross revenue is also referred to as total sales or total income.

Employment data represents the number of people employed by businesses / organisations in each of the industry sectors in a defined region. Employment data presented in this report is based on location of work, i.e. no inference is made as to where workers reside. The employment figures presented represent total number of employees without any conversions to full-time equivalence. Retail jobs for instance represent typical employment profiles for that sector, i.e. some full time, some part time and some casual.

Value-added data represents the marginal economic value that is added by each industry sector in a defined region. Value-Added can be calculated by subtracting local expenditure and expenditure on regional imports from the output generated by an industry sector, or alternatively, by adding the Wages & Salaries paid to local employees, the gross operating surplus and taxes on products and production.

Value-added by industry sector is the major element in the calculation of Gross Regional Product (and Gross State Product / Gross Domestic Product).

In order to estimate the likely flow-on impacts in terms of output, employment and value-added, impacts of the bushfire (loss of supply) and accessing additional supply (supply chain mitigation) have been applied to the latest REMPLAN models of the Tumbarumba EZ, Snowy Valleys LGA and New South Wales (State) incorporating data sourced from the ABS 2016 Census (Place of Work), 2016/2017 ABS National Input / Output Tables, and ABS Gross State Product (June 2019).

The economic impact modelling contained in this report is based on pre-COVID-19 regional economic data. In determining the economic impact associated with loss of supply due to the bushfire and the benefit of accessing supply outside the viable transport area, modelling not factored in any shock to the economy currently being experienced due to the COVID-19 Pandemic.

Economic Impact of 2019/20 bushfires

The 2019/20 bushfires have resulted in a 40% reduction in log feedstock to the Tumbarumba Mill. As a major employer and a critical component in a highly integrated local supply chain, the impacts on the regional economy will be extensive.

The 40% loss of supply has a direct impact on the production of finished timber product, and by-product available for local downstream manufacturers. Based on the 40% fall in feedstock, Hyne has indicated annual revenue generated by the Tumbarumba Mill will fall almost \$10 million in the first year, following which revenue will drop by more than 30% compared to the pre-bushfire baseline by approximately \$50 million in annual terms. Total lost revenue over the 3-year period is estimated at \$108.506 million.

More critically for Tumbarumba and the Snowy Valleys the bushfire affected log supply levels will not be able to sustain current levels of employment. A fall in supply from a five year average of 718,000 m³ to 431,000 m³ (2021/22) can only support 149 workers, this is a downsizing of the Mill workforce by 63 employees.

To estimate the economic impact the following were applied to the Sawmill Product manufacturing sub-sector for the regions of Tumbarumba EZ, Snowy Valleys LGA and New South Wales:

- Year 1: loss of \$9.801 million in gross revenue
- Year 2: loss of 63 jobs (from 212 to 149), and loss of \$49.353 million in gross revenue
- Year 3: loss of 63 jobs, and loss of \$49.353 million in gross revenue

The following direct and indirect effects on Tumbarumba EZ, Snowy Valleys LGA and New South Wales reflect economic modelling undertaken on a scenario where no intervention or mitigation occurs over a 3 year study period.

Impact on Tumbarumba Economic Zone

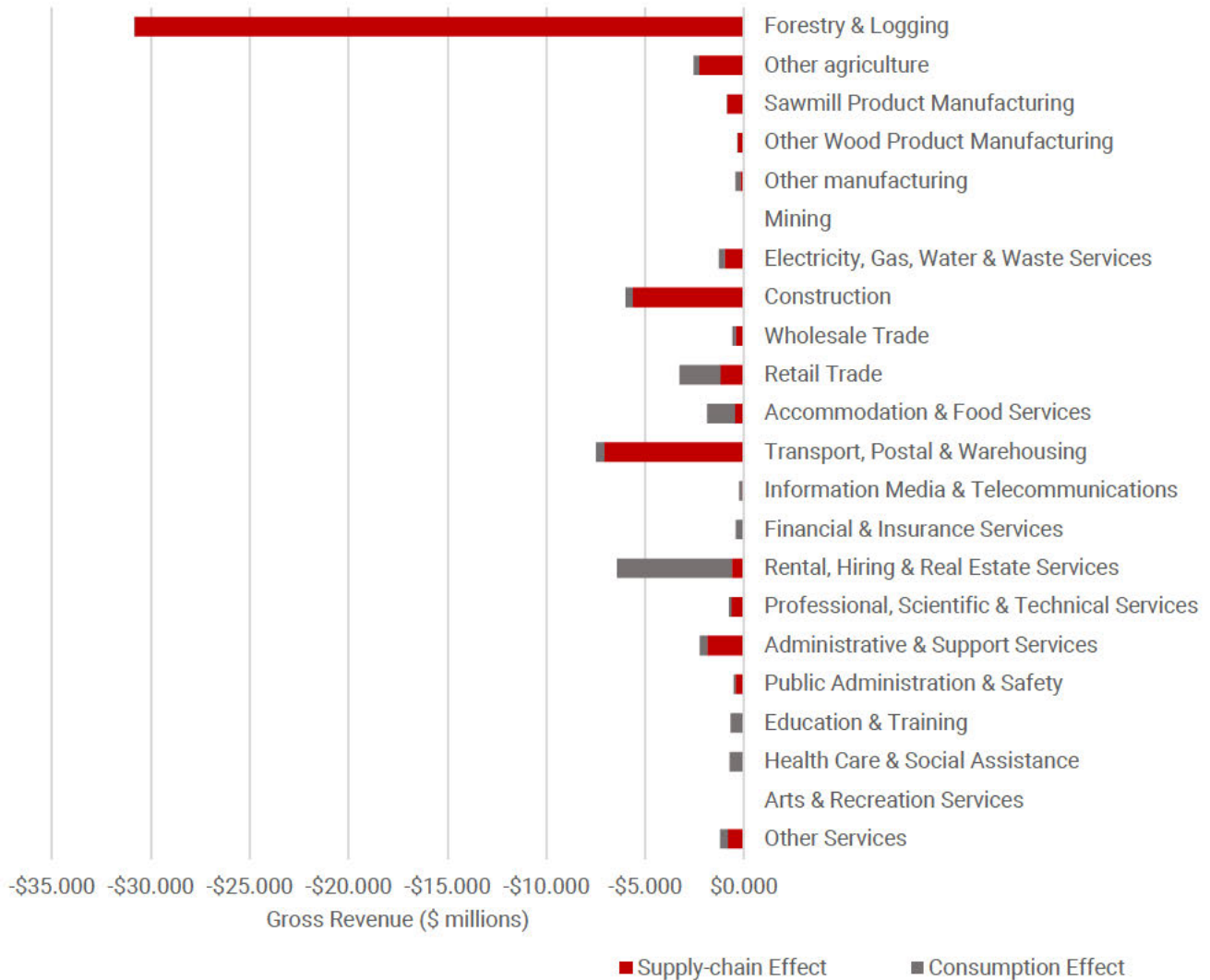
The loss of supply, revenue and employment is estimated to have the following impacts on the Tumbarumba EZ over the 3-year study period.

The loss of supply due to the 2019/20 bushfires are likely to result in a loss of 63 jobs and \$108.506 million in revenue from the Tumbarumba sawmill product manufacturing sub-sector. This direct contraction in the economy, has significant flow-on supply chain effects in Tumbarumba EZ in terms of local purchases and demand for intermediate goods and services. It is estimated that these indirect impacts would result in the loss of a further 56 jobs and \$54.783 million in gross revenue (output).

The contraction in direct and indirect output and the corresponding loss of employment in Tumbarumba EZ will see a fall in local wages and salaries paid to employees. A proportion of these wages and salaries are typically spent on consumption and a proportion of this expenditure is captured in Tumbarumba EZ. However, the loss of employment and associated consumption under this scenario is estimated at a loss of \$13.853 million in output, and a further loss of local jobs of 21.

Supply-chain and Consumption Effects on Gross Revenue by Industry

Figure E-1 Supply-chain and consumption effects on gross revenue by industry, over 3-year period – Tumbarumba EZ



Summary

The loss of log feedstock associated with the 2019/20 bushfires is estimated to have the following economic impacts on Tumbarumba EZ, inclusive of flow-on supply-chain and consumption effects, over the 3-year period:

- Output – \$177.142 million loss in gross revenue (output)
- Employment – Loss of 140 jobs
- Value-Added – \$55.568 million loss in value-added.

The employment multiplier under this scenario is 2.222, that is for every job lost at the Tumbarumba Mill, the workforce in Tumbarumba EZ will lose an additional job (or 1.222 jobs).

Figure E-2 Economic impact of loss of log supply over 3-year period – Tumbarumba Economic Zone

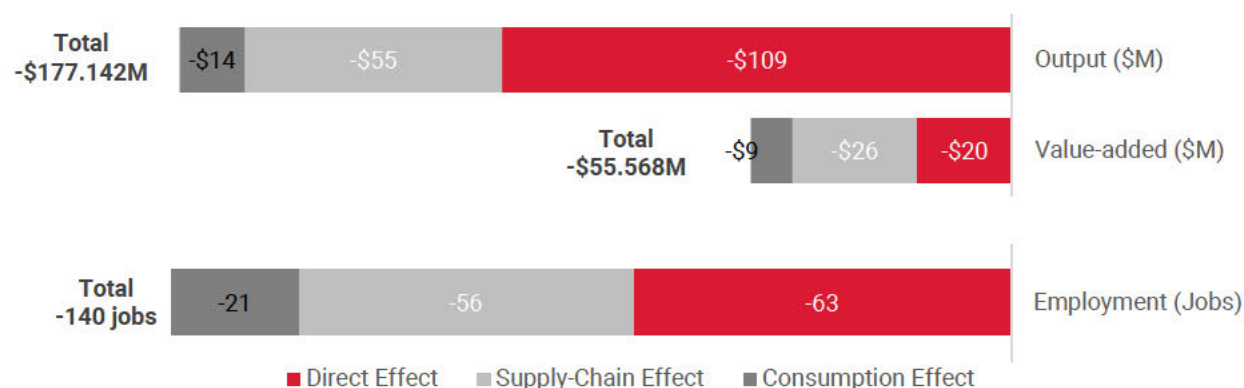


Table E-1 Economic impact of loss of log supply over 3-year period – Tumbarumba Economic Zone

Impact Summary	Direct Effect	Supply-chain Effect	Consumption Effect	Total Effect	Type 2 Multiplier
Output (\$M)	-\$108.506	-\$54.783	-\$13.853	-\$177.142	1.633
Employment - (Peak job loss)	-63	-56	-21	-140	2.222
Value-added (\$M)	-\$20.298	-\$26.491	-\$8.779	-\$55.568	2.738

Impact on Snowy Valleys LGA

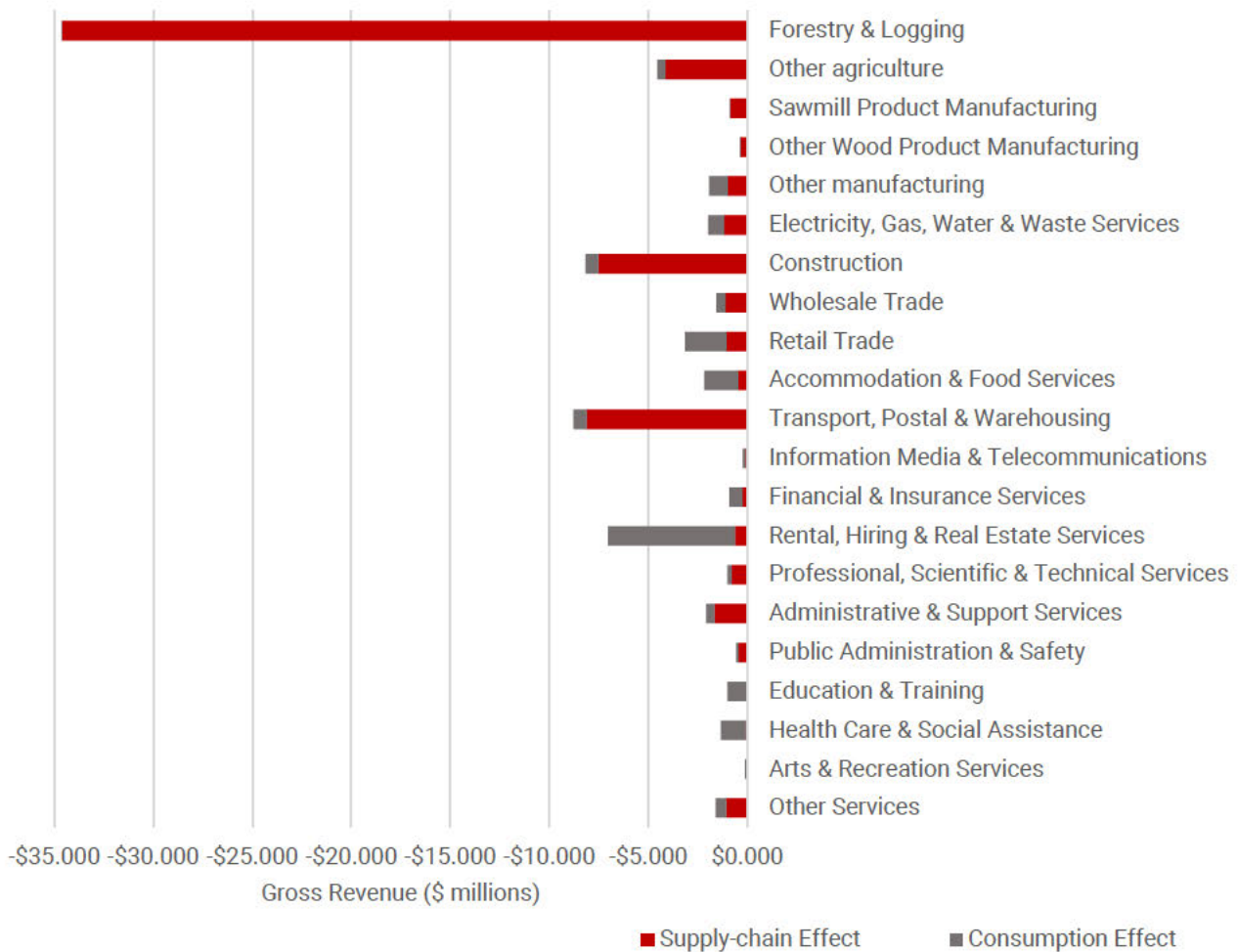
The loss of supply, revenue and employment is estimated to have the following impacts on the economy of the Snowy Valleys LGA over the 3-year study period.

The loss of supply resulting from the 2019/20 bushfires are likely to result in 63 jobs being lost at the Tumbarumba Mill, and a \$108.506 million reduction in output for the sawmill product manufacturing sub-sector over the 3-year period. This direct contraction in economic activity and employment within Snowy Valleys, has significant flow-on supply chain effects in terms of local purchases and demand for intermediate goods and services sourced from within the LGA. It is estimated that these indirect impacts would result in the loss of a further 66 jobs in Snowy Valleys and \$65.526 million in gross revenue (output).

The contraction in direct and indirect output and the corresponding loss of employment in Snowy Valleys will see a fall in wages and salaries paid to workers in the LGA. A proportion of these wages and salaries are typically spent on consumption and a proportion of this expenditure is captured in Snowy Valleys. However, the loss of employment and associated consumption under this scenario is estimated at - \$18.615 million in output, and a further loss of 28 local jobs.

Supply-chain and Consumption Effects on Gross Revenue by Industry

Figure E-3 Supply-chain and consumption effects on gross revenue by industry over 3-year period - Snowy Valleys LGA



Summary

The loss of log feedstock associated with the 2019/20 bushfires is estimated to have the following economic impacts on Snowy Valleys, inclusive of flow-on supply-chain and consumption effects:

- Output – \$192.647 million loss in gross revenue (output)
- Employment – Loss of 157 jobs
- Value-Added – \$62.451 million loss in value-added.

The employment multiplier under this scenario is 2.492, that is for every job lost at the Tumbarumba Mill, the workforce in Snowy Valleys will lose up to an additional one and a half jobs (or 1.492 jobs).

Figure E-4 Economic impact of loss of log supply over 3-year period – Snowy Valleys LGA

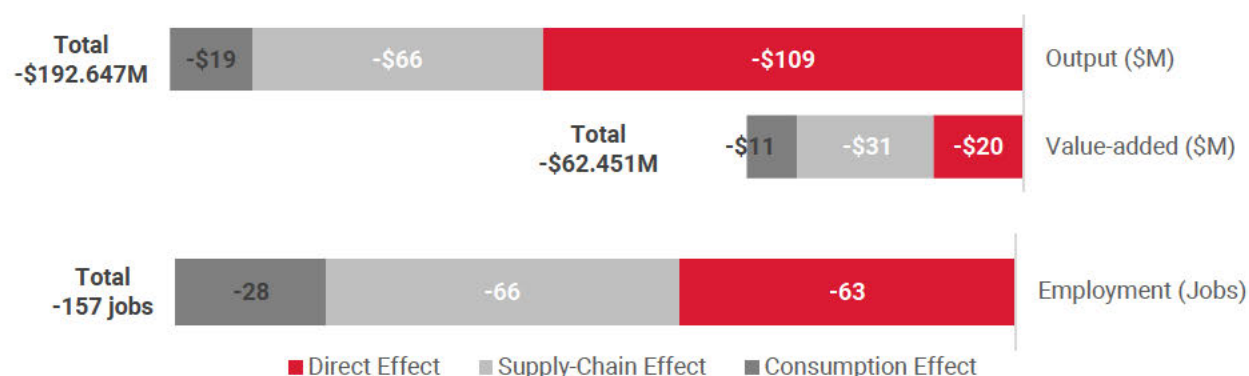


Table E-2 Economic impact of loss of log supply over 3-year period – Snowy Valleys LGA

Impact Summary	Direct Effect	Supply-chain Effect	Consumption Effect	Total Effect	Type 2 Multiplier
Output (\$M)	-\$108.506	-\$65.526	-\$18.615	-\$192.647	1.775
Employment - (Peak job loss)	-63	-66	-28	-157	2.492
Value-added (\$M)	-\$20.298	-\$30.936	-\$11.217	-\$62.451	3.077

Impact on New South Wales

The loss of log feedstock associated with the 2019/20 bushfires is estimated to have the following economic impacts on New South Wales, inclusive of flow-on supply-chain and consumption effects, over the 3-year period:

- Output – \$282.692 million loss in gross revenue (output)
- Employment – Loss of 263 jobs
- Value-Added – \$103.851 million loss in value-added.

For every job lost at the Tumbarumba Mill it is estimated that due to flow-on supply-chain and consumption effects, the State will lose an additional four jobs, as reflected in the employment multiplier of 5.116 under this scenario.

Table E-3 impact of loss of log supply over 3-year period – New South Wales (State)

Impact Summary	Direct Effect	Supply-chain Effect	Consumption Effect	Total Effect	Type 2 Multiplier
Output (\$M)	-\$108.506	-\$107.424	-\$66.761	-\$282.692	2.605
Employment - (Peak job loss)	-63	-112	-88	-263	4.175
Value-added (\$M)	-\$20.298	-\$48.774	-\$34.779	-\$103.851	5.116

Regional Benefit of Supply Chain Mitigation (Economic Impact Analysis)

The following analysis outlines the economic benefits of the proposed *supply chain mitigation strategy*.

Currently the sawmill product manufacturing sector in Tumbarumba is due to undergo a downsizing of workforce by 63 employees due to the 40% fall in log supply.

The proposed *supply chain mitigation strategy* will enable the Tumbarumba Mill to process an additional 441,500 m³ of log feedstock. For the local sawmill product manufacturing sub-sector this will support and retain 24 jobs and \$106.600 million in gross revenue (output) over the 3-year period.

To estimate the economic impact the following were applied to the sawmill product manufacturing sub-sector for the regions of Tumbarumba Economic Zone, Snowy Valleys LGA and New South Wales:

- Year 1: \$15.819 million in gross revenue retained
- Year 2: 24 jobs retained and \$44.276 million in gross revenue
- Year 3: 24 jobs retained and \$46.505 million in gross revenue

The following direct and indirect effects have been determined over a 3 year study period. The indirect effects due to the forestry and logging sub-sector (which sit within the agriculture industry) have been removed from estimates to account for sourcing of the log supply from interstate regions.

Impact on Tumbarumba Economic Zone

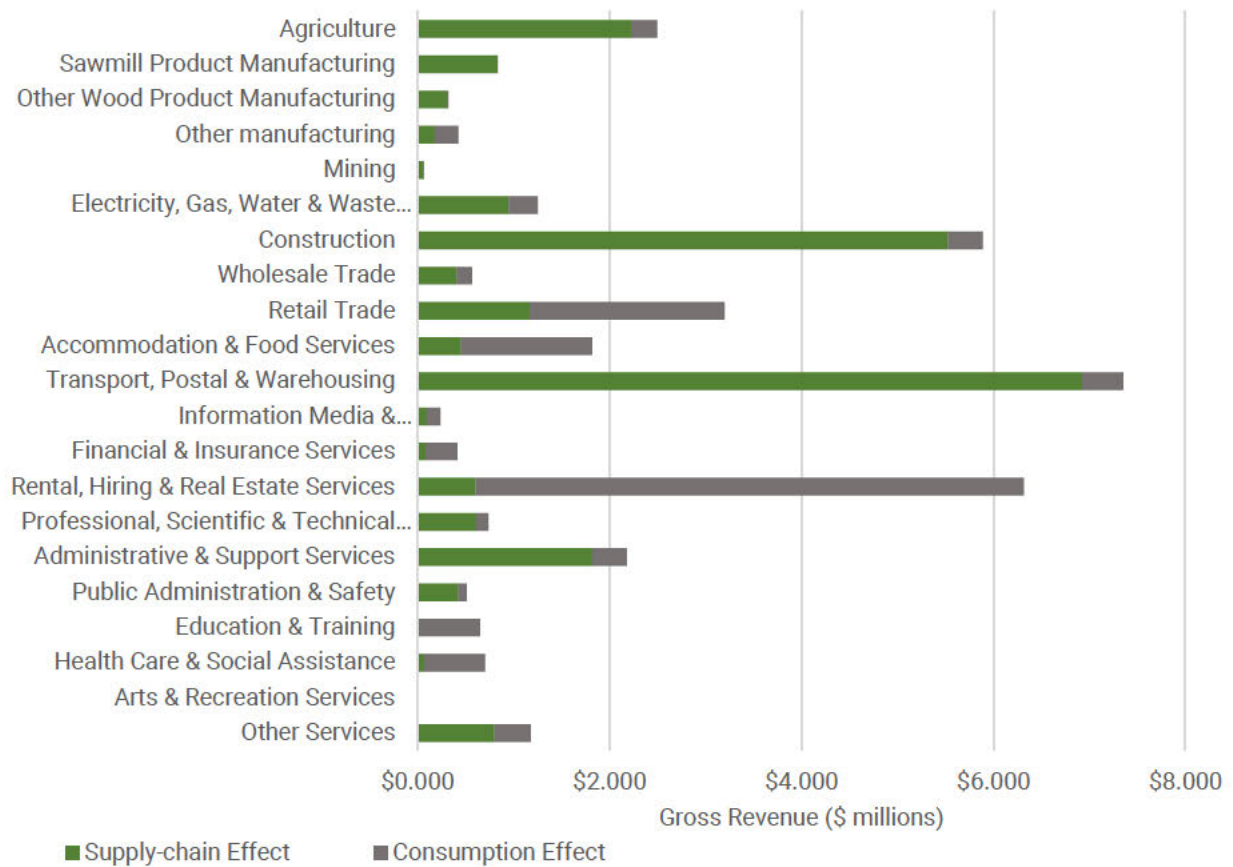
The additional log supply accessed through the proposed *supply chain mitigation strategy* is estimated to have the following impacts on Tumbarumba.

Additional log supply will retain 24 workers to support continued manufacture of finished timber product and by-product. The retained production is estimated to support \$106.600 million in revenue. This direct expansion in the economy, has significant flow-on supply chain effects in Tumbarumba in terms of local purchases and demand for intermediate goods and services. It is estimated that these indirect impacts retain a further 35 local Tumbarumba jobs and \$23.538 million in gross revenue (output) over the 3 years. These supply-chain effects in terms of gross revenue (output) by industry are illustrated in Figure E-5.

The direct and indirect output supported and the corresponding employment in Tumbarumba further supports local wages and salaries paid to employees. A proportion of these wages and salaries are typically spent on consumption and a proportion of this expenditure is captured in Tumbarumba. The consumption effects under this scenario are estimated at \$13.605 million in output, and further support of 20 jobs. These consumption effects by industry (in terms of output) are illustrated in Figure E-5.

Supply-chain and Consumption Effects (Gross Revenue) by Industry

Figure E-5 Supply-chain and consumption effects on gross revenue by industry over 3-year period – Tumbarumba Economic Zone



Summary

The Supply Chain Mitigation Strategy is estimated to have the following economic impacts on Tumbarumba EZ, inclusive of flow-on supply-chain and consumption effects, over the 3-year period:

- Output – \$143.742 million in gross revenue (output)
- Employment – Retain and support 79 jobs
- Value-Added – \$32.731 million in value-added.

The employment multiplier under this scenario is 3.292, that is for every job supported by the *supply chain mitigation strategy*, a further two jobs in the Tumbarumba EZ are supported.

Figure E-6 Economic Impact of supply chain mitigation strategy over 3-year period – Tumbarumba Economic Zone

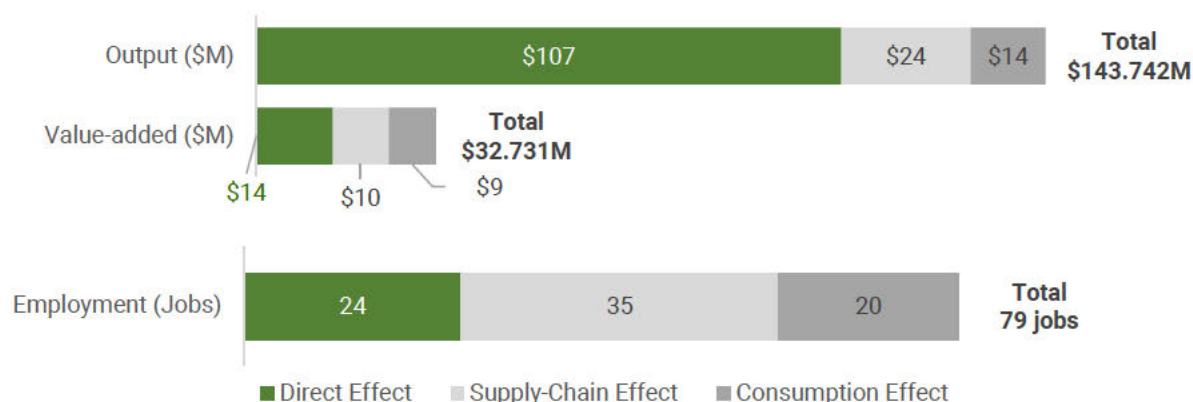


Table E-4 Economic Impact of supply chain mitigation strategy over 3-year period – Tumbarumba Economic Zone

Impact Summary	Direct Effect	Supply-chain Effect	Consumption Effect	Total Effect	Type 2 Multiplier
Output (\$M)	\$106.600	\$23.538	\$13.605	\$143.742	1.348
Employment - (Peak jobs retained)	24	35	20	79	3.292
Value-added (\$M)	\$13.903	\$10.205	\$8.623	\$32.731	2.354

Impact on Snowy Valleys

The additional log supply accessed through the proposed *supply chain mitigation strategy* is estimated to have the following impacts on Snowy Valleys over the 3-year period.

Additional log supply will require 24 workers to support continued manufacture of finished timber product and by-product. The continued production is estimated to support \$106.600 million in gross revenue. This direct expansion in the economy, has significant flow-on supply chain effects in Snowy Valleys in terms of local purchases and demand for intermediate goods and services. It is estimated that these indirect impacts will support 42 jobs in Snowy Valleys LGA and \$30.388 million in gross revenue (output).

The increase in direct and indirect output and the corresponding employment in Snowy Valleys supports payment of local wages and salaries. A proportion of these wages and salaries are typically spent on consumption and a proportion of this expenditure is captured in the LGA. The consumption effects under this scenario are estimated at \$18.282 million in output, and support of a further 27 jobs.

The Supply Chain Mitigation Strategy is estimated to have the following economic impacts on the economy of Snowy Valleys, inclusive of flow-on supply-chain and consumption effects, over the 3-year period:

- Output – \$155.270 million in gross revenue (output)
- Employment – Retain and support 93 jobs
- Value-Added - \$37.558 million in value-added.

The employment multiplier under this scenario is 3.875, that is for every job retained by the *supply chain mitigation strategy*, the workforce in Snowy Valleys LGA will retain almost another three jobs (or 2.875 jobs).

Figure E-7 Economic impact of supply chain mitigation strategy over 3-year period – Snowy Valleys LGA

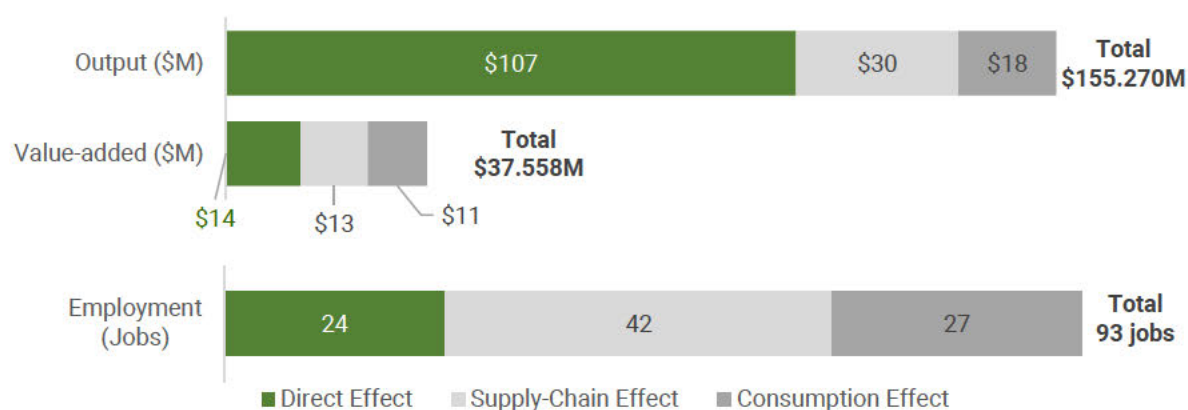


Table E-5 Economic impact of supply chain mitigation strategy over 3-year period – Snowy Valleys LGA

Impact Summary	Direct Effect	Supply-chain Effect	Consumption Effect	Total Effect	Type 2 Multiplier
Output (\$M)	\$106.600	\$30.388	\$18.282	\$155.270	1.457
Employment - (Peak jobs retained)	24	42	27	93	3.875
Value-added (\$M)	\$13.903	\$12.637	\$11.018	\$37.558	2.701

Impact on New South Wales

The Supply Chain Mitigation Strategy is estimated to have the following economic impacts on the economy of New South Wales, inclusive of flow-on supply-chain and consumption effects, over the 3-year period:

- Output – \$243.699 million in gross revenue (output)
- Employment – Retain and support 193 jobs
- Value-Added - \$78.212 million in value-added.

The employment multiplier under this scenario is 8.042, that is for every job retained by the *supply chain mitigation strategy*, an additional seven jobs are supported in New South Wales (or 7.042 jobs).

Table E-6 Economic impact of supply chain mitigation strategy over 3-year period – New South Wales

Impact Summary	Direct Effect	Supply-chain Effect	Consumption Effect	Total Effect	Type 2 Multiplier
Output (\$M)	\$106.600	\$71.532	\$65.568	\$243.699	2.286
Employment - (Peak jobs retained)	24	86	83	193	8.042
Value-added (\$M)	\$13.903	\$30.152	\$34.156	\$78.212	5.625

Appendix F: SEIFA Index of Disadvantage (2016)

Socio Economic Indexes for Areas (SEIFA) is a suite of indexes that have been created by the Australian Bureau of Statistics (ABS) from social and economic Census information. Each index ranks geographic areas across Australia in terms of their relative socio-economic advantage and disadvantage.

A low score indicates relatively greater disadvantage in general. For example, an area could have a low score if there are (among other things): many households with low income, many people with no qualifications, or many people in low skill occupations. Whereas, a high score indicates a relative lack of disadvantage in general. For example, an area may have a high score if there are (among other things): few households with low incomes, few people with no qualifications, and few people in low skilled occupations.

The local government area index of Snowy Valleys LGA, ranks 176 out of 544 local government areas with SEIFA scores in Australia. There are 368 local government areas which are less disadvantaged, and there are 175 local government area that are more disadvantaged.

The SEIFA index of disadvantage score for Snowy Valleys is 951, the score is lower for Tumbarumba (Locality) at 918, indicating a higher level of socio economic disadvantage.

Figure F-1: Tumbarumba (Locality) SEIFA Index of Disadvantage (2016)

