

# Engineered for Quality

The shift towards local manufacturing  
& supply of engineered wood products

**NeXtTimber**<sup>®</sup>  
by Timberlink

IT'S WHAT BETTER TOMORROWS ARE BUILT ON



## Introduction

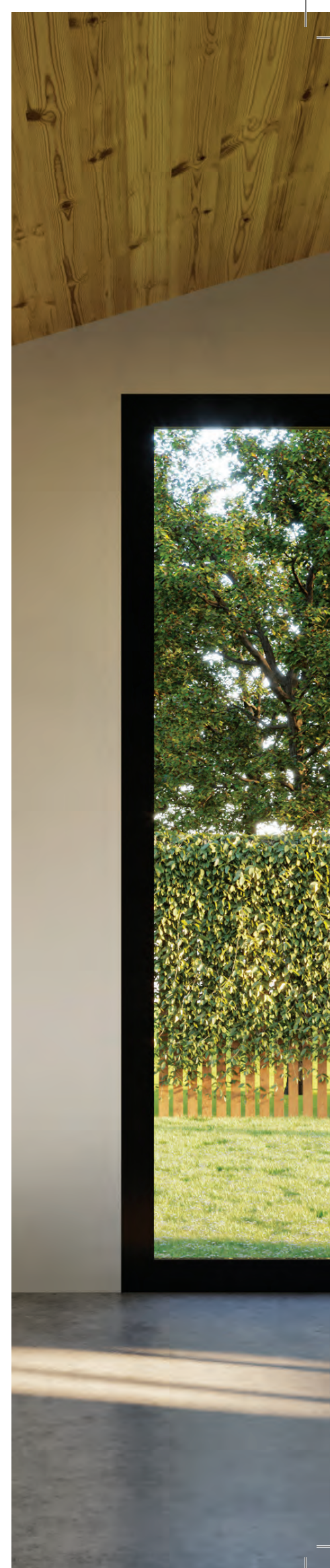
Due to several factors, including cost effectiveness, efficiency, and a growing demand for sustainable building materials, engineered wood products (EWPs) are being used more and more in Australia (and around the world), especially in mid-rise buildings. Using the latest technology to glue, nail, or dowel wood products together in layers, EWPs provide longer, wider, and stronger building solutions that make taller wood buildings possible. In this category, cross-laminated timber (CLT) and glue-laminated timber (GLT) are among the most popular.

In Australia, mass timber, in particular, is gaining popularity thanks to government initiatives such as the Clean Energy Finance Corporation's (CEFC) Timber Building Program<sup>1</sup>, which aims to substantially cut construction-related emissions and provide a greener alternative to conventional construction materials. Referring to a specific category of EWPs, mass timber products are solid, structural load-bearing components such as columns, beams, and panels, typically manufactured off-site to enable faster and more efficient construction.

Given these developments, the demand for EWPs is anticipated to soar over the next ten years, and yet Australia currently relies heavily on imported EWPs to meet market demand.<sup>2</sup> In recent times, the unreliability of international supply chains has been placed in the spotlight by geopolitical instability, shipping delays and increasing overseas demand.

Below we discuss the increased use of engineered wood in Australian construction, the CEFC's Timber Building Program and how the shift to local manufacturing and supply of EWPs will benefit Australian construction projects.

“Establishing a local supply of engineered wood is inherently advantageous due to supply chain stability, which ensures any additional costs are balanced by savings in construction schedules and labour.”









# Engineered wood grows in popularity

Over the past 15 years, the use of engineered wood has increased to new heights on a global scale. Among the most notable structures is the 53-metre-tall Brock Commons student residence at the University of British Columbia, which is constructed of mass timber and concrete. Up until recently, the Mjøstårnet in Norway, which is 85 metres tall and is made entirely of CLT and GLT, was the tallest timber structure. In 2021, it was overtaken by Ascent, a 25-storey, 86-metre timber-concrete tower in the United States.

In Australia, Lendlease's Forté Melbourne, a CLT apartment building finished in 2013 was one of the first timber structures. Aurecon's 25 King Street in Brisbane was Australia's first open-plan office building, a 52-metre-high structure that is made entirely of mass timber. As a result of improved knowledge of fire behavior, timber buildings' height restrictions have been revised, and developers are now more confident in their ability to design much taller structures.

## Demand increases in Australia

In 2022, the CEFC launched a new \$300 million initiative, known as the Timber Building Program<sup>6</sup>, to encourage mass timber construction across the property sector. With this program, the CEFC hopes to change how Australia approaches the construction of mid-rise to large buildings. In addition to providing an alternative to conventional building materials, the strategy has the potential to significantly lower construction-related emissions and contribute towards an economy-wide transition to net zero emissions.

The creation of the Timber Building Program was based on recent CEFC research that demonstrated how innovations in mass timber construction created the potential for immediate and long-term environmental benefits. On behalf of the Australian government, the CEFC has provided up to \$300 million in debt financing for eligible projects across Australia, including commercial offices, retail, industrial, healthcare, and educational institutions. Projects involving multi-residential apartments, senior housing, and dorms for students may also be eligible for funding.

While some might say Australia's appreciation of the benefits of engineered wood is still in its infancy, there is no doubt we are in a growth phase for these products. The benefits of products such as CLT and GLT are becoming more widely understood, and their use in large structures is growing. To meet local demand, Timberlink announced the opening of their NeXTimber manufacturing facility at Tarpeena, South Australia. This state-of-the-art facility will occupy a massive 15,000m<sup>2</sup> and is set to open in 2023.

Along with regulatory and technical developments, growing awareness of the building industry's environmental footprint is driving the mass timber movement. Around 28% of emissions from building and construction are produced by embodied carbon, primarily from the manufacture and delivery of building supplies.<sup>3</sup> By 2050, it is anticipated to contribute to almost half of all emissions from new construction.<sup>4</sup> The use of mass timber construction, which reduces embodied carbon by up to 75% when compared to the use of conventional steel and concrete, was found by the CEFC to be a potential solution to this problem.<sup>5</sup>

Hybrid steel-timber-concrete structures have arisen as a way to leverage the advantages of wood as a lightweight and renewable building material with little waste and the ability to sequester carbon dioxide. Because these materials are mixed together in building systems, design teams can take advantage of each material's respective strengths to maximise structural, material efficiency and building performance.

## Challenges with supply

For the first half of 2022, Australia's imports of EWPs were valued at \$170.9 million.<sup>7</sup> For a sector that has experienced significant supply challenges, the value of imported engineered wood products is cause for concern. It is a simple fact that Australia currently depends heavily on imported wood products to satisfy the growing market demand.<sup>8</sup>

A significant reliance on imports is always concerning for construction projects that need to manage risks to their schedule and budget. Across the globe, supply chains are struggling in the face of multi-country disruptions thanks to pandemic lockdowns in key supplier regions, backlogs and port delays, labour shortages in related occupations, and disruptions to inland distribution networks.<sup>9</sup>

The growing demand for mass timber and reliance on imports to meet excess demand has contributed to increased material prices. To compound the problem, increased shipping costs have had a flow-on effect on an industry already experiencing cost and cashflow issues.

Currently, it is preferable for projects to decide on using EWPs early in the design process; making this decision later often leads to inefficient timeframes to order and receive the timber. It should come as no surprise that there are active and renewed efforts to increase EWP production in Australia to establish more dependable supply chains.

## Why going local is key

Timber manufacturing company Timberlink Australia will produce both CLT and GLT for commercial building construction at its Tarpeena South Australia manufacturing site. It will be the first facility in Australia to produce both types of radiata pine timber product on the one site and it is planned to have capacity to replace a large proportion of imports at today's level. The creation of such facilities aims to de-risk the demand for mass timber in Australia, replacing imports that primarily come from Europe today, while also growing the existing market.

There is significant investment by all manufacturers and the introduction of new technology to ensure it is just as efficient, if not more so, to manufacture EWP's locally than to import them. Furthermore, cost comparisons typically do not consider the expenses and project risks associated with importing goods, which is at an all-time high given the challenges with sea freight and the escalation of material costs during and after the pandemic.

Establishing a local supply of engineered wood helps to de-risk the procurement and construction process across the sector. Local producers can deliver their goods to Australian customers and are more protected from issues with the global supply chain. For example, there is no quarantine and risk to biosecurity when using

local resources, and they are not subject to tariffs or custom inspections. Additionally, the risk associated with foreign shipping, import taxes, and currency exchange can be reduced.

Local Australian supply also gives design and build teams more opportunities for collaboration and optimisation. A key advantage is being able to use larger format elements and more efficient logistics planning as local suppliers are not constrained by the internal dimensions of a shipping container. Buyers and suppliers can work closely together to develop the right engineered wood solutions, with the flexibility to scale up to meet supply and demand. At the same time, companies benefit from greater certainty in product delivery and can prepare their project schedules well ahead of time.

Beyond the logistical and financial advantages, there is also the satisfaction of supporting Australian businesses and local communities. Utilising local resources ensures that local residents are invested in their communities' businesses while also creating jobs for locals. Investing in local EWP manufacturing also builds sovereign capabilities, improving self-sufficiency in some areas, diversifying our supply chains and setting up the industry to better manage disruptions in the future.

**BELOW** Timberlink Australia's Tarpeena manufacturing facility where NeXTimber will be produced.





# A responsible choice

In the past few years, there has been increased requirements for Australian businesses to perform supply chain due diligence in order to comply with modern slavery and other environmental, social, and corporate governance regulations. There has also been greater emphasis on manufacturers to manage their environmental impact through greenhouse gas and energy reporting, corporate sustainability or triple bottom line reporting and natural resource management monitoring.

The development of forest certification as a way to show the application of sustainable forest management techniques is relevant to the timber industry. The Programme for the Endorsement of Forest Certification (PEFC) scheme is an example of a global-renowned

organisation that certifies forests that meet their criteria for sustainable forest management. Forest certification schemes offer chain-of-custody certification, which enables wood products sourced from certified forests to be tracked (via labeling) through the supply chain.

Australia also upholds a wide array of laws that safeguard its workers. This highly developed regulatory environment guarantees that locally-produced goods are finished to a very high standard and that workers are treated and paid fairly. The best Australian manufacturers are completely transparent about their safety policies and practices, making it simple to determine which businesses are protecting the health and safety of their workers and clients.



**ABOVE LEFT** Artist impression of NeXTimber products. **ABOVE RIGHT** S.E.E.D. - A New Demountable Classroom by Betti&Knut Architecture, 2022 Sustainability Awards Winner for Education & Research category partnered by Timberlink. Photography by Bettina Steffens. Mass Timber not supplied by NeXTimber.

## NeXTimber® by Timberlink

### The future of engineered timber in Australia

NeXTimber by Timberlink will manufacture Australian-made EWP and provide mass timber building solutions with CLT panels and GLT members. Made from certified local Australian plantation pine that sequesters carbon from the atmosphere, NeXTimber CLT panels and GLT members provide the biophilic and environmental benefits of traditional timber but with the strength to support taller and more complex structures.

Production of the NeXTimber range at Timberlink's manufacturing facility at Tarpeena, South Australia is scheduled begin in 2023. Their locally-based technical support team is ready now to help you optimise the use

of NeXTimber products in your future projects to achieve cost, time, and environmental efficiencies.

NeXTimber CLT and GLT products are set to reduce reliance on imports and support faster adoption of renewable mass timber construction, offering an alternative to steel and concrete in mid- and high-rise construction. The commencement of the project was noteworthy, just days after the Australian Government's CEFC announced \$300 million in financing to encourage greater use of CLT to make low carbon EWPs – the building material of choice to cut embodied carbon in building projects such as office and apartment towers.

# Why choose NeXTimber?

## **Premium performance**

Tested to Australian standards, NeXTimber CLT and GLT products can provide superior fire performance by using melamine adhesives in combination with edge gluing when compared to products manufactured using thermoplastic adhesives, such as conventional polyurethane.

## **The ultimate renewable**

NeXTimber products provide low carbon mass timber solutions for building components, providing a prime opportunity to reduce the embodied carbon of a project. Utilising timber as a construction material from sustainably managed pine forests means that carbon is continually captured from the atmosphere as the forests are replanted.

## **Secure local feedstock supply**

NeXTimber infeed stock comes from local pine plantations through our vertically integrated supply chain to ensure consistency of quantity and quality. One Australian supply point for both CLT and GLT provides flexibility in lead times to give design and build teams more opportunities for optimisation and access to locally-based technical support throughout the project's lifecycle. This reduces risk to project budgets and timelines from international shipping, import taxes and currency exchange risks.

## **Supporting the local community**

Timberlink aims to be an intrinsic part of the local communities they operate in, and support local community groups that their employees and their families rely on. Timberlink employs close to 600 people, with more than 80% living in regional areas. A total of 27 full-time permanent jobs will be created when the NeXTimber facility opens, rising to 50 at full output. A significant number of additional jobs are also being created during the construction phase.

**Visit [NeXTimber.com.au](https://www.nexttimber.com.au) for more information.**

“Investing in local EWP manufacturing also builds sovereign capabilities, improving self-sufficiency in some areas, diversifying our supply chains and setting up the industry to better manage disruptions in the future.”



## References

- 1 Clean Energy Finance Corporation. "CEFC Timber Building Program." CEFC. <https://www.cefc.com.au/media/pkna15c/cefc-timber-buildings-program.pdf> (accessed 8 December 2022).
- 2 Ryan Media. "Engineered wood imports are a risky business." Australian Forest & Timber News. <https://www.timberbiz.com.au/engineered-wood-imports-are-a-risky-business> (accessed 23 October 2022).
- 3 Clean Energy Finance Corporation. "CEFC targets timber transformation with \$300 million building program." CEFC. <https://www.cefc.com.au/media/media-release/cefc-targets-timber-transformation-with-300-million-building-program> (accessed 23 October 2022).
- 4 Ibid.
- 5 Ibid.
- 6 Ibid.
- 7 Above n 2.
- 8 Ibid.
- 9 NSW Government. "Economic data briefing: Global supply chains." NSW Treasury. [https://www.treasury.nsw.gov.au/sites/default/files/2022-04/20220421\\_global\\_supply\\_chains\\_briefing.pdf](https://www.treasury.nsw.gov.au/sites/default/files/2022-04/20220421_global_supply_chains_briefing.pdf) (accessed 23 October 2022).

**Note** This whitepaper may contain references to third-party research, data and industry publications. No guarantee is given as to the accuracy and completeness of third-party information. This whitepaper was written and produced by Architecture & Design.

All information provided correct as of December 2022

CLT and GLT images used throughout are an artist's impression of NeXTimber products.

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