



Brisbane 2032 Olympics Winning with Timber

WoodSolutions Fact Sheets are introductory guides to wood products and associated topics and services. For more information, please visit woodsolutions.com.au.

What will be the material legacy of the Brisbane 2032 Olympic and Paralympic Games? While every Games leaves competitors, spectators, workers and volunteers with once in a life time memories, it is also a chance to deliver enduring physical and environmental benefits. For Brisbane, and Australia, this can mean improved sporting and recreation facilities and a new socially-advantaged residential area. It is also an opportunity to leave a legacy of environmental improvement, climate change mitigation and a minimal, if not negative carbon footprint.

The aim of The Games: Carbon Positive for Brisbane 2032

Our approach

Brisbane 2032 is committed to a best practice approach, aligning with recognised standards and reporting frameworks and applying lessons from previous Games and other major sporting events. To achieve climate positive, carbon management strategies will be guided by four key principles:

- minimising the Games' footprint as much as possible before compensating more than 100% of residual emissions
- continuously improving emissions forecasting and measurement to support evidence-based decision making
- ensuring consistency and transparency across the event lifecycle to promote accountability and comparability
- influencing to create change and deliver verifiable climate positive outcomes for Queensland and Australia, including by promoting shared responsibility.

**> Source: www.des.qld.gov.au/climateaction/climate-positive-games
Click here to find out more**



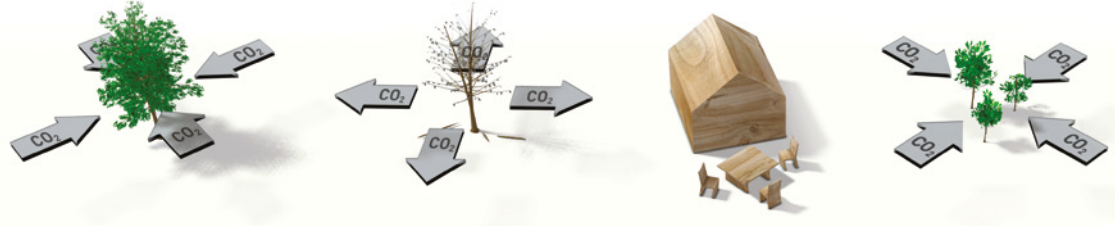
Why building with timber is the winning choice from start to finish

Timber tackles climate change

Timber is the only major building material that tackles climate change. It is both a naturally renewable and abundant resource. Growing trees remove carbon dioxide from the atmosphere in a process known as carbon sequestration.

The carbon absorbed by the growing tree – about half the weight of dry timber – remains in the wood until it is either burnt or decomposed.

In addition, the production and processing of wood uses much less energy – known as embodied carbon – than other more carbon-intensive materials like concrete and steel, giving wood a significantly lower carbon footprint. Wood is a low-emission substitute for materials that require larger amounts of fossil fuels to be produced.



Growing trees absorb carbon dioxide (CO₂) from the atmosphere, storing it as carbon in wood, leaves and other organic matter.

If a tree dies and decays, or is burnt, CO₂ is released back into the atmosphere, adding to greenhouse gases.

When wood is used it continues to store carbon (up to 50% of the dry weight of the wood) for life – helping to tackle climate change.

Replanted or regrown young trees absorb more CO₂ and store it, as they emit oxygen.

Designing for construction and deconstruction

An event such as the 2032 Olympic Games requires several types of structures, these may be classified as permanent fixed purpose structures, permanent variable use structures and temporary structures. These all follow a similar timeline: Design – Construct – (Repurpose) – Deconstruct. To maximise the cost efficiency and minimise the environmental impact it is essential that awareness of the whole timeline begins at the design stage.

Design for Manufacture and Assembly (DfMA) helps identify, quantify and eliminate waste and inefficiency. This increasingly popular approach is often used with varying degrees of prefabrication or offsite assembly.

Design for Deconstruction (DfD) addresses the end-of-life of a structure, complementing DfMA.

Together, over the life of a structure, DfMA and DfD can deliver a wide range of benefits, including:

- Reducing the environmental impact, including the carbon footprint
- Minimising construction waste
- Minimising construction and deconstruction costs
- Increasing local amenity via reduced site traffic and noise during construction
- Reducing transportation requirements
- Reducing the quantity of materials being taken to landfill

> Dig into more facts about the safety and efficiency of building with timber here.



Daramu House / Tzannes Architects



La Trobe University, JCB Architects



25 King Street / Bates Smart Architects

80%

of people either like or love timber*

*Source: Pollinate Report - Workplaces: Wellness + Wood = Productivity. See link below



LVL

AV Building, Alpine MDF Industries Pty Limited



Glulam

Australian School of Fine Furniture
Six Degrees Pty Ltd, Image: Patrick Rodriguez



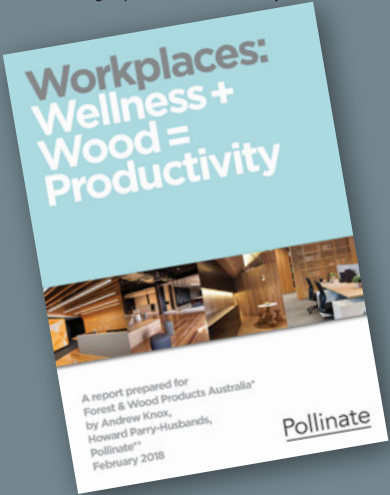
CLT

Daramu House / Tzannes Architects



Stick Framing

Australand Parkville / SJB Architects



Government associations and councils that have adopted Wood Encouragement Policies

Timber is a loved and well-known material

As one of the world's oldest building materials, timber is not only well understood by designers and builders but is loved by most people - research shows some 80% of people either like or love timber.

Timber is an innovative material

While some timber building systems, e.g. stick framing, have been used for centuries, new engineered timber products have created a whole new genre of timber buildings. Products including cross laminated timber (CLT), glued laminated timber (Glulam) and laminated veneer lumber (LVL) are providing cost and environmentally advantaged design and construction solutions while increasing the resource yield from harvested trees.

Timber delivers the benefits of biophilic design to athletes

Our interaction with nature has been termed 'biophilia' and explains our innate human need to connect with natural elements in our environment, resulting in improvements in health and wellbeing. By extension, 'biophilic design' is focused on enabling a human connection to nature in the built environment, where we live, work, rest and play.

In the workplace, research showed employees surrounded with natural wooden surfaces on average reported higher personal productivity, mood, concentration, clarity, confidence and optimism - and were more likely to find their workplaces relaxing, calming, natural-feeling, inviting and energising. Imagine the increased athlete performance if they were to compete, train and rest in biophilic designed buildings, surrounded by natural timber?

> [*Download the report and discover more at WoodSolutions](#)

Local, state and national governments are legislating to increase the use of timber

In Australia, Western Australia and Tasmania have already adopted a state-wide wood encouragement policy (WEP). In addition, two local government authorities (LGAs) and eighteen local councils have also adopted a WEP.

WEPs are adding impetus to the growing use of timber construction systems, especially in mid-rise residential and mixed-use buildings.

The adoption of similar policies around the world is growing steadily, including New Zealand, Canada, Japan, France (which plans for a sustainability law that will ensure all new public buildings are built from at least 50 per cent timber or other natural materials), Finland, Switzerland and the UK, who are all encouraging the use of natural, timber-based products in construction.

> [Learn more and watch a quick WEP video from Planet Ark here.](#)

Timber has extensive technical support

As an increasing number of projects are built with mass timber, knowledge and technical expertise has expanded rapidly, both within Australia and internationally. This is driven by a desire to gain the many advantages of timber building systems and supported by the Australian Government, the forest and wood products industries, local and international wood product suppliers, leading property developers, architectural practices and building companies.

> [Find out about WoodSolutions extensive range of Technical Design Guides.](#)

Timber has some brilliant high-profile case studies and examples

In addition to providing the functional, financial and environmental benefits described in this fact sheet, timber-rich designs can also provide beautiful projects which can gain global publicity for the teams and communities in which they are built. Some of the Australian and international timber sporting and multi-residential projects include:

Monash University Gillies Hall

Gillies Hall is one of Australia's largest cross laminated timber (CLT) buildings. It also achieves Passive House Certification (PHC) and comprises accommodation for 150 students in studio apartments.

> [Discover more here](#)



JCB Architects, Images: Peter Clarke

La Trobe University North and South Apartments

The project is the largest mass timber building in Victoria, comprising 275 apartments, including single occupancy studios and 4-, 5- and 6-bedroom units, supported by study areas, student kitchens and large communal spaces.

> [Discover more here](#)



JCB Architects, Images: Peter Clarke

More projects next page >

The Olympic Velodrome, London

The distinctive and elegant shape of the Velodrome acted as a landmark for the 2012 Olympic Games. Its double-curved timber clad roof is a reflection of the sloping 250 metre track inside, a synthesis of form and function which is achieved with an economy of means and materials.

[> Discover more here](#)



Hopkins Architects, Images © Richard Davies

Stromlo Leisure Centre in Canberra

This project features the longest spanning glulam roofing structure in Australia, which covers a 50-metre swimming pool.

[> Discover more here](#)



Cox Architecture, Images: Martin Ollman

Eric Tweedale Stadium

This award-winning project in Sydney's west is constructed almost entirely from glulam timber and features a 760-seat grandstand and first-floor function space enclosed by a soaring cantilevered roof.

[> Discover more here](#)



Images courtesy DWP Architects

Equestrian Centre, Portugal

A large structure designed as a group of four connected forms with sloping walls and exposed timber frames enclosing arenas and other facilities. Winner of many international awards.

[> Discover more here](#)



Architect: Carlos Castanheira, Images: Fernando Guerra FS+SG, Fotografias de Arquitectura

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steps**

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