



COLLABORATION FOR CHANGE

# Case Study: Daramu House

Embodied CO2e reduction  
(tCO2e)

2900

## CATEGORY

PRODUCT	SYSTEM	PROJECT	CONCEPT
---------	--------	---------	---------

## SUPPLY CHAIN

MANUFACTURING	PROCESSING	TRANSPORTATION	CONSTRUCTION
---------------	------------	----------------	--------------

## REGION

WA	NT	SA	QLD
NSW	ACT	VIC	TAS

## Profile

Organisation: Lendlease

Website: <https://www.lendlease.com/au/>

About: Lendlease is a globally integrated real estate group with expertise in shaping cities and creating strong, connected communities.



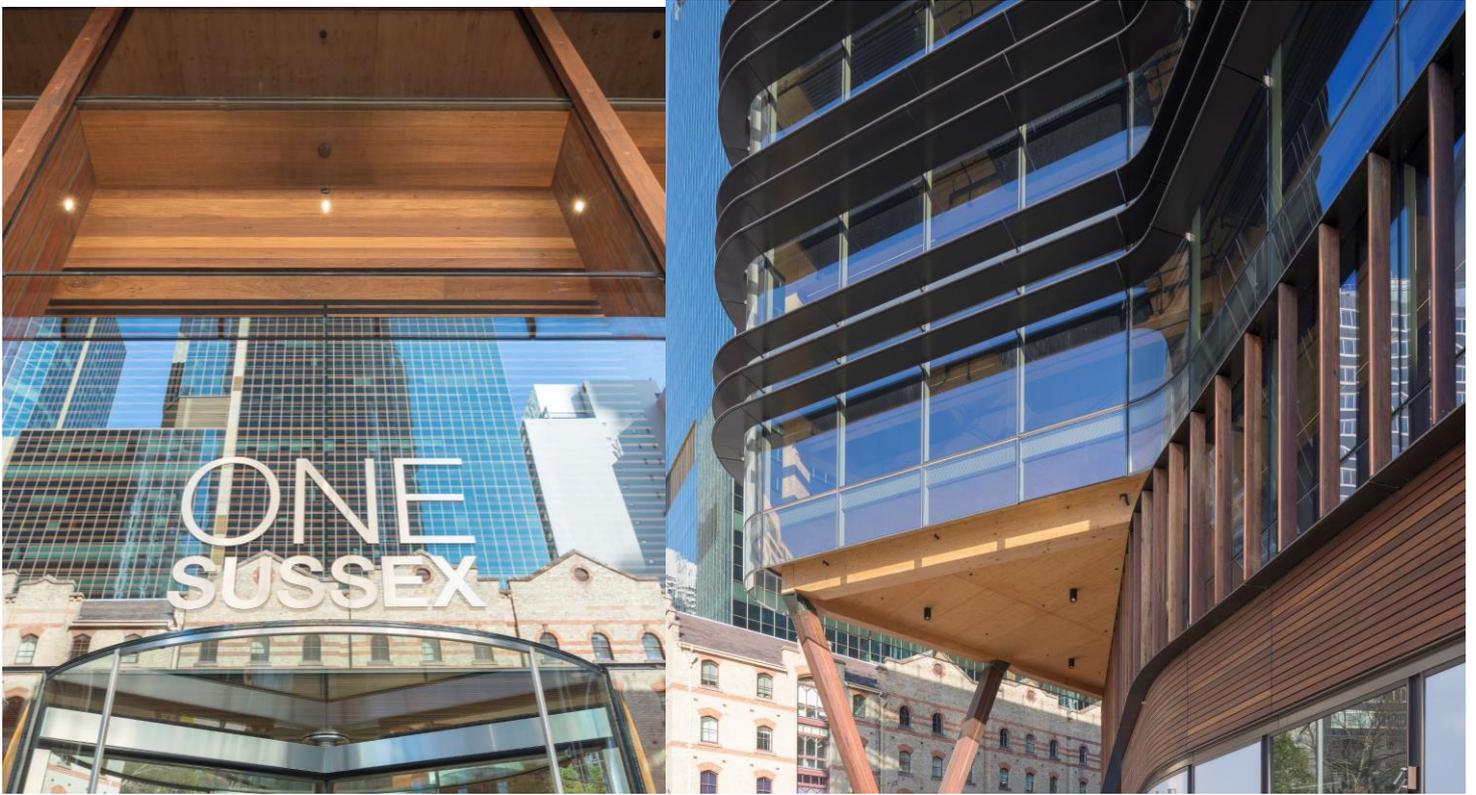
## Section 1: Opportunity

Lendlease saw the opportunity to undertake an innovative design solution for two of the medium-rise commercial buildings in the Barangaroo Precinct.

Daramu House and its sister building: International House are both six story timber framed buildings. Bringing occupant wellbeing, unique architectural features and sustainability into the centre of the design options for Daramu House.

## Section 2: Solution

90% of the structure and fit out are made from timber including walls, floors, ceiling, roofs, lift shafts and stairwell. Two types of timber were used, responsibly sourced Cross Laminated Timber (CLT) and glue laminated timber (Glulam). The quantity used in the construction of Daramu House can be grown in Austrian forests in around 12 hours during the summer months. Hardwood columns and linings were also used in the building, sourced from reclaimed wood suppliers and up to 80 years old, salvaged from old telegraph poles and demolished warehouses.



### Section 3: Lessons

The use of timber has reduced the number of people and time to build Daramu House compared to a traditional build of this scale. With less equipment and manual handling needed, Daramu House was built in just seven months by a team of 16 people compared to an average of 60 people.

### Section 4 : Impact measurement

Daramu House delivered a 24.7% less carbon than traditional structures (excluding the carbon sequestration in timber). This figure is based on materials, transport and onsite activities (LCA impacts A1-A5). Including the sequestration of timber (LCA GWP A-D) the project delivered 48% less carbon than traditional construction. As a composite timber, it is also low in formaldehyde, which means improved air quality, and generates less dust in its construction leading to a healthier worksite. Daramu House has also achieved a 6 Star Green Star Design and As-Built v1.2 rating

#### Disclaimer

The Materials Embodied Carbon Leaders Alliance (MECLA) has dedicated the work to the public domain by waiving all of his or her rights to the work worldwide under copyright law, including all related and neighboring rights, to the extent allowed by law. You can copy and distribute even for commercial purposes, without asking permission. In no way are the patent or trademark rights of any person affected by this nor are the rights that other persons may have in the work or in how the work is used, such as publicity or privacy rights. Unless expressly stated otherwise, MECLA makes no warranties about the work, and disclaims liability for all uses of the work, to the fullest extent permitted by applicable law. When using or citing the work, you should not imply endorsement by the author or the affirmer. The views expressed in this publication may not reflect the combined opinion of MECLA or any of its affiliated organisations. Whilst care has been taken to present the most accurate information, none of the authors, contributors, administrators, or anyone else connected with MECLA, in any way whatsoever, can be held responsible for any errors, omissions, or use of the information contained in or linked from this publication. All information is provided 'as is', with no guarantee of completeness, accuracy, timeliness or the results obtained from the use of this information. Information is intended for general informational purposes and users should obtain specific independent advice from professionals.