Hardwood

Timber comes in a wide range of varieties and sizes. It is used for structural and non-structural purposes, and can vary significantly in density, grain texture, workability, usage and cost. It is lightweight, easy to handle and transport, and has a good strength to weight ratio. It is typically divided into softwood varieties, such as Pine, Cypress and Spruce and hardwood varieties such as Victorian Ash, Blackbutt and Oak. The term hardwood and softwood is a botanical distinction, and not an indication of timber strength or density. The density of timber is highly dependent on the species, varying from 120 kg/m³ to 1 300 kg/m³ or higher.

Hardwood is generally more dense and durable than softwood varieties, with better longevity. Some hardwoods are naturally resistant to termites and pests and more fire resistant. It is commonly used for high traffic areas, quality furnishings and interior joinery, structural members, cladding and flooring.

Commercial timber products are typically kiln, or air-dried. Kiln/oven drying is done in a controlled environment over a relatively short time period. It produces a uniformly dried, high quality product that generally kills any fungi and insects in the wood. Air-drying is done over extended periods of time, and does not require any fuel inputs. It is cost effective, but needs to be carefully managed to reduce cracking and ensure consistent drying.

Category *Timber products*

Type *Hardwood*

Functional unit *m³*

Specific heat *1 255 J/(kg·K)*

Density *720 kg/m³*

Common uses
Beams, columns, framing, joinery, flooring, walling, furniture, cladding, doors, windows

Process name
Sawn timber, hardwood, planed, air / kiln dried, u=10%, at plant/ RER U/AusSD U

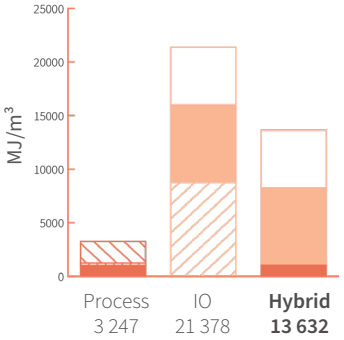
Input-output sector
Sawmill Product Manufacturing

Further information
doi.org/10.26188/5da554ea370a5

Material variations	Unit	Energy (MJ/unit)	Water (L/unit)	GHG emissions ($kgCO_2e$/unit)
Hardwood air-dried	*m³*	*13 632*	*19 110*	*944*
Hardwood kiln-dried - dressed	m³	41 597	58 411	2 269
Hardwood kiln-dried - structural	m³	19 389	25 332	1 178

TOP THREE INPUTS

- 45.9% Road Transport
- 1.1% Wholesale Trade
- 0.8% Construction Services

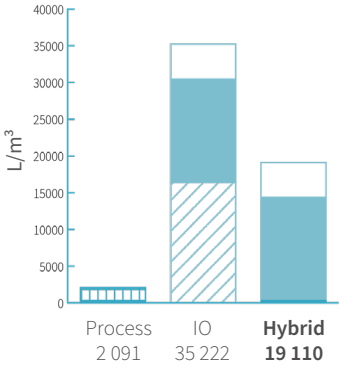


ENERGY

13 632 MJ/m³

TOP THREE INPUTS

- 3.7% Road Transport
- 1.9% Construction Services
- 1.2% Wholesale Trade

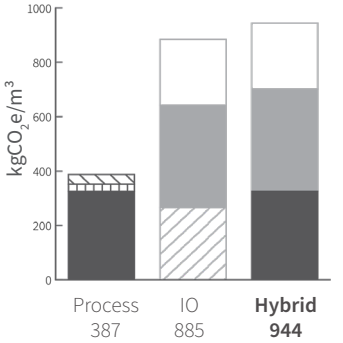


WATER

19 110 L/m³

TOP THREE INPUTS

- 21.7% Road Transport
- 1.6% Construction Services
- 1.1% Wholesale Trade



GREENHOUSE GAS EMISSIONS

944 $kgCO_2e/m^3$