

## A Good Choice for the Environment

### FOREST USE & MANAGEMENT

Australia's native forests are sustainably managed to protect and enhance the environment, to ensure the long term supply of timber products, and to provide on-going local employment through value added processing of the timber resource and import substitution.

The total area of Australian native forest is about 163 million hectares (or about 21% of the continent). The most common forest types are those dominated by Eucalyptus and related genera (80%). Today's distribution of forests in Australia represents about 60 per cent of the cover which existed before the arrival of Europeans in 1788.

The total area of public forest in Australia is approximately 46million hectares. Only 25% percent of this area area is available for timber harvesting according to strict management controls with only 1% of the area harvested annually.

Protection for native forests is provided by Regional Forest Agreements (RFAs) between Commonwealth and State governments, which establish a national reserve system (CAR Reserve System). These reserves safeguard biodiversity, old growth, wilderness and other natural and cultural values of forests. Forests outside these reserves are available for wood production, subject to codes of practice (such as Integrated Forestry Operations Approvals), that will ensure their long-term sustainability and contribute to the conservation of their natural and cultural values.

### BEST PRACTICE INITIATIVES

Best practice in any industry involves constant improvement. The timber industry plans to certify best practice in forest management through the introduction of the Australian Forestry Standard (AFS) and the adoption of green labelling for timber products.



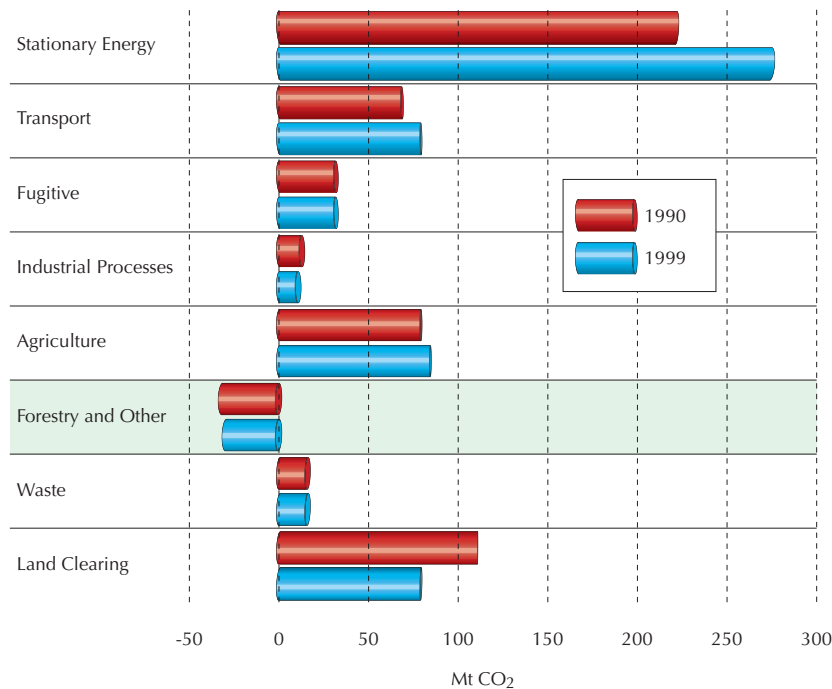
*Australia's native forest estate: The facts*

Area	162,680,000 ha
Percent of Australia's total forest area	99%
Percent of Australia's land area	21%
Percent of forest cover in:	
closed forest	3%
open forest	27%
woodland	62%
Percent of native forest contained in:	
public forests (multiple use including timber production)	7%
public conservation reserves	13%
privately managed forests	70%
Percent of public forests	
available for timber harvesting	25%
harvested annually	1%
unavailable for harvesting	29%
conservation reserves	46%

Source: National Forest Inventory (2003), *Australia's state of the forest report 2003*. Bureau of Rural Sciences, Canberra.

## AUSTRALIAN GREENHOUSE GAS EMISSIONS

Source: Australian Greenhouse Office :[www.greenhouse.gov.au](http://www.greenhouse.gov.au)



## TIMBER & GLOBAL WARMING

Actively growing forests can help mitigate the effects of increasing levels of atmospheric carbon dioxide. Increased levels of carbon dioxide and other greenhouse gases in the atmosphere are believed by most climate scientists to be leading to a gradual warming of the planet. Australia and other developed countries have undertaken to limit greenhouse gas emissions from human activities such as electricity generation, industrial processes, burning of transport fuels, and agriculture.

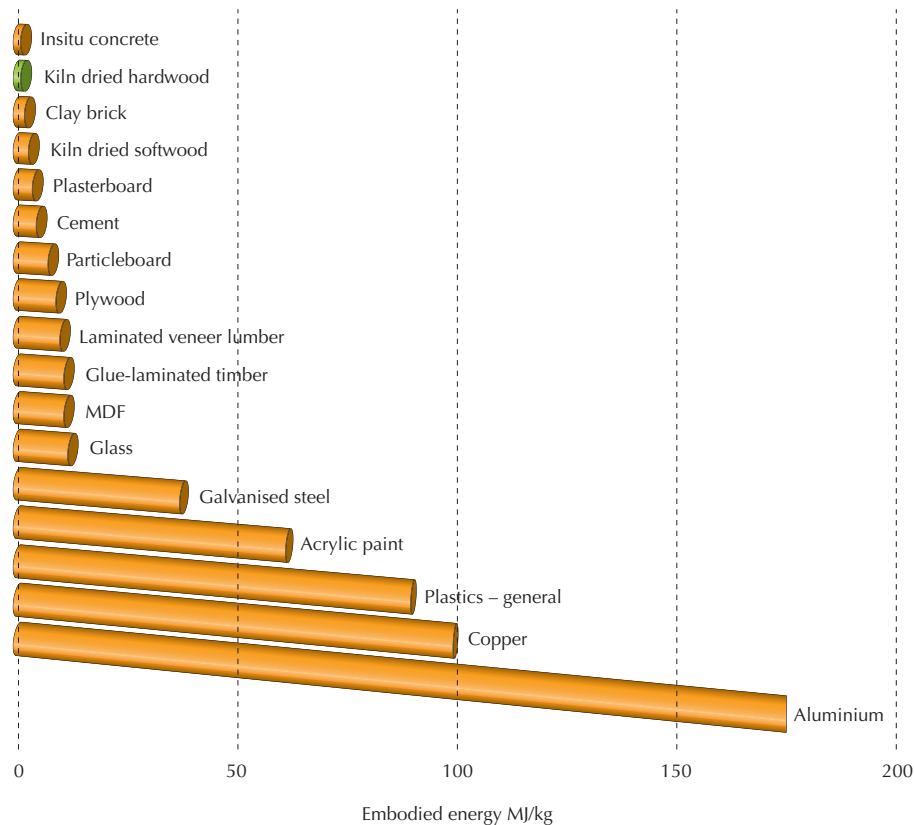
Trees and other plants take up (or sequester) carbon dioxide from the atmosphere as they grow. The carbon is stored in the leaves,

branches, stem, bark and roots. Sustainable forest management, including selective harvesting, can have a neutral effect on carbon dioxide in the atmosphere, if measured over the growth and harvest cycle of an existing managed forest. Following harvest, carbon dioxide may be released into the atmosphere through the natural decay of vegetation not removed from the forest and through the burning of sawmill waste from timber processing. However, depending on the end use, harvested wood such as construction timber can store carbon for many years, keeping it out of the atmosphere.



## EMBODIED ENERGY OF COMMON BUILDING MATERIALS

Source: Adapted from [www.yourhome.gov.au](http://www.yourhome.gov.au)



## HARDWOOD & EMBODIED ENERGY

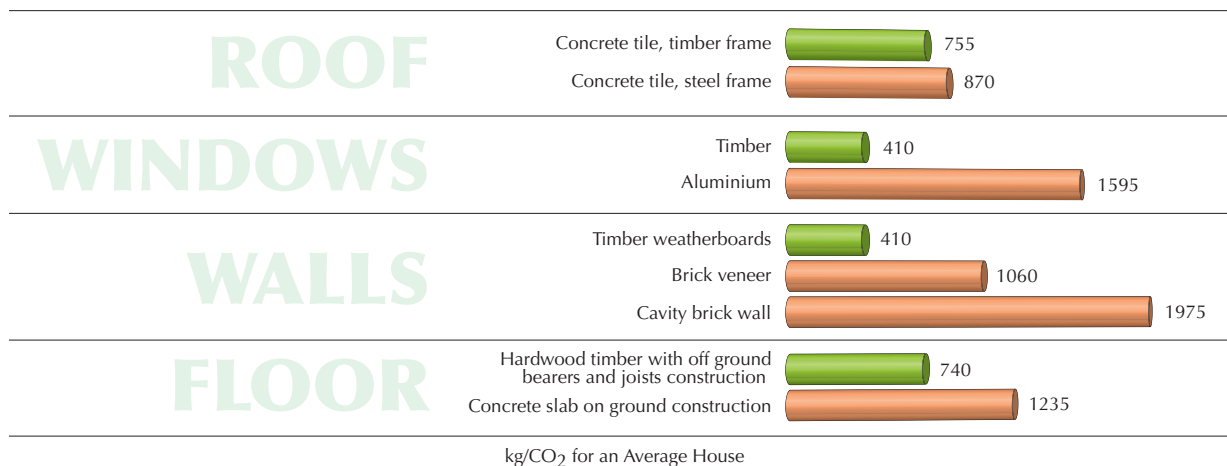
Industrial processing of all natural resources into forms useable by people requires energy, most often in the form of fossil fuels. In burning fossil fuels to release energy, carbon is also released into the atmosphere. A measure of the amount of energy used to prepare, for example, building materials from iron ore, bauxite or forests, is embodied energy. Embodied energy is a useful way to compare the environmental friendliness of building materials.

Compared with other common building materials such as steel, aluminium and concrete, hardwood timber not only stores carbon it uses up to 85-times less energy in processing. In simple terms, a concrete slab floor uses 60% more energy than a timber floor, double brick walls use almost 5-times more energy than weatherboards on timber

framing, and an aluminium window uses 45% more energy than an equivalent timber window. The substitution of timber elements for more energy expensive products in the building process results in a worthwhile energy saving. Even highly processed timber products, such as glue laminated timber, store more carbon within their structure than is released by their manufacture.

Buildings are seldom constructed of a single material, so the embodied energy of a structure depends on the mix of materials used. Research continues to refine the measurement of embodied energy of buildings. One analysis suggests that construction of a brick-veneer house with timber framing gives savings of about 8.8 tonnes of CO<sub>2</sub> per house compared with double brick construction (Attiwill et al 2001).

## CO<sub>2</sub> PRODUCTION FROM CONSTRUCTION MATERIALS USED IN AN AVERAGE AUSTRALIAN HOUSE



**Timber-frame brick veneer saves 8.8 tonnes of CO<sub>2</sub> per house compared with double brick construction.**

*So remember, when selecting materials for your next project, timber is processed from a renewable resource – an actively growing, sustainably managed forest – making it the material of choice for environmentally aware consumers.*

## FOR MORE INFORMATION ON THE TOPICS RAISED IN THIS BROCHURE

### VISIT:

#### Forest Resources

[www.rfa.gov.au](http://www.rfa.gov.au)  
[www.affa.gov.au](http://www.affa.gov.au)

#### Forest conservation, management and harvesting

[www.forest.nsw.gov.au](http://www.forest.nsw.gov.au)  
[www.dipnr.nsw.gov.au](http://www.dipnr.nsw.gov.au)

#### Greenhouse gas induced global warming

[www.greenhouse.gov.au](http://www.greenhouse.gov.au)

#### Australian Forestry Standard

[www.forestrystandard.org.au](http://www.forestrystandard.org.au)

#### Embodied energy

[www.yourhome.gov.au](http://www.yourhome.gov.au)  
[www.fwprdc.org.au](http://www.fwprdc.org.au)  
[www.tradac.org.au](http://www.tradac.org.au)

#### For a detailed, independent analysis of the environment and timber production see:

Attiwill P., England J. and Whittaker K. (2001) The environmental credentials of production, manufacture and re-use of wood fibre in Australia. A report prepared for Agriculture, Fisheries and Forestry – Australia. September 2001.



For additional assistance please contact the  
Timber Advisory Service

**1800 044 529**

or visit the following websites:

[www.timber.net.au](http://www.timber.net.au)  
[www.australianhardwood.net](http://www.australianhardwood.net)



**Timber Development  
Association (NSW) Ltd**



Department of  
**Infrastructure, Planning and Natural Resources**



Australian Government  
Department of Agriculture,  
Fisheries and Forestry