IMPROVING TRANSPARENCY:

HOW LIFE CYCLE ASSESSMENTS HELP PRESERVE OUR FORESTS

INNOWOOD
SUSTAINABLE TIMBER ALTERNATIVE

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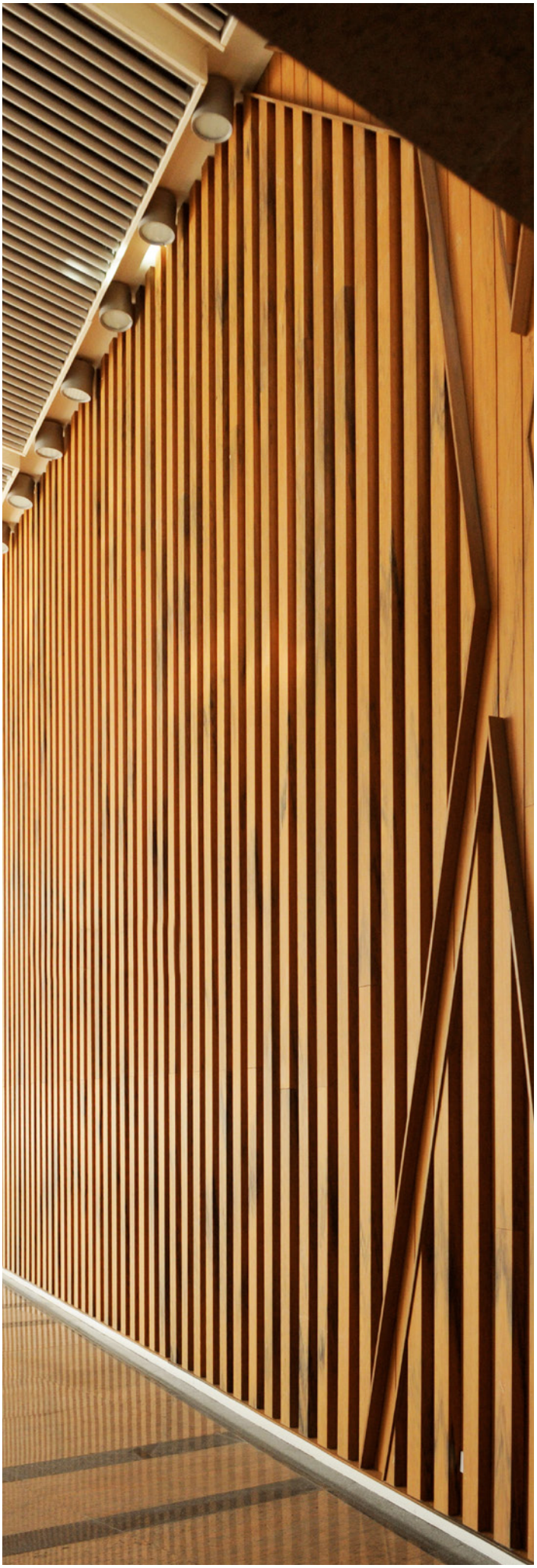
INTRODUCTION

Timber has been used for construction by societies around the world for thousands of years and has maintained its prominence due to its timeless nature, character, warmth and stunning aesthetics. It is a renewable resource, a durable and strong material, a natural insulator, fast and efficient to build with and is naturally beautiful and aesthetically pleasing.[1] When sourced and produced responsibly, timber is among the most sustainable building materials and can bring a wealth of benefits to a design. However, the environmental impact of using timber is not straightforward and must be well managed. Illegal wood trade can create products which are among the most environmentally destructive and can be difficult to distinguish them from legal products. Sustainable sourcing of timber is essential to maintain the wealth of social, economic and sustainability benefits that forests provide. Life Cycle Assessments (LCA) help to protect forests and by putting the power back in the hands of building professionals and providing them with the information they need to make the right decisions.

Life cycle assessment (LCA) is an internationally accepted tool for assessing the environmental impacts associated with a product and is used by architects to make informed decisions about building materials and create more sustainable designs.[2] LCAs assesses the environmental aspects and potential impacts of a product by compiling an inventory of the relevant energy and material inputs and environmental releases, evaluating the potential environmental impacts of those inputs and releasing and interpreting the results to better inform decision-makers.[3] A LCA helps promote sustainability by encouraging responsible design and redesign of products, leading to reduced overall environmental impacts and less use and release of toxic materials. It captures the entire life cycle and considers the transfer of environmental impacts from one media to another and/or from one life stage to another. This gives building professionals a well-rounded view of the entire impact of the product, allowing them to select the product that results in the least harm to the environment and to create a truly sustainable project.[4]



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PROTECTING FORESTS

Forests are vital for sustainable development as they are used to provide goods and services which are essential for people’s lives. People are economically and socially dependent on the sustainability of forests, and they provide a massive role in providing biodiversity and reducing climate change.

Economic and social dependency

Communities and economies are extensively dependent on forests. It plays a large role in the lives of the poor, but also of wealthier households in the developed world.[5] It is estimated 1.6 billion people rely on forests for their livelihood and nearly half of the population in the developing world are sustained by timber from forests as well as non-timber products like mushrooms, nuts, rubber and medicines.

Forests are of massive economic importance, with the sector contributing approximately US$468 billion to the global economy and more than 8% of the gross domestic product in some of the poorest countries.[6] In Australia the forestry industry accounts for over $22 billion of economic turnover each year and employs over 66,000 people. The industry provides a broad range of products, including timber products and timber-based composites for use in construction. The industry is also interlinked with the rest of the economy whereby its non-timber inputs represent the outputs of other industries, and its timber outputs represent the inputs of a range of industries.[7] Furthermore, forests have a cultural and historic value in many local communities. They have a spiritual and sacred use and have a great importance in cultural identity.

Plant and animal diversity

Forests are among the most biodiverse and valuable terrestrial ecosystems on the planet and they provide habitats for more than half of terrestrial species. They are home to complex communities of plants, animals, insects and microorganisms and they help to secure the quality of our water. The biodiversity of forests helps to provide the variety of products which humans gain from forests, including food, fibre, biomass and wood; habitats and shelter for people and wildlife; and spiritual and recreational benefits. However, forest degradation and deforestation is making maintaining biodiversity increasingly difficult, with an estimated 13 million hectares of forest lost each year to deforestation. A loss in biodiversity also negatively impacts on the resilience of ecosystems, making them less able to adapt to or recover from changing climate conditions.[8]

Climate change

Climate change is intricately linked with major global threats, including deforestation, hunger, poverty, displacement, air pollution, soil degradation and desertification.[9] Forests are an important store of carbon and act as a carbon sink, meaning it absorbs more carbon than it gives off. A living forest absorbs carbon dioxide and converts it to biomass while soils store carbon in the organic layer. Deforestation alters this by eliminating trees and disturbing the soil, releasing the stored carbon and polluting the atmosphere, triggering climate change.[10] Forests have the potential to absorb about one-tenth of global carbon emissions projected for the first half of this century, which would reduce the impacts of climate change. But instead they currently contribute about one-sixth of global carbon emissions when cleared, overused or degraded.

THE IMPACT

Deforestation, particularly illegal felling, threatens the economic and social wellbeing of humans, reduces terrestrial biodiversity and worsens climate change. Illegal felling is particularly concerning as it tends to be associated with poor forest management, resulting in an amplified environmental impact, loss of habitats and biodiversity. It distorts global markets and undermines incentives for sustainable forest management, as illegal timber is often cheaper and can result in loss of government revenue.

Australia has the fifth highest rate of land clearing in the world and has lost 25% of its rainforest, 45% of open forest, 32% of woodland forest and 30% of mallee forest in the past 200 years.[11] Australia lost an average of 325,900 hectares of forest per year between 1990 and 2000.[12] Beginning in the 1990s, governments gradually increased protection of the remaining forests, which slowly reduced their logging.[13] Between 2000 and 2005, the rate of forest change decreased by 39.5% to 0.12% per annum.[14] However, these laws have since been wound back and eastern Australia has become the only developed country to join the eleven world regions highlighted as global deforestation fronts.[15]

LCA – ENCOURAGING SUSTAINABILITY

LCA helps reduce the practice of deforestation by providing a transparency into the methods of production that otherwise would be near impossible for a building professional to obtain. By uncovering a chain of custody, companies are given the power to measure and minimise the environmental footprint of the wood-based products they are sourcing and do their part in preventing deforestation. While LCA itself is not a stamp of approval, it is a means of providing choice. The more people who invest in LCA, the better transparency provided and the less demand there will be for products created by illegal felling. This could eventually eliminate the viability of the illegal practice, resulting in more sustainable practices.

> “Australia has the fifth highest rate of land clearing in the world”

SUSTAINABLE TIMBER USE

Timber is a good choice as a building material as it is a natural and renewable resource, is versatile, beautiful and can add character to a design. When sourced and produced responsibly, timber is among the most sustainable building materials.[16]

Wood has a significantly lower carbon footprint than most other building materials as its production and processing consumes much less energy when compared to other materials. When wood is used to make timber products, the carbon will remain in the wood for the life of the product, resulting in less carbon being released into the atmosphere. Timber production and use results in fewer emissions and it can act as a substitute for much more emissions-intensive building materials, such as steel, aluminium and concrete.

As a natural product, timber is versatile and can be reused and recycled. This ensures each tree is used in more ways and for longer periods of time, minimising the overall impact of construction on the environment. Recycled timbers are durable and versatile and can be effectively repurposed.[17] For example, a softwood timber house frame may be recycled into kitchen cupboards. Recycling also further extends the long-term storage of carbon which wood products provide, helping to reduce climate change.

INNOWOOD

Innowood is an Australian specialist in the design, manufacture and supply of composite timber products. Its products are an alternative to natural timber and are manufactured predominantly from natural wood waste, using an energy conserving production process with low emission to air, soil and water. By relying on natural wood waste, Innowood increases the value of any single tree, allowing its materials to go further and playing its part in preventing forest depletion.

Innowood is 100% recyclable and after the service life of the material, the product can be recycled through its take-back service. Innowood's Material Recycling Service aims to increase resource recovery and recycling and to minimise environmental, health and safety impacts of end-of-life products. It is designed to make it simple for its customers to dispose of products in an environmentally conscious manner. This service supports Innowood's aim to offset the need for virgin materials, further reducing pressure on landfill space, protecting forests and improving the amenity of the land. It is particularly valuable given that the wood powder and wood recycling that make up Innowood's products are bound with polyvinyl chloride resin, which can potentially have an otherwise harmful impact on the environment when disposed of incorrectly.

Innowood's range of quality products have a variety of properties and uses, including:

- InnoClad Cladding is low VOC formaldehyde emission, composite wood cladding suitable for residential and commercial application.

- InnoCeil Ceilings can be used to create features, curves, waves and shadow effects while incorporating building services such as lighting, ventilation, sprinklers and air vents.

- InnoScreen Screening Systems are an alternative to the conventional façade design, providing a softened timber look to internal and external wall surfaces and soffits. It greatly enhances their appearance and protects the building and its occupants from the sun.

- InnoShade shading products are architecturally designed and developed to create shade, privacy, control the amount of light and can fully retract. They can reduce light glare and solar heat gain by up to 90%.

- InnoDeck Decking has an embossed surface that delivers the highest wet pendulum slip rating.

For more on Innowood's range, visit www.innowood.com

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