

Recycling power poles into high-value timber products

Introduction

Kennedy's Timber in Queensland recycles power poles into valuable hardwood products. Michael Kennedy pioneered the recycling of power poles 17 years ago when he realised that there was a valuable resource going to landfill. The majority of power poles are made from Australian hardwood timbers such as Spotted Gum, Ironbark, Blackbutt, Grey Box, Tallow Wood and Blood Wood. These timbers are increasingly hard to find in length and quantity, and redundant power poles offer a valuable resource for a market where there is an increasing demand for recycled timbers.



An important stakeholder in Kennedy's quest has been Energex, a Queensland energy company. Energex, the owners of the poles, cooperated with Kennedy's Timber to reclaim the timber. On 1 April 2011 Kennedy's Timber was awarded the 2010 Energex Innovation in Sustainability Award. This award is made to the Energex supplier that achieves the most excellent sustainability initiative. It was awarded to Kennedy's for perseverance, commitment to environmental practices and the development of innovative solutions in helping Energex reduce carbon dioxide emissions. The awards presented at the ceremony were even crafted from a re-used Energex power pole.

Use of recycled and re-used material

Kennedy's Timber recycles old Energex power poles and cross arms to sell as recycled timber, a process that has now been extended to shorter length poles. The correct protocols for handling the contaminated timber off-cuts and residual product are important to ensure strong environmental compliance. After sawing, drying, docking and dressing, an average of 40 per cent of the wood fibre volume is directed to timber re-use products and beneficial re-use away from landfill. Kennedy's Timber currently processes approximately 6000 m³ of poles and cross arms per year. Further innovations in processing technology will result in enhanced timber recoveries and a wider range of finished timber products being produced.

Drivers and benefits

Drivers:

Timber power poles have historically been treated with copper chromium and arsenic, boron or creosote to make them more durable to the elements. Treated timber is sent to landfill for disposal, however power poles contain valuable and useful timber that is not affected by treatment. Recovering the value of the untreated components of power pole timber has been one driver for the project.

Redundant power poles also represented a carbon cost to Energex in terms of their Scope 3 emissions as defined by the National Greenhouse and Energy Reporting Scheme. By working with Kennedy's Timber to recycle the redundant power poles, Energex have eliminated this waste from their carbon emissions profile and turned a liability into an asset on their financial bottom line.

Michael Kennedy's business philosophy contributes to Kennedy's corporate sustainability profile and drives initiatives to enhance and increase the life cycle of timber products.

Benefits:

- Landfill avoidance
- Valuable resource recovery of Australian hard wood timbers
- Carbon savings for Energex

Problems and challenges

Initially there was significant resistance from Energex and stakeholders in the supply chain to changing existing practice due to concerns about the health risk of processing the power poles. These were valid concerns as there were no protocols or guides for the processes of recycling treated timbers.

Solutions

Inspired by the work of Kennedy's Timber, the Timber Development association and the New South Wales Office of Environment and Heritage worked together to develop protocols for recycling redundant utility poles and bridge timbers in New South Wales.

Another outcome of this project was the development of standards for the use of recycled timber. Standards have now been developed under a project supported by Forest and Wood Products Australia and the Queensland Department of Tourism, Regional Development & Infrastructure, with input and development from stakeholders, including industry associations, representatives of the recycled timber industry, government, researchers and specifiers.

Opportunities for other projects

There is an opportunity for further recovery of timber fibre through research into the use of timber processing waste. Waste that is contaminated with timber treatment systems that is currently going to landfill offers an opportunity for other projects in the future.

The standards and protocols described above are available through timber industry websites.

The protocols for recycling redundant utility poles and bridge timbers in New South Wales is available from the National Timber Product Stewardship Group at:

http://www.timberstewardship.org.au/images/pdf_documents/protocol_recycling_pole_and_bridge_timber_final.pdf

Standards for recycling timber are available through the Forest and Wood Products Association at:

http://www.timber.org.au/resources/FWPA_Recycled_Structural_WEB.pdf

Contacts and links

Kennedy's Timber

www.kennedystimber.com.au

Energex

www.energex.com.au

Forest and Wood Products Australia

www.timber.org.au

Timber Development Association and National Timber Product Stewardship Group

www.timber.net.au



Consultation

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Photos

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