Welcome to Radial Timber Australia

radialtimber
USING WOOD WISELY

Livingston Road, Yarram, Vic, 3971

Trias Studio

Radial Timber Circular Economy

01
Native Hardwood Plantations

We establish native hardwood plantations on former agricultural land, promoting biodiversity and environmental regeneration. These trees actively sequester carbon and release oxygen, contributing to climate resilience. Timber harvested during thinning operations is sent to our LVL facility, while mature saw logs are processed at the Radial Timber Mill, ensuring optimal resource use and minimal waste.

02
Laminated Veneer Lumber (LVL) Mill

During thinning operations, smaller, younger logs are processed into Laminated Veneer Lumber (LVL) — a durable and sustainable building material. Byproducts from this process are either repurposed as firewood or diverted to our pyrolysis plant, where they are converted into clean, renewable bio-energy products.

03
Radial Timber Mill

Our Plantation grown saw logs are processed at the Radial Mill into premium solid hardwood products that provide long-term carbon storage. Our innovative radial sawing technique maximizes timber recovery from younger trees, reducing waste and improving yield efficiency from plantation grown logs.

04
Radial Timber Sales

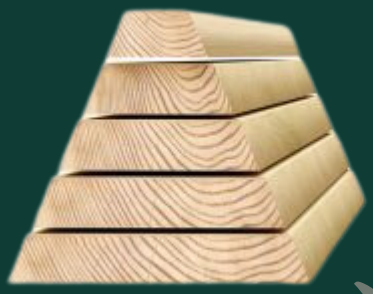
Finished timber products are transported to our Dandenong, Victoria facility for distribution across Australia.

05
Bioenergy Plant

Woodchip and sawdust byproducts from our milling operations are utilized in our on-site bio-energy plant. Here, they are transformed into clean energy sources including gas, heat, wood vinegar, electricity, and biochar. The biochar is returned to our plantations to enhance soil health and support further carbon sequestration, closing the loop in our sustainable production cycle.

Radial Green Mill

Radial Sawing was specifically designed to maximise the recovery of sawn timber from smaller logs. As such, Radial Sawing has a range of both environmental and technical benefits. Where conventional sawing methods require large diameter logs. Radial Sawing technology helps make native hardwood plantation logs more viable by maximising the yield of high value timber products from much smaller logs.



How Does Radial Sawing Work?

Radial sawing works by quarter sawing a log into wedges (like a pizza) from these wedges the log is then back sawn into varying sizes of bevelled edge boards. These bevelled edged, rough sawn boards can be used unseasoned (green) for products such as Board & Batten or Screening. Alternatively the boards can be racked out for air drying, to then be kiln dried and moulded into high quality profiles such as Shiplap Cladding or Decking.

Capacity of 12,000 m3 of log to produce 5000 m3 of sawn timber per year

Benefits Of Radial Sawing;

More timber out of a log

- Fewer trees are required to produce a given volume of timber.
- Potential for lower fuel usage, greenhouse emissions as well as negative impact on soil, water and native wildlife.
- Reduced reliance on manufactured building products that may actually have greater negative environmental impacts.
- Better planning for future timber requirements.

High value products from younger trees

- More of each log sawn can end up as high value, versatile products rather than being put to lower value uses.
- Less pressure on old growth forests as quality timber requirements can be met from plantation and regrowth forests.
- Processing younger trees makes plantation forestry more attractive economically and thus this resource becomes a realistic option for solving the worlds housing shortage.
- Plantations established for pulp/fibre may potentially be used for timber production.

Innovative, durable products

- Radial sawing is based on the natural principle of cutting logs into wedges and therefore many products feature bevelled edges or are sold as wedge profiles.
- Innovative products like our natural edge weatherboards
- Durable Victorian hardwoods mean a wide range of external cladding, decking, screen boards are available.
- Unique products mean that end users can also have unique structures.
- Working with the growth stresses in a log.

Radial LVL Mill

Our new LVL (Laminated Veneer Lumber) mill is a manufacturing facility dedicated to producing Radial Timber products using spindles lathe technology. In an LVL plant, thin wood veneers are arranged in a parallel alignment, bonded together with adhesives, and compressed under heat and pressure to form strong and versatile timber products. We have completed Stage 1 which is peeling logs to green veneer.

This gives us the opportunity to use our low value, thinned plantation logs that would generally go to wood residue or firewood and instead turn them into strong Engineered wood products that can be used in the construction industry.

A small log line is part of the peeler plant, which can peel a small log down to a 20-30 millimeter core. This process has a 60 per cent recovery rate, unlike traditional sawlogs at 30-35 per cent. The round log is peeled into veneer sheets, dried, glued and pressed. This engineered timber can be used to make mass panels or other innovative products. We are also hoping that we can replace some of our solid timber products such as shiplap cladding from a LVL board. We still have a lot of testing to do including durability and weather performance. This is exciting from the point of view; we could grow trees as a crop and turn them into engineered product in a third of the time it takes to grow saw logs for solid timber.

Capacity 20,000 m3 of plantation thinnings
Producing 10,000 m3 of LVL annually after final stage

Bio Energy Plant

Our new innovative Bioenergy plant will harness the power of pyrolysis, a thermochemical process, to convert wood biomass into valuable biochar, bio-oils, heat and energy. By utilizing Radial Timber wood residue as its primary feedstock, the plant will not only generate sustainable energy products but also demonstrate a commitment to environmental stewardship and our circular economy principles.

Running on mill timber waste the bio energy plant will in turn be able to;

- produce heat for our kilns and heating LVL logs.
- produce energy to run different parts of the mill.
- produce biochar to go back into degraded plantation soils.
- produce wood vinegars for use as a natural herbicide in the plantations.
- utilise waste product, reducing our footprint.

Current potential on this pilot plant is 75 kilowatts of electrical output mainly for internal use. For external use, a bigger scale of plant, or multiple plants, would be required.

Capacity 5000m3 of wood residue produces 2500 tonnes of biochar

Radial Firewood

Radial Firewood effectively transforms low value thinning logs from our plantation estate into high-quality sustainable firewood. We utilize materials that aren't suitable for LVL or saw logs due to size or quality, ensuring minimal waste through our milling process. This wood is then chopped, split, dried, and packaged for distribution across Victoria via our partner, The Dingley Woodshed.

As more native estates are protected, the availability of firewood is likely to decrease, leading to rising prices. By establishing a sustainable source of firewood, we contribute to a circular economy, maximizing value from all materials and minimizing waste. This approach not only supports local energy needs but also promotes a low waste economy moving forward.

Capacity 5000 m3 per year.

Radial Dry Mill

After the timber is cut in the Radial mill, it undergoes air drying for approximately 7 to 12 months, reaching a fibre saturation of about 20 to 25%. Following this, the timber is sent to our solar and gas-assisted kilns for an additional 7 to 14 days, reducing the fibre saturation point to 12 to 14% before it's ready for the moulder in the dry mill.

In the dry mill, our team processes the dried boards into various products, including decking, screening, lining, and cladding.
At this stage, we conduct careful grading and sorting to ensure the boards meet high-quality standards for the end user.

Any offcuts and waste generated during this process are repurposed into samples, kindling, or reprocessed through our bioenergy plant.

Capacity 5000 m3 of finished product per year.

Radial Wattle & Wire

Radial Wattle and Wire is an exciting, natural-style fencing solution that weaves small, split logs or profiled sections of plantation-grown native hardwood between tensioned wires. The result is a distinctive, handcrafted look that blends seamlessly into the landscape.

Wattle & Wire fencing utilises smaller diameter logs sourced from our plantations during thinning operations. These thinning operations are essential for encouraging the healthy growth of surrounding trees and maintaining overall plantation health. Tradiationally, these smaller logs are used only for fibre or low quality firewood but by repurposing them into a natural, rustic fencing product, we're adding value to an often overlooked resource. This approach allows us to make use of every part of our managed plantations, reinforcing our commitment to a circular economy and sustainable land management plan while producing high quality products for the building and construction industry.

Radial Plantations

In 2004, Radial Timber partnered together with Heartwood Plantations to put in a 30 year plan to establish 2000 hectares of native Australian hardwood plantations on rotation. Since then we have continued to plant trees native to the Gippsland area such as Yellow Stringy Bark, Southern Mahogany, Silvertop Ash, Spotted Gum, Red Ironbark and Coastal Greybox on old degraded farmland. Our hardwood plantations over time become a hybrid landscape where our needs for timber combine with an immediate improvement of native flora & fauna. This is the first step in our plan of a complete circular economy moving into the future.

Our plantations are carefully designed to suit the landscape in which they will be grown. This involves an assessment of soils, aspect, rainfall and elevation to match the best species to each site. The plantations are carefully managed to ensure optimal growth and minimal waste. This includes monitoring tree nutrition, periodic thinning to remove the smallest and poorest form trees and pruning to promote the growth of knot-free timber.

Each plantation produces a range of timber products during its 25 year rotation. Initial thinning activities produce firewood, posts and chips for bio energy fuel. The intermediate thinning can produce great LVL peeling logs for our LVL line. While the final harvest produces large saw logs that are well suited to premium markets for high end building and construction products such as decking, cladding, screening and Wattle & Wire fencing.

Building Tomorrow Together

At Radial Timber, our commitment is to producing high-quality timber through the most sustainable methods available, supporting a circular economy that reduces environmental impact while delivering the timber products our customers trust and value.

As passionate advocates for both trees and timber, we strive to close the loop in how timber is grown, processed, and distributed. Through ongoing investment in innovative techniques, we aim to minimise waste, lower our carbon footprint, and preserve forest biodiversity — all while continuing to grow and supply responsibly sourced, sustainable timber.

We truly believe it's possible to love both timber and trees — and by working together and embracing innovation, we can ensure a future where both thrive and our forests and timber industry are a source of pride for generations to come.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Beach House Constructions