20/21 Annual Report

Forest & Wood Products Australia

In the spirit of reconciliation, Forest & Wood Products Australia acknowledges the Traditional Custodians of Country throughout Australia, and we acknowledge their connection to the land and their custodianship of forests. We pay our respect to Elders past and present and extend that respect to all Aboriginal and Torres Strait Islander peoples.

Published by: Forest & Wood Products Australia Limited
Office location: Level 11, 10-16 Queen Street, Melbourne VIC 3000
ABN: 75 127 114 185
Telephone: +61 3 9927 3200
Facsimile: +61 3 9927 3288
Email: info@fwpa.com.au
Website: www.fwpa.com.au
Auditors: RSM Australia Partners

Highlights

WoodSolutions’ website attracted nearly

700,000

users, and potential customers viewed the supplier pages alone more than

100,000

times

2.1 million

page views from

699,900

unique visitors

On average, suppliers can expect

10,000

click-throughs to their website from the WoodSolutions website

The free supplier listing was viewed over

100,000

InFocus series has attracted more than

57,000

views

Mid-rise Masterclasses attracted more than

11,400

attendees in

12 months

20/21

Forest & Wood Products Australia

The Performance Review showed that FWPA...

is highly collaborative and well regarded within the industry,

enjoys strong support and positive feedback on its engagement with industry associations, the Commonwealth Government, and stakeholders, who described their experience with FWPA as **'above average' or 'excellent' in 84 % of responses** to the survey

More than

95%

of **forest growers levy payers have pledged their support** for the recommended changes to the current forest growers levy

FWPA assisted funding more than

90

research projects

ForestLearning saw

2,350

students from around Australia participate in online learning, with

50%

joining from locked down areas

Contents

Go to Financial statement ↓

From the Chair

Craig Taylor

The 2020/21 financial year commenced with a high level of uncertainty regarding FWPA's income due to the ongoing impact of major fires, the pandemic, lockdowns, and the expected economic contraction. Management presented the Board with scenarios ranging from no material impact through to a dramatic reduction revenue resulting from reduced demand for forest and wood products.

The Board took a cautious approach to planned expenditure for 2020/21 to ensure that, in the event of a significant drop in revenues, the company remained financially strong and able to support the industry when and where needed. FWPA's financial result for the year ended 30 June 2021 was both surprising and pleasing, with levy revenue almost identical to the previous year. Some parts of our industry, particularly those involved in international trade, did it tough, while others thrived. As it turned out, it was supply and not domestic demand that created challenges and our industry responded well to these challenges. I am proud of how FWPA managed its business during this period.

We are part of a resilient industry, and I am also proud of the way we worked with our members, government and our representative bodies. The financial year ending 30 June 2021 symbolises the industry's capacity and willingness to do things differently to overcome the uncertainties and restriction of living in these challenging times.

Forest and Wood Products Australia Limited (FWPA) aims to deliver on programs that benefit the largest number of stakeholders, including forest growers, domestic processors, timber importers and the government. This year, to achieve this goal, we asked for and received industry-wide feedback about program priorities and our performance to date.

Our third Independent Performance Review in 12 years was published in March 2021. After much consultation and feedback, the review found that FWPA delivers substantial benefits to stakeholders, is highly collaborative and well-regarded within the industry, meets all its obligations, and has effective governance processes in place. Alongside the positive outcomes, the review offered helpful feedback on areas where stakeholders felt FWPA could improve.

Following the publication of the review, FWPA initiated the development of a 'clean slate' review and rewrite of our strategic plan, which will help guide the company's and the industry's priorities over the next five years. I have thoroughly enjoyed the workshops and feedback sessions, and appreciate the time commitment made by some of our industries technical and management leaders. It is extremely encouraging to see our partners and colleagues share, collaborate and innovate together. A number of new areas for research, development and promotion have been identified but there is also a high level of support for our existing programs. The new strategic plan will be aspirational and, in finalising the details more work needs to done on the short and longer term priorities, and what can be achieved given our resourcing constraints.

FWPA's first-ever virtual AGM was a great success, attended by members and industry representatives from across the forest and wood products supply chain. At the AGM, John Simon retired as Chair following five years in the role and eight more as Director. I had the good fortune to serve on the FWPA Board under the leadership of previous Chairs Ron Adams and John Simon, and I plan to use that experience to help continue the vital work of FWPA.

Also departing the Board following the 2020 AGM were Jim Henneberry, Chair of the Audit, Finance and Risk Committee, and Brian Farmer, Chair of the Growers Research Advisory Committee. During the AGM proceedings, members also re-elected Christine Briggs to the Board, and Nick Roberts was elected, having previously served from 2009 to 2012.

I would like to acknowledge John, Jim, and Brian for their longstanding commitment to FWPA and their contributions to the sector more broadly. Each has played an instrumental role in helping to drive countless FWPA successes and achievements and we thank them for their service to the board.

The many successes and achievements that have made a lasting, tangible and hugely positive impact on the forest and wood products industry, have only been possible with the dedicated work of our outstanding staff, capably and energetically led by Ric Sinclair. I would also like to thank my fellow Directors who have provided wise guidance and ensured that we have maintained high levels of corporate governance.

Ric Sinclair

From the Managing Director

I would like to start by acknowledging the FWPA team. Like many office-based organisations, our people have been on a rollercoaster ride of changing working conditions due to the global pandemic. Their resilience, adaptability and ingenuity have ensured minimal disruption to programs as they continued to exceed expectations.

Our work during the year has aligned with our programs and evolved in response to current environments and the needs of the forest and wood products sector.

One area of focus has been our investment to support growers and build resilience to future bushfire events. Our work has been extensive and valuable. We have developed guidelines for the salvage, storage, and processing of fire-damaged logs, to minimise waste, created a knowledge base that supports risk management and strategic planning by harnessing the experiences of growers and firefighters alike as well and invested in new fuel accumulation models to simulate the behaviour of fire across different plantation types.

Our industry's sustainability credentials are increasingly critical to ensuring public support, market access and investor confidence. During the year, FWPA brought the industry together to explore how best to promote the sustainability of the sector. As a result, stakeholders agreed to explore localising the World Business Council for Sustainable Development's Forest Sector SDG Road Map. In support of sustainability reporting, FWPA is also currently assessing the application of natural capital accounting to regional forestry hubs.

The WoodSolutions program continues to grow in reach and impact with strong engagement throughout the pandemic. The webinar and video series attendance has been outstanding, clearly addressing the needs of its global audience of structural engineers, architects, building designers and surveyors, university academics, students, and local councils to continue to learn despite geographical and capacity restrictions. The wealth and depth of this knowledge has seen the University of Tasmania draw on WoodSolutions' educational materials to support its new Masters of Professional Engineering (Timber Design), aimed at engineers looking to specialise in timber design, manufacture, and construction.

Future proofing our industry is a critical initiative. The Timber Trends series was held to explore timber supply and demand trends to support this strategic planning. Discussions canvassed both current and future outlooks, with speakers from Australia and overseas sharing the latest knowledge. I was delighted with the strong attendance and would like to thank the CEOs and high-level executives from FWPA member organisations, as well as other key decision-makers from the Australian forest and wood products supply chain, for their participation and support.

In the 2020–21 financial year and, as per our funding commitment, we completed our Independent Review. The results were overwhelmingly positive and informed the development of the new strategic plan. The process has been long and highly consultative with members, stakeholders, and the broader industry. The outcome will be a roadmap to guide the organisation for the next five to ten years. The plan is due to be released by the end of the year.

The decision by the major forest growers to support the detailed investment plans developed by the Grower Research Advisory Committee with an overwhelming vote of support for an increase in the compulsory levy and voluntary funding is a major step forward for collaborative research.

The body of work that the FWPA team, its partners, and collaborators produce is enormous and valuable for the industry and sector. I would like to thank our Board of Directors and the FWPA team for their dedication, hard work and enthusiasm during the past twelve months. I would also like to acknowledge the commitment and support of our members, stakeholders, research and development partners, suppliers, and the Australian Government.

Strategic framework

HexBox Canopy, University of Sydney
Photo: Katherine Lu

During the 2020/21 financial year, FWPA operations aligned with the rolling *2019-24 Strategic Plan*, which is reviewed annually, and provides guidance to the *2020/21 Annual Operating Plan*.

Industry vision

The forest and wood products industry will grow as a result of increased demand for its market oriented, renewable and competitive products and services.

Mission

We collaborate with industry stakeholders and Government to determine strategy and deliver programs designed to grow the market for forest and wood products, increase productivity (and implied profitability) across the value chain and ensure positive environmental and social outcomes.

Desired outcomes

We work with FWPA members and levy payers, the Australian Government and other key stakeholders to secure the cooperation and collaboration required to deliver the outcomes that will be of optimal benefit to the industry as a whole through increased:

- ↗ demand;
- ↗ community acceptance;
- ↗ productivity;
- ↗ sustainability credentials;
- ↗ and capacity.

Programs

2020/21 is the fifth year of our rolling strategic plan, with outcome-themed programs. It was the third full year under our new Statutory Funding Agreement, which came into effect in August 2017.

In prior strategic plans, the organisation's activities were structured around functional areas such as research and development (R&D), marketing and standards development.

Our program structure, which came into effect in 2016, shifted the focus and language away from functional inputs and towards the outcomes we sought to achieve for stakeholders.

To be successful, the shift required cultural change within the organisation and the broader industry. In 2019/20, we continued working towards this outcome.

Our outcome-based programs are focused on the following five strategic priorities:

Program one
Promoting the advantages of wood products

Program two
Aligning products to market needs

Program three
Assisting value chain optimisation

Program four
Increasing resource availability and reducing risk

Program five
Impacting decision-making and industry capability

The role of FWPA and scope of work will continue to evolve in response to changing industry dynamics, but our focus remains on identifying and delivering collaborative innovation that will benefit the largest proportion of our possible stakeholders.

FWPA is one of 15 Australian Rural Research and Development Corporations (RDCs) and is the nominated industry owned services company under the *Forestry Research and Development and Marketing Act 2007*.

The Australian Government levies qualifying industry participants and provides matching funding in accordance with our Statutory Funding Agreement (SFA). The SFA requires FWPA to continually review its operating environment.

In consultation with key stakeholders, the organisation must regularly consider the appropriateness of its programs and activities.

This annual report should be read in conjunction with the five-year *Strategic Plan (2019-2024)* and the *2020/21 Annual Operating Plan*.

Digital communication channels an overwhelming success

Like so many organisations during lockdown over the past year, FWPA had to find innovative ways to communicate and engage with audiences across the supply chain.

With travel and face-to-face meetings severely restricted, FWPA built on existing channels of digital engagement. Customers and stakeholders alike have enthusiastically embraced new features and resources, podcasts, webinars, and online workshops. Such is the success of the program that FWPA has increased its reach to a growing international audience.

InFocus Series has attracted more than **57,000** views.

WoodSolutions

While the WoodSolutions website continues to be a Go-To source for industry, this year the team began a series of webinar events that rapidly developed a solid reputation amongst design and build professionals. Total attendance was an impressive 22,642. The webinars attracted structural engineers and architects, building designers, quantity and building surveyors, builders, university academics, students and local councils, predominantly from Australia and New Zealand but also including an international contingent from the UK, USA, Canada, and Brazil.

WoodSolutions launched InFocus, a series of short, informative videos developed to educate specifiers and consumers about different features of the forest and wood products supply chain. The five videos produced to date have attracted more than 57,000 views.

Digital communications an overwhelming success

The voluntary-funded WoodSolutions Mid-rise Advisory Program (MAP) offers advice at a national level to help projects using timber. MAP responded to the pandemic by introducing the Mid-rise Masterclass webinar series, which occurred alongside the WoodSolutions Weekly Webinar Series. Hosted with a different MAP partner each week, the webinars built awareness of the untapped potential of timber in mid-rise construction. Launched in July 2020, the masterclasses attracted over 11,400 online attendees in 12 months.

Mid-rise Masterclasses
attracted more than
11,400
attendees in 12 months.

Listening in

In promoting the advantages of wood, the *WoodChat* and *Timber Talks* podcasts have continued to grow their audience throughout 2020/21. The podcasts feature in-depth conversations with experts on industry news, discoveries, and innovations.

WoodChat
was listened to more than
2,400
times

Data and trends

FWPA's Statistics and Economics division also fuelled the industry's enthusiasm to embrace new communication channels. Five one-hour webinars titled '*Domestic and international timber market dynamics*' were held to explore timber market dynamics in domestic and international contexts.

The five sessions focused on, trends in European timber markets, wild North American lumber market dynamics, local Australian timber market dynamics, timber use in residential construction and current market conditions for domestic and imported timber across the supply chain.

Going virtual in the classroom

ForestLearning's free classroom experiences and virtual tours — known as ForestVR™ — have provided an increasingly necessary 'online' learning experience to students during the pandemic school lockdowns and beyond.

These immersive learning tools have been produced in collaboration and consultation with peak professional teacher association groups. This aids integration of sustainable forest and wood products themes into the classrooms through resource alignment to the Australia Curriculum, with teachers writing complementary teaching lesson plans and student workbooks for Geography and Design and Technologies.

The result is widespread praise for ForestVR™ experiences from teachers and students alike.

The rise in demand for online learning resources, including virtual reality (VR) technologies, has also triggered the production of five more forestry themes for ForestVR™'s toolkit for schools including Forest Science Explorers,

If I am looking for something to enrich a unit, it's one of the places I can go to access material

— Grant Dooner, Teacher at Champagnat Catholic College Pagewood

Agroforestry and Career Snapshots in forests and wood production. They are planned for launch during the last term of 2021.

To further assist teachers and home learning students during these tough school lockdown times, ForestLearning has partnered with ForestLearning Industry Education Champions to hold six Forester Time, Zoom Career Panel and Virtual Classrooms for primary or secondary schools across the financial year.

Each live event was recorded, and the videos are available in a growing library on the ForestLearning YouTube and Vimeo channels, and on the ForestLearning website.

The successful virtual classroom program expanded in 2021 to include collaborations with the fun primary-school-aged brand 'George the Farmer', as virtual classrooms become an almost permanent fixture on the curriculum agenda.

The latest virtual classroom "Forest Science Explorers" provided an ideal opportunity to host a live event for National School Trees Day and launch the new ForestLearning/ George the Farmer teaching resources; George the Farmer Forestry video, also to be aired on ABC Kids; and the new George the Farmer song, 'Trees are good for the world'. The classroom reached more than 2,350 students from around Australia, with 50 per cent joining from lockdown areas.

Expert foresters presented on a range of themes and topics including drones and technology in forestry, sustainable native and plantation forestry cycles, and where our renewable wood and paper products come from.

Independent Review gives FWPA the big tick and new strategy in progress

In September 2020, FWPA put a call out to stakeholders for feedback and consultation on its strategic plan and forthcoming Independent Performance Review.

Before the catastrophic bushfires of late 2019 and early 2020, and the situation with COVID, the FWPA Board decided to undertake a review of the strategic framework that could lead to substantial changes to the vision, mission, and program structure.

Under FWPA's Statutory Funding Agreement (SFA), the company must consult with its members, representative organisations, and the Australian Government before making significant changes to its five-year strategic plan. In addition, as a prerequisite to renewing the SFA in August 2021, FWPA was required to commission an Independent Performance Review in 2020-21.

An external third party, Forest Hill Consulting, conducted the Independent Performance Review involving extensive consultation with members from across the forest and wood products supply chain. The review's findings were published in March 2021 and once again confirmed that FWPA demonstrates a high degree of professionalism and enjoys comprehensive stakeholder support.

Amongst the positive outcomes, the report found FWPA delivers substantial benefits to stakeholders, is highly collaborative and well-regarded within the industry, meets all its obligations, and has effective governance processes in place.

Alongside the comprehensive document review, consultations were conducted with approximately 50 key industry stakeholders, including growers, processors, manufacturers, and importers; industry peak body representatives; FWPA Board members, management, and staff; members of the Grower Research Advisory Committee (GRAC); Commonwealth officers; researchers, and other industry participants. An online survey was offered alongside this proactive consultation and attracted a healthy 113 responses.

Independent Review gives FWPA the big tick and new strategy in progress

The review noted significant changes to FWPA's operating environment caused by recent bushfires, the COVID pandemic, and a volatile international market. These changes highlighted the importance of FWPA's ongoing commitment to industry engagement, collaboration, and innovation. Together with the positive outcomes, the review offered helpful feedback on areas where stakeholders felt FWPA could improve. The review is available for public viewing on the FWPA website.

Strategic plan

Following the publication of the Independent Performance Review, FWPA initiated the development of a 'clean slate' strategic plan, which will help guide the industry's future priorities over the next five years.

Developing the new plan is particularly crucial in 2021, as the sector continues to deal with the consequences of natural disasters, the pandemic and volatile international markets. An essential element of the process was the participation of the industry. FWPA offered stakeholders a range of opportunities to share their views on the industry's future and the role of FWPA.

A proposal outlining the 14-stage process and all steps relating to the new plan's development was prepared and rolled out by Forest Hill Consulting.

As part of the process, FWPA developed an online survey for industry stakeholders to develop a deeper understanding of challenges and untapped potential across the many different areas of the forest and wood products industry supply chain.

FWPA also encouraged stakeholders to reach out independently with specific feedback on issues they feel are essential to consider going forward.

A reference group was established consisting of key stakeholders. Its members were instrumental in guiding the development of the strategic plan and were engaged through ongoing communications and several interactive workshops.

FWPA expects to release the new strategic plan by the end of 2021.

Key findings of the Independent Performance Review

Compliant with all SFA obligations and has **strong governance** arrangements in place

Highly **collaborative** and well regarded within the industry

Strong support and positive feedback on its engagement with industry associations, the Commonwealth Government, and stakeholders, who described their experience with FWPA as **'above average' or 'excellent' in 84 % of responses** to the survey

Strong in consumer tracking and market research, using brands to build support for the forestry and wood products industry through messaging around sustainability, usability, and cost

Progressive improvement over time through **robust planning and reporting**, having implemented all recommendations from the previous 2017 Independent Performance Review

Promoting the advantages of wood products

This program promotes the benefits and use of forest and wood products in response to changing community attitudes.

- Stakeholders champion The Ultimate Renewable™
- Planet Ark, Make It Wood campaign continues to branch out
- Growing adoption of Wood Encouragement Policies
- FWPA ImageShare provides boost for industry marketing
- Listeners love *WoodChat*
- ForestLearning — engaging future customers and workers
- Experiencing the forest from classrooms using VR
- Foresters connect with students
- Preparing the Green Triangle's future forestry workforce

Stakeholders champion The Ultimate Renewable™

While work is underway to quantify the sustainability of timber, FWPA's successful campaign — The Ultimate Renewable™ — continues to communicate the advantages of forest and wood products as the only renewable, natural material used in the built environment with added health benefits. Building on the award-winning consumer advertising campaign, stakeholders from across the industry now champion The Ultimate Renewable™ brand by downloading and using the logo, banner ads and videos on everything from letterheads to invoices, websites, truck signage, packaging, and even branded cakes! Their efforts are helping reframe public perceptions of the forest and wood products sector.

Planet Ark, Make It Wood campaign continues to branch out

Planet Ark also champions The Ultimate Renewable™ campaign through its Make It Wood program. The Make It Wood program targets consumers, local governments, ethical investors, education and health authorities, as well as key influencers in the built environment space, to promote the positive benefits of sustainably sourced wood products. Since The Ultimate Renewable™ launched, Planet Ark has made the brand's messaging a vital component of all Make It Wood communications.

Growing adoption of Wood Encouragement Policies

One goal of Planet Ark's Make It Wood program is for government bodies throughout Australia to adopt Wood Encouragement Policies (WEPs). A WEP requires responsibly sourced wood to be considered, where feasible, as the primary construction material in all new-build and refurbishment projects. The campaign has met with growing success: the Tasmanian and Western Australia state governments, two local government authorities, and 18 local councils have formally adopted a WEP.

FWPA ImageShare provides boost for industry marketing

A picture is worth a thousand words, and FWPA's vast library of free, high-quality images helps industry highlight wood's environmental, aesthetic, and economic advantages. Packed full of professionally shot photographs of wood, timber, forests, building projects and industry initiatives, the library's images can be conveniently downloaded in high resolution for use in any kind of collateral, from presentations to websites, flyers, brochures, reports and more.

A recent upgrade to the ImageShare database improved searchability through additional tagging and uploading of keywords, with images now grouped in feature albums under specific themes. FWPA members can add their photos to the database to help the industry while promoting their own business.

Listeners love *WoodChat*

The FWPA podcast *WoodChat* is going from strength to strength, featuring in-depth conversations with experts on industry news, discoveries, and innovations, and demonstrating our commitment to embracing new ways of communicating with the sector. Topics have included the 'digital forest', supporting indigenous communities to create a sustainable forestry industry, and more.

ForestLearning — engaging future customers and workers

The ForestLearning initiative delivers quality resources to help teachers integrate forestry and sustainable wood products information into their classroom teaching while aligning with Australian Curriculum outcomes.

ForestLearning resources educate children on forestry from a young age, equipping them with a broader understanding and acceptance of timber products as they grow up and become consumers. At the same time, the program aims to inspire students to consider a career in forestry while demystifying pathways into the industry.

Initiatives such as ForestLearning have become even more vital during the COVID pandemic. With so much of its existing, innovative content aligned to the national curricula and already designed for online delivery, the program was well placed to offer students a greater number of learning opportunities as demand for remote learning options increased.

Experiencing the forest from classrooms using VR

Following ForestLearning's inaugural suite of free classroom ForestVR™ experiences, new virtual reality (VR) tours and video experiences are already in production.

Since its release, the ForestVR™ technology has received widespread praise from teachers. The program allows them to take students on virtual excursions to hard-to-access locations while exploring forest and timber processing and the sustainable nature of the sector.

ForestLearning produces the VR experiences in partnership with Australia's peak teacher association groups and forest and wood products industry members. Teachers can see laptops, or smart boards for whole-of-class activities making the tours accessible to all.

Foresters and students who participated in filming of the ForestVR™ experience

Schools will have access to five new ForestVR™ experiences at the start of the 2022 school year. Suitable for primary and high school students, the new films look at agroforestry and career snapshots, highlighting the diversity of roles and career pathways possible within the forestry industry.

The ForestVR™ experiences are available to schools and the public via the ForestVR™ app, ForestLearning.edu.au, primezone.edu.au and peak education career websites such as myfuture.edu.au.

Foresters connect with students

School students joined forest workers in the field via online video conferencing to learn more about the daily work of foresters, sustainable forest management and career pathways with The Forester Time webinar series. Introduced as a response to COVID, the webinars help connect more teachers and students with forest and wood processing professionals.

The second series of Forester Time live education webinars took place in November around National Ag Day. Led by the Primary Industries Education Foundation and coordinated and hosted by ForestLearning, the events showcased foresters around Australia. Foresters shared details of the cycle of forests, renewable wood products, and the use of drones and smart technology.

Preparing the Green Triangle's future forestry workforce

The ForestLearning Pathway Program is a partnership approach providing unique opportunities for South Australian students to develop skills that support future pathways into the industry. Put together and led by OneFortyOne, and launched at The Green Triangle Forest Industry Hub, in Mt Gambier, the program incorporates a range of classroom and field-based experiences. FWPA hopes the program will soon earn official recognition as a Flexible Industry Pathway.

Students receive training in forest growing and management competencies, harvesting and haulage, and sawmilling and processing — competencies nominated by industry to ensure relevance and improve access to pragmatic, targeted industry pathways.

The program is suitable for students from primary school upwards. Years 11 and 12 students choose a focus area and can complete an investigation or a research project. All study contributes to South Australian Certificate of Education credits, and on successful completion, students attain a Certificate III in a focus area of their choosing.

The students then complete placements with industry hosts to ensure thorough exposure to all facets of the industry, including softwood and hardwood plantations and various processing facilities. These placements can lead to cadetship and scholarship opportunities and provide insights into strategies that will help the industry retain young people once they have entered the workforce. The team behind the program is assessing its potential for rollout in different regions across Australia.

Program two

Aligning products to market needs

This program aims to ensure industry products and services are fit for purpose, appropriately aligned to market needs and better communicated to key influencers.

- National Centre for Timber Durability and Design Life
- Field trials on timber durability
- New Masters of Professional Engineering (Timber Design)
- WoodSolutions: popular, accessible, informative
- Webinars go from strength to strength
- Woodsolutions.com.au – a window of opportunity
- Aspirations to become an internationally accredited education provider
- InFocus video series simplifies complex industry practices
- Listeners tune in to Timber Talks
- WoodSolutions Campus
- The Mid-rise Advisory Program expands its reach
- Mid-rise masterclasses
- Delivering engaging and accessible mid-rise resources
- Codes & Standards
- Preparing for new energy efficiency requirements
- Accessing the best global minds

National Centre for Timber Durability and Design Life

The National Centre for Timber Durability and Design Life (Centre) continues to make a positive contribution to furthering research efforts in Australia.

Initiated and largely funded by FWPA, the Centre is an innovative partnership between industry, academia, and government, designed to put Australia at the forefront of international best practice. It uses evidence-based data, systems, and tools to underpin consumer confidence in the performance of timber products.

Established at the University of the Sunshine Coast (USC), the Centre also partners with the University of Queensland (UQ) and the Queensland Department of Agriculture and Fisheries (QDAF).

Professor Jeff Morrell, a distinguished academic from Oregon State University and former President of the American Wood Protection Association, was appointed as the Centre's Director in 2018. In addition, research fellow Dr Babar Hassan joined to undertake projects around termite biology and behaviour. Dr Felix Wiesner at the University of Queensland is investigating timber performance and durability.

The Centre is working with the University of Tasmania (UTAS) under the National Institute for Forest Products Innovation (NIFPI) program to evaluate methods of enhancing the durability of plantation and native forest hardwoods.

Work with the NIFPI Hub at the University of South Australia (UniSA) has resulted in an ongoing assessment of the variations in treatability across Australia's pine resources to help guide future treatment efforts.

The Centre's UQ partners focus on several areas relating to fire performance and the effects of fungal attacks on timber properties, including preliminary studies on the performance of several Far North Queensland timbers. The results of this work will help instil confidence in the construction industry around the use of timber and its most appropriate applications.

Meanwhile, the Centre's QDAF partnership has resulted in research on:

- marine performance of certain new treatments
- performance of above-ground decking systems for the development of better predictive service-life models
- potential for using portable X-ray analysers for rapid assessment of the retention of preservatives amongst trees in the field.

The QDAF also completed a survey of moisture issues in mass timber buildings as a precursor to research around moisture movement through various wood-based composites. This work will help to provide reassurance and guidance to the construction industry around the use of timber.

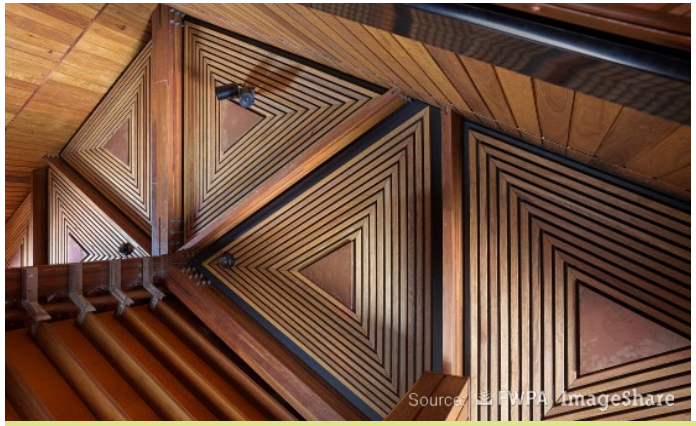
Field trials on timber durability

The National Centre for Timber Durability and Design Life has begun a program to test a wide range of species, products and preservatives used in Hazard Class H3, covering applications that are outside, above ground and exposed to the weather. The work will ultimately benefit structural engineers in their understanding of timber properties and in selecting the most appropriate timber for their projects.

The trial results will help enhance Service Life Prediction Models developed by CSIRO more than 20 years ago. While revolutionary at the time, the models were based on a limited data set and did not include many of the treatments currently used for wood in outdoor settings. There is a critical need for better data to improve these models and make them more relevant for engineering applications.

The Centre worked with the QDAF on a trial exercise. The trial includes more than 40 materials and 8000 test pieces exposed at the QDAF Far North Queensland test site in South Johnstone and a recently established field test site located at the QDAF Maroochy Research Facility near Nambour, Queensland.

The tests will collect durability performance data on new treatments and wood-based composites by using traditional visual assessments and tests to assess changes in engineering properties over time. The trial will yield data for untreated controls over the next two to five years, while results for treated samples will take longer to develop.



Mon Repos Turtle Centre | Photo: Scott Burrow Studio

Marrickville Library | Photo: Brett Boardman & Tom Roe

New Masters of Professional Engineering (Timber Design)

The University of Tasmania has drawn on WoodSolutions education materials to support its new Masters of Professional Engineering (Timber Design). Enrolments in the course began in July 2021.

WoodSolutions' first-class repository of information has provided supplementary and additional educational tools to strengthen the course. Students have access to a library of informative and inspiring case studies that will help shine a light on timber's natural features and the vast range of available finishes. Technical design guides and environmental product declarations (EPDs) will help students learn how to use wood to its full potential in construction, both practically and aesthetically. Covering priority topics identified by the design and build sector, the guides offer students easy access to an industry-leading library of reference documents.

The new course is aimed at engineers and other building design professionals keen to develop their knowledge and specialise in timber design, manufacture, and construction.

WoodSolutions: popular, accessible, informative

WoodSolutions, FWPA's overwhelmingly successful and multi-faceted initiative, is designed to provide independent, non-proprietary information about timber and wood products to professionals and companies involved in project development and design and construction in the built environment. The WoodSolutions website has grown in reach and impact, ensuring engagement continued strongly throughout the pandemic.

Meeting the challenges posed by COVID, the WoodSolutions team also extended its offerings to include popular webinar and video series, allowing audiences from around the world to learn despite geographical and capacity restrictions.

Webinars go from strength to strength

The WoodSolutions' webinars have rapidly developed a solid reputation amongst design and build professionals, with attendance totalling an impressive 22,642 during the past year.

The diverse program of topics has included everything from tiny homes to building in bushfire prone areas, acoustic design, lessons learned during four years of the WoodSolutions Mid-rise Advisory Program, the use of cross laminated timber (CLT) in residential construction, deemed-to-satisfy (DTS) fire resistance of timber connections, and many more.

The online audience comprised structural engineers and architects, building designers and quantity and building surveyors, university academics, students, and local councils, predominantly based in Australia and New Zealand, and an increasing overseas contingent from the UK, USA, Canada, and Brazil.

Woodsolutions.com.au — a window of opportunity

With the pandemic changing the way we work, the WoodSolutions website has become more vital and popular, serving design and build professionals with a one-stop-shop for information on everything timber. The website boasts more than 10,000 pages of expert information and downloadable resources, including a supplier database, technical publications, professional seminars, and more.

Over the past 12 months, the website attracted more than 2.1 million page views from 699,900 unique visitors. One of the most popular features is the free supplier listing, viewed by over 100,000 potential customers. Hundreds of supplier companies have taken advantage of the free marketing and submitted their listings. On average, suppliers can expect 10,000 click-throughs to their website from the WoodSolutions website.

Aspirations to become an internationally accredited education provider

To leverage its strong domestic and international reputation and play a more significant role in developing the future workforce, WoodSolutions is exploring the possibility of becoming an international provider of education. The idea is to provide Australian and international students with access to the repository of high-quality information available free of charge at the WoodSolutions website — including technical guides, podcasts, and recordings of the webinar series that have proven so popular.

The WoodSolutions team is assessing the possibility of utilising and integrating its content into a micro-certification program for adoption by university courses and professional development training.

FWPA will establish an international reference panel comprising high profile industry experts to add an extra layer of authority to the program. Amongst other things, the panel would be responsible for reviewing all WoodSolutions' content and certifying it as best-practice, up-to-date, and suitable for use in a micro-certification program.

InFocus video series simplifies complex industry practices

To counter public misconceptions around forestry, WoodSolutions launched the InFocus video series. These short, digestible videos feature industry representatives presenting information in a personable and relatable way. Topics featured include hardwood and softwood plantations and forests, prefabrication, future technologies, wood science, and the importance of timber in rural economies. By translating complex information about the various stages of the forestry, design and build supply chain into plain language, the series aims to create genuine engagement and dispel public misconceptions around forestry. To date, the five videos have generated over 57,000 views.

Listeners tune in to *Timber Talks*

Series Two of the FWPA podcast *Timber Talks* grew its audience through the year. *Timber Talks*, offers informative and inspiring insights into the best design practices, latest innovations, and interesting case studies from the world leading experts in timber design, specification, and construction.

2.1 million
page views from
699,900
unique visitors

One of the most popular features is the free supplier listing, viewed by over
100,000

On average, suppliers can expect
10,000
click-throughs to their website from the WoodSolutions supplier page

Campus has

1,800

registered users, a third of whom were actively studying during 2020/21. Throughout the past financial year, the Campus issued

479

certificates

WoodSolutions Campus

WoodSolutions' education platform, Campus, continues to grow, offering free online timber education to students. The extensive range of campus modules assist educators, students, the forest and wood products industry and supply chain and the design and build industryCampus has 1,800 registered users, a third of whom were actively studying during 2020/21. Throughout the past financial year, Campus issued 479 certificates, with participants earning credits towards the University of Tasmania's Graduate Certificate in Timber (Processing & Building).

Study subjects on offer include mid-rise timber construction, building regulations, timber inspection, managing moisture, designing for durability, designing for bushfires and environmental characteristics. The work of Campus helps counter a lack of knowledge about wood products and performances, which can restrict market opportunities and lead to customer dissatisfaction if inappropriate products are used.

The Mid-rise Advisory Program expands its reach

Now in its fourth year, the voluntary-funded WoodSolutions Mid-rise Advisory Program (MAP) offers assistance on projects at a national level. With representatives in New South Wales, Victoria and Queensland, the program builds on a base of completed projects while developing new opportunities.

This year, former Australian Institute of Architects CEO Jennifer Cunich was appointed as Lead Program Development Manager, Mid-rise Construction. Jennifer has more than 25 years of experience in the property industry. She is currently a serving Board Member of the Victorian Planning Authority and Australian Housing and Urban Research Institute and a Committee Member on Monash University's Estates Committee. The outgoing Mid-rise Program Manager, Gerry Neylan, continues to be involved with the program as MAP Chair and Program Advisor.

FWPA is grateful to all the companies from along the value chain that have contributed funds and time to this program.

Mid-rise Masterclasses

The WoodSolutions MAP team responded to the COVID pandemic by developing a series of weekly webinars that aired on top of WoodSolutions established weekly webinars. Each session was hosted in collaboration with a different MAP partner. The masterclasses helped build awareness of the untapped potential of timber in mid-rise construction through exciting, contemporary conversations. Since the series commenced, attendance for the year exceeded 11,400 attendees drawn from architects and designers, educators and students, engineers and builders interested in technical content specific to mid-rise timber construction.

Delivering engaging and accessible mid-rise resources

Further delivering on its remit to provide free, reliable, and independent advice to the mid-rise timber building market, MAP is also producing activity sheets that provide a general overview of a chosen topic, including details of the benefits of using wood for a particular purpose. With examples from around the world, the one-page resources provide top line, easily digestible information about a diverse array of timber applications in mid-rise construction. The activity sheets include suggestions of other relevant WoodSolutions resources, including design guides and webinars.

Complementing this work, the MAP team has transformed its information pages on the WoodSolutions website. MAP also presented at the Australasian Structural Engineering Conference, helping build knowledge amongst the broader construction industry around the advantages of timber as an environmentally friendly and structurally viable material.

Codes and standards

FWPA's Codes and Standards Coordination program aims to increase the use of wood-based products through the efficient and effective development and maintenance of standards, codes, and handbooks.

Preparing for new energy efficiency requirements

With a significant overhaul of the National Construction Code planned for 2022, FWPA lodged a public comment submission in response to the upcoming changes. The University of Melbourne was also engaged to explore the implications of Australian Government plans to introduce a minimum seven-star thermal energy efficiency rating requirement for new homes. Published in May 2021, the research considers realistic and cost-effective options for meeting the new standard.

Accessing the best global minds

On the global stage, FWPA's National Codes and Standards Manager Boris Iskra represents Australian industry interests on international committees — like the International Organisation for Standardisation (ISO) panel Technical Committee (TC) 165 Timber Structures, to representatives from more than 30 countries. In his role with FWPA, Boris coordinates the development and review of Australian timber standards and associated building standards and codes. His work on international committees facilitates the sharing of insights from global experts on international standards and their application to the Australian forest and wood products supply chain. This activity also provides opportunities for FWPA and its members to participate in global research initiatives.

Timber framing | Source: Canva

Program three

Assisting value chain optimisation

This program is about increasing the value and volume recovery from existing resources to ensure that all wood fibre is utilised to its highest and best use.

- **Supporting bushfire recovery and resilience**
- New guidelines for salvage of fire-damaged logs
- Learning from the past and looking to the future
- Planning for fire in a changing climate
- Hi-tech camera to enhance Green Triangle fire management
- Smart technologies — A digital forest for the Tassie devil
- **Artificial intelligence to support forestry in regional Australia**
- New app to predict bushfires, minimise loss and damage
- Supply chain tracking for global timber traceability
- **Research for a sustainable future**
- Future-proofing softwood sawn timber quality
- New Victorian Forest Products Innovation Centre driving Gippsland research
- Extinguishing the risk of smouldering in CCA-treated timber, following bushfire events
- Scanning the forest from the ground, the air and from space!
- Exploring opportunities in a circular economy
- Potential changes to wood dust exposure regulations
- Gateway to agricultural innovation
- Facilitating cross-industry agricultural investment
- New grower R&D projects worth $10m

Supporting bushfire recovery and resilience

The extensive loss, damage and distress caused by the Black Summer bushfires presented significant challenges to value and volume recovery of forest resources. In response, FWPA initiated several projects, programs, and research initiatives in 2020/21 to support growers and build resilience to future bushfire events.

New guidelines for salvage of fire-damaged logs

Minimising the amount of damaged timber going to waste after a fire is one path to recovery for growers. FWPA appointed University of South Australia (UniSA) to interview industry stakeholders with previous experience of leading post-fire salvage programs and author a paper on log recovery.

A team led by the UniSA then collated, analysed, and summarised these insights to develop a set of guidelines for growers and processors - for the salvage, storage, and processing of fire-damaged logs, to minimise waste of damaged timber.

Alongside this work, UniSA set up a Technical Expert Working Group to review relevant literature and reports relating to previous major Australian fires and their impacts. This diverse group comprised around 25 members from all states, including softwood and hardwood plantation representatives and native forest managers. The group also compiled a collection of references based on the best available evidence to support the recommendations.

The guidelines cover everything from considerations relating to plantation age and species to structural grading of the burnt timber and the presence of moisture and heat, which impact susceptibility to insect attack and the establishment of microbiotic activity. The guidelines include observations and best practice approaches and highlight knowledge gaps for future research efforts.

FWPA will seek a review of the guidelines before the 2021/22 fire season to capture any additional knowledge arising from the most recent salvage, storage, and processing of fire-damaged timber.

Trees regenerating after bushfires in 19/20 | Source: FWPA, Bushfire Workshop tour 2020

Learning from the past and looking to the future

FWPA engaged Geddes Management to develop a report and database capturing historical information on large-scale Australian plantation fire losses. The knowledge base will assist with risk management and strategic planning in the future. The report also drew on the experiences of large-scale fire damage from foresters, professional firefighters, and other researchers. Now established, FWPA will continue the development of the datasets.

A leading fire engineer was also commissioned to develop a submission to the royal C\ commission in to the 2019/20 bushfires. The report outlined recommendations for measures that limit damage to properties during bushfire events.

Planning for fire in a changing climate

With bushfires predicted to become more frequent and intense, FWPA is supporting another significant research project on the initiative of the Grower Research Advisory Committee (GRAC) — investigating bushfire risk management in a changing climate. Researchers at the University of Melbourne are gathering evidence of the best ways to characterise, forecast and reduce the risks posed by fire losses in coming decades.

Working with 10 plantations across various states and environments and informed by a series of regional workshops, the research will feed into new fuel accumulation models. The models simulate the behaviour of fire across different plantation types, support strategic planning and contribute to the resilience of the plantation industry and related regional economies.

The team aims to develop improved fire-spread prediction models for plantations based on species, growth stage and management treatments. They will also look to quantify current and future plantation fire risk over a 60 to 90-year period. The project will then estimate the extent to which preventative and responsive management practices reduce fire risk and loss.

Research outputs will include:

- region-specific case studies and models for predicting plantation fuel structure and fire behaviour
- fire risk profiles for plantations and nearby community assets under changing climates
- underlying data for evidence-based decision making around fire risks to plantations and community assets under changing climates.

The project is due to conclude in August 2022.

Early results indicate it can detect fires up to

30 kilometres

away

Hi-tech camera to enhance Green Triangle fire management

FWPA is supporting innovations in fire preparedness in the Green Triangle Region with the trial of the FireHawk robotic camera, part of an Australian-first computer-aided fire detection system.

The FireHawk uses artificial intelligence and tailored algorithms to take 360-degree scans of its surroundings, and streams up-to-the-minute data. Early results indicate it can detect fires up to 30 kilometres away. Once smoke is detected, the system sends alerts to fire managers' mobile phones, enabling a rapid response. This initiative was led by the Green Triangle Fire Alliance, which represents around 90 per cent of the region's forest growers.

Smart technologies — a digital forest for the Tassie devil

FWPA and the National Institute for Forest Products Innovation (NIFPI) are funding a project to improve forest management practices to protect threatened species.

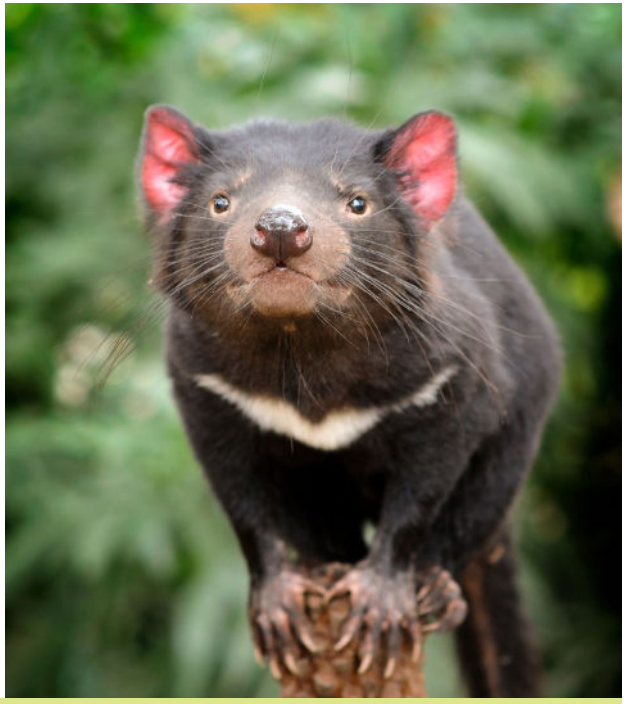
The initiative will observe the movements and habitat requirements of wedge-tailed eagles, Tasmanian devils, masked owls, and giant freshwater crayfish, using advanced technologies in what could be the first step towards developing a 'fully networked' forest.

A networked or digital forest has permanently installed technologies that continually collect and broadcast real-time data, beaming it back to forest managers to support better decision making.

The eagle nest monitoring project, for example, will utilise wireless 'industrial internet of things' remote sensing technologies to improve eagle management options for the forestry industry by detecting and reporting on eagle nesting activity.

The project is led by Dr Dean Williams, Manager of Forest Management Services at Sustainable Timber Tasmania. Dr Williams views a fully networked, digital, or 'smart' forest as a series of data collection points to record information on wildlife, environment, weather, vehicles, and fuel moisture levels.

This knowledge will help determine whether new or adapted approaches could better protect animals and minimise the impact of environmental regulations on forestry operations.



Tasmanian devil | Source: Canva

Artificial intelligence to support forestry in regional Australia

Work continues on a collaborative research initiative enabling communities, universities, and government to maximise the benefits of artificial intelligence (AI) for Australia's regional areas as part of a proposal to establish the Smarter Regions Cooperative Research Centre (CRC).

In conjunction with Professor Mark Brown from the University of the Sunshine Coast (USC), discussions were held with growers and timber processors to identify where AI could benefit the forest and wood products sector, including by:

- optimising knowledge and knowledge transfer across the entire industry supply chain
- enhancing processing capabilities and optimising supply chain and logistics efficiencies to match timber attributes with the right market opportunities
- uncovering nonlinear relationships between the many factors impacting wood quality such as genetics, site conditions, rotations, management activities and environmental inputs.

The proposal also recommends that the Smarter Regions CRC develops predictive models for short- and long-term management strategies to allow regional Australia to grow the highest quality timber resource possible to satisfy future demand.

New app to predict bushfires, minimise loss and damage

FWPA has also partnered with researchers from USC to investigate possible applications for artificial intelligence in the forestry industry by developing the National Bush Fire Resilience Network app, NOBURN.

Collaborating with AI experts at the University of Adelaide's Australian Institute for Machine Learning, the USC team was awarded almost $500,000 under the Australian Government Citizen Science Grant program. This funding will support the design and implementation of a citizen science app for people living in bushfire-prone areas to help predict the likelihood of bushfire events and minimise their devastating effects.

Citizen scientists who regularly visit forest areas will use the app to collect vital data in the form of photos and forest fuel samples. The app will match the data with satellite imagery before training AI systems to predict the probability, direction, severity and spread of potential fires.

Information obtained through the app will be shared with key stakeholders, including fire authorities, forest professionals, landowners, government representatives, and, most importantly, residents living in high-risk areas. The NOBURN app will undergo local pilots before a nationwide rollout.

Supply chain tracking for global timber traceability

During the year, FWPA investigated how AI can support supply chain tracking, as part of a separate FWPA-supported USC research project focused on improved information flow. As part of this work, the team brought in technology developed by Swedish company OTMETKA, a specialist in digitising forestry data at scale to facilitate global timber traceability. The technology stamps logs with a pattern that stores digital information. With the first round of image capture completed, the project is now in its second phase of data collection.

Log stamped with tracking 'code' | Source: OTMETKA website

Research for a sustainable future

Future-proofing softwood sawn timber quality

FWPA has helped initiate a research project looking into the mechanical properties of softwood sawn timber, which has resulted in the establishment of a world-leading timber testing facility at the University of South Australia's Mawson Lakes Campus, funded by industry contributions and NIFPI.

An improved testing regime will deliver robust evidence to demonstrate timber product properties as required by industry standards. After initial testing of samples from 13 Australian sawmills over a full year of production, the facility will be opened to industry. The scope of testing will expand to include structural works, architecture, and construction project management.

New Victorian Forest Products Innovation Centre driving Gippsland research

Gippsland, Victoria, is home to the new National Institute for Forest Products Innovation Centre. As with the other NIFPI centres, FWPA is providing administrative support.

The centre will support research, collaboration, and innovation in forest management, timber processing, wood fibre recovery, value-adding, advanced manufacturing, and the bioeconomy. It aims to increase productivity, profitability and market growth while securing Gippsland's role in driving forestry research.

Of the centre's $4 million start-up funding, $2 million came from the federal government's $20 million National Forest Industries Plan.

The first round of applications closed in May 2021, with the Gippsland Centre Committee, comprising six local industry stakeholders, responsible for selecting the successful projects.

Extinguishing the risk of smouldering in CCA-treated timber, following bushfire events

The Centre for Timber Durability and Design Life's fire expert, Dr Felix Wiesner, is researching the fire performance of timber treated with copper chrome arsenate (CCA). The work will help inform new approaches to the external protective treatments used on timber in bushfire prone areas.

CCA is a wood preservative containing compounds of chromium, copper, and arsenic. The preservative is applied to outdoor use and landscaping timbers and wood products to protect against microbes and insects.

Although exposed CCA-treated timber can appear unaffected following bushfire events, the metals in the treatment can continue to combust over time, leading to smouldering and potential loss of load-bearing capacity.

Understanding and quantifying the extent of this smouldering is critical for ensuring the design life of timber infrastructure is not cut short by fires that might otherwise have caused only minor damage.

Dr Wiesner is examining the conditions that lead to smouldering in CCA-treated timber and testing the effectiveness of a metallic mesh wrap, which, being coated with an intumescent product, can be fitted to wood in-situ to provide insulation during fire events. The research has the potential to also inform the development of more practical timber treatment solutions.

Scanning the forest from the ground, the air and from space!

FWPA collaborated with the NSW Department of Primary Industries to fund a project investigating the potential to use data captured by airborne and terrestrial sensors to characterise the complex structure of Australia's moist eucalypt forests.

Light detection and ranging (LiDAR) is a remote sensing method that uses light in the form of a pulsed laser to measure distances before creating 3D representations of relevant structures. The project will investigate ways to link data captured on the ground using terrestrial mobile laser scanning with airborne laser scanners and a satellite sensor to characterise the forest structure.

This structural information has the potential to inform operational practices such as monitoring changes in stand structure, species habitat modelling, stand- and tree-level inventory, and fuel-load modelling for the prediction of bushfire behaviour, suppression planning, recovery, and regeneration.

The technology is already mapping the habits of four threatened animal species in Tasmania. It has also contributed data to the creation of new ForestVR™ educational resources.

Exploring opportunities in a circular economy

A major part of the remit of the National Centre for Timber Durability and Design Life is to explore new technologies, strategies and opportunities for the disposal and reuse of treated timbers and engineered wood products (EWPs). Following a 2020 issues paper, commissioned by FWPA to survey options for a more circular economy, further research has been proposed to look at how timber products can be used beyond their primary purpose. These efforts have the potential to improve value, volume recovery and efficiency of forest and wood products across the supply chain.

As a natural product with positive environmental attributes, timber should be an obvious beneficiary of the circular economy. However, the various resins and biocides used in the creation of treated timber and engineered wood products can be problematic when it comes to recycling and disposal, prompting concerns from policymakers about the release of toxic chemicals when timber is reprocessed or burned and converted to ash. Aiming to secure funding of up to $3 million under the federal government's Cooperative Research Centre Project, the National Centre for Timber Durability and Design Life proposal could lead to innovations in processing the 355 million of kilograms of treated wood used in Australia each year.

If successful, the research will address ways to reduce waste to landfill, along with associated transport and tipping fees, and instead create additional income streams that further strengthen the green credentials of timber. The research proposal outlines plans to establish a multi-disciplinary panel of experts, comprising preservative and resin suppliers, product manufacturers, end-users, and researchers. This highly specialised group will define conditions at end-of-life for each material, and identify potential risks and opportunities associated with reuse or disposal. The group will also review existing recovery technologies to identify and fill knowledge gaps.

Ultimately, the team would develop a comprehensive resource to support the reuse and recycling of wood-based materials. The program would allow users to input treatment and commodity data, which would then generate outputs identifying the associated opportunities or hurdles.

Potential changes to wood dust exposure regulations

In anticipation of expected changes to the standards regulating wood dust exposure levels in the workplace, FWPA commissioned Meder Consulting to help prepare the forest and wood products sector to respond.

Safe Work Australia may soon revise standards on wood dust exposure, following the recent introduction of new standards and regulations relating to crystalline silica and coal dust. Any changes to the standard would significantly impact businesses across the supply chain. The FWPA-commissioned research is a valuable reference for industry and provides insight into mitigating exposure and associated costs.

An extensive literature review focused on current regulations around the world and how Australia compares. The study found differences between regulations relating to hardwood and softwood dust. It noted that scientific consensus tends to emphasise the particle size of dust rather than the species of trees it derives from.

The second element of the research included a survey of workplaces from 13 global processors about their exposure mitigation practices. The most common control methods to minimise worker exposure were personal protective equipment, air quality testing, health screening of workers, improved or updated extraction systems, and shrouding of equipment.

The research found that most companies spend less than $100,000 on capital works. The majority of those surveyed reported installing or upgrading an existing extraction system was most beneficial. Meanwhile, the cost of ongoing air quality and health monitoring was less than $10,000 per year.

Gateway to agricultural innovation

A new venture, grow$^{AG.}$, supported by FWPA aims to make it easy for new investors to get involved in Australian agriculture.

grow$^{AG.}$ is a website created by AgriFutures Australia as a gateway to Australia's agrifood innovation system. The website showcases world-leading agricultural research, unique technologies, and commercialisation opportunities in one easy-to-use location.

Positioning Australia as a global agrifood innovation hub, grow$^{AG.}$ makes it easy to explore, find and connect with potential partners and opportunities, as well as connecting pathways to commercialisation. Pathways that enable research innovation to flow back to and from the supply chain, reduce duplication and readily identify potential collaborators for research organisations and funding bodies.

The grow$^{AG.}$ website features over 2,000 research projects, including 50 funded by FWPA. The initiative is a collaborative effort by the Department of Agriculture, Water and Environment (DAWE) and Australia's 15 RDCs.

Facilitating cross-industry agricultural investment

FWPA is a founding member of Agricultural Innovation Australia (AIA), a not-for-profit company established to facilitate joint investment in cross-industry agricultural issues of national significance. AIA is a key element of the Australian Government's National Agricultural Innovation Agenda, which is committed to modernising Australia's agricultural innovation system.

AIA will identify, develop, and invest in strategies that address the shared challenges and opportunities of Australia's various agricultural sectors to deliver positive outcomes that drive sustainability, productivity, and profitability. All 15 Australian RCDs are founding members of AIA.

AGRICULTURAL INNOVATION AUSTRALIA

New grower R&D projects worth $10m

The FWPA Board approved 13 projects and almost $2.2 million of funding for diverse forestry research initiatives, for a combined total project value of more than $10 million.

The Grower Research Advisory Committee (GRAC) recommended the projects, which were developed to address research priorities of high value to the industry, identified in FWPA's recently completed forestry RD&E investment plans.

The projects were selected from an impressive initial list of 56 proposals, addressing everything from biosecurity to genomics. Forest growers co-fund the projects, with matching funding from the Australian Government and a component of levy funds.

Proposals were evaluated in accordance with the committee's review process, which included an online survey, recommendations by the GRAC Executive, and formal endorsement by the wider GRAC group.

Increasing resource availability and reducing risk

This program aims to increase the availability of wood fibre to support an expanding market and associated manufacturing capacity.

- ↗ Overwhelming support for grower levy increase
- ↗ Tackling the giant pine scale
- ↗ Chemical controls — efficacy and application
- ↗ Future-proofing the *radiata* pine resource, improving genetic gain
- ↗ Young scientist recognised for research into tree propagation innovation

More than

95%

of forest growers levy payers have pledged their support for the recommended changes to the current forest growers levy

Overwhelming support for proposed grower levy increase

Over 95 per cent of forest growers levy payers have pledged their support for the recommended changes to the current forest growers levy put forward by the Australian Forest Products Association (AFPA).

In its subsequent submission to the Assistant Minister for Forestry and Fisheries, the AFPA proposed to remove the regulatory cap on voluntary matching funding so that growers can fund additional research development and extension (RD&E) projects in line with other primary industries and vital market needs.

The federal government capped voluntary matching funding at $1.659 million per annum back in 2015. The AFPA has argued that the current levels of collective investment in forestry RD&E and biosecurity are insufficient to sustain the industry's viability, productivity, and sustainability into the future.

Ongoing issues associated with bushfires and extreme weather events, a drying climate and the ever-increasing threat of damaging exotic pests and diseases highlight the need to drive innovation that will sustain the industry and enable it to grow and thrive.

There have also been several significant changes and impacts on the Australian forest growing industry and operating environment, including reductions in native forest harvesting, privatisation, and investment.

Removing the Commonwealth's regulated voluntary matching cap allows the forestry industry to realise its RD&E ambitions and support regionally-based wood products industries into the future.

Tackling the giant pine scale

La Trobe and Western Sydney universities partnered with FWPA to discover more about the giant pine scale, a poorly understood but potentially severe pest. Native to forests in the Eastern Mediterranean, it has become established in Melbourne on *Pinus radiata* and presents the risk of extensive damage to the Australian pine resource and other softwood conifers such as spruce, cedar and fir.

The research will provide insights into the giant pine scale in Australia, specifically around its damage-causing potential and when and where this damage is likely to occur. It will also look at the extent to which other species attracted by the honeydew excretions of the giant pine scale might facilitate invasion beyond current infestations.

The project will improve industry capacity for predicting the scale's pest potential and the likely efficacy of management using a classical biological control approach.

Chemical controls, efficacy and application

FWPA is supporting a research team at HVP Plantations to investigate chemical controls, efficacy testing of insecticides and numerous application techniques. The research found that dimethoate and clothianidin were the most effective chemical controls. However, at this stage, the best approach for managing infestations is to remove impacted trees. To this end, growers from across Australia have allocated funds to support landowners to destroy infested trees.

The project also considered the risks associated with introducing a biological control agent for the giant pine scale. A team of, Agriculture Victoria, research scientists have identified the fly genus *Neoleucopis* as a potentially effective predator. They are investigating which species of *Neoleucopis* is most suitable and effective as a long-term, sustainable biological control agent in Australia (without any threats to Australian agriculture or biodiversity). If results are promising, the biological control agent will complement other management practices to prevent or slow the spread of giant pine scale.

Future-proofing the *radiata* pine resource, improving genetic gain

The resilience and productivity of Australia's *radiata* pine resource is set to increase through improved strategic planning. FWPA is supporting Tree Breeding Australia (TBA) to develop a tool to help growers select the best-suited *radiata* pine trees for their location based on a combination of genotypic and phenotypic data.

Over many years, TBA has built and enhanced the TREEPLAN tool, a leading analytical system for genetic evaluation. TBA has upgraded the analytical capacity of TREEPLAN to undertake 'single step' genetic evaluations. The upgrade effectively allows growers to use both phenotypic (performance observation) and genotypic data in combination to produce a single set of objectively comparable breeding values, strengthening the accuracy of predictions about how trees will respond to environmental conditions.

Using genetic information, in addition to phenotypic observations collected in-field, could prove vital to ongoing success in ensuring resource availability. Recent studies conducted by TBA, and industry collaborators demonstrated that when genomic data is added to the analysis, not only are the accuracy of predictions improved, but genetic gain could increase by as much as 10 to 15 per cent.

As the tool continues to become more sophisticated, the data itself is undergoing a thorough reliability check. TREEPLAN has likely accumulated historical data errors around pedigree over the past several decades due to the exchange of genetic material between contributing breeding programs and basic human error in operational breeding activities. These errors can be problematic for single-step evaluation accuracy, resulting in misalignment of genotype and phenotype and reducing the genetic gains associated with traits of commercial importance.

TBA is undertaking a quality assurance strategy comprising extensive sampling, DNA analysis, and diagnostics to rectify this. The work will investigate the degree and scale of errors in the pedigree data and support their correction.

The project's methodology has potential application across other plantation species in Australia for pedigree recovery and quality control. This FWPA-supported project is one element in a series of planned research projects that aim to double the rate of genetic gain in pine breeding within Australia.

Young scientist recognised for research into tree cutting innovation

Megan Warner, Seed Production Manager at Australian Bluegum Plantations, received an FWPA-supported award for her pioneering work in finding new ways to propagate Tasmanian blue gums from cuttings and help fast-track genetic research.

The Science and Innovation Award for Young People in Agriculture, Fisheries and Forestry, is awarded annually by the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) and supported by FWPA.

Megan's entry was based on her research into adding beneficial root-colonising bacteria and fungi to soil to support the root development of Tasmanian blue gum cuttings.

The ability to grow blue gums from cuttings, as opposed to seeds, could fast-track genetic research and allow growers to deploy high-value genotypes much more quickly. This process helps the industry improve productivity on the existing land base, which is becoming increasingly important to mitigate the risks associated with pests and diseases, climate change, and even shifts in market demand.

Megan Warner | Source: Megan Warner

Program five

Timber bridge | Photo: Chuck Linney

Impacting decision-making and industry capability

This program works to ensure the industry has the skills and systems necessary to support improved decision-making by all players across the value chain.

- Changing of the guard
- Webinars explore timber supply and demand trends
- New ways to understand, report and promote sustainability credentials
- Estimating CO2 emission abatement
- Data Aggregation Program

Changing of the guard

Jim Houghton, FWPA's inaugural Statistics and Economic Manager, announced his plan-step back from full-time employment and has transitioned to helping support the company as a consultant. Fortunately, Kevin Peachey has stepped into the role and is able to build upon his previous experience with the Australian Forest Products Association and Timber Towns Victoria.

Webinars explore timber supply and demand trends

FWPA hosted five one-hour webinars exploring timber market dynamics in domestic and international contexts to support its strategic planning. The discussions canvassed both current and future outlooks, with speakers from Australia and overseas sharing the latest knowledge from around the world.

CEOs and high-level executives from FWPA member organisations attended with other key decision-makers from the Australian forest and wood products supply chain. The five sessions focused on:

- Critical trends in European timber markets
- Wild North American lumber market dynamics
- Australian timber market dynamics
- Timber usage in residential construction
- Perspectives and projections

After the series, FWPA hosted an industry panel featuring representatives from businesses across the supply chain.

New ways to understand, report and promote sustainability credentials

Changing community attitudes drive regulators, investors, and global supply chains to increase reporting obligations on sustainability issues. Jodie Mason, FWPA's Forest Research Manager, hosted a well-attended five-part webinar series on opportunities and obligations associated with sustainability reporting to explore how best to promote the sustainability of the forest and wood products sector. Topics covered included:

- global programs and practical tools
- what banks and investors want to know about the industry before making a financial commitment
- natural capital accounting
- how other sectors are approaching similar challenges.

National and international speakers shared various mechanisms for reporting on the sector's environmental credentials.

As a result of the webinars, stakeholders agreed to explore localising the World Business Council on Sustainable Development's Forest Sector Road Map. In addition, a working group will explore the potential for an industry-wide approach to collaboration - at a regional, state, or national level - to create data collection templates, develop a system for data aggregation, and set common targets.

FWPA also commissioned a considerable body of work on the use of natural capital accounting (NCA) to further develop the industry's sustainability credentials. NCA is a system for measuring, recording and effectively managing the stock of renewable and non-renewable resources used to create products and services.

A NCA model was set up for the Green Triangle area, which includes softwood and plantation estates, and a recreation state forest area. The project was funded by the Department of Agriculture, Water and Environment, via the Rural R&D for Profit program, with investors also helping develop the experimental accounts.

Stakeholder engagement was supported by a literature review before researchers' focus turned to investigating new methods for the sustainable management of natural resources used by the forestry industry, such as soil and water. The team also looked at how natural capital accounting might be used in Australia to manage our natural resources better, improve supply certainty, boost resilience, and manage the impacts of climate change.

As organisations like the United Nations develop systems of NCA and the resources underpinning primary industries become increasingly contested, the emerging sustainability framework has the potential to deliver both financial and economic benefits.

Going forward, the research team recommends continued efforts to improve natural capital accounting capability and capacity within primary industry enterprises and further steps to address critical knowledge gaps. The proposed natural capital accounts provide a basis for any business to adopt and trial natural capital accounting within their operations, industry, or region.

Estimating CO^2 emission abatement

With sustainability credentials becoming increasingly critical to ensuring public support, market access, and investor confidence, FWPA continues to undertake research that builds the case for the environmental benefits of forest and wood products.

As a renewable resource, timber has a natural advantage over other building materials, including significant reductions in carbon emissions. To quantify the abatement potential of using timber rather than concrete or steel, FWPA engaged Natural Capital Economics (NCE) to undertake high-level research into the potential benefits of increasing timber use in Australian construction under a range of scenarios.

Drawing on publicly available data, NCE developed economic models to calculate the potential direct and indirect emissions reductions achievable by using timber in place of other materials between now and 2050. The analysis will support the development of a new methodology under the Australian Government's Emissions Reduction Fund (ERF).

Investigations found a one per cent upward shift in the market share of structural timber in place of steel and concrete alternatives — across Class 1, Class 2, and non-residential buildings — would reduce emissions by 1.3 million tonnes of carbon dioxide equivalent (CO^2-e) in total, and 1.0 million tonnes of CO^2-e domestically. This one-per-cent increase would require a 5.3 million cubic metre increase in above-ground tree biomass by 2050.

The requisite increase in saw log demand would, in turn, place upward pressure on prices and thus incentivise further investment in plantations.

The NCE study also considered how increased structural timber demand could boost carbon sequestration in Australian forests and plantations, based on the expectation that domestic supply would rise to meet demand. The study found the extra biomass involved would potentially sequester 4.7 metric tons of carbon dioxide equivalent.

However, the likelihood of any proposed ERF method resulting in boosted supply would depend on the extent of change in demand and price and the economics of plantation timber, including land values, the price of carbon, and international competitiveness.

Increasing capacity with data

The forest products industry is benefiting from a data aggregation service provided by FWPA. The aim of the program is to increase capacity building across the forest products industry and data is provided on four key areas:

- information to support / improve commercial operations
- information to support investment decisions
- safety
- socioeconomic data.

Working with members and stakeholders to gather information via confidential online data portals, FWPA collects and interprets the data share with industry monthly.

The aim is to provide accurate and current information on their operating environment allowing the industry can make effective commercial decisions and informed long term investment decisions.

Currently There are 49 companies from across the forest industry sector using FWPA data aggregation resources contributing to 15 data series.

Led by industry, FWPA is also currently working with stakeholders to develop a new approach to the sector's market indices. Underpinned by the existing, widely used FWPA timber product sales and volume datasets, the proposed new Timber Market Index (TMI) would provide a high quality, best practice, and transparent system for tracking a range of industry prices and trends for the Australian hardwood and softwood industry.

Voluntary matching projects

Project description	Commonwealth and industry co-investment ($)	Total project costs ($)	Status	Project no.
FCNSW Log Price Review Mechanism	17,730	17,730	Completed	VSE126-1920
Industry Edge Pty Ltd				
Sawn Timber in Australia 2019 – 2035 Study	105,946	105,946	Completed	VSE124-1920
BIS Oxford Economics Pty Ltd				
Identification of Cost Effective and Practical Methods to Achieve 6-Star Timber Framed Residential Housing Solutions	3,261	3,261	Active	VNA501-1920
Forest Industries Federation (WA)				
Maximising northern tropical forestry - linking communities and cutting-edge technologies	240,000	240,000	Active	VNB537-2021
CRC Developing Northern Australia				
Fire Resistance of Modern Dovetail Timber Connector	173,250	173,250	Completed	VNA481-1819
Timber Development Association (NSW) Ltd				
Inferno	20,000	20,000	Completed	VNA531-2021
Timber Development Association (NSW) Ltd				
Validated softwood stiffness predictions using IML-Resistograph and eCambium: online automated processing	388,000	388,000	Active	VNB459-1718
Forest Quality Pty Ltd				
An Investigation to Detect and Map Internal and External Defects in the Commercial Eucalypt Timber Species Using Non-destructive Techniques	36,000	132,155	Active	VNC511-1920
University of Tasmania				
A tool to predict fertiliser response and profitability in softwood plantations across Australia. Component 1: South West WA	193,475	522,225	Active	VNC476-1819
McGrath Forestry Services Pty Ltd				
Characterising and managing fire risks to plantations under changing climates	452,000	1,014,194	Active	VNC518-1920
University of Melbourne (Forestry)				

Voluntary matching projects

Project description	Commonwealth and industry co-investment ($)	Total project costs ($)	Status	Project no.
Demonstrating Stewardship of the Environment and Ecologically Sustainable Forestry: Monitoring the Effectiveness of the Tasmanian Forest Practices Code for Biodiversity	134,179	134,179	Active	VNC457-1718
Forest Practices Authority				
Development of fit for purpose silviculture linking plantation management and productivity to wood properties	27,876	67,876	Active	VNC530-2021
University of South Australia				
Indigenous Commercial Forestry Opportunities: East Arnhem, northern Australia	279,711	279,711	Active	VNC506-1920
University of the Sunshine Coast				
Innovation in value realisation through the supply chain and supply chain technology	225,000	225,000	Active	VNC513-1920
University of the Sunshine Coast				
Mobile applications to support stakeholder surveillance of exotic forest and environment pests	56,000	56,000	Active	VNC514-1920
Plant Health Australia				
Next Generation Resource Assessment and Forecasting for Australian Plantation Forestry	83,334	238,117	Active	VNC519-1920
CSIRO Sustainable Ecosystems				
Operational immersive visualisation and measurement of dense point cloud data in forest inventory	162,000	362,184	Active	VNC520-1920
University of Tasmania				
Silvicultural systems to optimise value from northern Australian Mahogany Plantations	1,010,000	1,570,000	Completed	VNC402-1617
McGrath Forestry Services Pty Ltd				
Development of a portfolio of alternative weed control strategies for use in plantations	60,000	110,000	Active	VNC529-2021
University of South Australia				
Incorporating genetics into forest valuation models – IRRPLAN	698,998	917,936	Active	VNC480-1819
Tree Breeding Australia				
Industry wide application of advanced breeding tools and systems – Tree Breeding Australia	1,938,085	3,419,068	Completed	VNC406-1516
Tree Breeding Australia				

Voluntary matching projects

Project description	Commonwealth and industry co-investment ($)	Total project costs ($)	Status	Project no.
Optimising plantation productivity through improved fertilizer regimes **McGrath Forestry Services Pty Ltd**	100,000	435,000	Active	VNC422-1617
Quality assurance in the pedigree of radiata pine **Tree Breeding Australia Ltd**	50,000	160,000	Active	VNC561-2021
Sirex biocontrol: cryptic nematode field strain prompts urgent review of program **University of the Sunshine Coast**	105,553	275,553	Active	VNC517-1920
Tools, systems and enabling genetic technologies for pines and eucalypts **Tree Breeding Australia Ltd**	409,142	1,393,893	Active	VNC515-1920
Re-measurement of lower-rainfall farm forestry species in Victoria to improve genetic quality and establishment **David Dore**	11,000	11,000	Completed	VNC494-1920
A model system for the discovery and development of biocontrol agents against forest pests **University of the Sunshine Coast**	300,000	300,000	Completed	VNC418-1617
Giant Pine Scale Chemical Control **HVP Plantations**	263,000	263,000	Active	VNC450-1718
Giant Pine Scale Postgraduate Research Scholarship Agreement **La Trobe University**	105,000	105,000	Active	VNC472-1819
The Industry Plantation Management Group – Applied Research and Extension **WA Plantation Resources Pty. Ltd.**	682,500	682,500	Active	VNC458-1718
Log Haulage Registered Code of Practice (LHRCoP) **Australian Forest Products Association**	195,000	195,000	Active	VNA434-1617
Developing exotic pest surveillance capacity in high risk areas across Australia **Plant Health Australia**	255,000	255,000	Active	VNC512-1920
Optimising productivity of hardwood plantations: yield gap analysis for Eucalyptus globulus plantations in southern Australia **McGrath Forestry Services Pty Ltd**	240,000	6,259,973	Active	VNC516-1920
Triple-M IoT – Exploring the use of the Internet of Things in Monitoring and Managing Moisture in production forestry and landscape fire management **Indicium Dynamics Pty Ltd**	50,000	140,000	Active	VNC560-2021

Levy funded projects

Project description	Commonwealth and industry co-investment ($)	Total project costs ($)	Status	Project no.
Program 2 - Aligning products to market needs				
EPD for Australian Cypress Sawn Timber	31,267	31,267	Active	PNA500-1920
thinkstep Pty Ltd				
Key issues in Builders purchasing decisions for truss and frame raw materials	7,615	7,615	Completed	PRA475-1819
Manufacturing Logistics Pty Ltd				
Socio-Economic Impacts of Safe Work Australia's (SWA) Workplace Exposure Standard proposal for Formaldehyde on the Engineered Wood Product (EWP) Industry	3,370	3,370	Completed	PRA545-2021
Engineered Wood Products Association of Australasia				
Assessing the disruptive potential of engineered wood systems for multi-storey commercial construction	25,000	25,000	Completed	PNA461-1718
University of Melbourne - Department of Infrastructure Engineering				
Updating of fire safely supporting documentation	75,510	75,510	Completed	PRA436-1718
Exova Warringtonfire				
Timber framed residential housing Thermal Bridging & the path to 7 Star NatHERS	30,000	30,000	Completed	PRA526-1920
University of Melbourne - Department of Infrastructure Engineering				
Design of a national research program to determine the effects of fire from commercial plantation pinus species	25,000	25,000	Completed	PRA525-1920
Queensland Department of Primary Industries				
Fire Engineering Issues on Exposed Mass Timber and the Way Forward	12,375	12,375	Completed	PRA524-1920
Timber Development Association (NSW) Ltd				

Levy funded projects

Project description	Commonwealth and industry co-investment ($)	Total project costs ($)	Status	Project no.
Program 3 - Assisting Value chain optimisation 3 - Assisting Value chain optimisation				
Glulam Review: Assessment of a new design methodology for glulam products	10,000	10,000	Active	PRB484-1819
University of Technology Sydney				
Measuring Moisture and Axial Displacement in Australia's First 6 Storey Timber Framed Building	87,000	87,000	Completed	PRA449-1718
Timber Development Association (NSW) Ltd				
Particleboard Review: On design methodology, design limitations and characteristic properties used in flooring applications	5,456	5,456	Active	PRB493-1920
UTS				
Review and Survey of Global Dust Exposure Levels in Wood Processing	9,250	9,250	Active	PRA503-1920
Meder Consulting				
Review of the development, use and impacts of building design rating tools within the Australian design and construction sector	18,182	18,182	Completed	PRB535-2021
nBLue Pty Ltd				
Development of Guidelines for Fire Salvage and Burnt Log Storage and Processing	49,426	49,426	Completed	PRB502-1920
University of South Australia				
Establishing the relationship between random and biased testing for structural verification of Australian sawn softwood	18,000	78,400	Active	PNA498-2021
University of South Australia				
Estimating the benefits of an emission reduction fund method for the use of timber products in buildings	28,070	28,070	Completed	PRA541-2021
Natural Capital Economics				
Microtimber – Development of a 3D-printed, gradient timber panel composed of forestry waste- and by-products	90,000	405,159	Active	PNA359-1516
University of Sydney				
Softwood EPD update and EPD validity extension	34,048	34,048	Active	PRA527-1920
thinkstep Pty Ltd				
Developing a technical basis for a biased testing structural property verification method for Australian sawn softwood	42,600	77,900	Active	PRA497-1920
TimberED Services Pty Ltd				

Levy funded projects

Project description	Commonwealth and industry co-investment ($)	Total project costs ($)	Status	Project no.
Program 3 - Assisting Value chain optimisation 3 - Assisting Value chain optimisation				
Processing pruned Eucalyptus nitens plantation logs to produce high-value sawn and veneer products	168,915	168,915	Active	PNB417-1617
Forestry Tasmania				
Effects of fire severity and log storage on chip and timber quality	60,000	60,000	Active	PRB508-1920
Forest Quality Pty Ltd				
Revision of testing and design methods for nailed, screwed, and bolted timber connections	455,972	645,472	Active	PNB460-1718
Engineered Wood Products Association of Australasia				
National Centre for Timber Durability and Design Life	3,000,000	3,000,000	Active	PNB425-1617
University of the Sunshine Coast				
National Load Restraint Trial and Testing	9,530	64,530	Active	PRB467-1819
Australian Forest Contractors Association				
Assessing and managing mid-rotation wood quality in Australian softwood plantations to produce fit-for-purpose logs	254,420	1,568,377	Active	PNB548-2021
University of the Sunshine Coast				
Program 4 - Increasing resource availability and reducing risk				
AGVET Commonwealth Agreement (ID 4-B14CTJ9)	63,750	63,750	Active	PNC487-1819
University of the Sunshine Coast				
Boosting Diagnostic Capacity for Plant Production Industries	90,000	14,826,135	Active	PNC499-1920
Grains R & D Corporation				
Advanced real-time measurements at harvest to increase value recovery	200,000	2,080,612	Active	PNC465-1718
University of the Sunshine Coast				
Characterising native forest structure from co-incident terrestrial and airborne LiDAR	59,254	278,941	Active	PNC546-2021
NSW Department of Primary Industries				
Improved tools to predict fertiliser response and profitability in softwood plantations across Australia. Component 2: Eastern Australia	236,929	1,642,541	Active	PNC477-1819
TreeMod				

Levy funded projects

Project description	Commonwealth and industry co-investment ($)	Total project costs ($)	Status	Project no.
Program 4 - Increasing resource availability and reducing risk				
Investment Guide – Beneficial soil microbiome-tree interactions in nursery and forest settings	6,000	6,000	Active	PRC536-2021
Chris Murphy Advisory Pty Ltd				
Optimising nutrition management of hardwood plantations for sustainable productivity and profitability	182,705	1,644,183	Active	PNC478-1819
WA Plantation Resources Pty. Ltd.				
Reducing the risk of other myrtle rust strains entering Australia and the Pacific.	10,000	63,813	Active	PNC556-2021
Department of Agriculture, Fisheries and Forestry QLD (DAFF)				
Review of current technology in mechanical & robotic tree pruning equipment	7,300	7,300	Active	PRC522-2021
University of the Sunshine Coast				
Australian Forest Herbicide Research Consortium	294,990	1,344,990	Active	PNC439-1718
University of the Sunshine Coast				
Smarter Regions CRC proposal	5,000	5,000	Active	PRC543-2021
University of Adelaide				
Developing plantation trees better adapted to changing environments	91,316	276,316	Active	PNC547-2021
Tree Breeding Australia Ltd				
Improving wood quality in radiata and southern pines	300,000	300,000	Completed	PNC428-1617
Southern Tree Breeding Association				
Incorporating genomic data in TREEPLAN evaluations to increase genetic gain	677,737	1,444,813	Completed	PNC408-1516
Southern Tree Breeding Association				
R&D webinar Series	9,600	9,600	Completed	PRC551-2021
STR Consulting Pty Ltd				
Biological Control of Giant Pine Scale in Australia	317,501	1,004,568	Active	PNC489-1819
Agriculture Victoria				
Monitoring parasitoids of Gonipterus weevils in Australian eucalypt plantations	20,000	64,277	Active	PNC550-2021
University of the Sunshine Coast				
Plant Biosecurity Research Initiative Phase II 2021-23	60,000	802,000	Active	PRC521-1920
Plant Biosecurity Research Initiative				

Levy funded projects

Project description	Commonwealth and industry co-investment ($)	Total project costs ($)	Status	Project no.
Program 4 - Increasing resource availability and reducing risk				
Plantation Forestry Biosecurity Plan Review	57,040	144,510	Active	PRC468-1819
Plant Health Australia				
Production Forest Methodologies for the Emissions Reduction Fund	110,000	501,050	Completed	PNC354-1415
NSW Department of Primary Industries				
Sustainability Scoping Study	38,950	38,950	Completed	PRC451-1718
STR Consulting Pty Ltd				
Alignment of Australian and New Zealand Forest Valuation Standard Methodologies: Project Plan	90,090	90,090	Completed	GRC129-2021
Institute of Foresters of Australia Inc				
Program 5 - Decision making and capability				
Database capture of individual significant-scale Australian forestry plantation fire losses	6,600	6,600	Ongoing	PRE507-1920
Geddes Management Pty Ltd				
Estimating the implications of net-zero targets	15,363	15,363	Completed	PRE562-2021
Natural Capital Economics				
FWPA Benefit Cost Analyses 2020	19,964	19,964	Completed	PRE528-2021
Natural Capital Economics				
Project Report summaries for Voluntary Matching	12,870	12,870	Active	PRE452-1718
Forestlands Consulting Pty Ltd				
Review of the current research on the key drivers of community perceptions of wildlife and species protection	9,100	9,100	Active	PRE549-2021
Hollow-wood Enterprises Pty Ltd				
FWPA strategic planning report 2021	14,400	14,400	Active	SKD134-2021
Forest Hill Consulting				
Independent Performance Review 2020	68,000	68,000	Completed	SKD133-2021
Forest Hill Consulting				
Science and Innovation Awards for Young People in Agriculture Fisheries & Forestry -2020 & 2021 rounds (ABARES) - Sponsorship	45,455	45,455	Active	PRE490-1920
Australian Bureau of Agricultural and Resource Economics				
Situational Analysis of forest and forest products sectors & supply chains	19,000	19,000	Completed	PRE542-2021
Greenwood Strategy Solutions Pty Ltd				

Expenditure against National and Rural Research Priorities

Distribution of FWPA 2020/21 RD&E expenditure against National and Rural Research Priorities.

Rural Research Priorities

Advanced technology: to enhance innovation of products, processes and practices across the food and fibre supply chains through technologies such as robotics, digitisation, big data, genetics and precision agriculture.

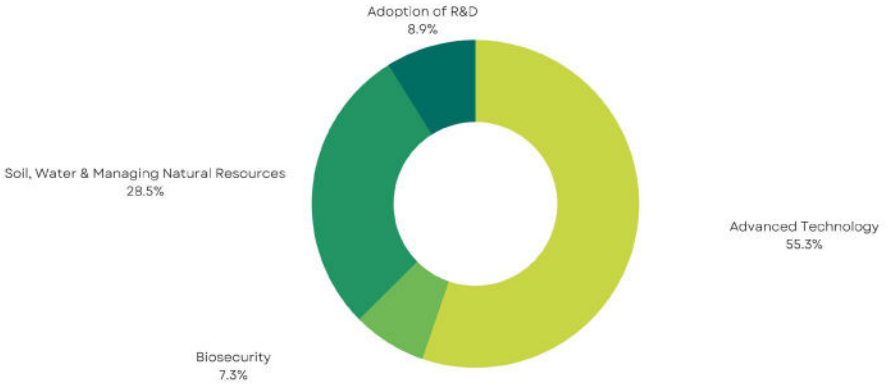
Biosecurity: to improve understanding and evidence of pest and disease pathways to help direct biosecurity resources to their best uses, minimising biosecurity threats and improving market access for primary producers.

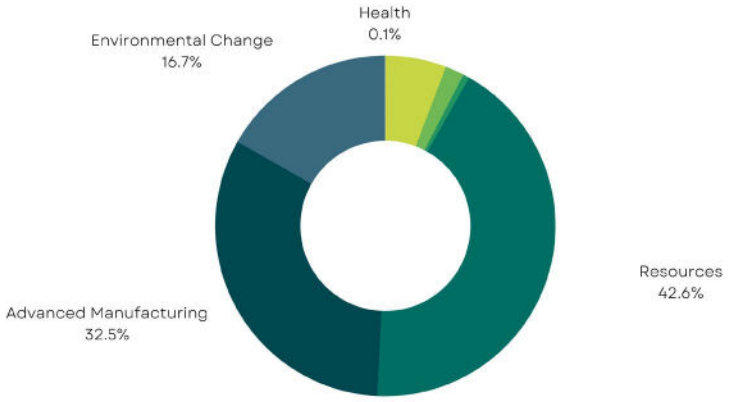
Soil, water and managing natural resources: to manage soil health, improve water use efficiency and certainty of supply, sustainably develop new production areas and improve resilience to climate events and impacts.

Adoption of R&D: focusing on flexible delivery of extension services that meet primary producers' needs and recognising the growing role of private service delivery.

National Research Priorities

Food	0%
Soil and Water	5.8%
Transport	1.8%
Cybersecurity	0%
Energy	0.6%
Resources	42.6%
Advanced Manufacturing	32.5%
Environmental Change	16.7%
Health	0.1%





Members & Associate Members

As of 30 June 2021

Full Member Companies

A G Brown Sawmill Pty Ltd
ACT Environment, Planning and Sustainable Development Directorate – Departmental
Adam's Sawmill Pty Ltd
Agriwealth Contracting Pty Ltd
AKD NSW PTY LTD
AKD Queensland Pty Ltd
AKD Victoria Pty Ltd
Albany Plantation Export Company Pty Ltd
Allied Timber Products Pty Ltd
Alpine Mdf Industries Pty Ltd
ANZFIF Sub 1 (Australia New Zealand Forest Investment Fund)
ANZFOF Sub1 (Australia New Zealand Forest Operating Fund)
Associated Kiln Driers Pty Ltd trading as A.K.D. Softwoods
Austral Plywoods Pty Ltd
Australian Bluegum Plantations Pty Ltd
Australian Solar Timbers
Australian Sustainable Hardwoods Pty Ltd
Australian United Timbers Pty Ltd
Australian Wood Panels Pty Ltd
Auswest Timbers Pty Ltd
AW Moran Sawmilling Pty Ltd
Baradine Sawmilling Co Pty Ltd
Bayswood Timber Wholesalers Pty Ltd
BBS Flooring Products Pty Ltd
Big River Group Pty Ltd
Birnam Forests Pty Ltd
Bluebat
Boral Timber Division
Borg Panels
Briggs Veneers Pty Ltd
Britton Bros Pty Ltd
Bunbury Fibre Exports Pty Ltd
Bunbury Fibre Plantations Pty Ltd
Bunbury Treefarm Project
Byjuke partnership
Carter Holt Harvey Woodproducts (Southern Region) Pty Ltd
Carter Holt Harvey Woodproducts (Central and Northern Regions) Pty Ltd
Carter Holt Harvey Woodproducts Australia
Clockworkbovine
Cotswold Investments Pty Ltd
D&R Hendersen Pty Ltd
D.M and L.A Pratt
D.S Fuller & L.R Fuller trading as Dale & Lindsay Fuller Partnership
Dale & Meyers Operations Pty Ltd trading as DTM Timber
Darren Bott
David Neville Calvert
Dindas Australia Pty Ltd
DMK Forest Products Pty Ltd
Endeavour Foundation trading as Nangarin Timbers
Enrights Sawmill
Ents Forestry Pty Ltd
Environmental Forest Farms Management Ltd
Fenning Investments Pty Ltd
Forest Products Commission (WA)
Forest Strategy Pty Ltd
Forestry Corporation
ForestrySA
Forico Pty Ltd
FourSquare Timbers Pty Limited
Frostpine
G.L. & V.N. Barber Pty. Ltd.
Garry Davey Timber Cutting
George Fethers & Co. Trading Pty Ltd
Gippsland Logging & Earthmoving Pty Ltd
Green Triangle Forest Operating Sub Trust
Green Triangle Forest Products
Greensill Bros Pty Ltd
Gunnedah Timbers Pty Ltd
Gunnersens Pty Ltd
GW & NI Saunders Sawmill Pty Ltd
Hallmark Oaks Pty Ltd
Hancock Victorian Plantations Pty Ltd (HVP)
Henson Sawmilling Pty Ltd
Hexan Holdings Pty Ltd trading as Whiteland Milling
Highland Pine Products Pty Ltd
HQPlantations Pty Ltd
Hume Forests Limited
Hurford Sawmilling Pty Ltd
Hurford Wholesale Pty Ltd
Hyne Timber
Injune Cypress
Intech Operations Pty Ltd trading as Mucherts Sawmill (QLD)
Ironwood Taree Pty Ltd
ITI (NSW) Pty Ltd
ITI (Queensland) Pty Ltd
ITI (SA) Pty Ltd
ITI (Victoria) Pty Ltd
ITI (WA) Pty Ltd
J Notaras & Sons Pty Ltd
J Wright & Sons Pty Ltd
Jarrah Select Pty Ltd
Jarrahwood Australia Pty Ltd
Jeff and Lilian Ang
Jelfor Timbers Pty Ltd

Members & Associate Members

Jetstar Enterprises Pty Ltd trading as Permapole
John Cook & Sons Pty Ltd
Kangaroo Island Plantation Timbers
Kilner Creek Company Trust
Koppers Wood Products Pty Ltd
KSI Sawmills Pty Ltd
LA & KE Barnett
LM Hayter & Sons Pty Ltd
Lormier Timber Pty Ltd trading as Davids Timber
Lotus Oaks Pty Ltd
Machin's Sawmill Pty Ltd
Mathews Timber Pty Ltd
McCormack Demby Timber Pty Ltd
McDonnell Industries Pty Ltd
McKay Timber
Meyer Timber Pty Ltd
Middlesex Mill Pty Ltd
Midway Limited
Millmerran Timbers Pty Ltd
Montana Timber Holdings Ltd
Moran Logging Company Pty Ltd
Morgan Sawmill Jamestown
Morgan Sawmill Jamestown
MRG Connections Pty Ltd
Nannup Timber Processing (NTP)
New Forests Asset Management Pty Ltd (ABN 42 114 545 283) trading as The Trust Company (Australia) Ltd
(ABN 21 000 000 993)
Norske Skog Paper Mills (Australia) Ltd
NSFP Smartfibre Pty Ltd
Onefortyone Plantations Pty Ltd
OneFortyOne Wood Products
Oregon Sales Pty Ltd trading as Timbeck Cedar Products
Parkside Building Supplies Pty. Ltd.
Penrose Pine Products Pty Ltd
Pentarch Forest Products Pty Ltd
Planet Timbers (WA) Pty Ltd
Porta Mouldings Pty Ltd
Porters Sawmilling Pty Ltd
Portland Pine Products
Private Forestry Service Queensland
Queensland Department of Agriculture and Fisheries
Radial Timber Australia
Ravenshoe Timbers Pty Ltd
Redmond Sawmill
Regional & Rural
Reliance Forest Fibre
Ridgewood Timber Pty Ltd
Ryan & McNulty Pty Ltd
S A Relf & Sons Pty Ltd
SA Pine Pty Ltd
Sarawood (Aust)
Schiffke Sawmill Pty Ltd
SFM Environmental Solutions
Simmonds Lumber Pty Ltd
South East Fibre Exports Pty Ltd
South East Pine Sales Pty Ltd
Southern Pacific Fibre
Stora Enso Australia Pty Ltd
Sustainable Timber Tasmania
Swan Le Messurier Pty Ltd
Ta Ann Tasmania Pty Ltd
Tarmac Sawmilling Pty Ltd
TASCO trading as Dongwha Timbers Pty Ltd
Tasman KB Pty Ltd
The Hesmat Unit Trust
The Laminex Group
The Timber Treaters Trust
Tilling Timber Pty Ltd
Timberlands Pacific Pty Ltd
Timberlink Australia
Timothy J Mitchell
Towers Timber trading as Wambenger
Treated Pine Distributors trading as Waverly Consulting
Urgenty Pty Ltd trading as Mary Valley Timbers
Ventech Australia
VicForests
VIDA Wood Australia Pty Ltd
Visy Pulp & Paper Pty Ltd
WA Chip & Pulp Co Pty Ltd
Wade Sawmill Pty Ltd
Weathertex Pty Ltd
Wesbeam Pty Ltd
Wespine Industries Pty Ltd
Whiteheads Timber Sales Pty Ltd
Wild Partnership
Williams Timber Pty Ltd
Wilton Logging Pty Ltd
Woodpanels International Pty Ltd
Wright Forest Products Pty Ltd

Associate Member Companies

A E Girle & Sons
AG Trusses
Andre Augusto Avino
ATS Building Products
Australasian Timber Flooring Association
Australian Forest Contractors Association
Australian Forest Products Association (AFPA)
Australian Timber Importers Federation

Members & Associate Members

Biomass Heating Australia
BIS Shrapnel Pty Ltd
Dellow Corporation Pty Ltd trading as Curvwood
Egger Australasia Pty Ltd
Everist Timber Pty Ltd
Explorate
Fingal Pastoral Pty Ltd
ForestPHD Pty Ltd
Frame & Truss Manufacturers Association of Australia Ltd (FTMA)
Greenwood Strategy Solutions Pty Ltd
Greenvalley Pty Ltd
Hume Plasterboard Pty Ltd
IMEMS Pty Ltd trading as IMEMS Environmental
Keith Timber Group
Kennedys Classic Aged Timbers Pty Ltd
Koppers Performance Chemicals Australia
Kurrumbene Agribusiness
Lendlease DesignMake Pty Ltd
Lonza Wood Protection trading as Arch Wood Protection (Aust) Pty Ltd
Margules Groome Consulting
Marshall Pine
McInnes International Pty Ltd
Merriwa Timbers
Multinail Australia Pty Ltd
Omega Consulting
Poyry Management Consulting (Australia) Pty Ltd
Pryda
Regional Development Australia Limestone Coast Incorporated
Responsible Wood
Rodpak
Rothoblaas SRL
Siempelkamp Pty Ltd
Stephen Mitchell Associates
Sylva Systems Pty Ltd
The Timber Preservers Association of Australia
Timber & Building Materials Association (Aust.) Ltd
Timber Corporation PTY LTD
Timber Development As. (NSW) Ltd
Timber Insight Pty Ltd
Timber Merchants Association (Victoria)
Timber Queensland Ltd
Victorian Association of Forest Industries (VAFI)
Wood Based Products Pty Ltd
Wood Products Victoria Ltd
XLam Pty

Forest & Wood Products Australia

Level 11, 10-16 Queen Street
Melbourne, VIC
Australia 3000

www.fwpa.com.au