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From the Chairman

Welcome to Leading Edge for winter 2009. The past three months have been particularly busy, with new research programs commencing, changes in building standards and various industry initiatives.

Of particular note is the newly formed cross-Tasman partnership between FWPA and the New Zealand forestry industry that will drive research into the development of better quality and higher yield solid wood timber in both countries.

Our upcoming AGM, meanwhile, promises to be a highlight of the year, with the election of two new Board members and a pre-AGM research fair. The day concludes with the Victorian-Tasmanian round of the National Timber Design Awards.



From the
Chairman

Welcome to Leading Edge for Winter 2009

Last edition we moved from print to electronic format and I am pleased to say that the overwhelming majority of members enjoyed their new and improved e-newsletter.

The past three months have been particularly busy for Forest & Wood Products Australia (FWPA), with new research programs commencing, changes in building standards and various industry initiatives.

Of particular note is the newly formed cross-Tasman partnership between FWPA and the New Zealand forestry industry that will drive research into the development of better quality and higher yield solid wood timber in both countries.

One of the most important aims of the \$NZ9 million Solid Wood Initiative (SWI) is to generate further profitability for the industry by developing sawmill processes that deliver better performing structural timber to customers whilst also reducing energy, kiln emissions and water use.

A joint initiative between FWPA, NZ Foundation for Research Science and Technology, NZ processors, NZ growers and North American forestry company Weyerhaeuser Ltd, the research will build on the highly successful Wood Quality Initiative (WQI).

FWPA will contribute \$NZ2 million over a five-year period to the research, allowing Australian and NZ researchers to create mill ready technologies that improve products and profit margin.

Timber standards are another hot issue for our industry. In July, FWPA will hold a workshop to discuss the development of timber standards and the role that FWPA can and should play in standards. Outcomes of the workshop will be published in the next edition of this newsletter.

Closer to home, we have been busy preparing for our second annual general meeting (AGM) to be held on Tuesday 20 October in Melbourne. As we approach the end of second year of operation, the Company is seeking to appoint two new Directors, one of which must be an Independent Director as defined within the company Constitution.

In line with the company Constitution and a commitment by all incumbent directors, a Board renewal process was initiated in 2008. Two more Director positions will be vacated this year so that all Board positions will have been elected within the first three years of the company's inception. Nominations for Board positions were advertised and entries close July 10, more information can be found on the FWPA website.



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This year we have combined the AGM with two events designed to highlight the vital contribution of research and design to our industry. Prior to the AGM we will be holding a research fair where key researchers will be given the opportunity to discuss their activities and the expected benefits to industry.

The Victorian-Tasmanian round of the National Timber Design Awards will take place immediately after the AGM. The keynote speaker will be Andrew Waugh, internationally renowned for his role in creating a landmark nine-storey building in London using timber. FWPA has sponsored Andrew's visit and his presentations around the country.

I look forward to speaking with you at our AGM in October.

FWPA supports NZ\$9 million Solid Wood Initiative



FWPA Chairman and the managing director of Wespine, Ron Adams, said he was confident the study would deliver important benefits to the industry on both sides of the Tasman.

“This research represents a great opportunity for both countries to combine expert industry resources and ultimately drive profitability through the production of better quality and higher yield solid wood timber,” Mr Adams said.

FWPA Managing Director, Ric Sinclair, said the investment in ongoing research into solid wood products was vital for the industry’s long-term viability and profitability.

“Our investment represents a leverage of 10-1 in terms of industry contributions and ensures strong engagement with the Australian industry throughout the entire research process.

“Significantly, it also provides our members who are sawlog levy payers with access to new research and intellectual property that not only relates to solid wood activities, but to all work completed under the Wood Quality Initiative,” he said.

Building on past research into solid wood products

A joint initiative between FWPA, NZ Foundation for Research Science and Technology, NZ processors, NZ growers and North American forestry company Weyerhaeuser Ltd, the research will build on the highly successful Wood Quality Initiative (WQI).

This joint Government-Industry WQI program, commenced in February 2003 invested NZ\$3 million over five years and delivered a number of important outcomes for industry, including:

- **Enhanced stability**
 - Techniques for predicting twist, crook and bow (separately or combined) are now achievable; sound basic principles and ready for first commercial applications
 - WQI has Licensing Agreements (from Weyco) to operate within Australasia in the area of warp prediction
- **Greater structural and integrated capabilities**
 - Shareholders can now forecast wood quality (density and velocity) along with growth and yield estimates
 - Algorithms can be used for GF19 material as well as the GF14 material that they were built on

- Better Appearance
 - Routine assessment of NZ stands for external resin bleed
 - Out-turn of degrade from a stand due to resin can be used to determine future silviculture.

Mr Sinclair said he was delighted that the new research program built on the investment and outcomes of the WQI research.

“The Solid Wood Initiative represents continuity in key research and importantly, allows us to pursue the commercialisation of key WQI outcomes. Through the new program we will give hardwood processors access to WQI intellectual property and ensure continuity in research and development management structure and partnerships.”

Producing better timber and reducing emissions

The SWI program has three core objectives:

- Identify more efficient ways of manufacturing better performing structural products
- Produce better performing appearance grade products
- Significantly reduce kiln emissions, energy and water consumption in timber drying.

By entering into a confidential agreement with WQI – the management company of SWI, FWPA members who are sawlog levy payers can gain access to research and intellectual property of both the SWI and the former WQI. Enquiries on these agreements should be directed to the WQI.

For further information visit www.wqi.co.nz.



Celebrating Carpenters - the outcomes

Hundreds of carpenters from around Australia and nine current serving soldiers in Afghanistan joined celebrity carpenter Tom Williams in marking Australia's first ever National Carpenter's Day.

A series of free events sponsored by Forest and Wood Products Australia's Wood. Naturally Better.™ Programme was held in each capital city to raise awareness of the timber industry and to encourage the use of wood. The day was even celebrated in Afghanistan after an Army carpenter contacted FWPA asking to get involved and was sent information and merchandise.

FWPA Managing Director Ric Sinclair declared the day a great success, both for those who attended and in generating public awareness.

"The ultimate aim of National Carpenter's Day was to give a public focus to our key messages about the benefits of using wood to consumers, professionals and government and to promote wood as the preferred material of choice to build and work with," he said, adding that the event and its build up generated media coverage worth more than \$1.1 million.

National Carpenter's Day, on April 21, was featured on all three commercial television networks – with Tom Williams featuring in segments on Channel 7's Sunrise, 9am with David and Kim on Channel 10 and The Today Show on Channel 9. The day also generated 45 radio interviews or mentions and 41 print articles or photographs as well as an impressive online presence.

Mr Sinclair said: "The total audience for all media generated was more than four million people. On top of this through National Carpenter's Day we were able to talk directly to hundreds of carpenters and businesses, highlighting the important messages of the Wood. Naturally Better.™ Programme and to draw attention to the timber industry."

The day also witnessed the launch of Australia's inaugural National Carpenter of the Year Award, which was won by Queensland's Tom Casey, a qualified carpenter and joiner who has been building for 28 years.

A member of the Mackay Regional Council's Heritage Advisory Committee, Mr Casey was instrumental in organising a successful community appeal to restore St Paul's Uniting Timber Church in Mackay, one of the largest timber churches in North Queensland.

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Mr Casey, who was nominated by his partner and various customers, said: “I was shocked to hear that I had won but I feel very honoured, because I am lucky to be working with other carpenters, who I think are equally deserving of the title,” he said.

“It is great to see carpenters recognised for their hard work and contribution to the community, as well as their contribution to fighting climate change.”

He received a Hitachi Power Tools megapack valued at \$2,500 and Wood. Naturally Better.™ merchandise.

Almost 300 entries were received for the awards, which were judged by Ric Sinclair, Tom Williams, Timber Development Association CEO Andrew Dunn and The Tradie Magazine representative Graham Joss.

State winners are:

- NSW – **Gregory Bennett**
- Victoria – **Dayle Pugh**
- Tasmania – **Malcolm Wright**
- South Australia – **Mark Van Eck**
- Western Australia – **Kim Mouritz**



Carpenter's Day on TV

[Channel 7 Sunrise with Tom Williams](#)

[Channel 9 Today Show with Chippy Challenge](#)

[Channel 10 9am with David and Kim](#)

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10th Timber Design Awards



A host of new categories has been introduced for this year's tenth anniversary Australian Timber Design Awards, thanks to sponsorship from the Wood. Naturally Better.™ Programme.

There will also be four regional events featuring presentations by internationally-renowned architect Andrew Waugh, including one in Perth, rather than one ceremony in Sydney, Melbourne or Brisbane.

Combined with a major restructuring of the entry format making it easier to make submissions, it is hoped that more architects, building designers, builders and engineers than ever before will put themselves forward for the chance to win one of the prestigious awards.

From this year there are four primary entry categories, all of which are building related and three other traditional categories (Interior Fitout for commercial and resort type projects, Outdoor Timber for structures such as sheds, landscapes, boardwalks, decks and bridges, and Sustainable Design – formerly known as Environmental Commitment).

There are also eight “Best Use Of” categories including the new Best Use Of Australian Certified Timber, which can be entered individually or in conjunction with a primary category. The Young Designers Encouragement Award is open to people 30 or under at the time their project is completed.

The four regional functions are scheduled for late October when all regional winners will be announced before progressing on to the national finals. Andrew Waugh, the principal architect in London practice Waugh Thistleton Architects and project leader of the world's tallest timber residential building, the nine-storey, STADTHAUS N1, will give a feature presentation at each event.

Entrants no longer have to submit a professional display board to encourage more submissions from builders or small practice architects and building designers who might previously have found it hard competing with the resources of national firms. Instead, plans, photos and some related documentation are all that is needed.

Time is getting tight, with submissions required by close of business on July 31. To enter, visit www.timberawards.com.au.

The overall winner will receive a two-page editorial feature in a leading national magazine. All national winners will be announced in late November and included in a Timber Design Awards Commemorative magazine.



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The Wood. Naturally Better.™ Programme, which is sponsoring the awards, is designed to increase education and awareness of the role that wood plays in mitigating the effects of climate change in Australia and highlighting to a range of audiences the benefits of choosing and using wood due to its environmental, aesthetic, economic and 'architecturally smart' characteristics.

Increasing Wood Usage



As the Rudd Government examines ways to meet climate change targets, new research indicates doubling the amount of wood used in residential construction in Australia could offset the carbon dioxide emissions of more than half a million motor cars each year by 2050.

The findings could benefit both the environment and regional employment in the wood and timber industry by increasing wood and timber usage in residential property, thereby boosting its market share.

University of Melbourne researchers set out to improve existing estimates of carbon stocks in Australian housing, where more than 70 percent of harvested sawn wood products are used.

The study, co-funded by Forest & Wood Products Australia and the Department of Climate Change, was based on the analysis of existing literature, published industry surveys, questionnaires sent to builders, architects and demolition companies across all States (except the Northern Territory) and interviews with estimators from large building companies.

It examined the usage of wood products, the generation and fate of construction and demolition wood waste, the lifespan of residential dwellings and the factors influencing patterns and longevity of residential housing, as well as opportunities to encourage greater use of timber and to increase longevity of timber in housing.

The study found that while the average dwelling size has more than doubled across Australia in the past 60 years, the amount of wood being used in residential construction has decreased.

The Researcher Professor Rod Keenan, who has extensive experience in analysis of carbon sequestration and greenhouse accounting, said: "Provided the timber is coming from forests where carbon stocks are being maintained, carbon in timber used in housing is a potentially important contribution to Australia's effort to reduce greenhouse gas emissions.

"Our study indicates there is significant capacity for increasing the rate of addition to carbon stocks in housing. This would require a reversal of the trend for reduced wood use in housing, for example by increasing the use of timber sub-floor systems and timber wall cladding."

For example, doubling the volume of wood currently used in Australian homes would result in 2.5 times as much annual carbon storage in Australian houses in 2050 -



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equivalent to the carbon dioxide emissions of more than half a million motor cars or about 0.7% of Australia's greenhouse gas emissions in 2006.

The study also looked at which policies governments (State and Federal) and industry could introduce to promote increased use of wood products in residential construction: 86 percent of building practitioners suggested that reducing the price of wood products compared to competing products would have the greatest impact; 76 percent indicated better training and education for building practitioners on wood products' carbon storage benefits; 62 percent thought changes to government building regulations would result in the greatest impact on the choice of wood as a building material.

Researchers recommended that the survey is repeated every five years to detect trends in wood usage, which could also help measure the effectiveness of campaigns to increase wood usage.

[Click to download the full research report PDF \(938KB\)](#)

Virtual Silviculture



A new tool that allows growers, investors, processors and planners to model the impact of thinning and pruning on eucalypt plantations could boost production of high quality hardwood logs for appearance grade purposes.

TreeTOP has been developed over 12 months by MBAC Consulting Group as a means to encourage investment in thinning and pruning and in turn meet industry's demand for large Diameter Breast Height (DBH) logs with a high proportion of clearwood.

Traditionally, the premium paid for pruned eucalypt plantation sawlogs has not been sufficient to justify thinning and pruning expenditure purely on commercial grounds, but the declining availability of high quality logs from native forests, better silvicultural advice on how to sustainably control forests to meet needs, and improved incentives to grow longer rotation crops have led to a change in thinking.

MBAC Director Rod Meynink said: "Some industry wants large diameter logs with a high proportion of clearwood. Transparent, adequate market values are required to motivate growers to produce such logs. Growers want to produce the crop that provides the best land-use benefit, including financial return from timber sales, and this model can predict both output yields and value."

TreeTOP models the impact of thinning and pruning, yield, quality and rotation length to assess their impacts on return, value and outturn of logs suitable for conversion into appearance grade products. Thinning aims to concentrate growth on the strongest commercially desirable stems and remove defective stems before they become dominant. Pruning helps reduce the number of knots formed by branches in eucalypts.

Mr Meynink said: "TreeTOP provides a means for users to enter data from sample plots, such as species, site quality, stocking, diameter, height, basal area and volume for different ages, and compare this to a database of results from similar research plots. They can then use 'virtual silviculture' to carry out a 'what if?' analysis and can also obtain greater clarity about the market conditions under which thinning and pruning are financially attractive."

MBAC collated data from 500 sample plots provided by Forestry Tasmania, Forest Plantations Queensland, Forests NSW, Queensland's DPIF Horticulture & Forest Science Division, Forest Enterprises Australia, Integrated Tree Cropping, Private Forestry Tasmania and the Western Australia Forest Products Commission.



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They analysed variables such as species, initial stocking, productivity, thinning intensity (number and residual stockings), pruning intensity (number of lifts and heights), costs, product yields and log prices. The model also covered conventional production forestry with high initial stockings, one or more thinnings and two or three pruning lifts, through to agroforestry situations with lower initial stockings.

Silviculture to produce plantation eucalypt sawlogs is relatively new; there is a large body of silvic research trials but the data has not previously been collated for comparative viewing and most research plots are less than 10-years-old.

The research was funded by Forest and Wood Products Australia. FWPA Managing Director Ric Sinclair said: "TreeTOP is an excellent tool for assessing whether it is a good idea to thin or prune and will lead to better pricing for the sale of these products in the future."

TreeTOP is the most freely available model of its kind that can test any species of eucalypt with any thinning and pruning regime and is available free of charge from the FWPA website.

[Click here to download the software](#)

Research into fertiliser use providing value to Australian forests



Further investment into nutrient management in Australian forest plantations is needed to maintain sustainability and profitability in the face of rising fertiliser prices, according to researchers responsible for the most exhaustive study of fertiliser use in Australia since the early 1990s.

They found that, while there is evidence that mid-rotation fertiliser application can be highly profitable if properly targeted, particularly in softwood plantations, there has been very little research of the response to fertiliser in hardwood plantations.

Dr Barrie May led a research team, funded by Forest and Wood Products Australia (FWPA) and CSIRO, in a review of most published Australian and international literature and a survey of fertiliser use by forestry companies across Australia. “There has been some work in recent years that has improved profitability, but predicting the effectiveness of fertiliser usage remains a crude art,” he said.

“With prices increasing it is important to optimise the economics of fertiliser use. There are possibilities for remote sensing using satellite imagery which would allow the response of plantations to be measured over broad areas.”

The team found that fertiliser use in Australia had increased significantly across all land uses in the past 20 years, only stabilising recently due to higher prices. Total annual expenditure was about \$20 million for hardwood plantations compared with just \$7 million for softwood plantations.

Researchers carried out a comparison of fertiliser use across all forms of land use and found forestry represented around just one percent of total nitrogen, potassium and phosphorus use. It is also low impact, using less fertiliser per unit of land relative to other agricultural systems, such as sugar cane, cotton and dairy, and thus emits far lower levels of greenhouse gases.

Analysis of these studies shows that fertiliser use in forestry is also likely to have minimal impact on water quality due to low levels of nutrients leaching into rivers. The comparatively low environmental impact of fertilisers in forestry could prove important in encouraging policy-makers to increase the amount of land allocated for forestry.

Managing Director, FWPA, Ric Sinclair said, “Substantial research into processes governing nutrient requirements and availability and role of fertilisers has increased the productivity and profitability of growing plantations across Australia in the past. Major improvements in the efficiency of fertiliser use and the long-term sustainability of plantation forestry have resulted. However, substantial challenges remain. Thus, further research into nutrient management of both hardwood and



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softwood plantations is warranted and will improve both the future sustainability and profitability of plantation forestry across Australia.”

[Click to download the full research report PDF \(1840KB\)](#)

New Energy Efficiency Requirements



The proposed introduction of tougher new energy efficiency requirements for housing and commercial buildings offers the Timber Industry an opportunity to highlight the unique environmental attributes of wood in reducing carbon emissions.

New measures, including increasing energy efficiency requirements to six stars nationally in the 2010 update of the Building Code of Australia (BCA), are described in the Government's draft *National Strategy on Energy Efficiency 2009-2020*.

The main aim of the Government's National Pollution Reduction Scheme and this strategy is to decrease carbon dioxide emissions and deliver significant low cost greenhouse gas abatement.

However, the Timber Industry, alongside the Housing Industry Association, believes the strategy does not currently include any specific mention of the more holistic and accurate environmental evaluation process of life cycle assessment (LCA), but instead focuses on a few specific factors in the 'operational phase' of the building's life and is calling for a broader assessment approach.

It is suggested that all activities that decrease CO₂ emissions should be recognised and as such a more holistic approach to CO₂ reduction should be investigated, including a range of other operational factors and the embodied CO₂ impact of the product manufacturing, construction and demolition, and end-of-life phases.

This is where timber's unique environmental benefits come to the fore as:

- trees absorb CO₂ and store carbon
- timber products have a low embodied energy in manufacture
- timber products continue to store carbon while in use
- timber products can be reused or recycled
- end-of-life timber can be burnt as biomass for energy generation, displacing the use of non-renewable fossil fuels.

Forest & Wood Products Australia is involved in R&D projects that support the above position, including a completed two-year project with CSIRO to collect detailed state-of-the-art life cycle inventory (LCI) data for timber products, and a national building sector project through the Building Products Innovation Council to agree on an LCI data collection methodology for building products and a life cycle assessment protocol for building appraisal.



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The next step for the building products sector is to proactively participate in the further public comment processes for the *National Strategy on Energy Efficiency 2009-2020* in order to press for the future inclusion of life cycle assessment as it provides an inclusive, scientific and level-playing field approach to environmental assessment.

In the long run this can provide Government with the best outcome for CO₂ emission reduction and the Timber Industry with the best outcome for recognition of the unique environmental attributes of wood.

For further information contact: *Dr Alastair Woodard*, FWPA ESD Knowledge Broker : woodard@tpcsolutions.org.au

Project reports posted on Website April 2009 – June 2009

Project Number	Project Title
PRC072-0708	Review of fertilizer use in Australian forestry
PNC051-0607	The effect of thinning on wood quality and solid wood product recovery in regrowth forests
PN06.3016	Resource Characterization of slash pine plantation wood quality
PNA017-0708	Wood recovery and recycling: A source book for Australia
PNB036-0607	Mechano-Sorptive Nailplate Backout in Nailplated Timber Trusses
PNA016-0708	Dynamics of Carbon Stocks in Timber in Australian Residential Housing
PNA014-0708	Assessing the ability of a large-scale fire test to predict the performance of wood poles exposed to severe bushfires and the ability of fire retardant treatments to reduce the loss of wood poles expo
PNB037-0708	Eight year final inspection of model windows exposed in the accelerated field simulator
PRA021-0809	Carbon in timber within a national emissions trading scheme methodologies and mechanisms
PRA031-0809	International review of timber procurement mechanisms for the development of a legality framework in Australia
PRC071-0708	The impacts of plantations and native forests on water security: Review and scientific assessment of regional issues and research needs
PRC114-0709	Comparison of solid wood quality and mechanical properties of three species and nine provenances of 18-year old eucalypts grown in clearwood plantations across southwest Western Australia

FWPA approved Projects April 2009 – June 2009

Project	Research Provider	FWPA Investment	Total Budget
Develop high value veneer products from pulp grade eucalyptus logs	Forestry Tasmania (Chen) & University of Tasmania	\$240,000	\$530,000
Active genetic conservation & utilization of native Radiata pine germplasm, Stage 1	CSIRO Sustainable Ecosystems	\$210,000	\$820,925
Production of Plywood Products from Commercial Hardwood Plantation Species	Queensland Department of Primary Industries & Fish	\$100,000	\$1,330,878
Timber Development Opportunities in the House Remodelling Market	TDA-NSW	\$92,000	\$138,000
Comparative life cycle assessment study of various residential building designs	RMIT	\$64,000	\$64,000
Timber in multi-residential commercial & industrial building: Recognising opportunities & constraints	University of Tasmania	\$45,000	\$45,000
Certification of ATCA as an approved third party certification agency under CARB	AWPA Test Centre Association Inc (ATCA)	\$28,000	\$56,000
Increased market application for timber decking	TDA-NSW	\$79,000	\$112,000
Bushfire testing of roof systems	Bodycote Warrington (Aus) Pty Ltd	\$52,000	\$52,000
Feedback to Industry contributors to the LCI Timber project	CSIRO	\$17,000	\$17,000
Development of Northern Hardwood Plantations	Bald Head Consulting	\$6,250	\$6,250
National Waste Policy	A3P	\$5,000	\$5,000
Scoping study: Material in new Australian residential & commercial construction	Building Products Innovation Council	\$5,000	\$5,000
NDE Technologies for Drying Rate Segregation in the Hardwood Sawmilling Industry	CSIRO-MSE	\$178,000	\$356,700

Higher value veneer products from fibre managed plantation eucalypts	University of Tasmania	\$240,000	\$640,000
Solid wood innovation	WQI Limited	\$1,642,263	
Improving the durability of low durability plantation hardwoods for use as power poles	State of Queensland (DEEDI)	\$216,000	\$482,000
Development of selection & implementation guide for the use of onboard systems for Australian forest operations	CRC Forestry Ltd	\$348,000	\$348,000
Contribution of CAR reserves to mature forest biodiversity in production forest landscapes	Forestry Tasmania	\$260,000	\$522,474
Predicting Eucalyptus nitens plantation water use using growth parameters	Forestry Tasmania	\$303,000	\$828,270
Improving public perceptions and encouraging sustainable timber communities by understanding and shaping aesthetic values in plantation forest landscapes (WFI: R Hicks)	World Forest Institute	\$40,000	\$40,000
Postgraduate Research Scholarship Agreement (Kee Kong Wong)	RMIT University	\$90,000	\$90,000
Monitoring timber bridges for structural health (J Moore)	University of New England	\$90,000	\$90,000
Totals (excluding GST)			