

In this issue

> New phone numbers for FWPA	01
> Wood. Naturally Better.™ Bushfire Rebuilding	02
> Timber Standards Development	04
> Impact of climate change on Australia's timber plantations	04
> Plantation forest water use	06
> Satellite mapping for nutrition	07
> Wood. Naturally Better.™ Campaign Update	08
> Back to the Future – The World's Tallest Timber Building	09
> Upcoming events	10
> New Projects July 2009 – October 2009	11
> Project Reports Posted on Website July 2009 – October 2009	12

New phone numbers for FWPA

We have recently changed our phone numbers and acquired direct lines for staff. Please visit the staff page of the website for a list of the direct lines. General Enquiries number has changed to (+61) (03) 9927 3200 and the Fax number is (+61) (03) 9927 3288.



It has been another busy three months for Forest and Wood Products Australia. We have gained a new staff member and two new directors and seen the partnership with Archicentre providing free design advice to people in bushfire-prone areas on building with timber.

The recent AGM in Melbourne was a well-attended success that gave members the opportunity to examine some of the fantastic research programmes being funded by FWPA.

It was also a great honour to welcome leading British architect Andrew Waugh to Australia for a series of talks built around his keynote speech at the 10th Australian Timber Design Awards.

Welcome to the Summer Edition of Leading Edge, which comes at the end of another busy three months for FWPA. We have held our AGM, sponsored the 10th Australian Timber Design Awards and welcomed several high profile new appointments to the organisation.

It was great to see so many of you among the more than 75 industry members who attended October's AGM at the Melbourne Recital Centre, where there was a showcase of key R&D projects highlighting the benefits this research will bring to the timber industry.

The meeting saw Evan Rolley and Mark Grey appointed as new non-executive directors. Evan, a Director of Tasports, was Managing Director of Forestry Tasmania for 16 years and currently operates Huon Valley Vineyards, while Mark, Chief Executive of the Queensland Eye Hospital, is from a family with five generations of involvement in sawmilling and timber merchant operations.

Also, following the Timber Standards Workshop I mentioned in the last newsletter, FWPA has appointed a Codes and Standards Manager, Neil Evans, who brings a strong background in timber construction and setting national policy.

Among the highlights of the past three months was the visit of leading British architect Andrew Waugh, whose firm is behind the world's tallest residential timber-only structure. He combined speaking at the 10th Australian Timber Design Awards with a number of other engagements with engineers, architects and property developers across Australia. Andrew's visit attracted a great deal of interest from the consumer and trade media.

Our Managing Director, Ric Sinclair, attended a workshop on the international "wood-for-good" campaigns in Vancouver, Canada, returning with some invaluable insights and learnings that can be translated to the Australian context.

As we approach the bushfire season, we are delighted at the success of our partnership with Archicentre.

Wood. Naturally Better.™ Bushfire Rebuilding

Families who lost their homes during February's devastating bushfires are being offered free design advice thanks to \$100,000 pledged by the Wood. Naturally Better.™ campaign.

The money will support Archicentre's New Free Home Design Service, which offers advice on both design and which timber building systems are suitable for bushfire-prone areas.

And, thanks to research jointly funded by FWPA, families who are rebuilding will have a greater choice of bushfire approved roofing systems, including one that calls for increased use of wood to reduce the impact of a bushfire.

FWPA managing director, Ric Sinclair said: "Wood. Naturally Better.™ wanted to show its support with a tangible program to help people who lost their homes start to rebuild as quickly as possible."

Forest and Wood Products Australia is playing a key role in the rebuilding process for Victorian families who lost their homes during February's devastating bushfires.

Through the Wood. Naturally Better.™ campaign, it has given \$100,000 to Archicentre to support free design advice for people who lost their primary residence. FWPA has also coordinated industry-wide research that has rapidly identified two new bushfire approved roofing systems that combine timber, plywood, steel and magnesium board.

FWPA managing director, Ric Sinclair said the

The Wood. Naturally Better.™ campaign has committed \$100,000 to a service offering free home design advice to people rebuilding in Victoria's bushfire affected areas. To date there have been 100 design concepts commissioned.

The campaign continues to grow, promoting the advantages of wood and its positive effect on climate change. On that note, I am pleased to announce the ACCC found no action needed to be taken in relation to our print advertising campaign. The ACCC acknowledged that all claims as to the green benefits of wood made in the adverts were supported by scientific evidence.

I look forward to updating you on more progress from the campaign in the next edition of Leading Edge.



partnership with Archicentre provides a valuable service for families wishing to build using lightweight, bushfire-resisting materials.

"Many families in bushfire-prone areas want to rebuild in beautiful materials that suit their environment. They want their home to be safe and liveable, but they also want it to be attractive," he said.

"It's important for families to know that there are beautiful timber solutions available in all bushfire attack levels that allow people to rebuild in timber. Wood is also a preferred building material for many designers and builders because of its versatility and practical application."

He said it is important for people to understand that wood remains a suitable material for building in bushfire-prone areas with many options available.

"Contemporary wood construction systems in combination with bushfire-resisting materials are an excellent way to improve a home's performance during a bushfire," said Mr Sinclair.

"Apart from timber being a versatile, durable and natural building material, it is also a good insulator and is predictable in intense conditions. These attributes make timber beneficial in a fire event and permit durable and fire-safe timber construction."

The Australian Standard: Construction of Buildings in Bushfire-prone areas (AS3959-2009) sets out the extensive options for building in bushfire-prone areas, including which timbers were suitable for external applications, such as Blackbutt, Red River Gum, Kwila, Red Ironbark, Silvertop Ash, Spotted Gum and Turpentine.

Traditional timber frames, flooring and timber internal fit-out products can all still be used with the external use of timber products governed by AS3959.

“Even in extreme areas there are timber building systems that meet the standard and designers can help families work out the best solutions for their situation,” added Mr Sinclair.

“The Archicentre free design service will help families work out the best solution for their rebuilding needs and provide an important step towards getting them back in their own homes.”

Families eligible for the service can receive the following:

- A meeting with a registered Archicentre architect to establish their specific needs;
- A site visit and Bushfire Attack Level assessment;
- A review of local planning or building controls;
- A concept design, including a floor plan and one or two elevation sketches;
- Material and bushfire resisting design suggestions;
- An opinion of the likely construction cost; and
- Advice as to the next steps to build a new home.

“Everyone in Victoria and around Australia was moved by the tragedy of the Black Saturday bushfires, resulting in a massive outpouring of public support for the victims,” Mr Sinclair said. “And Wood. Naturally Better.™ wanted to show its support with a tangible program to help people who lost their homes start to rebuild as quickly as possible.”

For those who are rebuilding, FWPA has helped develop two new bushfire approved roofing solutions through independent research jointly funded by FWPA, Bluescope Steel Limited and Promat Limited.

They combine timber plywood, steel and magnesium board – and actually increase the use of wood, largely by the addition of an insulating plywood membrane over the entire roof.

Acting Building Commissioner Sarah McCann-Bartlett said: “I applaud Forest and Wood Products Australia for initiating and driving the cross-industry collaborative approach. This independent research is a great example of industry partners working together for the greater benefit of the Victorian community.”

The Victorian Government introduced the new residential building standard in March 2009 in response to the overwhelming need to better protect communities after the February bushfires. Roof systems needed to pass a new test but, as a result of the fast adoption, no compliant roof systems had been developed. As a stopgap measure homeowners had been asked to submit plans without specific roofing material specifications.

Mr Sinclair said: “The jointly funded initiative helped speed up the process and the outcome ensured that timber was tested as part of the solution rather than assuming that it would not be part of the solution.”

The research tested and demonstrated several suitable roofing options, which use timber trusses in conjunction with a plywood membrane, protective facia including magnesium board and a Colourbond™ roof. The roofing solutions meet the stringent requirements of Bushfire Attack Level (BAL) FZ zone under the new standard and will help people proceed with the rebuilding process.

“There was a real risk that some interpretations of the new regulations would restrict or even prevent the use of timber in construction of homes and buildings in bushfire-prone areas. It was important to separate emotion from fact by conducting this independent research to find the right solution,” added Mr Sinclair.

“It’s great to see that wood not only continues to be used in the trusses and frames but also to provide greater fire insulation and protection across the whole roof as well as the eaves and fascia.”

The R&D has demonstrated that timber can and will continue to be part of the rebuilding solution in bushfire-prone areas while still meeting the rigorous building regulations and standards put in place, he said.

“The outcome is also important for the building industry, which can continue to enjoy the positive attributes of working with timber such as versatility, durability and on-site workability.”

Further information

- Families wishing to take advantage of Archicentre’s Free Home Design Service should call 1300 13 45 13 or register online at www.archicentre.com.au.
- Technical datasheets for the roof solutions will be available from www.timber.org.au/bushfire. An information bulletin on timber housing in bushfire-prone areas and a design and construction guide for AS3959 – Building with timber in bushfire-prone areas will also be available.

Timber Standards Development

Forest and Wood Products Australia has established a new service that will take a lead role in coordinating standards development for the industry.

Neil Evans, a former National Director of Technical and Regulatory Policy with the Master Builders Association, will fulfil the role of FWPA Timber Standards Manager.

Ric Sinclair, Managing Director of FWPA, said: "We look forward to providing this important national service to the Australian forest products industry."

A new industry service that will coordinate standards development for the forest and wood products sector has been set up by Forest and Wood Products Australia.

It follows a lengthy discovery and review process into the issues surrounding standards development, which culminated in a workshop in Melbourne attended by more than 50 industry stakeholders.

A Timber Standards Manager has already been appointed to develop a strategy for how the industry service will operate. The high profile appointment of Neil Evans, who brings to the role experience of working for the Federal Government and the Master Builders Association, is the first step in FWPA providing a new value-added service to the industry.

"The recruitment of Neil Evans will allow FWPA to get an immediate head start in the development of a standards coordination strategy," said FWPA Managing Director Ric Sinclair. "He brings to the organisation a strong understanding of the building sector and key standards from an end-user's perspective and has been an active participant on some of the key technical committees."

In his previous role with the Federal Government, Mr Evans played a key role in establishing a trial to use lightweight timber construction techniques for housing in remote communities. Prior to this, he was National Director of Technical and Regulatory Policy with the Master Builders Association based in Canberra.



"As an added advantage, Neil was also a member of FWPA's Market Access and Development Industry Advisory Group and is a well known supporter for the expanded use of timber in a range of building solutions," said Mr Sinclair.

The issues around standards development were first identified back in 2007 in a briefing paper by Andrew Dunn and Peter Juniper to an FWPA Advisory group. In late 2007, Stephen Bolden and Professor Ian Ferguson were commissioned to provide an in-depth review of the standards arena, which was delivered in August 2008. The report recommendations were reviewed by FWPA management and the Board, who requested consultation with FWPA stakeholders and other industry bodies, culminating in July's Timber Standards Development Workshop in Melbourne.

FWPA Chairman Ron Adams said: "The Board knows that standards coordination is an important issue and, with clear support from our members and other stakeholders for FWPA to take on the role, we thought it was important to act quickly to get the process underway."

Mr Sinclair added: "We look forward to providing this important national service to the Australian forest products industry."

Impact of climate change on Australia's timber plantations

An overview of estate vulnerability and adaptation options

With funding from FWPA, CSIRO investigated the potential impact of climate change on plantation health and productivity, setting out

a list of measures for owners of plantation estates to consider when planning for the future.

The study carried out millions of simulations on different types of plantation to predict which were likely to see increases and decreases in productivity – and whether these predicted changes could increase the economic risk of operating an estate.

Australia's landscape is already experiencing the effects of climate change and even more significant changes are predicted for the future – some of which

are likely to impact on the nation's timber production.

With plantation returns only turning positive some 15 years after planting, it is important to immediately understand how climate change may impact on plantations so that estate management can take these impacts into consideration within their current decision-making.

The FWPA funded research, as investigated by CSIRO tried to gauge the vulnerability of Australia's plantation estates and investigate the estate management measures needed to adapt to these environmental changes.

Due to the high levels of uncertainty associated with the predicted impacts of climate change, scenario analysis was used and more than one million simulations were carried out. Research was based on the existing CABALA forest growth model.

CABALA (CArbon BALAnce) is a model designed to support management of plantations and forests. Using inputs like rainfall, temperature, salinity, water table depth and data on the species of tree, CABALA can estimate variables like biomass production, carbon sequestration, nitrogen content and canopy height of trees in plantations and forests. It can be used to model relatively homogeneous forests and plantations with a wide range of planting designs, including row, widely spaced and block plantings and can be adapted to different sites and different tree species.

Impacts on specific estates

Reserachers looked at whether productivity was likely to change and also indicated whether the predicted changes would pose any economic risk to the business of running a plantation. The results were as follows:

- The following plantation species and region combinations are predicted to **increase in production with little increase in risk or uncertainty**: *E. globulus*, *E. nitens* and *P. radiata* in Tasmania; the mid to lower northern regions of the hybrid pine estate; *Pinus radiata* and *E. globulus* plantations in East Gippsland and higher altitude parts of central and north-east Victoria.
- The following species and region combinations are predicted to **increase in production with an increase in risk**: *E. globulus* and *P. radiata* estate in parts of Western Australia where there is high rainfall (>1000mm) and the soils are fertile and deep; plantations of radiata pine in northern and central New South Wales/ACT; and *E. nitens*, *P. radiata* and *E. globulus* plantations in Victoria and the Green Triangle.

- Species and region combinations predicted to **decrease in production (unless significant adaptation occurs) and which will have an increase in risk are**: *P. radiata* plantations in southern NSW and possibly, the western edge of the southern and central estates; and the eastern and northern extents of the Western Australian *E. globulus* and *P. radiata* estates.



Climate change threats

The study also highlighted other factors that could have a potential impact on plantation health and productivity, such as pests and fire frequency and severity, and admitted we are still to understand the exact effects of elevated CO₂ and temperature.

Without a significant benefit to production from elevated levels of atmospheric CO₂, production in some regions will decrease, potentially markedly if the predicted increase in number of hot-dry days occurs, either directly through damage or death or indirectly through pest attack. However, if plantation species can maintain increased photosynthetic rates, productivity in many regions is forecast to increase, particularly in cool, wet locations.

How operational management can adapt

Operational management at various estates across Australia is already focusing their attention on the impact of climate change and the researchers' scenario analysis made it clear that even higher uncertainty will surround future management decisions for many plantation areas.

The study suggests a number of operational management considerations that could help people adapt to climate change, including:

- Changing or diversifying products.
- Substituting species that are better adapted to expected climates.
- Tree improvement, i.e. hybridization.
- Using expected climates as site selection criteria and to identify rooting zone plant-available soil water storage.

- Using biophysical stratification of planting sites to facilitate intra-site-specific management.
- Silviculture method considerations, such as soil cultivation, weeding, irrigation, stockings, thinning, nutrition, forest health, fire protection, rotation length, species mixture and debris management.
- Adapting harvesting and processing technologies as a result of possible lower or thinner timber stockings.
- Considering non-renewable resources, such as water, energy and nutrients.
- Managing water conservation and plant-available water-holding capacity.

The study concluded that, while climate change in some regions may actually increase plantation productivity where climatic factors to date have been limiting tree growth, water conservation measures as well as mitigating evapotranspiration should still be considered due to the rising drought risk.

- To download full research report: *'Climate Change and Australia's plantation estate: analysis of vulnerability and preliminary investigation of adaptation options'* (2009) by Michael Battaglia, Jody Bruce, Cris Brack and Thomas Baker, visit www.fwpa.com.au and search for Project No. PNC068-0708.

Plantation forest water use

An overview of estate vulnerability and adaptation options

A study into plantation water use has made several recommendations that will benefit the forestry industry.

Researchers examined how water use in six plantations of blue gum and radiata pine in Southwest Victoria changed over the various stages of a plantation and found that it was affected by access to groundwater as well as an area's geology, topography and hydrogeology.

The FWPA funded study also highlighted some areas for improvement, such as the need for developers of some growth and yield models to improve their models' accuracy.

A study of blue gum and radiata pine plantations in the Glenelg Hopkins Catchment, in Southwest Victoria, has found that water use by plantations is significantly affected by access to groundwater and also changes over their lifetime.

Research found that during the 'closed canopy' stage of a plantation (aged four to 13 years), trees will invariably use all the rainwater made available to them unless an impeding or hard pan layer exists. In such circumstances there may be some deep recharge.

The study also demonstrated that plantations will use groundwater if it is available to them during the closed canopy stage whereas during the earlier stages of the plantation (0 to four years), trees are unlikely to use all rainfall in an average season, thus resulting in some recharge or run off. These younger

trees are unlikely to access ground water until the closed canopy stage.

It also found that geology, topography and hydrogeology all have an indirect affect on water use of plantations, primarily by influencing groundwater access.

The aim of the research was to measure and predict plantation water use in the Glenelg Hopkins Catchment, an area with a mean annual rainfall of less than 750mm. Its findings (below) will help the forestry industry improve the accuracy of its predictions in the future and better enable it to engage in water policy debates.



Groundwater access

The study found that accessibility of groundwater is determined by 'depth to groundwater' and whether root-impeding layers exist between the surface and the watertable. Drilling of observation bores, or excavation of soil pits to determine depth to groundwater and identify root-impeding layers (such as some hard clays) is recommended to measure groundwater availability.

If groundwater is found between four and six metres from the surface and the trees can access this additional water, it will affect plantation yields. The forest industry will need to take this additional water source into account when calculating growth predictions.

The maximum depth for groundwater uptake by plantation trees appears to be between six and eight metres. When ground water is available, annual water use by the trees is largely determined by potential evapotranspiration in the region. Estimates of annual rainfall and evapotranspiration are available from sources such as the Commonwealth Bureau of Meteorology and SILO.

Accuracy of current models

Researchers used three growth and yield models – SoilFlux, 3PG+ and CABALA – during the study to evaluate their accuracy for plantation water use and found they were effective during observations in closed canopy situations, where plantations did NOT access groundwater, but were inaccurate when groundwater was available.

SoilFlux and 3PG+ substantially under-estimated groundwater uptake, while the CABALA model tended to over-estimate groundwater uptake. The detailed information from this report will assist the developers of these models to improve their accuracy.

Satellite mapping for nutrition

Forest and Wood Products Australia funded research shows satellite images can be used to accurately map nutrient levels across entire plantations.

The findings of a study of plantations on the South Australian - Victorian border could help plantation owners plan the application of fertiliser faster and cheaper and end the need for some potentially dangerous current methods of data collection.

Advances in the use of satellite technology are allowing researchers to measure nutrient levels in Australia's forestry plantations more accurately.

The use of remote sensing could also prove faster, cheaper and better from an occupational health and safety perspective than traditional methods, according to the findings of research on the Rennick *Pinus radiata* plantations on the South Australian – Victorian border.

Salinity control

Results indicate that block planting of trees will be effective in reducing groundwater recharge. During the period of canopy closure in each crop cycle little or no recharge will occur, which effectively helps control salinity. In between each harvest and the next crop rotation reaching canopy closure there will, however, be some groundwater recharge.

Summary

The various stages of a plantation and access to groundwater significantly affect water use over time. To estimate full rotation water use within a plantation, further research needs to be undertaken.

It is essential that ongoing research be conducted in order to accurately engage in water policy debates at catchment scales over long periods of time. For example, the substantially lower evapotranspiration levels in the early part of a rotation needs to be fully taken into account. Data on water use rates between the fallow and canopy closure are currently very limited yet essential in order to gain a full picture of the situation.

- To download full research report: '*Plantation Forest Water Use in Southwest Victoria*' (2009) by Richard G Benyon, Tanya M Doody, S. Theiveyanathan, Vijay Koul, visit www.fwpa.com.au and search for Project No. PNC064-0607.



“We’ve moved a step closer to being able to provide forestry managers with practical tools to help them plan more effective fertiliser applications and research programs,” says Dr Neil Sims, CSIRO remote sensing research scientist and co-author of the project report.

Radiata pine growth in southern Australia is often restricted by low soil fertility. Currently, forestry companies spend more than \$10m annually checking nutrient levels and applying fertilisers. However, field samples may not adequately represent

the range and distribution of nutrient concentrations across the wider plantation.

If fertiliser is applied where it is not required, valuable nutrients can be lost through run-off and other natural processes and can find their way into local waterways where they can lead to environmental problems, such as undesirable algal growth.

A FWPA funded project that brought together experts from CSIRO's Sustainable Ecosystems Division, Forestry SA and HVP Plantations, Australia's largest private timber plantation company, compared satellite image data with field measurements obtained from the same plantations.

The project used hyperspectral satellite images to map concentrations of nitrogen, phosphorus, potassium, iron, zinc, copper and boron in radiata pine foliage and found the images could potentially provide accurate information across entire plantations.

"There is no other way to get data of this kind," says Sims. "You still need to collect and test some field samples to calibrate the satellite data, but the satellite data can be used to direct the field sampling to the most undernourished areas and will also tell you about any problem areas in between your sampling points."

Such data would allow plantation growers to apply fertiliser only where an economic response is guaranteed, cutting expenditure on fertilisers and

equipment, freeing up staff for other duties, and improving their environmental impact.

Potential cost savings are substantial: images used in the project cost around \$0.09 per hectare of plantation compared to \$2 to \$5 per hectare for airborne images taken from a plane.

The study showed that practical applications are limited by satellite data quality with only one satellite – the NASA-operated Hyperion – currently providing the requisite data commercially, but this is expected to dramatically improve with the launch of several new international satellites.

Satellite mapping also promises to improve health and safety conditions for plantation staff by removing the need for current methods of data collecting that involves shooting branches from tree crowns.

HVP Plantations manager Stephen Elms concludes: "Remote sensing techniques have the potential to offer quicker and more comprehensive results than our standard field sampling practices."

- To download full research report: *'Mapping foliar nutrition levels in Pinus radiata using hyperspectral satellite images to improve fertiliser requirement assessments'* (2009) by Neil Sims, Peter Hopmans, Stephen Elms and Don McGuire, visit www.fwpa.com.au and search for Project No. PNC074-0708.

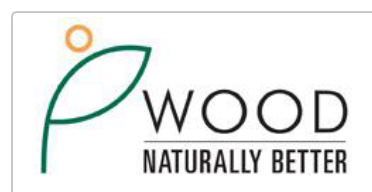
Wood. Naturally Better.™ Campaign Update

Andrew Waugh, the lead architect behind the design of the world's tallest timber building, visited Australia for a series of high profile talks on the 10th anniversary of the Australian Timber Design Awards, sponsored by Wood. Naturally Better.™

His visit was one of a series of high profile events sponsored by Wood. Naturally Better.™ to promote the use of wood as a means of contributing positively to the fight against climate change, which also included the 2009 Sustainable House Day.

Forest and Wood Products Australia's program promoting the use of wood and timber – Wood. Naturally Better.™ – continues to gain momentum. In recent months it has welcomed leading architect Andrew Waugh, the man behind the design of the world's tallest residential timber building, to Australia from the UK to speak at the Australian Timber Design Awards.

The campaign also sponsored the successful Sustainable House Day which gave thousands of Australians the chance to see how ordinary people are using sustainable products in their homes to help tackle climate change.



Mr Waugh, a founding director of Waugh Thistleton Architects, lectures the world over on environmentally sustainable construction as well as the importance of corporate social responsibility, recently speaking at the prestigious Green Building Workshop organised by the United Nations Economic Commission for Europe.

Therefore it was a great honour to welcome him to speak at the series of presentation nights to coincide with the 10th anniversary of the Australian Timber Design Awards, sponsored by Wood. Naturally Better.™



Back to the Future – The World’s Tallest Timber Building

The nine-storey Stadthaus, in London, has become a flagship design for the construction of timber buildings.

The ground-breaking tower has highlighted many of timber’s inherent qualities – carbon storage, lightweight – while delivering huge environmental and cost benefits. FWPA is investigating the potential benefits of the materials and technologies used in its construction for the Australian market.

Waugh Thistleton Architects designed and constructed the nine-storey Stadthaus with one of the architects Andrew Waugh touring Australia over October through Wood. Naturally Better.™ sponsorship. Throughout the state-wide tour, Andrew presented to various industry and building professionals.

Construction of the world’s tallest timber building – the Stadthaus, in London’s East Side – has focused attention on the practical and environmental benefits of using timber building materials.

The nine-storey apartment block was designed by London-based Waugh Thistleton Architects as a response to the city’s climate change policy: the London Plan. Their aim was to demonstrate that carbon reduction could extend beyond energy efficiency improvements to include embodied carbon. Weighing 300 tonnes, the tower stores 181 tonnes of carbon, with a further 125 tonnes offset by avoiding steel and concrete components.

Using timber didn’t just benefit the environment. When compared to an identical design using steel and concrete, the other benefits of timber become obvious: 400% reduction in weight; 70% reduction in the foundation; much shorter construction period – all of which led to a cost saving of 15%.

The tower is constructed using large timber slabs arranged in a honeycomb pattern around the central wooden core. Timber panels were the main building material in every aspect of construction, including the stair core and elevator shafts, while the building is clad with 5,000 individual timber-composite tiles manufactured mainly from waste timber.

Using a structural system pioneered by KLH Austria, total construction time was just 49 weeks, down from the originally estimated 72 for a traditional concrete construction. Erecting the panels took four carpenters 27 days and the electricians’ schedule was drastically reduced from eight weeks to four days.

The impressive environmental and financial benefits are possible mainly because of the use of Cross Laminated Timber solid panels (CLT) developed by KLH. Panels are manufactured using thin softwood boards stacked together at right angles and glued over their entire surface in alternating layers similar to thick plywood. Boards come in three, five or seven layers, and once stacked and bonded, form a solid unit that transfers loads to all sides – a genuine plate and sheet action.

To meet UK fire resistance requirements, the CLT panels were designed to allow charring on the outside, thereby protecting the strength of the inner core, and five layers were utilised instead of three. Combined with the plasterboard covering, this meant the panels were able to achieve fire resistance ratings of 60 and 90 minutes.

CLT panels are of great significance to the global timber industry and could have a significant impact on commercial and residential construction. FWPA has undertaken an investigation of the potential opportunities for the Australian market and further R&D is planned on its application for the value-added use of low-grade woods.

Representation also continues to be made to the Federal Government and building regulators to expand Australian Energy Efficiency regulations for residential and commercial buildings to a full life cycle assessment (LCA) approach. FWPA is currently funding a project with RMIT University investigating the life cycle impact of typical Australian residential construction practices with initial findings expected by December.

In the meantime, the high profile success of projects like the Stadthaus strengthens the case for the greater use of timber as a building material.

- Andrew Waugh’s trip to Australia included a series of presentations at the Australian Timber Design Award venues with a Melbourne Conversations event on Monday evening 19th October at Federation Square Melbourne. Engineers Australia – Civil and Structural College in conjunction with Wood. Naturally Better.™ also hosted a special event. Andrew addressed architects and building designers at a property developers breakfast in Sydney.

Along with special speaking events, Andrew also had an extensive media schedule and his visit achieved extensive mainstream coverage including an article in The Age, radio and television.

Access of technical reports from SWI and WQI for Australian Sawmillers

The research consortium Solid Wood Initiative (SWI) has a focus on creating value for its shareholders in the area of solid wood processing through research, development and commercialisation. As FWPA is a major contributor to SWI, levy paying members are entitled to access project reports including reports prepared previously by the predecessor Wood Quality Initiative (WQI) at no cost. For general information or to obtain your shareholder log-in details contact Robyn Park (robyn.park@wqi.co.nz) at SWI. Alternatively, you may contact Andy McNaught (andyandlindy@optusnet.com.au) for technical enquiries.

Upcoming events

Title	Date	Description	URL
Archicentre Seminars In Capital Cities, Australia	July- November	These free seminars state wide discuss everything about renovating. Sponsored by Wood. Naturally Better.™	www.archicentre.com.au/html/seminars.html
ForestTECH 2009 Albury Entertainment Centre, Swift Street, Albury, NSW	November 16-18	ForestTECH 2009 outlines innovations and communicates research results to be adopted by the industry.	www.foresttechevents.com
Bioenergy Australia 2009 Gold Coat, Queensland	December 9-10	This year's program will cover policies and programs, projects and project development case studies and emerging opportunities.	http://www.bioenergyaustralia.org/
Future Forestry Finance 2010 Sydney, NSW	March 1-2, 2010	A conference designed to deliver practical and timely information on forestry and wood products companies across the Australian and New Zealand sectors, for the benefit of industry leaders and key financiers of forestry.	http://www.forestryfinanceevents.com/
64th Appita Annual Conference & Exhibition Melbourne, VIC	18 - 21 April 2010	Featuring a Symposium on 'Sustainability in a carbon-regulated world – what is actually happening?'	http://www.appita.com.au/
Timber & Working With Wood Shows Brisbane, Sydney, Canberra, Adelaide & Melbourne	May – June, 2010	Timber & Woodworking Show is a trade platform aimed at meeting the A-Z requirements of the region's woodworking industry.	http://www.eee.net.au/showwood.php?id=sydney
Frame Australia Melbourne, VIC	June 21-22, 2010	Frame Australia is the principal national conference for the structural timber and pre-fabrication industries, presenting a range of topics around the theme "Sustainable housing construction".	www.frameaustralia.com

New Projects July 2009 – October 2009

Project no	Title	Research Provider	FWPA budget	Total budget
PRA154-0910	A market assessment and evaluation of structural roundwood products from hardwood pulp plantations	Queensland Department of Primary industries	\$16,000.00	\$31,000.00
PRB155-0910	Provision of technical support to A3P and TM-003 Committee for restructuring of AS/NZS1748 standard in response to industry questions regarding the use of new machine stress grading technologies	TimberEd Services	\$25,000.00	\$25,000.00
PNB156-0910	Concept proof: New generation, hi-performance wood products coated or encapsulated in zero-waste powder coating	CSIRO Molecular Science & Engineering	\$295,000.00	\$590,000.00
PNB157-0910	Glulam design based on lamination grades and the use of mill shorts	Monash University	\$110,000.00	\$110,000.00
PNC159-0910	An audit of forest biosecurity arrangements and preparedness in Australia	University of Tasmania	\$95,040.00	\$95,040.00
PNB158-0910	Green adhesives: Options for the Australian industry - summary of recent research into green adhesives from renewable material	CSIRO Molecular Science & Engineering	\$36,000.00	\$47,327.00

Project Reports Posted on Website July 2009 – October 2009

Project no	Title
PN04.2011	Improving Dynamic Behaviour in Lightweight Engineered Timber Floors
PNA010-0708: PART A	Advanced research into floor performance issues Sub project: The interaction between adhesives, flooring profile design and floor performance
PNA010-0708: PART B	Advanced research into floor performance issues Sub project: Concrete slab moisture and associated ongoing timber performance
PNA010-0708: PART C	Advanced research into floor performance issues Sub project: The effects of heating systems on floor performance in cool temperate climates
PRB046-0809	Characterisation of plywood properties manufactured from plantation grown eucalypts
PNC064-0607	Plantation forest water use in southwest Victoria
PNB049-0809	Five-year inspection of preservative treated vineyard posts
PNC050-0304	Quantitative and molecular genetics of juvenile wood traits in radiata and slash/Caribbean pines
PRD111-0809	Evaluation of research expenditure and capacity in forestry and forest products in Australia 2007-2008 and development of research
PNC068-0708	Climate Change and Australia's plantation estate: Analysis of vulnerability and preliminary investigation of adaptation options
PNB043-0708	A review of the potential impact of VOC emissions on the future market share for engineered wood products
PNC070-0708	Review of alternative pine species for low rainfall zones of Australia
PNA001-0405	Comparison of Test Cell Thermal Performance & The Empirical Validation of AccuRate in a Cool Temperate Climate
PNC074-0708	Mapping foliar nutrition in Pinus radiata from Hyperspectral satellite image data

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