The 2019 Architecture & Design Sustainability Awards were in many ways a milestone. This is because, being the 13th year, it is also a turning point as in 2020, Australia’s biggest and oldest built environment sustainability awards will be moving to Melbourne for the very first time.

So, this may be a prudent time to point out that next year will be the first time the awards have been outside of Sydney, thereby giving rise to the opportunity to broaden not only the awards’ entry base but also the diversity of people who come to our Gala Night to enjoy the festivities and the announcement of the winners.

In all, the Architecture & Design Sustainability Awards have a purpose – to help promote (or increase if you like) the sustainability of the dwellings in our built environment. According to the Green Building Council of Australia (GBCA) and its ‘Every building counts: A practical plan for emissions reduction’ initiative, designed to transform Australia’s built environment and achieve net zero emissions by 2050, it is not usually discussed by the wider media that our buildings currently account for over 50 percent of Australia’s electricity use and almost a quarter of our carbon emissions.

This is why sustainability really does matter in a practical sense, as any savings incurred by increasing sustainability helps both the individual hip pocket and entire planet.

While Australia is a leading light in sustainable building design, and it is well-known that other countries have started to take note of the techniques that our builders use, the international recognition for our sustainably focussed architects and designers has been somewhat slower in coming.

This is where the Sustainability Awards come in. As a national and highly-respected program designed from the outset to reward those that design with sustainability in mind, the idea is to help promote the work like that of the 17 from the 2019 program – and to ensure that Australian architects and designers receive the kudos they so richly deserve. And in 2020, the cultural capital of Australia will find out just why this is such an important issue.

BRANKO MILETIC
EDITOR, ARCHITECTURE & DESIGN
The Awards Jury

DICK CLARKE
DIRECTOR & BUILDING DESIGNER,
ENVIROTECTURE

JEAN GRAHAM
DIRECTOR,
WINTER ARCHITECTURE

JEREMY SPENCER
DIRECTOR & BUILDER,
POSITIVE FOOTPRINTS

KATE HARRIS
CEO, GOOD ENVIRONMENTAL
CHOICE AUSTRALIA (GECA)

KNUT MENDEN
SENIOR ASSOCIATE,
BVN

MAHALATH HALPERIN
DIRECTOR, MAHALATH
HALPERIN ARCHITECTS

MICHAEL FAINE
REGISTERED ARCHITECT,
FAINE GROUP ARCHITECTS

RORY MARTIN
SUSTAINABILITY MANAGER
– RESIDENTIAL, FRASERS
PROPERTY AUSTRALIA

SANDRA FURTADO
M.ARCH, M.BE (SUSTAINABLE
DEVELOPMENT)

SARA WILKINSON
PROFESSOR OF SUSTAINABLE
PROPERTY, UNIVERSITY OF
TECHNOLOGY SYDNEY
Q+A with Hyne Timber’s Robert Mansell

We caught up with Robert Mansell, Business Development Manager from Hyne Timber.

A&D: Can you please tell me a little bit about yourself? Including your background and role at Hyne Timber?

RM: I’ve only ever worked for timber companies for 40 years in the industry. I have worked in New Zealand and Australia in an array of roles, everything from simple admin, to export and estimating in timber – From there, I went into manufacturing and assisted with the start up of one of the first truss plants on the Gold Coast with the company I was working for at the time. I moved onto other businesses assisting with start up of another truss plant and the growth of another where I also took on a leadership role and held a senior position.

I’ve been at Hyne for 15 years and I’m currently on the business development side. Mass Timber has been a big focus for the Hyne Timber business because it takes available resources and combines them with technology and advanced manufacturing processes to deliver products that excel in the field of construction. That’s been a huge driver for the last 8 years.

A&D: In the time that you’ve been working at Hyne Timber, in your opinion, how have timber processing and manufacturing solutions evolved?

RM: The Hyne Family have been in the timber business for 137 years now from Queensland and across Australia. Hyne is very concentrated on sustainability, and they focus heavily on the certified plantation resource near each of their two sawmills. As far as I am aware, we have two of Australia’s largest sawmills being in Queensland and New South Wales. Having that presence of Hyne Timber in the marketplace and sustainability sphere is quite interesting.

With those resources, how do we then maximise return for our investors and minimise waste? We focus heavily on using all the stems we receive. We also need consider other products such as CLT – and the Hyne family is amongst the first CLT producers in Australia. The current investment is in a brand new glue laminated timber plant designed to grow the capacity in Australia significantly. We are very invested in making sure that we improve technology to get better products, and we put a lot of research and development in to the drying and grading of those timbers to minimise the cost of production.

We’ve changed quite a lot in the last few years, but towards an exciting path I would say.

A&D: In an age where climate change and environmental credentials are of high importance, can you tell me the different ways that Hyne Timber contributes to sustainability?

RM: We see a real growth opportunity in reducing carbon emissions through Australian Softwood plantation growth. As they grow, they generate oxygen by absorbing carbon and as the trees reach their maturity, this process slows down and new trees are planted to replace those taken for timber production at harvesting. We take those logs into the yard and de-bark them and the bark is used to generate potting mix and other substances for the plantation growers for their next crop. As the logs go through the sawmill, they generate shavings and sawdust that is sold off to companies that make particle-board products. The other residuals are the sawdust itself and that...
is sold off to companies that make MDF boards and any remaining residuals are used for biofuels in either our own operations or sold to a renewable companies. This essentially means that there’s nothing left, and we’ve successfully eliminated waste.

Our market is slowly reaching maturity as becoming accustomed to offsite prefabrication of components and systems and this very evident in the timber industry. It has played a large role in eliminating onsite waste and now we’re starting to see products prefabricated or preassemble prior to going to site, further reducing onsite waste. Businesses like ours can take many of those products that we trim onsite or prefabrication plants (pre-nailed wall frames, prefabricated roof trusses etc.) and we can potentially take these back to be finger jointed into longer lengths or used for particleboard and biofuel products.

A&D: Are there set goals and missions towards sustainability within the company?

RM: The company is foreseeing the growth of timber construction and in the early history of the Hyne family; they drove an initiative to support the introduction of plantations in Queensland. The family has been very heavily involved in the critical timber arena for more than a hundred years. It’s heavily embedded in the HYNE philosophy and how we operate on a daily basis.

A&D: In reference to Planet Ark’s report, ‘Wood: Nature Inspired Design,’ what are your thoughts on the role of timber in architecture and design?

RM: In the industry, we’ve always worked on the premise of saving the planet by reducing running costs and the emissions created in operating our buildings. The talk now is about the reduction of embodied energy within the building. Everyone is focused on renewable energy and as an industry; we believe that timber is the ultimate renewable. Timber stores the product of carbon for life until it’s released by decay or fire at the end of its life. Timber is something that’s grown and planted continuously and once its cut sequesters carbon equal to around 50% of the weight of the timber product. Once harvested new trees are planted at a rate greater than the number taken for timber production. Although not all of those will reach maturity, it’s still a sound business and sustainable way to invest in our building future. Timber is the Ultimate Renewable.

Another case is biophilia and people understand, through Planet Ark, the mental and emotional wellbeing benefits of timber-based buildings. Through the building’s air-control qualities, the timber material release moisture on a dry day and on a humid day they will absorb moisture and maintain a better balance within the building. Timber also affects the sound quality of the building, wherein people are immersed in a more calming and sound-controlled space within the timber structure.

Aesthetically, timber material has always been a popular choice. It has always been used in a cladding material, but now people understand that it can be used as a structural material even more so and delivers in aesthetics and functionality as well. Technology procedures such as CLT and glue-laminated timber have been prominent in the evolution of timber material within the architecture and design industry.
A&D: What do you see as the drive for timber structured buildings throughout Australia?

RM: Well, there’s a presence of expansive and significant timber structures within Australia and they constantly keep growing. The largest engineered timber structure completed in Australia is 25 King Street in Brisbane by Bates Smart, and it demonstrates a greener way and more exciting way of architecture and design and where it’s headed towards with materiality. Then there’s talk of building 3 new timber structures here, and one of them will definitely the largest in Australia when it’s decided to go ahead. There are immense opportunities to tender elsewhere, in other countries and other parts of the world also. The trend for timber buildings just keeps growing.

Technology is a huge driving factor in the environmental benefits for this industry. Taking a renewable product, which sequesters carbon rather than other materials such as concrete or steel (definitely not disregarding these materials) – the level of carbon generated into our atmosphere from our products is at a large level and the only way to negate that is carbon-absorbing timber. If you look at the procedures of carbon offsetting around the world, the planting of trees is certainly a classic example of why we want more trees.

The ability to do off site construction in timber is very high and it is a very workable machine material. It’s lightweight, therefore transport is not such a great challenge and to put that into context, it’s 1/5 CLT panel compared to a concrete panel, which is approximately 1/5 of the weight. In those terms, where you would get 2 or 3 concrete panels on the track, you would get 15 CLT panels on another track. This reduces your transports costs and thus reduces your carbon impact. Particularly in the city where traffic management is a bit more problematic, it also reduces the amount of trucks that have to go into the site and the amount of power that it requires to transport the material from street level and into the site. There is also low impact on the neighbouring areas and buildings, as you are only using power tools rather than heavy machinery that create a lot of disruption within the area. The noise reduction is significant within the city environment.

The building process is much quicker as well, which is really important and makes it a high contender for building materials.

A&D: On the topic of renewable energy, what is Hyne Timber doing in practice to achieve this?

RM: Well we’re using timber and residuals as a biofuel rather than relying on fossil fuels heavily. Although we haven’t completely replaced it yet, we’re working on ways to minimise the amount of fossil fuels that are used in our processes. We’ve got furnaces that we use for our waste.

A&D: Where do you see the growth of timber materiality in the industry and companies that you work alongside and support throughout Australia?

RM: Working alongside with the people at Planet Ark is very important to us because they believe in the material and what we are doing and are trying to achieve here at Hyne Timber. We get a lot of guidance and information on our materiality and ensure that it aligns with
what we stand for at the company. On a generic level, we do presentations to the timber and design industry, as we aren’t only representing ourselves, but the timber industry as a whole. The future timber hub is one of the initiatives by the University of Queensland, another is the centre for durability at the Sunshine Coast University for example and we are all striving to create and deliver solutions that include timber.

We work closely with a lot of the industry. One of the principle sponsors for the mid-rise and biotechnology, which is a timber initiative on the FWPA to grow more timber buildings, both in lightweight and mass timber. We support organisations like the FTMA, which is in manufacturing and trying to encourage more people in those industries to use prefabricated materials. We’ve fairly progressed in all of that and certainly take interest in what’s around us and within the marketplace.

A&D: What does the category of ‘Sustainability Leader’ mean to Hyne Timber?

RM: A winner in this category needs to recognise that sustainability isn’t just a simple matter of operating energies anymore. It’s all about going that step further, whether it is with new goals and strategies for building materials and driving the business’ focus on improving the outcome not only for the business, but for the greater context. It’s about people understanding the growth of sustainability and realising what actually helps drive it towards a greener and better future and taking that initiative.
Sustainability Leader Award Nominees

proudly sponsored by Hyne Timber

HY WILLIAM CHAN
COX ARCHITECTURE

OLIVER STEELE
STEELE ASSOCIATES

OLIVER STEELE
STEELE ASSOCIATES
HY WILLIAM CHAN
COX ARCHITECTURE

HY William Chan’s ambition in the sustainable built environment industry is reflected in his influence and advocacy on the world stage, and his design innovations and projects globally. A recent graduate of architecture (2018), William has used the power of innovation, technology and sustainability to empower refugee youth to design their own built environments globally.

He has developed an award-winning life-changing desktop tool that creatively upcycles plastic waste in refugee camps into useful 3D-printed shelter elements, and at the same time, upskills young people in environmental sustainability. The initiative, the first of its kind in the world, educates young refugees in future skills, the circular economy and ‘green’ design.

JUDGE’S COMMENT

Ambitious, innovative and creative ideas for the future of plastic waste. The idea to bring function, upskilling and financial return to what is common plastic waste is an enthusiastic design approach for the future of sustainability.
The winner for the 2019 Sustainability Awards Future Sustainability Leader category is HY William Chan.

Chan is an urban innovator designing resilient and inclusive cities for people. He is a TED speaker and is featured in the ‘30 Under 30’ lists by Forbes (industry, manufacturing and energy) and GreenBiz (sustainability leadership) for 2019. The list celebrates people under the age of 30 who are “game changers” in their field.

Chan, who works for Cox Architecture is the only honouree currently working in architecture. Chan says that he believes a ‘startup’ attitude is essential for the architectural profession to innovate.

“The architecture, engineering and construction industry is one of the least disrupted sectors globally,” he says. “Architects have a uniquely creative skillset, but we need to be more agile and entrepreneurial in how we design solutions that address the economic and social challenges of our cities so that we remain relevant as an industry.”

Last year, Chan was invited to New York where he addressed the United Nations General Assembly. At the High Level Meeting on Social Business, Youth and Technology, he advocated for the practical influence that young architects have towards sustainable urban development, showcasing his personal sustainability projects to global leaders including Nobel Peace Laureate Muhammad Yunus.

“Being named the inaugural Future Sustainability Leader is a testament that there is no age barrier in proactively leading and creating solutions towards a more sustainable and regenerative future. The climate emergency can only be solved by working collectively with industry experts together with Australia’s up-and-coming architects and designers, the generation that will face the brunt of the climate crisis,” says Chan.
Innovative Structural Solutions from Hyne Timber bring Timber Into the Modern Age of Sustainability

With temperatures around the world soaring to new highs and global waste levels climbing at unprecedented rates, it’s clear that everyone must take whatever steps possible to reduce their negative environmental impact.

This is particularly true of the construction industry, which currently accounts for approximately 40% of Australia’s total waste and is notoriously reliant on high amounts of energy and material consumption. Against this backdrop, designers and product suppliers alike are now seeking new ways to curb their environmental impact and instead deliver long-lasting, sustainable buildings that make a positive contribution to environmental and human health.

One such supplier is Hyne Timber, a sixth-generation Australian family business and one of the country’s leading suppliers of sawn timber products. Driven by a genuine commitment to sustainability, safety, service, and quality, Hyne Timber offers designers and specifiers a range of timber products that deliver high sustainability value without compromising performance, versatility, or aesthetics. This includes their selection of Glue Laminated Timber (GLT) beams, which pose an environmentally-sound alternative to steel and are ideal for use across a breadth of construction sectors. Included in the Hyne Timber GLT range are Beam 17, the strongest pine glue laminated beam on the market suitable for use in long span, critical load applications, and Beam 18, a warm-hued beam with light, consistent colouring best suited to commercial and domestic internal applications where the look and feel of natural wood are desired. Completing the GLT range are Beam 21, a richly coloured and textured native hardwood compatible with internal and external applications, and Lumber Glue Laminated (LGL), a high-strength product that can span up to 16.8m in a single length. For certain engineered design splices this span may be even greater.

The Hyne Timber product catalogue also features Hyne T3 Green Plus, Australia’s first volatile organic compound (VOC) free, H3-treated timber for indoor and outdoor above ground use. Availing of a revolutionary water-based treatment that eliminates petrochemical odours and VOC emissions, T3 Green Plus offers guaranteed resistance to termite and wood rot when installed in accordance with Hyne Technical Details, making it ideal for outdoor and indoor framing projects in which moisture and humidity concerns are present. The versatile material is CodeMark™ Certified and fully compliant with all relevant requirements of the BCA, having been treated well above and beyond the applicable Australian Standards, and is safe for both the environment and humans: the H3 treatment employed during its production contains organic fungicides in addition to ingredients commonly used to protect food crops from pests.

Similarly, Hyne T2 Blue and Hyne T2 Red have achieved CodeMark™ Certification indicative of an exemplary level of treatment quality, consistency, and compliance with the relevant Australian Standards. Together the two framing systems provide unbeatable protection against Australia’s more than 350 termite species while maintaining a high degree of safety for the environment, users, and wildlife alike. Both T2 products are termite resistant materials that may be used solely or in conjunction with other termite resistant materials to satisfy the NCC performance requirements and are fabricated from timber sourced sustainably from greenhouse-positive plantations. The treatment applied to T2 beams is petrochemical free and completely safe, with no requirements for annual inspections and maintenance. The two products are distinguished by their colour: T2 Blue is guaranteed to provide effective protection against termite species found south of the Tropic of Capricorn (Rockhampton, Queensland), while T2 Red provides the same assurance to all areas of Australia including areas north of Rockhampton (North of the Tropic of Capricorn).

Hyne Timber is a proud sponsor of the 2019 Sustainability Awards, to be held at The Star in Sydney on 7 November 2019. Learn more about Hyne Timber’s selection of high performance, sustainable structural timber products at www.hyne.com.au.
This was certainly the case for the residents of this stunning sculptural home in Ceres, Victoria, which unfurls from a hilltop site in a series of timber planes. To bring the dynamic design to life local Melbourne architects level-ak used a combination of innovative technologies to devise a structural system comprising a concrete slab, CLT panels, cladding and insulation, and rooftop solar panels. The structural frame itself comprises a number of portal frames built from Hyne Timber Glue Laminated Timber, which effectively functions as the skeleton of the new family home.

Overlooking a farm that sprawls across a scenic hillside and valley, the home features a series of irregularly-shaped pavilions that echo the form of boulders on site. In addition to making a bold design statement, the angular shapes and strong design lines of these pavilions serve as a buffer against wind and harsh sunlight, creating a sense of shelter in an otherwise highly exposed position. The home and farm were envisioned as an autonomous, zero-emission residence that will, in time, become carbon positive. Through a combination of solar and wind power and the thermal mass of the concrete floor slab, the home will be able to operate independent ‘off the grid’, thus reducing its carbon impact throughout its entire lifecycle.

This focus on sustainability informed level-ak’s material selection throughout the project, which also reflects an acute sensitivity to its unique, picturesque site. The pavilions themselves are oriented toward the North in

As concern for the environment and climate change begins to influence most aspects of contemporary life, it’s no surprise that residents – in addition to practitioners within the architecture and design field – are demanding sustainable, climate-sensitive homes.
order to maximise views and solar exposure, creating an angled plan set on a tessellated grid that responds to stone ruins originally on the site of the house proper. These ruins have since been recycled and put to use as supports for internal staircases.

Structurally, the home avails of the many benefits of Hyne Timber Glue Laminated Timber (GLT), an engineered timber product comprised of layers of timber glued atop one another. Unlike Cross-Laminated Timber (CLT), in which the grain of each layer runs perpendicular to that beneath it, the layers in GLT are arranged so that the grains of each layer run parallel to one another. This results in a high level of strength and load bearing capacity, particularly in a column, structural beam, or portal configuration. For the Ceres home level-ak specified the lattermost configuration, providing a secure framework upon which CLT panels and cladding and insulation were subsequently mounted.

In addition to its high strength and suitability for structural applications, Hyne Timber GLT offers a range of performance benefits including high fire and seismic resistance, extended durability, and prefabrication capabilities. A sustainable alternative to conventional building materials, it is manufactured via a process that requires substantially less fossil fuel energy per unit volume than concrete, steel, or aluminium, resulting in an ultra-low carbon footprint. Beyond this, sustainability benefits include a high natural degree of thermal insulation, enabling reduced reliance on artificial heating and cooling, and Chain of Custody Certification that provides assurance that the timber incorporated in the product has been sourced sustainably. Studies also suggest that natural products including GLT may have positive effects on the mental health and wellbeing of occupants when used as part of a broader biophilic design scheme.

Hyne Timber is a proud sponsor of the 2019 Sustainability Awards, to be held at The Star in Sydney on 7 November 2019. Learn more about Hyne Timber’s selection of high performance, sustainable structural timber products at www.hyne.com.au.
A series of changes proposed by the Green Building Council of Australia (GBCA) include a mandatory net zero benchmark for any building seeking a 6 Star Green Star rating.

The new requirement, which parallels the 1.5°C Paris Agreement trajectory, is a highlight of the GBCA’s proposed future-focused rating system. The new assessment tool seeks to go beyond the traditional definitions of sustainability to deliver a new vision of healthy, resilient and positive buildings. And net zero carbon is at the heart of this future.

“A 6-Star Green Star building will have to have a low energy demand and use 100 percent renewable electricity to meet certification requirements in 2020,” GBCA Head of Market Transformation Jorge Chapa explained in a piece for The Fifth Estate.

“By 2023, 5-Star Green Star rated buildings will also have to source their electricity from 100 percent renewables. We are also targeting the use of fossil fuels in buildings, with requirements to reduce their use as much as possible and offset the rest,” he added.

The new Green Star for New Buildings rating tool currently being developed was first launched in March 2018, and is designed to be more relevant, ambitious and extensive than its predecessors. It features a new set of eight categories, including a place-making category intended to encourage the creation of better spaces in cities.

It also offers opportunities to earn additional sector-specific credits that recognise issues and excellence relevant to particular building types. This includes credits that encourage a holistic approach to minimising a building’s impact on its neighbours.

To continue delivering an accessible entry point, existing entry-level standards for a best practice Green Star building will be maintained, while steps will be taken to make the process of achieving this outcome less complicated.

“As technologies transform how we build, we believe a Green Star rating will become more important to assure the delivery of what should be even more achievable sustainable outcomes on the ground,” Chapa said.

A consultation paper for the new Green Star for New Buildings tool has been released, and reflects 12 months of preliminary consultation with industry and stakeholders across Australia. Ten expert panels have provided feedback with over 130 participants.

Barangaroo South, Sydney’s largest mixed-use urban regeneration project, has won the Leadership in Sustainable Design & Performance Award—Commercial category at the 2018 World Green Building Council (WorldGBC) Asia Pacific’s Leadership in Green Building Awards.
The prize, shared with Aorangi House in New Zealand, was one of five top gongs awarded at the biennial WorldGBC ceremony. The program celebrates iconic green buildings, up-and-coming innovators and inspiring companies driving change and creating a better future throughout the region.

Developed by Lendlease, Barangaroo South was lauded by the jury for considering every aspect from a sustainability angle—from the raising of its ground plane to accommodate predicted sea level rises, to the installation of over 50,000 LED lamps, to the creation of a shared basement infrastructure that houses a recycled water treatment plant and efficient district cooling plant.

The vibrant waterfront district furthermore boasts a mix of world-class office, retail, residential, hospitality and public spaces that feature sustainable material selection. Together, they make up a water-positive, carbon neutral precinct that aims to divert 97 percent of construction and 80 percent of operational waste from landfill.

“This large scale urban regeneration project has set an ambitious target to be Australia’s first carbon neutral development. It adopted a holistic life cycle approach that genuinely addresses the essence of sustainability and resilience, including the important aspect of the health and well-being of building occupants,” awards juror, Professor Lam Khee Poh, Provost’s Chair Professor and School of Design and Environment at the National University of Singapore, said.

“In the implementation process, the deployment of the Barangaroo Skills Exchange (BSX) training program has further contributed significantly to the socio-economic status of the construction industry.”

The complete list of 2018 winners were:

- Naandi, India: Leadership in Sustainable Design & Performance Award – Residential category; with Special Recognition, Advancing Net Zero;
- Barangaroo South, Australia: Leadership in Sustainable Design & Performance Award – Commercial category
- Aorangi House, New Zealand: Leadership in Sustainable Design & Performance Award – Commercial category
- Swire Properties Limited, Hong Kong: Business Leadership in Sustainability Award; with Special Recognition, Better Places for People
- Mary Chan, DLN Architects Limited, Hong Kong: Women in Green Building Leadership Award.

Images: barangaroosouth.com.au
Join us in...

MELBOURNE

2020

SUSTAINABLEBUILDINGAWARDS.COM.AU
12 NOVEMBER 2020 | PLAZA BALLROOM, MELBOURNE