BlueScope

Sustainability Awards

Sustainability eBook 2022

BlueScope

IMAGE Responsible Steel™ Certified site flag flying over Port Kembla, Wollongong.

The 2022 Sustainability Awards Gala

It was in 2006, way back before smart phones or social media, when we launched what we now call the Sustainability Awards. Little did we realise that 16 years later, our 'little' awards would become the premier built environment sustainability awards program in Australia.

Not that it's a huge surprise really. With the growing awareness of carbon footprints, climate change and rising sea levels as well as the hard work we have put into promoting these awards, it's no great shock that the Sustainability Awards were always destined for greatness. And not only because of the moral imperative, but also due to the economic one.

Realistically speaking, sustainability is a business approach designed to create long-term value by taking into consideration how organisations operate in the ecological, social, and economic environments.

Therefore, sustainability is built on the idea that developing such strategies fosters business longevity. Without this notion, neither the planet nor the businesses that thrive on it will have much longevity.

With that in mind, I'd like to thank you for your involvement in our Sustainability Awards programme, one that always has been, and always will be dedicated to promoting sustainability awareness in all its forms across Australia's diverse and vibrant built industry.

BRANKO MILETIC, EDITOR

The Awards Jury

JEREMY SPENCER
Director, Positive Footprints

OLIVER STEELE
Director, Positive Footprints

ARIANNA BRAMBILLA
Senior Lecturer, School of Architecture, Design & Planning

KATE NASON
Sustainability Advisor, Frasers Property

SANDRA FURTADO
Director, Furtado Sullivan

DAVID COATES
Founder, Sustainable Building & Design

MAHALATH HALPERIN
Architect & Director, Mahalath Halperin Architects

SIMONE SCHENKEL
Founder, Gruen Eco Design

DICK CLARKE
Princial, Envirotecture

MICHAEL FAINE
Architect, Faine Group Architects

SUSAN TOUMBOUROU
CEO, Australia Council of Recycling

A circular solution to embodied carbon

As Australia's built environment transitions to net zero, embodied carbon - which contributes 16 per cent of the sector's emissions – is growing in importance. Philippa Stone, Sustainability Manager with BlueScope, explains how Australia's largest steel manufacturer is working to support more circular outcomes in the built environment, including lowering embodied emissions.

Eliminating carbon from the building and construction industries is going to take a major shift in the ways our buildings are planned, designed, and built, and with steel contributing around 7% of global greenhouse gas (GHG) emissions, it has an important role to play in decarbonisation.

The conundrum the building and construction industry faces is that as the global population increases, so too does the demand for steel. BlueScope is facing this problem head on, exploring and embracing opportunities to support the decarbonisation of the industry, from the steelmaking process right through to innovation in product design and use.

COLLABORATING ON DECARBONISATION

BlueScope has a goal of net zero emissions across operations by 2050, it's an ambition underpinned by two GHG targets by 2030 across steelmaking and midstream operations, including painting and coating. Philippa says the steel sector is going to require a number of enablers, including breakthrough technology to deliver a wholesale shift to low or zero emissions, but there are also incremental steps BlueScope is taking, to improve GHG emissions performance with current technology.

"An example of this is the trials we have started with the University of Wollongong to investigate the potential of replacing coal with biochar – charcoal produced from forestry industry waste or construction industry waste – in the steel production process at our Port Kembla Steelworks, NSW.

"We are also working with Rio Tinto to research and design low-emissions processes and technologies for the steel value chain across iron ore processing, iron and steelmaking, as well as related technologies."

Alongside these collaborations, BlueScope is working with a range of industry and research organisations to explore and develop a pilot hydrogen electrolyser plant at BlueScope's Port Kembla Steelworks to see what the pilot plant can teach them about the production, storage and handling of hydrogen, as well as how hydrogen will behave in a blast furnace.

"We know we can't achieve net zero alone - collaboration is key to decarbonising the steel industry", says Philippa.

SHOWING THE WAY WITH RESPONSIBLESTEEL™

Steel is one the most recycled materials in the world but that alone is not enough to address the problem of embodied carbon and sustainability more broadly. Industry knows this and BlueScope is collaborating across the sector to help create global standards and frameworks for the industry.

BlueScope isn't just a founding member of ResponsibleSteel™ - the global steel industry's first sustainability standard and certification program – it also led the way with certification.

"ResponsibleSteel™ is an independent certification designed to ensure that customers, stakeholders and consumers can be confident that the steel they use has been sourced and produced responsibly. We're proud that Port Kembla Steelworks was the first site in the Asia Pacific region, and the fourth steelmaker in the world, to obtain certification," says Philippa.

A participant in the Expert Advisory Group convened by the Science Based Targets initiative (SBTi), BlueScope is also assisting with the development of target setting methodologies, tools, and guidance to help industry meet the 1.5°C goal of the Paris Agreement.

SUPPORTING CIRCULAR WITH STEEL

With the built environment responsible for 50% of global material use, it's no secret that the most sustainable building is an existing one, and Philippa says that the steel products we use today can be resources of tomorrow. BlueScope is a member of the Green Building Council of Australia (GBCA) and partner of the GBCA's circular economy program.

"Steel has strong credentials to support a circular economy – especially in the context of keeping resources in use for as long as possible and then reusing, remanufacturing or recycling at end of life," says Philippa.

BlueScope products can also support circular outcomes through design. Frames made from TRUECORE® steel are lightweight, durable and can be screw-assembled meaning they are highly suitable for modular design, and can be designed for disassembly and reuse.

"TRUECORE® steel was recently used in the construction of a COVID-19 surge centre in the ACT in a five-week construction program. The structure was designed so that nearly all the building could be flat packed and re-established in a different location.

"In another example, on a project in Lonsdale Street, Melbourne, the design team was able to employ adaptive reuse, adding eight storeys to a 50-year-old, 12 storey building using light gauge steel frames made from TRUECORE®steel. We look forward to seeing how projects can use this product again and again," concludes Philippa.

PAGE 5 Screw fixed framing made from TRUECORE® steel.

Lifetime Achievement Award Winner

proudly partnered by BlueScope

A person who has over their career, shown exemplary efforts in advancing the progression of the sustainable built environment in Australia.

PHOTOGRAPHY totalfacilities.com.au

WINNER

CHRIS NUNN
AMP CAPITAL

Chris is a sustainability expert with 20 years' experience.

Chris is the Head of Sustainability at AMP Capital Real Estate. AMP Capital has a Real Estate portfolio valued at approximately $28 billion, mainly in Australia and NZ, consisting of approximately 100 shopping centre, office and industrial assets.

Chris has experience in: corporate social responsibility; green buildings; renewable energy; operational performance improvement; environmental management systems; environmental law; sustainability reporting; sustainability communication, education and training.

Chris worked for 5 years as an Environmental Lawyer for MinterEllison, followed by the Environmental Defender's Office in Sydney, then was awarded a Chevening Scholarship to study a Masters of Sustainability at the London School of Economics. Chris then spent 5 years working in London as Associate Director of Sustainability for Atkins. In 2011, Chris moved back to Sydney as Sustainability Leader at Norman Disney & Young, then worked as Sustainability Director for JLL, joining AMP Capital in September 2015.

Better, together: Collaboration as a vital driver of BlueScope's climate action

With climate optimism underpinning the important shifts taking place on the political stage in Australia, there is a growing sense of enthusiasm around stronger and more collaborative nation-wide climate action.

This excitement echoes the collective attitude amongst architects, designers, specifiers, and manufacturers who – particularly in recent years – have gone through an accelerated sustainability journey, putting environmental concerns and a sense of accountability at the heart of the building industry's agenda.

BlueScope, Australia's largest steel manufacturer, shares these aspirations and ambitions on climate action. The company's commitment to reducing the emissions intensity of its operations and products is underscored by the goal of net zero greenhouse gas (GHG) emissions across its operations by 2050.

"This goal is underpinned by two GHG emissions intensity reduction targets by 2030 – across our steelmaking and midstream operations, including painting and coating," explains Philippa Stone, Sustainability Manager at BlueScope.

Of course, endeavours of this scale don't happen in a vacuum, and achieving those goals will be dependent on a range of enablers. For BlueScope these include breakthrough technologies, the availability of affordable and reliable renewable energy and hydrogen, the availability of raw materials and - naturally - supportive policies.

TOGETHER TOWARDS NET ZERO STEELMAKING

Another crucial facilitator underpinning BlueScope's efforts – one the organisation considers essential to advancing both its own, and the industry's, climate initiatives – is collaboration. "We know we can't achieve net zero on our own," says Philippa. "And we're committed to exploring collaboration opportunities across our value chain, including with our supply chain, customers and broader stakeholders."

This drive to explore collaboration opportunities through existing relationships and new partnerships with institutions and companies that share the same goals – including conducting trials of breakthrough technologies – is one of the key steps in BlueScope's decarbonisation journey.

BlueScope is working with a range of organisations across the steel value chain and beyond on projects to explore options for low emissions iron and steelmaking at the Port Kembla Steelworks. "While breakthrough technologies are in the process of commercialisation, our focus is on improving emissions intensity with our existing infrastructure," Philippa explains.

BlueScope is working with Rio Tinto to research and design low-emissions processes and technologies for the steel value chain across iron ore processing, iron and steelmaking, as well as related technologies. One area of exploration is Rio Tinto's Pilbara iron ores being used with green hydrogen – produced from renewable electricity – to produce a low emissions iron through a direct reduction process.

"It is envisaged that the direct reduced iron (DRI) from this process would then be melted in an electric arc furnace, also powered with renewable electricity, to produce iron suitable for the steelmaking process," describes Philippa. This endeavour is a part of BlueScope's climate action fund, which will see up to $150 million allocated towards sustainable initiatives over the next five years.

BlueScope is also working with a range of industry and research organisations on exploring and developing a pilot hydrogen electrolyser plant at BlueScope's Port Kembla Steelworks, and – as Philippa explains – the teams are very eager to see what the pilot plant can teach them about the production, storage and handling of hydrogen. "And, very importantly, about how hydrogen will behave in a blast furnace," she adds.

"Most forecasters believe hydrogen-based ironmaking processes will play an important role in the decarbonisation of primary steelmaking, along with an increasing proportion of secondary steelmaking, using recycled steel scrap," explains Philippa. Incorporating the hydrogen electrolyser, the longer-term goal is to develop a hydrogen hub in the region.

BlueScope also engages with a range of non-profit organisations which aim to accelerate the transformation of the built environment, such as the Green Building Council of Australia (GBCA) and the Materials and Embodied Carbon Leaders' Alliance (MECLA). "These memberships give us a great platform to engage with our customers on sustainability and climate action issues, understand their objectives and explore opportunities for collaboration on climate change initiatives," says Philippa.

The business is actively engaged in educating the wider industry on some of the challenges and opportunities for decarbonisation of the steel industry. It is also involved with a few of Australia's most innovative academic bodies, such as Australian Building 4.0 CRC (Cooperative Research Centre), which is a joint effort between government, industry and several universities designed to uncover new approaches to improving building performance, sustainability, and supply chain efficiency. BlueScope has also teamed up with the University of Wollongong (UoW) to create the ARC Research Hub for Australian Steel Innovation (Steel Research Hub II), which is a 5-year research hub for building systems optimised for unique Australian climates. But Steel Research Hub II is not the only initiative that sees BlueScope and UoW join forces. They will also partner to investigate the potential of replacing coal with biochar – charcoal produced from forestry industry waste or construction industry waste – in the steel production process.

Philippa adds that these projects will help take BlueScope to the cutting edge of current technologies to push the steelmaker to the next phase – and bridge the technology gap for the decarbonisation of the sector.

SUPPORTING CUSTOMERS WITH THEIR OWN SUSTAINABILITY AMBITIONS

These initiatives also support BlueScope's customers in achieving their individual climate goals. "We know the sustainability profiles of our products can contribute to sustainability outcomes on projects – and we are committed to supporting our customers in achieving their targets," Philippa says.

As part of its climate action efforts, BlueScope already provides its customers with products that can help minimise the embodied carbon for a project, such as high strength steels which can enable dematerialisation by reducing the volume of steel required, and therefore the amount of embodied carbon for the project. Other products, such as framing made from TRUECORE® steel are lightweight, durable and screw assembled, making it highly suitable to modular design, adaptive reuse, disassembly, and reuse, as well as recycling at end of life.

The commitment to enable designers and specifiers to pursue their environmental ambitions is also expressed through BlueScope's strong stance on transparency - and its leadership in the Environmental Product Declaration (EPD) space. In fact, BlueScope was an early adopter of the EPD - and the first manufacturer in Australia to publish one in 2015 under the EPD Australasia program. "Industry professionals want to have a clear understanding of the environmental impact of the products they specify," Philippa explains. "EPDs provide third-party verified information on the impact of a product over its full lifecycle, and this data can be entered into a life cycle assessment model for a building. That, in turn, can help design teams make informed decisions about products that can help achieve their sustainability objectives."

BlueScope has also been a long-standing advocate for embedding stewardship and transparency across the steel value chain. The ResponsibleSteel™ Standard, launched in 2019, defines the performance expectations that support the responsible sourcing and production of steel. BlueScope was pleased to announce in February 2022 that the Port Kembla site had achieved ResponsibleSteel™ certification, being the first steelmaker in Asia Pacific and the fourth site to be certified globally.

STEEL AS AN ENABLER OF THE RENEWABLE ENERGY TRANSITION

Yet another facet of BlueScope's climate action efforts is the production of components designed to underpin the shift to renewable energy. With a typical wind tower boasting up to 300 tonnes of steel plate and steel components being a key requirement for solar farms, there is no doubt that renewable energy projects and supporting electricity transmission infrastructure are dependent on steel.

As a steel manufacturer, BlueScope will play a pivotal role in advancing this crucial transition. In November 2020, BlueScope announced a plan to invest $20 million in a new BlueScope Renewable Energy Manufacturing Zone (BRMZ) at Port Kembla, to form part of an Advanced Manufacturing Precinct at Port Kembla Steelworks, further improving Australia's local manufacturing capabilities.

As the nation moves towards more meaningful climate action, BlueScope's sustainability initiatives provide a strong example of how a key industrial sector is adapting. The organisation's commitment to decarbonise its operations, help industry professionals realise their climate goals, and support the renewable energy transition proves that achieving ambitious sustainability outcomes can be approached in a comprehensive and multi-faceted manner - and that climate action can, and must, be a collaborative effort.

ABOVE University of Wollongong' Sustainable Buildings Research Centre in Fairy Meadows, NSW

BlueScope steps to strengthening communities through First Nations engagement

Today, future-forward architecture, design and construction organisations place people and communities at the heart of their agenda.


Colorbond®

BlueScope, as Australia's largest steel manufacturer, has long understood the responsibility entailed with being a major community employer and partner.

Creating strong communities is one of five pillars that underpin BlueScope's approach to driving sustainable outcomes. The other four pillars underpinning BlueScope's approach to Sustainability are creating safe and inclusive workplaces, responsible products and supply chains, climate change action, and building a sustainable and enduring business.

BlueScope's 'Strengthening our Communities' investment framework informs the community activities and agencies that BlueScope supports or invests in and acknowledges the unique value of local communities. Through this framework, BlueScope seeks to understand and work constructively with local communities through active partnership, mutual respect, and long-term commitment.

Reflective of this commitment are two important initiatives: the First Nations Framework and the Jawun Indigenous Partnership, both designed to foster respectful, and enduring relationships between Indigenous and non-Indigenous Australians.

THE FIRST NATIONS FRAMEWORK

Developed over a period of 18 months, BlueScope's First Nations Framework sets out the organisation's key focus areas for First Nations engagement. Its key tenet is one of co-designing initiatives which aim to grow the representation and empowerment of First Nations People within BlueScope's business, supply chains and communities.

"The Framework sets out BlueScope's approach to engagement with First Nations communities, which at its very core, starts by taking the time to listen carefully. The time taken to build a meaningful dialogue and relationship with these communities helps to form a deeper understanding and connection with their needs. With time and careful dialogue, initiatives that best address that community's needs are co-created," explains Anna Di Giorgio, the Organisational Development Manager at BlueScope.

"Strengthening our communities is fundamental for sustainability which translates into tangible employment and training opportunities, for Indigenous businesses to grow and develop alongside BlueScope," adds Anna.

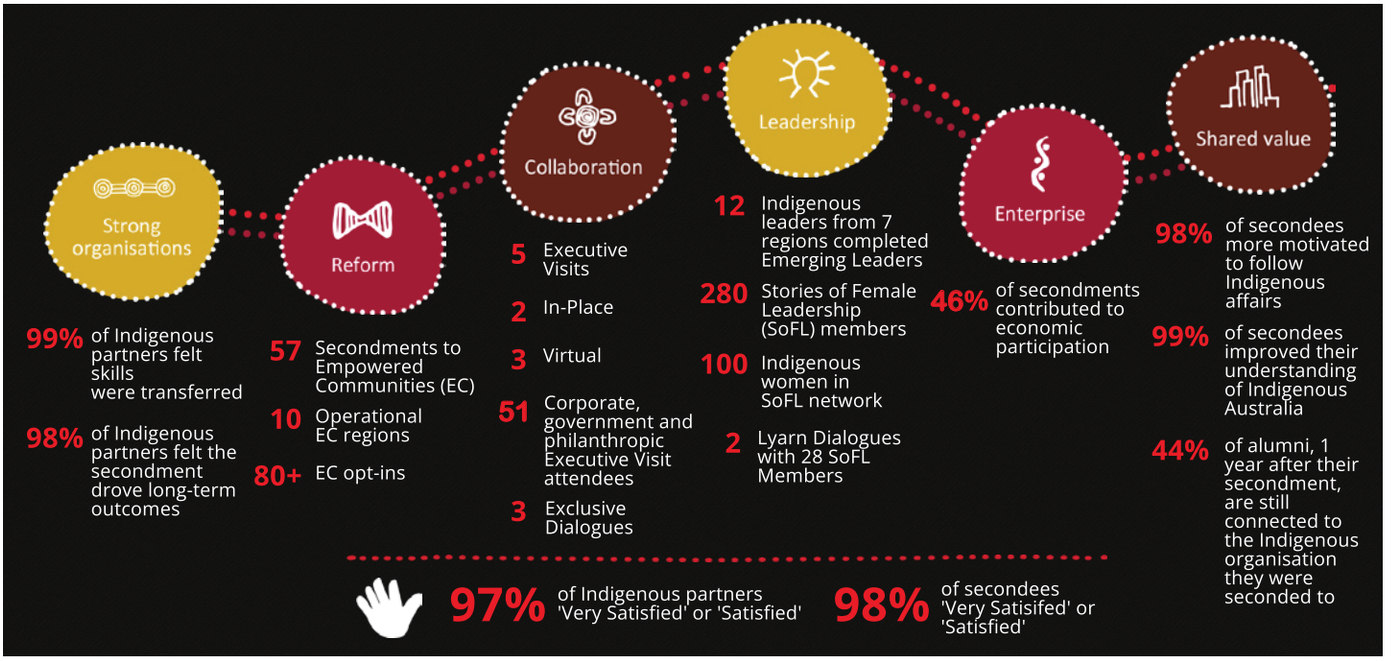
THE JAWUN INDIGENOUS PARTNERSHIP

BlueScope's participation in the Jawun Indigenous Partnership fuses the company's focus on First Nations and Indigenous communities, with its commitment to nurture respectful and enduring relationships.

Jawun is a not-for-profit organisation that connects corporates and their employees with Indigenous organisations around Australia, with the aim of fostering better understanding of First Nations People's experience. "BlueScope became a member of this partnership in 2017, and we have had over 30 employees participate in six-week long secondments across Central Australia since," Anna describes. "They have been incredibly well-received by those communities and organisations."

One of the BlueScope team members recently completed a six-week virtual secondment in Kununurra, WA. This secondment marked the company's first placement in this region.

They assisted an Aboriginal not-for-profit called the Wunan Foundation with the specification process for the Gananoorang Lakeside Resort Development project. The project was acquired by the Wunan Foundation



as a social enterprise designed to increase training and employment opportunities in the region as well as providing income generation for the Foundation.

They admitted that the placement had been life-changing, leading them to re-evaluate some of the preconceptions they had held – which is why they think initiatives like this are so important. “People often have preconceptions about the needs of our First Nations Peoples,” she says passionately. “My experience has been that what you think is required is often not what they need at all. When talking to the local community at Kununurra they were able to share how their culture shapes them.”

As part of the project, our team member and one of the Wunan Foundation’s project managers visited a light gauge steel fabricator in NSW to determine if this manufacturing capability could be set-up in Kununurra, which would create long-term employment opportunities and an income stream for the local community.

With the aim of providing opportunities for the local youth, they also collaborated on business initiatives that celebrated the arts, and design of the region, and showcased local culture through education and entertainment programs.

BlueScope has been incredibly inspired by the participation in the programme. “Our First Nations people are our soul,” our team member says. “They are the foundation of Australia. I believe the Jawun program provided an opportunity to make a powerful and practical contribution towards reconciliation.”

The First Nations Framework and the Jawun Indigenous Partnership aptly reflect BlueScope’s commitment to fostering respectful and meaningful relationships with Indigenous and non-Indigenous Australians. These two initiatives demonstrate the company’s belief that prioritising people as part of its agenda is a critical foundation for driving a sustainable future.

ABOVE A summary of the achievements of Jawun Organisation for 2022, provided with their compliments.
PAGE 10-11 BlueScope employee during Jawun secondment to central Australia.

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