Network Architectural

Sustainability Awards

Sustainability eBook 2023

Network Architectural

The evolving landscape of sustainability

It is a fact that society's understanding of sustainability has broadened, leading to innovative design approaches and systemic shifts in behaviour.

Building design plays a pivotal role in shaping the sustainability of our urban environments. It is a powerful tool that can either exacerbate or mitigate environmental impacts. Firstly, orientation and layout significantly impact a building's energy consumption. Properly aligning structures with the sun's path allows for natural lighting and heating, reducing the need for artificial lighting and climate control systems.

Furthermore, material selection is crucial. Opting for locally sourced, recycled, or renewable materials not only reduces transportation emissions but also lessens the environmental footprint associated with extraction and production. Moreover, incorporating insulation and high-quality windows enhances a building's energy efficiency, leading to decreased energy demands and lower emissions.

Architects and engineers are increasingly integrating renewable energy systems into their designs. Solar panels, wind turbines, and geothermal systems can transform buildings into net energy producers, contributing surplus energy back to the grid. This not only reduces reliance on fossil fuels but also promotes a more decentralized and resilient energy infrastructure.

Water conservation is another critical aspect of sustainable building design. Implementing rainwater harvesting and greywater reuse systems minimizes strain on municipal water supplies and lowers the energy required for water treatment. Additionally, green roofs and permeable pavements can mitigate stormwater runoff, reducing the burden on drainage systems.

In conclusion, building design is a linchpin in the pursuit of sustainability. Through thoughtful consideration of orientation, materials, energy systems, and water management, architects and engineers hold the power to create structures that harmonize with the environment rather than deplete it.

By prioritizing sustainability in design, we pave the way for a more ecologically balanced and resilient future.

BRANKO MILETIC, EDITOR

The Awards Jury

ALEX SYMES
Founder, Alexander Symes Architect

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

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Design Director, Carter Williamson Architects

DAVID COATES
Founder, Sustainable Building & Design

JEREMY SPENCER
Director, Positive Footprints

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Sustainability Advisor, Frasers Property

MAHALATH HALPERIN
Architect & Director, Mahalath Halperin Architects

MARNI RETI
Architect, Kaunitz Yeung Architecture

SIMON LINCOLN
Asia Pacific Director, Make Architects

SIMONE SCHENKEL
Founder, Gruen Eco Design

Kaiteki is so much more than just a word: Q&A with Mr Hee Kok Koon of Mitsubishi Chemical Singapore

Manufactured by Mitsubishi Chemical Infratec Co., Ltd, ALPOLIC™ NC is the world's first non-combustible aluminium composite panel that is paving the way for sustainable urban environments of the future. Here, the General Manager of the ALPOLIC Division, Mr Hee Kok Koon, explains why it was pivotal for the company to obtain EPD for ALPOLIC™ NC/A1, what are Mitsubishi's aspirations, and why "kaiteki" – a Japanese expression that translates into "comfort" – has a much deeper meaning.

A&D: What is your background and what does your current role in the business entail?

HEE KOK KOON: I have been in the building and construction industry for more than 33 years and spent most of my time in the façade segment. I joined Mitsubishi Chemical Singapore in 2001, and have been with the company ever since. Currently, I am the General Manager of the ALPOLIC Division, which is responsible for the ALPOLIC business in South East Asia, South Asia, Oceania, Middle East and Africa.

A&D: How important is sustainability to your organisation?

HKK: Sustainability is a very important part of our business. By adopting a sustainable business model, a company can mitigate risks from an environmental, social, and governance (ESG) perspective, and promote long-term growth. Sustainable business models are also important for gaining the trust of consumers and investors.

A&D: How does this commitment manifest through various stages of product development and company operations?

HKK: In the product development of ALPOLIC™ NC, the world's first non-combustible aluminium composite panel, we have been contributing to the creation of long-lasting and sustainable cities by providing the market with products that excel in fire safety and durability.

A&D: What are the company's current priorities from a sustainability point of view?

HKK: We are working on improving environmental and social sustainability and strengthening our management base through five measures. Specifically, we will evolve LCA tools, reduce environmental impact, promote a circular economy, examine the feasibility of Kaiteki factories, and build a management foundation for sustainability management.

A&D: What are the company's aspirations, goals and ambitions for the future from a sustainability point of view?

HKK: As Mitsubishi Chemical Group, we are committed to reduce GHG by 29% from the year 2019 and have a final goal to achieve carbon neutrality by the year 2050. To that end, we will consider and promote energy-saving investment and the introduction of renewable energy.

A&D: ALPOLIC™ NC/A1 has obtained an Environmental Product Declaration, can you tell me about the process and why it was so important to the organisation?

HKK: We have worked with the best environmental certification body in Australia, Good Environmental Choice Australia (GECA), for our ALPOLIC™ NC/A1 Environmental Product Declaration.

It took us around nine months to obtain this certification as we needed to submit a broad selection of documents to GECA, including those explaining our processes. This EPD illustrates our commitment to the environment and aligns with our Kaiteki philosophy: "Well-being of our People and Planet". Kaiteki is not just a word, it's a spirit and a philosophy that we live by every day and that guides us in working towards making our future world a better place.

Commercial Architecture (Large) Award Shortlist

proudly partnered by Network Architectural

A Class 5, 6, 7 or 8 building used for professional and / or commercial \purposes of over 500sqm in floor size.

83 PIRIE
WOODS BAGOT

HERITAGE LANES, 80 ANN
MIRVAC WITH WOODS BAGOT

MELBOURNE CONNECT
WOODS BAGOT

WURRIKI NYAL CIVIC PRECINCT
COX ARCHITECTURE

ZERO GIPPS
SJB

Award Winner

WINNER

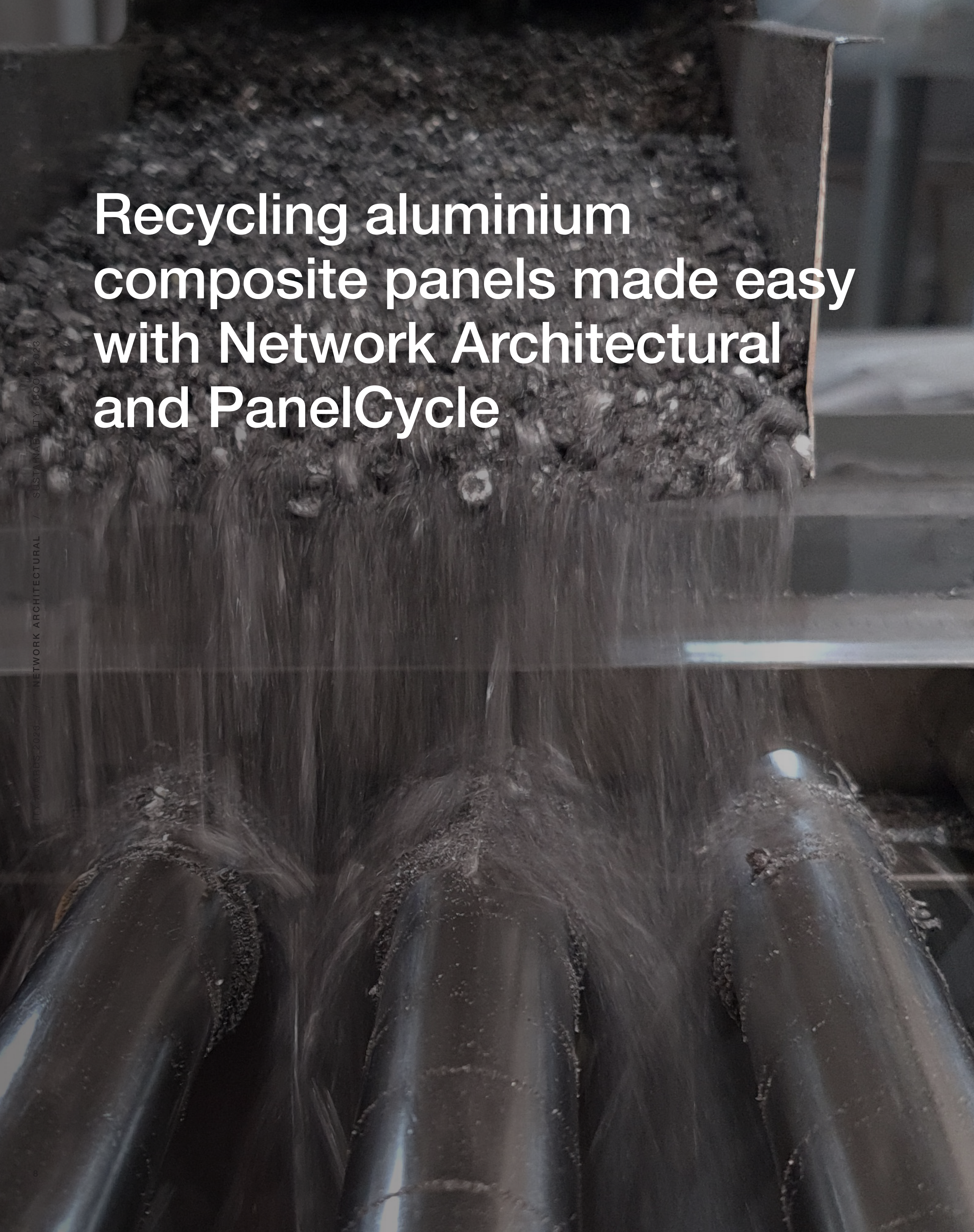
HERITAGE LANES, 80 ANN STREET
MIRVAC WITH WOODS BAGOT

Heritage Lanes at 80 Ann Street is a 35-storey, mixed-use commercial and retail development in the heart of Brisbane's CBD. A celebration of old and new, Heritage Lanes embraces its history through the adaptive reuse of heritage buildings and materials, while being one of Australia's most intelligent and sustainable buildings.

The former site of Brisbane's Fruit and Produce Exchange, which stood until 1914, Heritage Lanes retains the original office building on Turbot Street as part of its new design but has also transformed the concept of the traditional workplace.

PROJECT PHOTOGRAPHY Brett Boardman.

Recycling aluminium composite panels made easy with Network Architectural and PanelCycle



Just as the concept of sustainability has evolved over the years, so has the idea of environmental leadership. The sense of accountability across the architecture and design community has matured significantly; thoughtful ESG strategies are on the rise, decarbonisation efforts guide business strategies across the industry and the era of transparency has bid farewell to the years of greenwashing.

Unquestionable experts in facade and ceiling solutions, Network Architectural always strived to prioritise sustainable solutions as part of their trajectory, with their unnerving pursuit of transparency, compliance, quality and commitment considered second to none. And now, through their partnership with PanelCycle, Network Architectural enables customers to take the sustainable option where recladding is concerned.

"We first partnered with PanelCycle about two years ago," says Llewellyn Regler, National Technical Manager at Network Architectural. "At that point in time, it was known that you could recycle aluminium composite panels, but no one had anything set up in that space. They were the first independent company to do so, and partnering with them made great sense".

PanelCycle provides a full solution to recycle combustible Aluminium Composite Panel cladding removed from Australian buildings. Their process diverts 100% of the materials from landfill, and uses those materials for manufacturing right here in Australia. The PanelCycle process covers four steps:

STEP 1:
Transport. As part of this initial stage, PanelCycle provides tailored transport solutions for each site with their extensive background within the construction industry.

STEP 2:
Recycle. Then, upon removing the cladding from a building, the organisation recycles combustible ACP cladding, diverting 100% of it from landfill.

STEP 3:
Processing. ACP cladding is broken down through a specialised machine, and separated into aluminium and core material.

STEP 4:
Consumption. The separated materials are then utilised to manufacture new products that are fed back into the construction industry.

"We offer the service as an add-on to our clients," says Llewellyn. "Or we point them directly to contact PanelCycle. For us, the important thing is that the panels are being recycled." He notes that things have come a long way since even just a few years ago when aluminium composite panel waste was treated essentially the same as asbestos.

Instead, through PanelCycle, there is now a traceable chain of custody for the waste. "PanelCycle will collect the panels from site, acknowledge that they've taken receipt, then provide detailed independently audited reporting after processing to prove how they've been processed and where they've gone," says Llewellyn. He explains that PanelCycle will source documentation from the aluminium recycler and from the location the core materials are recycled at. "You actually have a lifecycle view of where those panels have ended up, which is really important," Llewellyn says.

Llewellyn notes that across the industry, people are very receptive to recycling the panels as part of the broader push towards more sustainable lifecycle management of construction materials. Particularly, as recycling the panels is also more cost-efficient. "The cost to recycle is actually less than the cost of putting the panels into landfill," he sums up. "And by recycling you know you're part of the solution – not part of the problem."

A warranty for sustainability: ALPOLIC™ NC/A1

When Mitsubishi ALPOLIC™ NC/A1 was released in Australia four years ago, it immediately became a game changer in the non-combustible cladding space. Designed and manufactured specifically for the Australian market by Mitsubishi in close collaboration with Network Architectural, the product set new standards when it comes to quality and life expectancy, as well as fire safety and compliance with Australian building codes and regulations. And then, of course, there is the unmatched, industry-defining warranty that comes with ALPOLIC™ NC/A1. What makes the warranty so unique?

"Firstly, it is a manufacturer warranty," explains Llewellyn Regler, National Technical Manager. "Many facade companies will say they have a manufacturer warranty, but in reality offer a supplier warranty. This warranty, on the other hand, is a 20-year full cover warranty from Mitsubishi, a globally renowned manufacturer." Llewellyn adds that if anything happens to the panel – and the manufacturer is at fault – Mitsubishi will cover rectification costs, including access and labour, at no extra cost to the building owner. "Again, this is what makes this warranty unique – in the case of many other companies on the market, the cover is for the panel only, and the building owner often has to cover the cost of the replacement. But Mitsubishi ALPOLIC™ NC/A1 is the only aluminium facade product in Australia to come standard with a 20-year full replacement warranty that covers material, labour and rectification costs for faulty material that is backed by the manufacturer. This is a huge change to the way the industry now needs to look at warranties."

While these qualities certainly set ALPOLIC™ NC/A1's warranty apart from others in the market, this cover is also consequential when it comes to sustainability outcomes. As Llewellyn explains, it's to do with maintenance requirements – or rather, the lack of.

"As best practice, Mitsubishi recommends that the panels get cleaned once a year," he says. "And this could be as simple as rain falling on the panels. However, you don't need to wash them down in order to maintain the warranty." Llewellyn notes that that's not always the case with other suppliers. "In case of other products – specifically PVDF-coated materials – the warranty is directly connected to maintenance, and in order to maintain the cover, the facade has to be cleaned once or twice a year. In fact, most warranties will insist on keeping records of cleaning and maintenance procedures for the life of the warranty. If that's not done, it can actually void it."

It is this requirement for regular maintenance that can impact the embodied carbon of the building. Llewellyn explains that the Good Environmental Choice Australia (GECA) – Australia's only independent sustainability and environmental certification program – is currently reviewing the notion of embodied carbon from warranty perspective; both from cradle to grave, and lifecycle and maintenance point of view. "What it means in practice is that if a building owner needs someone to come out and wash the facade down one or two times a year, that has to be built into the embodied carbon of the product. With ALPOLIC™ NC/A1, we don't have to do that."

Llewellyn adds that keeping embodied carbon as low as possible – helping architects, designers and specifiers achieve their desired sustainability ratings - is crucial. "The ALPOLIC™ NC/A1 comes with an Environmental Product Declaration (EPD) produced by GECA and can contribute towards Green Star points for the building," he explains. "So if you're looking at sustainable facades, then we're certainly at the top of that list."

In addition, ALPOLIC™ NC/A1 has a staggering life expectancy of 50 years. "With ALPOLIC™'s Lumiflon FEVE coating technology and rigorous testing we're confident that it is one of the most durable, high-quality cladding materials on the market," Llewellyn ensures.

Coupled with the 20-year full cover from a trusted manufacturer and lack of a required maintenance schedule that could increase embodied carbon, this cladding solution has no match where safe, non-combustible sustainable facade products are concerned. And, of course, there is a substantial value-add from cost perspective – specifying a product that is durable, doesn't have to be maintained or replaced makes for a good financial decision, too.

"The architects are really driving this ambition to put forward products that are designed to last and perform for a really long time," Llewellyn adds. "At the end of the day, that makes them both more sustainable and cost-effective."

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