



Sustainability
Awards

Sustainability eBook 2024

Siniat

Structures serve as potent instruments that can either exacerbate or alleviate environmental impacts.

Society's grasp of sustainability has expanded significantly, an expansion that has ushered in innovative design strategies, and prompted many fundamental shifts in behaviour. Central to this evolution is the role of building design in shaping the sustainability of our urban landscapes.

Society's grasp of sustainability has expanded significantly, an expansion that has ushered in innovative design strategies, and prompted many fundamental shifts in behaviour. Central to this evolution is the role of building design in shaping the sustainability of our urban landscapes.

The orientation and layout of a building play critical roles in its energy consumption. Thoughtfully aligning structures with the sun's trajectory allows for natural light and warmth, thus diminishing the reliance on artificial lighting and climate control systems. Equally important is the choice of materials. Selecting locally sourced, recycled, or renewable materials not only cuts transportation emissions but also reduces the environmental toll of extraction and production processes. Additionally, high-quality insulation and windows can enhance a building's energy

efficiency, resulting in lower energy demands and reduced emissions.

Today, architects, engineers and even developers are increasingly embedding renewable energy systems into their designs. Solar panels, wind turbines, and geothermal systems can convert buildings into net energy producers, supplying excess energy back to the grid. This transition not only curtails dependence on fossil fuels but also fosters a more decentralized and resilient energy infrastructure.

Then there is water conservation, a subject close to many in this, the world's driest, inhabited continent. Implementing systems for rainwater harvesting and greywater reuse alleviates pressure on municipal water supplies and reduces the energy required for treatment. Moreover, green roofs and permeable pavements help

manage stormwater runoff, easing the load on drainage systems.

At the end of the day, it is not an understatement to say that building design is integral to the quest for sustainability. By carefully considering orientation, material choices, energy systems, and water management, architects and engineers wield the ability to create structures that work in harmony with the environment rather than depleting it.

Prioritizing sustainability in design paves the way for a future that is not only ecologically balanced, but also resilient.

BRANKO MILETIC, EDITOR



The Awards Jury



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Director, HDR Australia



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Billard Leece Partnership (BLP) Australia*



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*Co-founder and Director,
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*Committee Chair,
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SIMONE SCHENKEL
*Co-Founder & Director,
Gruen Architecture Australia*



Another solar celebration for Etex

Etex Australia celebrated the installation of another solar array at their Matraville plant in NSW earlier this year. This achievement follows the completion of a similar large solar installation at its Altona plant in Victoria in 2023.

Etex Australia is the manufacturer of Siniat plasterboard and metal products.

The Matraville installation consists of 1924 solar panels on the roof space, and is expected to generate at least 15% of the site’s electricity requirement. Switching to solar allows the factory to reduce its CO₂-e emissions by approximately 727 t, or 1.2% of the national operations emissions (gate-to-gate).

This latest solar project builds on the work already done at Altona, where the rooftop installation has generated 19.4% of the electricity demand over the past year. The 1.45 MW system at Altona includes more than 3,000 solar panels.

The Matraville and Altona factories are two of Etex Australia’s four plasterboard manufacturing plants. Plasterboard products are also produced in factories located in Hazelmere (WA) and Bundaberg (QLD).

The completion of the Matraville solar installation was celebrated with a “Flick the Switch” event where the new system was officially turned on. All teammates at the plant were invited to the event, which coincided with a visit from Jochen Friedrichs, Head of Etex’s Division Building Performance.

Jochen was on visit to Australia together

with several other Etex leaders from overseas. The delegation enjoyed a tour of the plasterboard plant before joining all the Matraville teammates for the event.

In his speech Jochen said that the Matraville solar array was the 12th solar installation at Etex factories worldwide. He referred to the ambitious targets the company has set for decarbonisation, which is an important pillar of the Etex Road to Sustainability 2030 roadmap.

Globally Etex has set a target to reduce their greenhouse gas emissions intensity (CO₂e emissions of Scopes 1 and 2) by 35% by 2030, compared to a 2018 baseline. The aim is to secure 100% certified renewable electricity for all Etex plants by 2030. Etex is making good progress in this regard, with the current status sitting at 60.9%.

Solar energy forms a major part of Etex’s energy strategy. Globally there will be further investment in solar installations in 2024, and the aim is to double this capacity in three years’ time.

Jochen also said plasterboard is a very sustainability building material already, and the switch to renewable energy in the production process lowers its embodied carbon even further.



The solar installation at the Matraville factory.



Jochen Friedrichs, Head of Etex’s Division Building Performance, was on visit to Australia for the event.

Public Building Award Shortlist



proudly partnered by Siniat

A building or facility or artwork which primarily services, or is used by the public except educational facilities.



119 REDFERN
AILEEN SAGE WITH DJINJAMA, JEAN RICE,
NONI BOYD AND THE CITY OF SYDNEY



**BERNINNEIT CULTURAL
AND COMMUNITY CENTRE**
JACKSON CLEMENTS BURROWS
ARCHITECTS



**BLACKTOWN ANIMAL
REHOMING CENTRE (BARC)**
SAM CRAWFORD ARCHITECTS



**NORTHCOTE AQUATIC AND
RECREATION CENTRE**
WARREN AND MAHONEY



REDFERN STATION UPGRADE
DESIGNINC SYDNEY



TOWRADGI STATION UPGRADE
DESIGNINC SYDNEY



**UNION AND MONT ALBERT LEVEL
CROSSING REMOVAL PROJECT
– UNION STATION**
SOUTH EASTERN PROGRAM ALLIANCE

Award Winner

WINNER

BERNINNEIT CULTURAL AND COMMUNITY CENTRE JACKSON CLEMENTS BURROWS ARCHITECTS

Located on Phillip Island on Bunurong Country, Berninneit, (meaning to ‘gather together’) creates a new purpose-built public building to support a range of uses including a theatre, library, gallery, museum, community function rooms and offices.

Evoking the region’s natural geology and topography, the design feels inherently connected to and of its place. Warm, pink-

cream brick references nearby sand dunes and beaches, whilst internal timber columns speak to the island’s jetties and pier structures.

The building creates a dynamic and interactive destination that is set to become a source of civic pride. Bringing together the cultural and social aspirations of the community, it draws visitors to showcase the region’s rich history and culture



RIGHT Winner from Jackson Clements Burrows Architects - Jimmy Walker with Nazli Almasirad from Siniat.



Amplify your climate ambition with Opt2Act®



Siniat's Opt2Act® program is a simple and cost-effective way to reduce the embodied emissions or upfront carbon of an overall build by up to 7%. Under the program, customers can opt-in for carbon neutral plasterboard and metal framing products. The opted-in products are supplied with a Climate Active carbon neutral certification.

"Siniat has been offering the opt-in carbon neutral program on a wide range of its plasterboard and metal framing products for some time, but this year we have given the program more prominence by giving it its own branding and web page," explains Siniat's National Architectural Manager Nazli Almasirad.

"Designers and contractors are increasingly looking at ways to reduce the upfront carbon of a build and Opt2Act offers a simple way to help them achieve that," says Nazli.

Upfront carbon encompasses the emissions associated with the production, manufacturing, and transportation of materials used in the construction or manufacturing of a product or infrastructure. It represents the carbon footprint incurred before the occupants even walk through the door.

On the other hand, operational carbon refers to the ongoing emissions resulting from the energy consumption and operational activities associated with using a building over its life cycle. This includes heating, cooling, lighting, and other energy-consuming processes during the operational phase.

"We can see that the conversation is starting to shift from operational carbon to upfront carbon," Nazli says. "Today, at least 25% of a typical building's emissions occur during the

upfront carbon stage which cannot be changed once the building is constructed as these emissions are already locked in."

Nazli explains that there has been a lot of focus on the reduction of operational carbon, including the decarbonisation of the grid. As the operational carbon emissions keep decreasing, the percentage of upfront carbon emissions will increase, and designers and builders will have to focus their attention on reducing upfront carbon.

The reduction of upfront carbon has also become a very important factor for professionals chasing Green Star certifications. 5 and 6 star Green Star projects currently require 20% upfront carbon reduction, and from 2026, 4 star projects will require the same.

In general, most of the building's upfront carbon is in the superstructure (suspended floors, structural walls, columns and beams), substructure (foundations, basement retaining walls and ground slabs) and envelope. Prioritising these elements during design and material choice yields the highest opportunity to reduce upfront carbon.

As a responsible manufacturer, Siniat reduces the Scope 1 and 2 emissions of their plasterboard and metal framing across their lifecycle. Strategies include on-site solar installations at the Matrville and Altona

plasterboard factories, on-site recycling facilities, the use of recycled content in their metal framing, reducing packaging and reducing the intensity of electricity consumption.

To compensate for the leftover emissions, including the Scope 3 emissions that are beyond the manufacturer's control, Siniat uses high quality offsets that are certified by Climate Active.

All specifiers need to do to make use of the Opt2Act program, is to specify Siniat Opt2Act materials at the design stage. Siniat products are then supplied to site via their network of customers, and Siniat works with their customers to determine the final quantities of the materials used. The emissions are then offset.

Opt2Act offers a low-cost option to reduce embodied carbon compared with other low-carbon building initiatives. By choosing Opt2Act products, a reduction of 6.91% upfront carbon in a typical commercial office fit-out can be achieved, with only a 0.016% increase to the overall cost (according to an independent benchmarking report by Slattery).

To find out more about Opt2Act, or to request a CPD presentation focusing on upfront carbon, send an email to opt2act@siniat.com.au.

Siniat publishes metal and plasterboard EPDs

Early in 2024 Siniat published Environmental Product Declarations (EPDs) for their plasterboard and metal framing products. The EPD's are registered with EPD Australasia and are also available for download from the Siniat website.

EPDs registered with EPD Australasia are based on ISO standard 14025 and the rules of the International EPD® System, assuring international acceptability.

EPDs are based on the scientific principles of life cycle assessment (LCA) and approved through expert independent verification. The EPD registration process ensures periodic checks on data to ensure EPDs are accurate at all times.

“As the awareness of sustainable building products and practices grows, we are seeing more customers requesting EPDs during all stages of the construction process,” says Kathryn Walker, Etex Regional EHS & Sustainability Manager, APAC. (Siniat is a commercial brand of the Etex Group.)

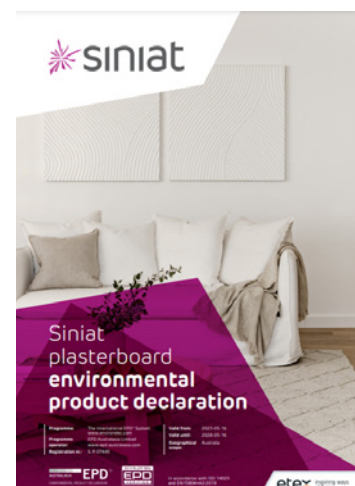
EPDs allow everyone to fairly compare environmental data and performance between products, they reflect continuous environmental improvement and present all relevant environmental information about a product. They also explain all aspects of production, distribution, usage or end-of-life options (recycling and disposal) that are commonly misunderstood by the market.

“We regard EPDs as an important part of our commitment to being a sustainable manufacturer. There are many manufacturers who make sustainability claims, but only an EPD can provide accurate, transparent and verified information about a product. EPDs allow customers to access comparable data, and to gain insight into all the relevant environmental information about the product’s life-cycle environmental impact,” Kathryn adds.

EPDs registered with EPD Australasia are recognised by the Green Building Councils of Australia (GBCA) and New Zealand (NZGBC) as well as the Infrastructure Sustainability Council.

The GBCA recognises that EPDs may be used by project teams using the Design & As Built and Interiors rating tools to obtain Green Star points.

The publication of the EPDs supports Siniat’s other sustainability offerings, such as the Opt2Act carbon neutral opt-in program on a range of locally made plasterboard and metal products.



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