Australian Institute of Architects

ARCHITECTURE INDUSTRY DECARBONISATION PLAN 2025-2050

A pathway to net-zero emissions for a sustainable future

Prepared by
Australian Institute of Architects

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The Australian Institute of Architects acknowledges First Nations Peoples ad the traditional custodians of the lands, waters and skies of the continent now called Australia.

We express our gratitude to their elders and knowledge holders whose wisdom, actions and knowledge have kept culture alive.

We recognise First Nations peoples as the first architects and builders. We appreciate their continuing work on Country from pre-invasion times to contemporary First Nations architects, and respect their rights to continue to care for country.

The Australian Institute of Architects exists to advance the interests of members, their professional standards and contemporary practice, and expand and advocate the value of architects and architecture to the sustainable growth of our communities, economy and culture.

Cover: University of Melbourne Student Precinct Project | Lyons with Koning Eizenberg Architecture, NMBW Architecture Studio, Greenaway Architects, Architects EAT, Aspect Studios and Glas Urban | Photographer: Peter Bennetts

CLIMATE ACTION, NOW

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Climate change is accelerating, and we need immediate, ambitious action to counter its impacts.

The Intergovernmental Panel on Climate Change (IPCC) has made the stakes clear: without drastic cuts to emissions, we risk dire consequences for our planet. While Australia has committed to a general 43% reduction in emissions from 2005 levels by 2030, current global pledges simply aren't enough to hit net-zero by 2050, meaning it's time for nations to step up and lean in. [1]

The built environment presents a major opportunity — and responsibility — to lead the charge. The sector is ready as the required technologies already exist and are commercially available today. But, more ambitious sector-specific targets and actions are essential to drive the necessary innovation.

The Institute believes decarbonisation within our built environment can be achieved in five parts:

1. **Updating the NCC 2025** to implement mandatory measurement of embodied carbon in accordance with NABERS.
2. **Updating the NCC 2028** to achieve buildings that are all-electric, highly efficient, grid-interactive effectively net-zero operational carbon and reduce upfront carbon in all new buildings and major renovations by 40% by 2030.
3. **Government procurement of buildings** to require grid-interactive, net-zero operational emissions and achieve at least 4 Stars under the nationally supported new NABERS Embodied Carbon tool from 2025.
4. **Funding NABERS and NatHERS** to extend operational and embodied carbon ratings across all building types.
5. **Investment in transforming skills, practices, and supply chains** to keep pace with a rapidly evolving industry and maintain investment confidence.

While populous states like New South Wales [2] and Victoria [3] have set ambitious targets of 70-80% emissions reductions by 2035, details on sector-specific pathways to achieve this are lacking, and state governments are not fully leveraging their significant procurement power. Using that power can kick-start the industry and help bring the costs down.

The Architecture Industry Decarbonisation Plan outlines a pathway to net-zero emissions, advocating for stronger regulations, government leadership in green procurement, and investment in skills and tools for a sustainable, zero-carbon future.

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National President
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Ferrars & York | Six Degrees Architects | Photographer: Dan Preston

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NGV Architecture Commission 2024 Home Truth | Breathe | Photographer: Derek Swalwell

Part 1 – Advocacy

1.1 Built Environment – Our Responsibility, Our Opportunity

"To achieve net-zero by 2050, all new buildings need to be net-zero (operational energy) from 2030. A significant leap from less than 5% of new buildings today." [4]

Planning for climate change

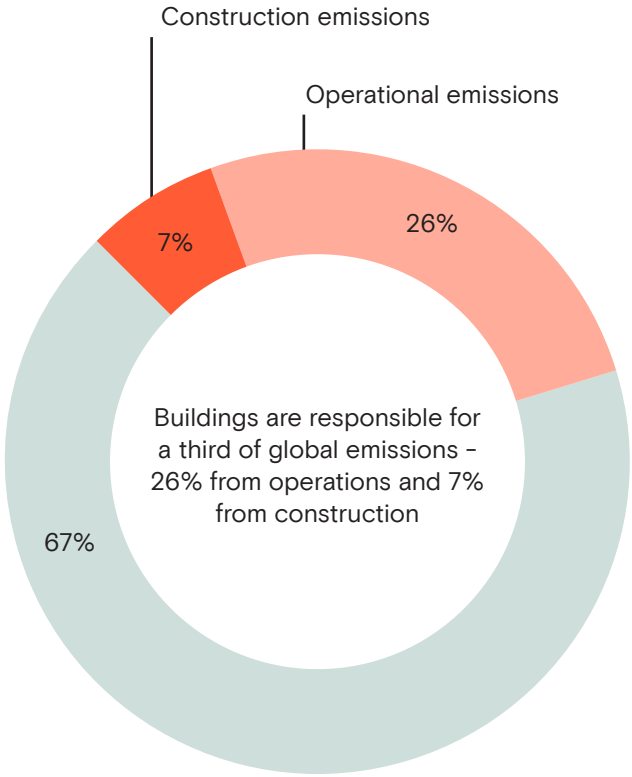
The International Energy Agency has warned us: we're off track for net-zero by 2050, with emissions still rising. The time for incremental change is over — to meet the 2050 target for all buildings to be zero carbon, every new building needs to be all electric, highly efficient and ready to be powered by a renewable grid. - International Energy Agency, 2023 Breakthrough Agenda Report.

The International Energy Agency, 2023 Breakthrough Agenda Report further states that "to achieve net-zero by 2050, all new buildings need to be net-zero (operational energy) from 2030. A significant leap from less than 5% of new buildings today." [4]

The Commonwealth Government's Trajectory for Low Energy Buildings and the Climate Change Authority's Net-Zero Built Environment Sector Pathway point in the right direction:

"The built environment sector has a clear and potentially rapid decarbonisation pathway, with the required technologies being almost all commercially available now. A net-zero built environment would have high energy performance, be well-adapted to climate change impacts, and be highly liveable." [5]

We have the tools to decarbonise, let's use them.



1.2 Decarbonising Buildings

Pathway to decarbonisation

1. **Updating the NCC 2025** to implement mandatory measurement of embodied carbon in accordance with NABERS.
2. **Updating the NCC 2028** to achieve buildings that are all-electric, highly efficient, grid-interactive, effectively net-zero operational carbon and reduce upfront carbon in all new buildings by 40% or achieve at least 4.5 Stars under the NABERS Embodied Carbon tool by 2030.
3. **Government procurement of buildings** to require grid-interactive, net-zero operational emissions and reduce upfront carbon by 20% or achieve at least 4.5 Stars under the NABERS Embodied Carbon tool 2025.
4. **Funding NABERS and NatHERS** to extend operational and embodied carbon ratings across all building types.
5. **Investment in transforming skills, practices, and supply chains** to keep pace with a rapidly evolving industry and maintain investment confidence.

"The built environment has the technology to decarbonise now – but we must do this at speed and scale to smooth the way for other hard-to-abate sectors." - The Australian Sustainable Built Environment Council (ASBEC)[6]

These actions are critical and cost-effective now.

The Australian Sustainable Built Environment Council (ASBEC) estimated in 2016 that $20B in energy bill savings associated with respective energy efficiency measures can be delivered by 2030. ASBEC further states that "the built environment has the technology to decarbonise now –however, we must do this at speed and scale to smoothe the way for other hard-to-abate sectors." [6]

Industry leaders are setting bold innovative benchmarks that outstrip government standards. Green Star, the leading sustainable building rating system, now requires a 20% reduction in embodied carbon for a 5-Star rating — a benchmark that is increasingly met today. [7] Meanwhile, Lendlease has committed to net-zero carbon for Scope 1 and 2 emissions by 2025 and absolute zero for all Scope 1, 2, and 3 emissions by 2040. [8]

Positive side effects

High performing buildings are not only urgently required but also feasible today. They are more resilient to extreme weather events like heat waves and foster well-being and productivity through better comfort and indoor environment quality. [9]

1.3 The Role of Architects

Leaders in industy-wide decarbonisation

As lead consultants on most building projects, architects are pivotal in setting ambitious sustainability goals and driving the design process. Their influence extends across clients and the entire supply chain, making them essential leaders in the journey toward zero-carbon buildings and industry-wide decarbonisation.

As it is the early decisions that have the greatest impact at the least cost in the design process, developing the skills to design zero-carbon buildings is crucial. However, voluntary efforts alone aren't enough — meaningful regulation and support are needed to achieve swift, high-quality change. The evidence and experience that would come from mandatory measurement in accordance with NatHERS and NABERS would help us rapidly change and innovate.

The Australian Institute of Architects urges governments to harness architects' expertise to craft practical policies and regulations that will make a lasting impact.

Architects' influence extends across clients and the entire supply chain, making them essential leaders in the journey toward zero-carbon buildings and industry-wide decarbonisation.

39S House, QLD | Andrew Noonan Architect | Photographer: Andrew Noonan

Nungalinya, NT | Incidental Architecture | Photographer: Clinton Weaver

Nightingale Village, VIC | Architecture architecture, Austin Maynard Architects, Breathe, Clare Cousins Architects, Hayball and Kennedy Nolan | Photographer: Tom Ross

1.4 A Path Forward

Worldwide - Buildings Carbon Trajectory

	2025	2030	2040	2050
Science-based targets, IPCC/IEA				
IEA: Net-zero operational carbon, new buildings		✓		
IEA: Net-zero operational carbon, existing buildings			✓	
IPCC: Worldwide zero emissions				✓

The Australian Institute of Architects is actively advocating for alignment with science-based targets set by the Intergovernmental Panel on Climate Change (IPCC), the International Energy Agency (IEA) and leading national bodies such as the Australian Sustainable Built Environment Council (ASBEC), the Green Building Council of Australia (GBCA), and the Property Council of Australia (PCA).

We acknowledge the critical need to align the National Construction Code with the necessary trajectory to zero emissions to avoid missing the required targets and stifling innovation.

Advocacy Pathways	2025 NCC		2028 NCC		2030	2031 NCC	2034 NCC	2035	2037 NCC	2040 NCC	2045	2050
Industry support: Incentivise the early adopter of higher performing buildings ahead of regulatory updates	✓		✓		✓	✓	✓	✓	✓	✓		
Support skills transition: design and construction professionals	✓		✓		✓	✓	✓	✓	✓	✓		
Support Environmental Product Declarations for small and medium sized enterprises	✓	✓	✓	✓	✓	✓						
Environmental Product Declaration legislation	✓		✓									
Challenging sectors decarbonisation	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓

How to achieve grid-interactive, net-zero operational and embodied emissions in buildings. These milestones are broadly aligned with leading industry bodies, including the Australian Sustainable Built Environment Council (ASBEC), the Green Building Council of Australia (GBCA) and the Property Council of Australia (PCA).

Australia - Buildings Carbon Trajectory

	2025 NCC	2028 NCC	**2030**	2031 NCC	2034 NCC	2035	2037 NCC	**2040 NCC**	2045	**2050**
Operational Carbon - Regulation & Policy										
NCC & Government Policy – No fossil fuels	✓									
Government procurement – Net-zero operational carbon, new buildings	No fossil fuel	✓								
NCC Update – Net-zero operational carbon and grid-interactive, new buildings		✓								
NCC Update(s) – Drive performance improvements in existing buildings to net-zero operational carbon			✓	✓	✓		✓			
Achieve Net-zero operational carbon in all new buildings and major renovations, performance improvements in existing buildings	No fossil fuel		✓					✓		
Embodied Carbon - Regulation & Policy										
NCC & Government Policy – Mandatory Embodied Carbon Measurement (NABERS)	✓									
Government procurement – NABERS 4-Star Minimum	✓									
NCC Updates – Upfront Carbon Minimum Reduction Targets		40%		60%	80%					
NCC Updates – NABERS Minimum Rating		4.5-Star		5-Star	6-Star					
NCC Update – Upfront Carbon Neutral								✓		
Achieve Upfront Carbon reduction in all new buildings and major renovations, performance improvements in existing buildings			40%			80%		100%		

1.5 Definitions

Net Zero Operational Carbon

A building that achieves net zero carbon emissions from its operations– primarily energy use (e.g. heating, cooling, lighting) – over the course of a year.

Key Features:

- Energy-efficient design and systems.
- Powered by renewable energy (on-site and/or off-site).
- Any residual emissions are offset through credible carbon offset schemes.

Scope 1 & Scope 2 emissions only

Net Zero Energy

A building that generates as much renewable energy on-site (or via credible off-site sources) as it consumes annually.

Key Features:

- Focused on energy balance, rather than carbon.
- May not always align with carbon goals if the energy mix is not low-carbon (e.g. biofuels vs solar).

Generally Scope 2 emissions only

Grid-interactive Buildings

Grid-interactive buildings are designed to use electricity in a smart and efficient way, shifting energy usage to times when it's both cheaper and cleaner, while helping to generate clean energy and reduce costs (GBCA Grid-interactive efficient buildings paper, June 2023). [13]

Carbon Neutral

A broader term indicating that a building (or organisation/ project) has balanced its total carbon emissions with offsets to achieve net zero carbon impact.

- May include operational and embodied carbon (e.g. materials, construction).
- Offsets can include reforestation, renewable energy credits, or carbon capture.
- Often used as a claim of overall neutrality, but lacks standardisation unless third-party verified.

Scope 1, Scope 2 & some Scope 3 emissions

Potentially whole-of-life emissions, but depends on how it's defined and verified.

Climate Positive (or Carbon Negative)

A building that addresses emissions in line with or ahead of the Paris Agreement's 1.5°C trajectory.

These buildings are:

- Fossil fuel free
- Highly efficient
- Fully powered by renewables (on or offsite); and
- Built with low-upfront carbon emissions
- Offset their carbon in nature-based solutions, like reforestation.

This definition also sets specific energy and upfront carbon reduction targets to drive transformation.[15]

Scope 1, Scope 2 & Scope 3

Whole-of-life emissions, including operational, embodied, and often end-of-life carbon.)

"Embodied carbon from building activity contributed approximately 10% of Australia's total greenhouse gas emissions in 2023, with buildings being the largest contributor, followed by transport infrastructure." [11]

Upfront Carbon

Greenhouse gas emissions that are released before a building is used – primarily during its design, material production, transport, and construction phases.

- Raw material extraction
- Manufacturing and processing
- Transportation to site
- Construction and installation

When it occurs:

- Pre-occupancy (cradle-to-gate + construction phase)

Why it matters:

- Upfront carbon is locked in once the building is completed.
- It can account for 50% or more of a building's total emissions, especially in highly efficient or low-energy buildings.

Whole-of-Life Carbon

The total carbon emissions over the entire lifecycle of a building, including upfront, operational, maintenance, refurbishment, and end-of-life phases.

Includes:

- Upfront carbon
- Operational carbon (energy use during life)
- Maintenance & replacements (e.g. HVAC upgrades, façade materials)
- End-of-life emissions (demolition, waste processing, recycling)
- Potential benefits beyond life (e.g. material reuse, energy recovery)

When it occurs:

- From cradle to grave (and beyond) — full lifecycle

Why it matters:

- Provides a complete picture of environmental impact.
- Essential for truly regenerative, circular, and decarbonised design.

Quick Takeaways

- Net Zero Operational Carbon = Scope 1 + 2 only. Doesn't address materials or construction (Scope 3).
- Net Zero Energy = Mostly Scope 2 (focus is energy in/out, not emissions).
- Carbon Neutral = Can address all scopes, depending on how it's defined and verified.
- Climate Positive / Carbon Negative (sometimes also referred to as Carbon Positive) = Must address all scopes and go further by removing more carbon than it emits (e.g. through sequestration, renewable energy exports, regenerative materials).

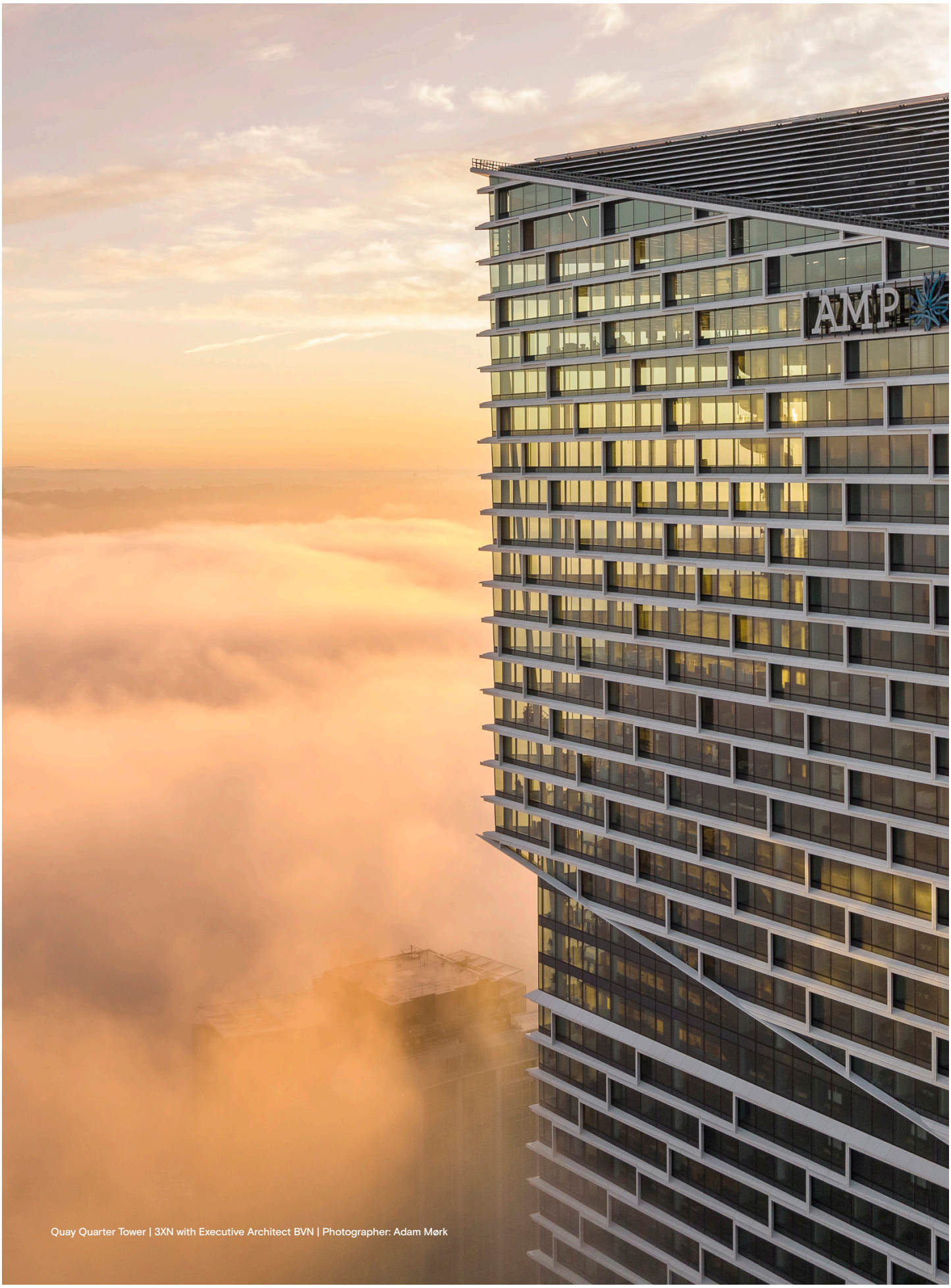
Quay Quarter Tower | 3XN with Executive Architect BVN | Photographer: Adam Mørk

Project Spotlight: The Case for Radical Reuse

Quay Quarter Tower is a pioneering redevelopment that redefines what is possible for tall buildings nearing the end of their commercial life. The radical sustainability strategy involved upcycling the existing 1976 AMP Centre, retaining 65% of its beams, columns, and slabs, and over 98% of its existing core, resulting in an embodied carbon saving of over 12,000 metric tons in concrete alone.

The design adds approximately 45,000 square-metres of new construction, doubling the floor area and creating a new world-class high-rise office from an outdated and underperforming building with diminishing returns, becoming the most significant adaptive reuse high-rise ever completed.

Eschewing the conventions of a traditional, commercial high-rise, the building is arranged as a vertical village formed of community clusters. Five shifting volumes are arranged around central atria that accommodate shared amenities and social spaces, encouraging people to connect and interact over multiple floors, while democratising views and daylight.



Quay Quarter Tower | 3XN with Executive Architect BVN | Photographer: Adam Mørk

Michael Kirby Building | Hassell | Photographer: Nicole England

Part 2 –

Playbook for a Better Future: How Architects Can Design a Low-Carbon World

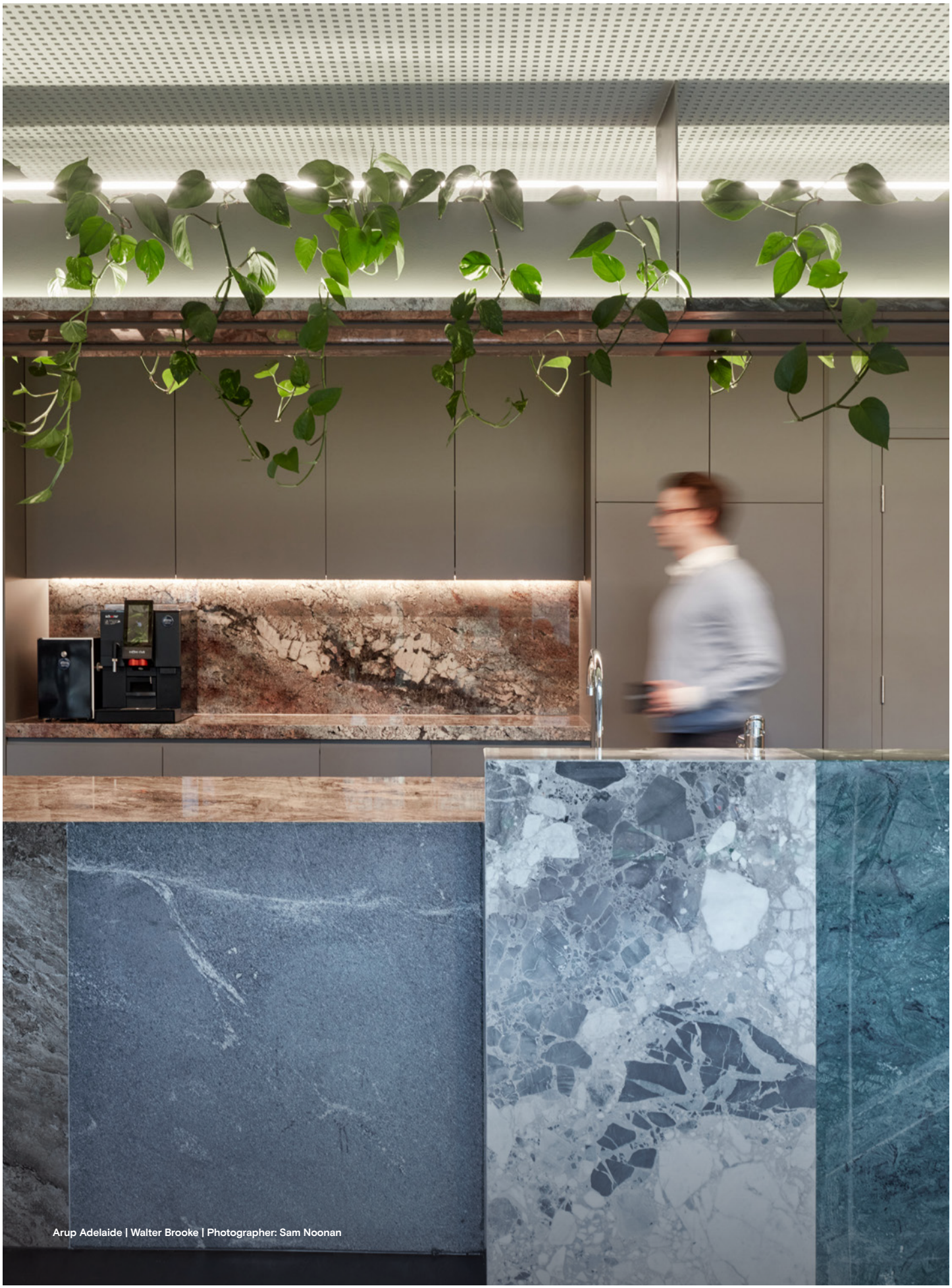
Arup Adelaide | Walter Brooke | Photographer: Sam Noonan

Project Spotlight - Beyond Carbon

Arup Adelaide is a Living Building Challenge (LBC) project focused on regenerative and sustainable design through material reuse, low-carbon strategies, and toxin elimination. Guided by LBC principles, the project prioritised ethical sourcing, low-VOC, FSC-certified, and Red List Free materials. Salvaged timber, upcycled aluminium cladding, and stone off-cuts were used to give materials a second life. Items nearing the end of their usable life were avoided, while others were refinished or directed to recycling, promoting circularity and reducing waste.

A strong waste management plan was implemented, achieving over 90% landfill diversion. Close collaboration with Arup's sustainability team and contractor Shape ensured all material selections were thoroughly vetted for social equity, embodied carbon, and environmental responsibility.

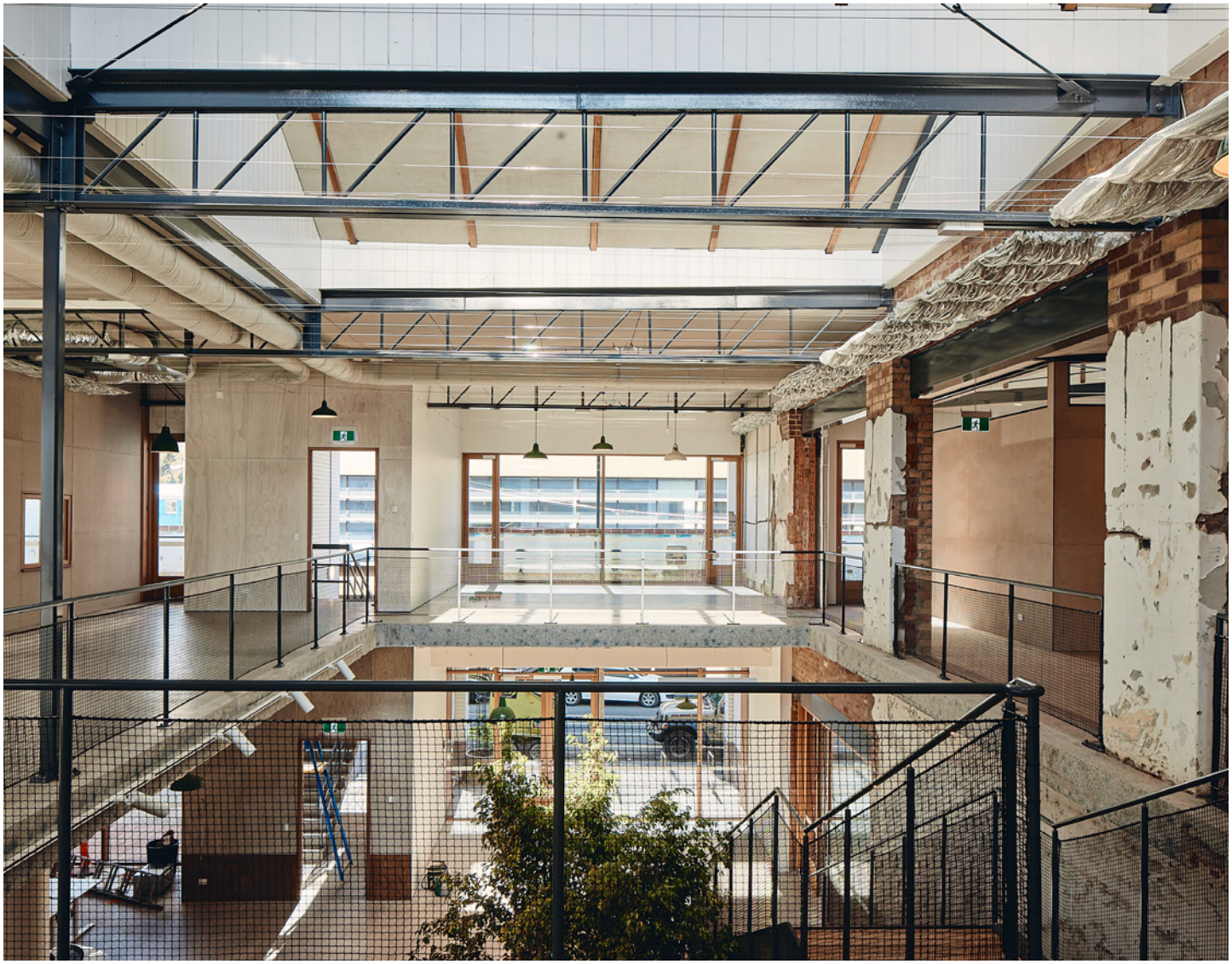
Preliminary carbon modelling showed upfront emissions of approximately 152 kgCO2e/m²—about 34% lower than typical benchmarks—due to retained ceilings, reused walls, salvaged desks, and a reclaimed kitchen benchtop. Arup offset these emissions in line with their global sustainability goals, also committing to 100% renewable energy for operations. A final life cycle assessment (LCA) is underway across all four of Arup's LBC workplace projects, with as-built data contributing to the submission for certification with the International Living Future Institute (ILFI). The project exemplifies leadership in regenerative, healthy workplace design.



Arup Adelaide | Walter Brooke | Photographer: Sam Noonan

2.1 Future-Proofing the Profession

Whilst decarbonisation is the primary focus of this document, it also identifies opportunities to support broader ambitions much needed for social equity, resilience, and long-term sustainability within the built environment.



Sanders Place | NMBW, Openwork & Finding Infinity | Photographer: Peter Bennetts

2.1.1 Context of a Changing World Environment

The Urgency of Sustainable Design

The urgency of climate change, rapid urbanisation, and evolving market expectations and awareness of the built environment's carbon footprint have propelled architectural practices to reimagine their business models. Architects are uniquely positioned to bridge sustainable design with sustainable enterprise. In today's climate, integrating sustainability into both the business model and the architecture that supports it is a strategic imperative — not an optional extra. By aligning design strategies with corporate sustainability and long-term operational goals, architects can help unlock access to sustainable finance and drive the case for strategic asset upgrades.

Whilst decarbonisation is the primary focus of this document, it also identifies opportunities to support broader ambitions for social equity, resilience, and long-term sustainability within the built environment.

This report integrates key themes—from embedding sustainability in organisational culture to leveraging digital tools for performance tracking. The following sections examine how architectural practices can transform their operations to meet ambitious environmental targets while ensuring resilience, regulatory compliance, and long-term market relevance.

Architects as Change-Makers

Architects are in a unique position to make a significant impact on climate change and environmental sustainability because of the direct influence they have on the built environment. The choices they make during design and construction can either contribute to or reduce environmental harm. Here's why architects are key agents in addressing climate challenges:

- **Client Advocate:** Architects can provide a return brief that identifies and informs the client about the risks and opportunities of the project
- **Design Lead:** Architects are responsible for leading teams in the shaping the form, function, and systems of buildings. This includes overall design approaches supported by selecting materials, energy systems, and construction methods that can minimise resource consumption, carbon emissions, and waste.
- **Efficiency & Optimisation:** Architects have the ability to optimise building performance by integrating energy-efficient designs, natural lighting, renewable energy sources, and passive design strategies that reduce energy demand and emissions over the long term.
- **Urban Impact:** Beyond individual buildings, architects shape the vision for neighbourhoods and urban landscapes. Sustainable urban planning can reduce traffic emissions, increase green spaces, and promote efficient use of resources.
- **Material Choices:** By selecting low-carbon, renewable, and locally sourced materials, architects can reduce the environmental impact of construction. Regenerative materials like timber, hempcrete, and recycled materials can also help sequester carbon and reduce waste.
- **Resilience & Adaptation:** As climate change increases the frequency of extreme weather events, architects are key to designing buildings that are resilient to these changes. This includes designing for flood resistance, heat resilience, and energy autonomy, making buildings safer and more sustainable for future generations.
- **Sustainable Communities:** Architects are not just building structures—they are creating spaces for people to live, work, and interact. Designing sustainable, connected, and liveable communities helps foster a sense of stewardship and collective responsibility for the environment.

By making thoughtful and strategic decisions, architects have the power to reduce the built environment's carbon footprint, protect ecosystems, and create spaces that are more resilient in the face of climate change.

Beyond Compliance: The Business Case for Sustainability

Sustainability is not just a compliance requirement—it is a business opportunity. A commitment to sustainable practices can lead to economic, environmental, and social benefits, including:

- **Economic Gains:** Energy-efficient designs reduce operational costs, while sustainable practices increase access to green funding and attract sustainability-conscious clients and investors.
- **Environmental Impact:** Lower carbon footprints, improved biodiversity, and enhanced resource efficiency.
- **Social Benefits:** Healthier indoor environments, better community engagement, and stronger brand reputation.

  Compelling evidence of how good and sustainable design benefits clients' business cases and users has been published by organisations such as the Green Building Council of Australia, NABERS and the Office of the Victorian Government Architect (The Case for Good Design).

2.1.2 The Need for Risk Management and Long-Term Planning

To stay competitive and resilient in the rapidly evolving architectural landscape, architects must proactively embrace sustainability. As market demands shift, the risks of failing to adapt—including reputational damage, financial losses, and regulatory penalties—are increasingly evident. Here are some key areas to focus on to ensure your practice remains at the forefront:

Understand Sustainability Mandates:

- **Net-Zero and Carbon Reporting:** Keep up with net-zero mandates, carbon offset mechanisms and emerging carbon reporting requirements. These are becoming more prevalent globally and integrating them into your projects will not only help meet regulatory demands but also strengthen your reputation as an industry leader.
- **Client Expectations:** Sustainability is no longer a niche; it's a market expectation. Clients are increasingly prioritising environmentally conscious designs, and securing projects may depend on your firm's ability to demonstrate a commitment to sustainability.

Align with Evolving Standards:

- **National Standard of Competency for Architects (NSCA 2021):** The architectural profession is evolving, and sustainability competencies are being integrated into the core skill set of all architects. To become and stay registered will require understanding these new standards and ensuring your team is well-trained in the latest sustainable design principles.
- **National Construction Code:** The continued evolution of the NCC requires greater stringency around both operational and embodied carbon assessment.

Tracking Progress:

- **Scope 3 Emissions:** Assessing the full carbon impact of your projects—beyond direct emissions to include those across the full supply chain (Scope 3 emissions)—is crucial. This will help you and your clients to understand and mitigate the broader environmental impacts of your work.
- **Sustainability Reporting:** Establish robust mechanisms for tracking and reporting sustainability metrics. Transparency and accountability are critical in building trust with clients and stakeholders.

Actionable Steps for the Next 3 Years:

- **Long-Term Sustainability Strategy:** Make sustainability a core part of your business model, setting clear targets for both your projects and operational practices.
- **Benchmark Sustainability:** Set clear, measurable sustainability benchmarks for your firm. This ensures that everyone in your practice is working toward the same goals and that you can measure progress.

Key Risk Management Items:

- **Identify and Mitigate Risks:** Failing to integrate sustainability into your operations could expose your firm to significant risks. Develop a risk management plan to mitigate these challenges and ensure long-term viability.
- **Adapt to Market Shifts:** Keep a close eye on upcoming regulatory frameworks and market trends. By proactively adapting to these changes, you'll be in a better position to align your business with emerging sustainability imperatives.

References & Tools

- How to create a Sustainability Action Plan
- Sustainable Business Guidance
  - Climate Active
  - B-Corp
  - Architects Declare
  - Connecting with Country Framework

2.2 Architectural Practice for a Decarbonised Future

Whilst decarbonisation is the primary focus of this document, it also identifies opportunities to support broader ambitions much needed for social equity, resilience, and long-term sustainability within the built environment.

Olive Tree House | Bastian Architecture | Photographer: Katherine Lu

The Basics - What We Ask Every Architect To Do

As architects, we are uniquely positioned to lead the transition to a carbon-neutral built environment—buildings are the most accessible and cost-effective sector in which to make meaningful change.

By acting early in the design process, we can significantly reduce both embodied and operational carbon, while also delivering cost-effective outcomes for clients. This proactive approach mitigates risk—protecting asset value and safeguarding occupants against the growing impacts of climate change—while enhancing comfort, resilience, and wellbeing. The urgency of decarbonisation presents a critical opportunity for our profession to demonstrate leadership, embed climate intelligence in our practice, and reinforce the enduring value of architectural expertise.

Start by:

- Making your practice carbon neutral; lead by example
- Having at least one person in your practice who carries responsibility and can help others understand details and bring knowledge into the practice
- Including the client in conversations and ambition setting from the start and ensuring that consultants and builders are on the same page.
- Interrogating the brief, how much new construction is really required and how you can redesign the use of existing assets.
- Driving design through a first principles approach, prioritising efficiency, passive design complemented by mechanical solutions, ultimately minimising materials and resource needs.
- Integrating sustainability into your existing processes rather than creating additional ones that add time
- Creating standard specifications which lock-in sustainable materials, products and performance specifications as default. Only change them when you are specifically asked to.
- Specifying all-electric services and buildings. The fossil fuels our global carbon budget still allows are needed in industry sectors that don't yet have feasible replacement solutions.
- Seeking third-party verification and certification where possible and feasible. This provides assurance, value and avoids greenwashing.
- Building measurable checks into each project milestone to ensure that ambitions are being delivered.
- Celebrating your achievements and share with colleagues.

2.2.1 Leadership Commitment and Core Values

Defining Sustainability as a Core Business Value

Embedding sustainability begins at the highest levels of an organisation. Firm leaders must demonstrate unwavering commitment to sustainable practices by integrating environmental, social, and governance (ESG) principles into the very DNA of their business. When sustainability is treated as a core value, it influences every decision—from strategic planning to day-to-day operations. Leaders should set clear sustainability goals and ensure that these objectives are consistently communicated and enacted throughout the organisation and to their clients and colleagues. This top-down approach creates a culture where sustainability is not a side project but rather a driver of innovation and competitive advantage.

Embedding Long-Term Environmental Responsibility into Leadership Strategies

Architectural leadership in these times requires a strong focus on how to operate sustainably in practice and operations. This means strategically reassessing traditional design and construction methodologies to incorporate sustainability as a benchmark. By embedding these practices into operational strategies, firms can:

- Aligning business culture and committing to specific goals.
- Integrate decarbonisation targets into every project.
- Streamline decision-making processes with an emphasis on environmental performance.

Action Items

- Aligning business culture and committing to specific goals:
  - Embedding sustainability in organisational culture.
  - Evaluating and adapting company operations to meet recognised environmental, social, and governance standards and certifications.
  - Addressing the cost of training on sustainability tools and skills development.
- Integrate decarbonisation targets into every project:
  - Consider return briefs or fee letters as a mechanism to provide advice for target and goal setting prior to agreeing contractual terms.
  - Rewrite client-architect agreements to include goal setting and carbon reduction targets at the start of each project.
  - Identify appropriately skilled consultants and builders to work with on projects.
- Streamline decision-making processes with an emphasis on environmental performance:
  - Refer to the **Playbook and Section 2.4.3 Resources for Architects** to review and confirm what needs to be done at each stage of work.
  - Develop in-house processes to ensure these steps are undertaken and provide a platform for continous improvement.

2.2 Integrating Sustainability into Business Processes

A sustainable business culture requires that architectural practices embed environmentally responsible principles into every phase of their operations. This knowledge can assist in advising clients as well. First, you will need to identify the areas of concern, their current impact and the best ways to reduce them. Areas to consider include:

Make your practice Carbon Neutral

- **Medium and large practices:** obtain third party certification, such as Climate Active.
- **Smaller practices:** Go all electric, purchase renewable electricity, offset the rest, including travel.

Understanding Business Impact of Travel: Sustainable Travel and Operational Practices

- Prioritising virtual meetings and digital project management.
- Adopting travel policies that favour public transportation and carbon offset programs.

Waste Reduction and Recycling Practices: Removing waste from our work

- Providing education and resources to facilitate recycling including food waste.
- Consider implementation of a paper free policy - explore technology supported processes for sketching and documentation reviews.

Operational Procurement: Supporting social and local

- Procure goods and services from ethical and sustainable businesses.
- Explore opportunities to engage with social enterprises.

Decarbonising Energy Supply: Powering our businesses is important

- Minimise power consumption to start.
- Install renewable PVs if possible and engage energy switching providers to support renewable technologies over fossil fuels.
- Research sustainable internet and AI providers.

2.3 Research, Development, and Technological Adoption

Innovation lies at the heart of sustainable architecture, regardless of the size or type of practice. Whether a sole practitioner, a small studio, or a large multidisciplinary firm, engaging in research and development—formally or informally—opens pathways to low-carbon, high-impact solutions.

Design as a superpower

Architects' ability to creatively consider many complex ideas and advice in the development of innovative solutions that people love to live, work and play in, is our superpower, in helping the built environment embrace sustainability. This skill needs to be exercised first, supported by technology and materials. Design has the greatest impact on enabling us to build less and simpler, engaging in circular economy principles.

Innovation in Materials and Construction Techniques

Collaborations with local suppliers, contractors, fabricators, academic institutions, and research centres create exciting opportunities to explore innovative materials, trial energy-efficient technologies, and refine digital tools that elevate building performance. This spirit of curiosity and experimentation fosters a culture of continuous learning, empowering architects to respond creatively to evolving challenges and deliver thoughtful, context-sensitive solutions.

When innovation is embedded into everyday workflows, sustainability becomes a shared, ongoing pursuit—deeply integrated into how we design and build. Embracing tools like Building Information Modelling (BIM), energy modelling, and predictive analytics strengthens life cycle assessments and enhances data-driven decision-making. Digital innovation also plays a key role in advancing decarbonisation efforts, encouraging proactive investment in skills, practices, and supply chains to meet the needs of a dynamic, forward-looking industry. These technologies are accessible and scalable—from open-source tools to advanced multidisciplinary platforms—offering flexible solutions for every practice.

While external expertise can support the process, the greatest potential lies in an integrated approach to research and development. By investing in innovation and dedicating time to exploration, architectural practices can stay at the forefront of positive change and continue to shape a resilient, sustainable future.

2.4 Performance Tracking and Reporting

The Role of ESG Reporting

The progressive introduction of climate-related financial disclosures will increasingly affect businesses across Australia. While not many architectural practices will be included to start, it will include clients and collaborators of architectural practices.

The evolving investor ESG reporting frameworks are placing greater emphasis on supply chains, requiring firms to demonstrate clear carbon management governance and transparent reporting. This will require practices to have clear carbon management governance and reporting in place. This includes:

- Using consistent energy modelling and LCA tools and reporting mechanisms to track how projects and practice are contributing to industry wide reduction targets
- Establishing clear metrics for carbon reduction and energy efficiency within the workplace for their practice and the work they are undertaking
- Use of third-party verification frameworks, which not only validate actual performance, but enhance client and stakeholder confidence.

These systems create transparency and certainty, allowing firms to demonstrate tangible progress toward the required sustainability goals.

Action Items for a Net Zero Business and Carbon Neutrality Status in Operations business:

- Define the steps and operational methods that reduce energy and resource use
- Consider the new business challenge/opportunity of targeting clients who require net-zero or carbon-neutral supply chains.
- Explore opportunities to align with market needs, expand influence, and enhance service offerings.

Key Actions for Government:

1. **Prioritising Design-led Interventions that Leverage Expertise of Registered Professionals:** Protecting consumer and government investments in the built environment.
2. **Decarbonisation Hierarchy:** Prioritise retrofit-first policies, adaptive reuse, and sustainable material selection in planning and procurement.
3. **Whole-Life Carbon Considerations:** Embed circular economy principles, designing for adaptability, longevity, and end-of-life reuse.
4. **Enhancing Decision-Making:** Transition from prescriptive material requirements to performance-based specifications that empower architects to achieve better sustainability outcomes.
5. **Early Collaboration:** Require early engagement between architects, builders, and material suppliers to integrate embodied carbon analysis into design and procurement.
6. **Government Procurement Leadership:** Set ambitious low-carbon design standards for publicly funded projects, using flagship developments to showcase best practices.
7. **Education and Awareness:** Support industry-wide knowledge-sharing initiatives to embed low-carbon principles into professional practice and construction standards.

In line with the Department of Industry, Science and Resources' Shergold Weir Building Confidence Report[5] and the recommendations in the Australian Institute of Architects NSW Building Bill submission[6], a key recommendation is highlighted to enhance consumer confidence and outcomes: registered professionals have the expertise to manage the complexity and risks of high-rise and high-stakes developments. These specialised skills are essential in safeguarding consumers, as the expert training of registered professionals ensures that design-led solutions are executed to protect consumers and meet community expectations for safety and construction quality.

Ferrars & York | Six Degrees Architects | Photographer: Dan Preston

Fun House | ASA | Photographer: Barton Taylor Photography

Project Spotlight - Low Carbon Living

Fun House seeks to push preconceptions of space per person on a small 117m2 urban site. The primary dwelling is constructed behind the existing cottage frontage and a secondary detached dwelling sits along the rear lane. Separation between the dwellings offers flexibility in household permutations, with a total of 6 people being able to reside on the site. The maximised central courtyard was important to provide both dwellings with access to light, ventilation and landscape outlooks.

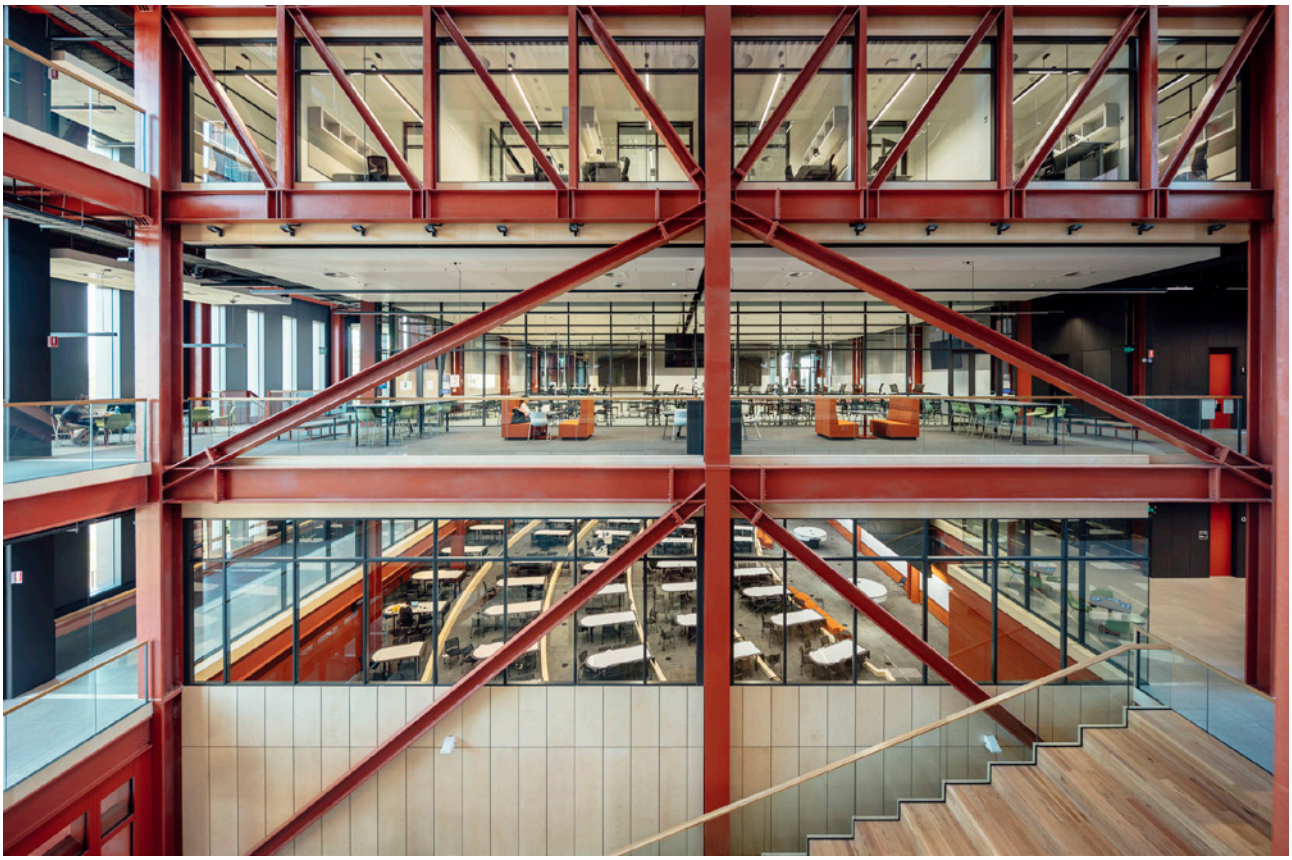
Also serving as an intermediate space, each dwelling can passively interact with one another from across the courtyard. The incorporation of varying paint colours and material textures gives each room unique personalities within the efficient floor plan. Built to the Passive House Standard, using durable materials and high-performance detailing means the dwellings are futureproofed to withstand extreme weather events, whilst using very low operational energy.

“We are an extended family who work, live and laugh together. Funhouse allows us to be in close proximity to each other to share meals, interests, relaxation and work whilst also providing moments of privacy. The primary dwelling houses one family with shared kitchen facilities and the secondary dwelling houses another with a home office downstairs. The central courtyard is the meeting point and extended kitchen via the outdoor BBQ and a place to connect with nature in our courtyard with finned and feathered friends, and an evolving foraging garden. It may seem small, but it’s an oasis of luxury in a burgeoning metropolis.

Fun House | ASA | Photographer: Barton Taylor Photography

2.3 Engaging Clients for Sustainable Outcomes

Engaging clients for sustainable outcomes involves clear communication, educating clients on the long-term value of green investments, and implementing feedback mechanisms to continuously improve design strategies. By helping clients understand their role and empowering them with the right information, architects can drive successful, sustainable projects.



Monash Woodside Building for Technology and Design | Grimshaw in collaboration with Monash University | Photographer: Rory Gardiner

3.1 Educating and Engaging Clients

Communicating Benefits

It is essential to help clients understand the long-term value of sustainable design. Architects can do this by:

- **Performance Data:** Sharing tangible, data-driven insights on energy savings, operational costs, and enhanced indoor environmental quality resulting in improved health, wellbeing, and productivity.
- **Post-Occupancy Evaluations (POE):** Providing evidence of improved building performance and occupant well-being after the project is completed.
- **Client's Role:** Engaging clients to understand their part in setting ambitious sustainability targets and offering data and feedback for continuous improvement is vital. This collaborative approach enables more informed decision-making and better project outcomes.
- **Overcoming Misconceptions:** Cost concerns and misunderstandings about sustainable design are common barriers. By focusing on the long-term economic and environmental benefits, architects can help clients see the broader value and ROI (return on investment) of green building practices.
- **Case Studies:** Showcasing successful examples of sustainable projects to demonstrate real-world benefits.

Communication Strategies

To effectively communicate the value of sustainable design, architects should:

- **Use Clear, Data-Driven Narrative:** Present information in a straightforward way, backed by data that highlights the financial, environmental, and social benefits.
- **Illustrate Benefits Through Tangible Examples:** Provide concrete examples that help clients visualise the positive impacts of sustainability.
- **Address Concerns with Case Studies:** Share successful case studies that demonstrate how sustainability leads to cost savings and long-term value.

This approach helps build trust with clients and ensures they understand the true value of sustainable architecture.

Action Items for Client Engagement

- **Develop Capacity & Agency Skills:** Architects need to build skills to effectively engage with clients and help them understand sustainability beyond its environmental benefits.
- **Approaching Client Conversations:** Knowing how to talk about the deeper value of good architecture, including how sustainability impacts cost savings, occupant well-being, and operational efficiency, is essential.
- **Measuring Great Outcomes:** Going beyond poetics to measure tangible, quantifiable outcomes in sustainability ensures clients see the long-term value of their investments.

Verification & Validation

- **Education and Upskilling:** Offering training on the value of sustainability and green design tools ensures architects are well-equipped to guide clients through the process.
- **Green Tools & Certifications:** Using tools like energy modelling software and pathways such as Green Star, NABERS, Living Building Challenge, WELL, Passivhaus and LEED to demonstrate how the measurable benefits of sustainable design helps support client and stakeholder buy-in.

Holistic Feedback Loops

Sustainability is an evolving field, and continuous improvement requires feedback from clients and users. Implementing structured feedback mechanisms like Post-Occupancy Evaluations (POE) allows for:

- **Assessing Effectiveness:** Regular feedback helps measure how well sustainability initiatives are performing.
- **Identifying Areas for Improvement:** Understanding real-world challenges and making adjustments accordingly ensures that the project remains aligned with sustainability goals.
- **Adapting Strategies:** By gathering feedback, architects can refine their designs and processes to better meet client and market needs.

Sapling | Anderson Architecture | Photographer: Tom Ferguson

Project Spotlight – Climate Positive / Climate Negative

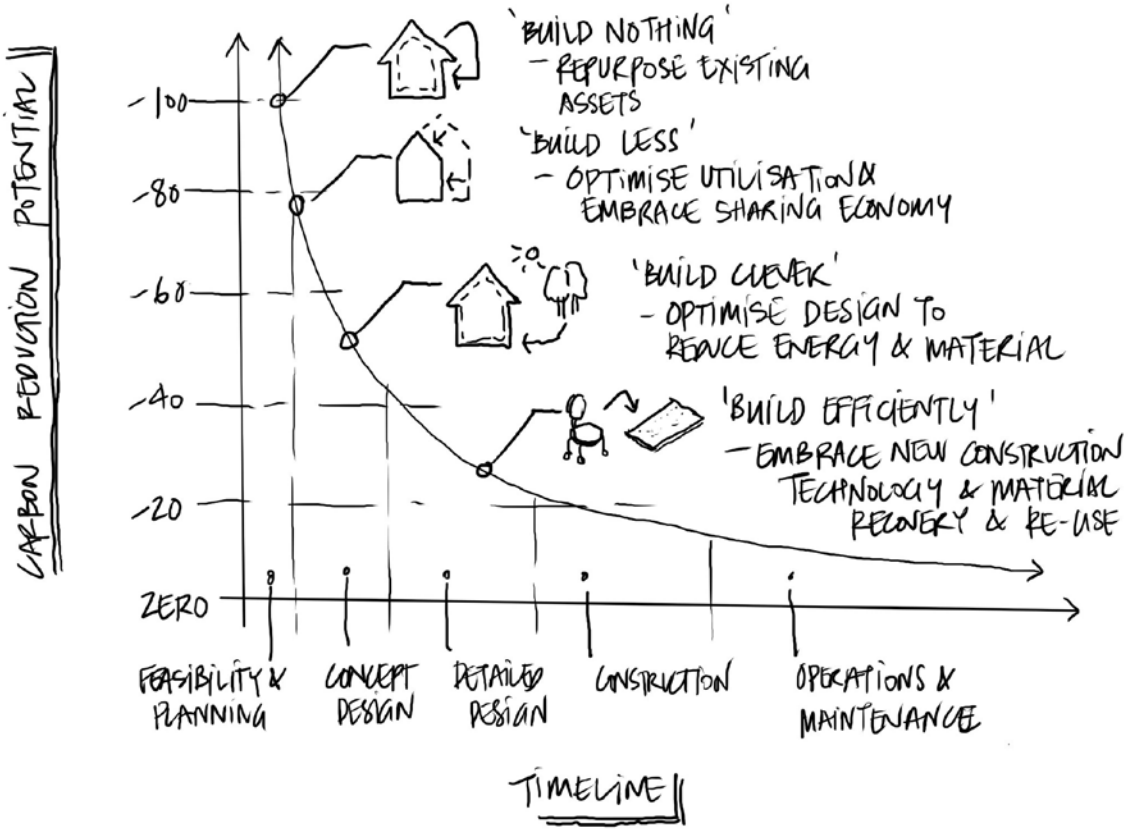
Sapling is more than a home; it is a high-performance haven of comfort and well-being for its residents. Achieving the prestigious Passivhaus Premium certification, it integrates traditional passive design principles and high-quality architectural design with the latest sustainable technologies, promoting and supporting the resilience of its residents as they face a changing climate. Through the considered selection of construction materials and processes, Sapling is carbon negative in terms of both embodied and operational carbon, producing significantly more energy than is required to meet its own needs. It considers a holistic approach to sustainable design and maintains a keen focus on the health and well-being of its residents. Renewable, reclaimed and recyclable materials have been specified throughout, with finishes selected with a rigorous consideration of environmental and health impacts and durability. Sapling serves as an exemplar of sustainable single residential development, respecting the environment, its residents and its wider context.

“Our home is a haven that actively supports our wellbeing, from the predictability and reliability of its indoor environment through to the noise attenuation provided by its insulation and construction, it is both embedded in the suburbs of the Inner West and a private retreat from the world. Sapling provides the space we desperately need for our growing family, without being unmanageable – each room has a purpose and is equipped to support us as we work, rest and play. We see our home as the first of a new type of home, one that gives more than it takes.”

Sapling | Anderson Architecture | Photographer: Tom Ferguson

2.4 Beyond Sustainability, setting projects up for success

Architects carry a unique responsibility—and an extraordinary opportunity—to reimagine how we live, work, and connect in a regenerative, low-carbon future. The spaces we design can either exacerbate global challenges or become powerful solutions. Through thoughtful, intentional design, we can create environments that are healthy, inspiring, and efficient—not just for today, but for generations to come.



Ability to reduce carbon is highest at the earliest stages of a project—when strategic decisions can prioritise avoiding, reusing, or minimising new construction. From “build nothing” to “build efficiently,” early action is critical to achieving low-carbon outcomes across the project lifecycle.

2.4.1 The Design Process and Decarbonisation

Decarbonisation must be embedded across every stage of the architectural design process to effectively reduce both operational and embodied carbon. This requires a shift from traditional linear workflows to an integrated, performance-driven approach that prioritises carbon outcomes from the earliest project phases.

At the concept and briefing stage, carbon goals should be clearly defined in collaboration with clients and stakeholders. Setting targets for whole-life carbon performance—including operational energy use and embodied emissions in materials and construction—is essential from the outset.

During early design and feasibility, key decisions about building form, orientation, massing, and passive design strategies have a profound impact on future emissions. High-impact opportunities such as adaptive reuse, compact massing, and prioritising low-carbon materials should be evaluated at this stage.

In the detailed design phase, the focus shifts to optimising building systems, fabric performance, and material selection. Cross-disciplinary collaboration is crucial to align structural, services, and architectural strategies with carbon reduction targets. Tools such as whole-life carbon assessments and dynamic energy modelling inform decision-making and guide refinement.

As the project progresses to construction and delivery, maintaining alignment with carbon goals requires close coordination with contractors and suppliers. Embodied carbon reductions depend on responsible sourcing, efficient construction methods, and robust material tracking.

Finally, post-occupancy evaluation and ongoing performance monitoring ensure that buildings perform as designed. Feedback loops are essential to validate outcomes, support continuous improvement, and contribute to industry knowledge.

Decarbonisation is not a single action or technology—it is a systemic approach embedded within the design process, requiring early ambition, informed decisions, and collaborative execution. When embraced fully, it becomes a pathway to regenerative, climate-positive design.

Integrating Regenerative Design Principles

- **Beyond Sustainability:** Aiming for net-positive systemic impacts, regenerative design goes beyond minimising harm and works towards restoring ecosystems and all their parts. This includes prioritising biodiversity, water conservation, and renewable energy integration.
- **Biophilic and Nature-Based Design:** Incorporating and connecting our senses in meaningful ways with natural elements into architecture, not only reduces the ecological footprint but also promotes resilience and ecological health.

Whole-Life Carbon Assessments & Circular Economy

- **Lifecycle Carbon Management:** Whole-life carbon assessments track environmental impacts throughout a building's life cycle. This process identifies opportunities for carbon reduction and resource optimisation, emphasising the importance of circular economy practices, such as material reuse and upcycling.
- **Circular Economy:** Aims to eliminate Scope 3 emissions and environmental impact by adopting material recovery, designing for disassembly, and planning for end-of-life reuse. Rooted in the Ellen MacArthur Foundation's principles—eliminating waste and pollution, circulating products and materials at their highest value, and regenerating nature— creates a system where materials never become waste and natural systems are restored. Through maintenance, reuse, recycling, and composting, the circular approach to design and construction decouples building performance from finite resource consumption.

Human-Centric and Ethical Design

- **Social Responsibility:** Sustainability isn't just environmental—it also incorporates social equity, fair labour practices, and inclusive design to promote well-being for all occupants.
- **Ethical Practices:** A focus on ethical sourcing, fair labour, and community engagement aligns projects with sustainable practices.

2.4.2 Handprints for Good Design

What defines “good” architecture in today’s world?

How can a single framework embrace the diversity of places, people, and projects while remaining both practical and inspiring? The Handprints of Good Design framework was created to help ask—and answer—these very questions.

While “footprints” measure the negative impacts of our actions, “handprints” focus on the positive outcomes we create. By shifting attention from minimising harm to maximising benefit, this framework energises people to envision and deliver projects that actively contribute to better outcomes, rather than simply reducing damage or doing less harm.

Rooted in oral traditions and embodied knowledge, the framework draws on the metaphor of the hand. With five fingers, each with three knuckles, it organises ideas into five key themes—each broken down into three actionable sub-ideas. This structure makes the framework portable, memorable, and easily adaptable to a range of discussions, disciplines, and project contexts.

People are invited to consider how their project can:

- Bring the story of place to life
- Celebrate resourcefulness
- Enable communities to thrive
- Foster ‘long now’ thinking as good ancestors
- Inspire and enable capacity and agency

At its core, sustainability is not an add-on—a layer of technology or a well-meaning report for future occupants. It is embedded in the DNA of good design. These five fingers and their knuckles serve as a compass to guide project development and embed decarbonisation and regenerative thinking from the outset. This is not just a tool for assessment—it’s a framework for design excellence.

Bring the story of place to life

Every site carries deep layers of natural, geological, cultural, and human history that shape its identity. Place is a teacher, full of embedded wisdom. By developing a deeper understanding of these attributes, we can determine whether a proposed project aligns with and supports the spirit of the site—helping to illuminate, nurture, and enliven its stories and potential.

Celebrate resourcefulness

Buildings consume significant resources throughout their lifecycle—from construction and operation to maintenance and end of life. How can we design with creativity and restraint, informed by climate, ecology, and local context? How can we use what is available—wisely, efficiently, and with minimal impact—while still creating places of beauty, comfort, and joy?

Enable communities to thrive

Built environments have a profound influence on the well-being, resilience, and flourishing of individuals and communities. How can we design with empathy—considering the social, economic, and environmental dynamics of the people who live in, use, or live near these spaces? Every decision we make has an impact—and every decision is an opportunity to shape that impact for the better.

Foster ‘long now’ thinking as good ancestors

Starting a project is an act of legacy-making. It is a chance to design with the past and future in mind—to take responsibility not just for today, but for generations to come. What enduring values and materials can we build into our work? How can we ensure that what we create continues to serve and enrich over time?

Inspire and enable capacity and agency

Meaningful change requires more than good ideas—it needs motivated people. Projects become powerful vehicles for transformation when they empower all participants—clients, architects, consultants, builders—to build the skills, confidence, and shared purpose needed to lead change. Everyone involved should feel not just included, but energised and equipped to contribute to their communities.

2.4.3 Resources for Architects

Decarbonisation & Regenerative Design Pathway (in progress)

The National Climate Action and Sustainability Committee (NCASC) is developing an overlay to the RAIA Outline of Services Guide, which will provide a practical framework outlining climate-positive actions at each stage of a project—from early concept design through to post-occupancy. This tool is intended to support architectural practices of all sizes in integrating sustainable and regenerative principles in a manageable and meaningful way throughout the design and delivery process.

It will include clear actions and guidance around:

- **Pre-Design & Feasibility:** Setting clear carbon and climate-positive goals with clients and stakeholders from the outset. Prioritise reuse, adaptive reuse, and material recovery as part of the project vision.
- **Concept Design:** Integrating passive design strategies, biophilic elements, and low-carbon construction approaches early in the design thinking.
- **Design Development:** Applying carbon modelling tools and circular economy principles to refine material choices, structure, and systems for minimal impact and future resiliency.
- **Documentation:** Specifying low-impact, responsibly sourced materials and outline construction methods that support carbon reduction and efficiency.
- **Procurement & Construction:** Reducing on-site emissions and waste through smart logistics, efficient scheduling, and real-time monitoring of carbon and resource use.
- **Post-Construction & Use:** Tracking building performance, encouraging adaptive reuse and flexibility, and supporting community engagement and shared learning through feedback and open-source insights.

Open Source Decarbonisation Pathway

- Minoro: a free to use platform which identifies key actions and responsibilities at each stage of a project's life cycle to manage and reduce whole of life carbon, for asset owners, investors, design teams, consultants, contractors and building operators.

Lifecycle Carbon Assessment

- Cerclos: a range of tools to suit projects and budgets of different sizes, to measure, improve, verify and report on carbon and environmental performance across the asset lifecycle. RapidLCA for small scale projects and housing, eTool for large complex projects.
- OneClick: a cloud based software that holistically considers how the design impacts operational and embodied carbon, as it is developed.
- Tally LCA (Revit plugin, free for small projects) for whole-building analysis: a life cycle assessment (LCA) tool that enables calculation of the environmental impacts of building material selections.

Circular Economy Design Guides

- ACAN Circular Economy Design Guide: A comprehensive overview and roadmap of how to design for a Circular Economy.
- Arup Circular Buildings Toolkit: a design framework aimed to help you to future proof your project.

Third Party Ratings

- NABERS Embodied Carbon: the Embodied Carbon rating tool enables eligible new buildings and partial rebuilds to measure, verify, and compare their upfront embodied carbon with similar buildings.
- Greenstar: provides a clear path and targets to reach decarbonisation goals. Green Star Buildings includes the Climate Positive Pathway

Passive Design & Performative Design

- NatHERS Energy Rating Software: free tool for Australian residential projects.
- Energyplus: free, open-source, and cross-platform energy simulation program to model energy consumption and water use in buildings.
- Passive House Design Tool: to determine a building's performance to the Passive House building standard.

River's Edge Building, University of Tasmania | Wardle | Photographer: Adam Gibson

Project Spotlight – Embodied Carbon Reduction: A Collaborative Approach

This fully electric building, powered by Tasmania's hydroelectric grid, exemplifies an integrated approach to sustainable architecture. Grounded in passive solar design principles, it maximises natural daylight, manages glare, and capitalises on site views while maintaining a best-practice 60:40 wall-to-window ratio for optimal thermal versus operational performance. An airtight, highly insulated envelope and carefully calibrated glazing further enhance operational efficiency.

A rigorous whole-of-life-cycle design process—enabled by clear sustainability objectives, design stage materials research and an Early Contractor Involvement (ECI) phase—allowed the project team to maintain sustainability targets throughout the life of the project. Led by a forward-thinking client, the team pursued a 30% reduction in embodied carbon. This ambition translated into a hybrid structure combining low-carbon concrete with timber elements, including locally sourced interiors and a post-tensioned structural slab system. Foundation piles were formed from recycled gas pipelines, and carbon-neutral bricks were specified.

Through continuous design-stage carbon assessments and a shared commitment across disciplines, the project achieved a 29.1% embodied carbon reduction and 32.5% upfront carbon savings relative to the reference building. Key to this success was the client's support for innovation and non-conventional solutions. The result is a high-performance, low-impact building that reflects a collaborative, progressive architectural process with tangible results.

River's Edge Building, University of Tasmania | Wardle | Photographer: Adam Gibson

Plastic Pavilion | TERROIR | Photographer: Torben Eskerod

Part 3

Institute Action

3.1 The Role of the Australian Institute of Architects in Supporting Economy-Wide Decarbonisation

This is a reminder of the immense role architects play in creating a more sustainable world. It highlights the importance of leadership, collaboration, and continuous learning as we work together toward decarbonisation.

Olive Tree House | Bastian Architecture | Photographer: Katherine Lu

3.1 Scaling Action

Architects play an immense role in shaping a more sustainable world. We have a unique opportunity to inspire change in mindsets, projects and on a systemic level. To achieve this, we need leadership, collaboration, and continuous learning as we work collectively toward decarbonisation.

Following our 2019 endorsement of the declaration of a climate and biodiversity emergency we assembled a group of sustainability experts to lead the Institute's response. Since then, a plethora of courses, events and resources have been created to support the industry.

Now, in 2025, recognising the urgent need to accelerate decarbonisation of the built environment, the Institute reinforces its commitment to leading by example, supporting the profession practically, and driving change through advocacy and collaboration.

To support the profession and drive change the Institute is committed to 3 key action areas:

1. **Supporting Architects to Act**
2. **Advocacy, Partnerships and Collaboration**
3. **A Sustainable Peak Body**

National Standard of Competency for Architects (NSCA 2021)

With the introduction of the 2021 NSCA, 'Environmental Practice' has become a central pillar of architects' professional competencies. A deeper understanding and competency of The NSCA provides a competency framework that embeds environmental responsibility, ethical practice, and quality management into professional standards.

NSCA Professional Capability in Environmental Practice

'Environmental practice capabilities encompass a holistic approach to creating and caring for living environments. This includes the ability to understand, analyse and assess the impacts of design decisions and delivery processes on the natural and built environment, to care for Country and community, to minimise carbon impact, and to support the transition to a carbon-neutral built environment.'

In practical terms this includes developing skills in:

- Lifecycle carbon analysis
- Systems-based ecological design
- Supply chain ethics and social impact
- Regenerative design thinking
- Understanding and valuing First Nations knowledge

"We support our members to be ethical, effective and engaged practitioners. Our work will strengthen the architectural profession, shape egalitarian communities and build a sustainable peak body." [12]

3.2 Supporting Architects to Act

The Australian Institute of Architects plays a pivotal role in empowering architects to lead sustainability and climate action. By championing architects as key agents of change, the Institute helps position the profession to influence systemic transformation across the built environment, policy, and industry.

Resources and guidance

- We will identify existing initiatives and resources and adapt them to Australia's context of architectural practice. This includes toolkits, guidelines and pathways for action.
- We will progressively generate new resources and guidance where needed.

Training, upskilling and events

We will further develop and promote our Continuing Professional Development (CPD) program focused on sustainability, decarbonisation, and regenerative design. Recognising the rapid evolution of standards and technologies, this program will be progressively delivered and address knowledge gaps so that architects are equipped with the skills to lead carbon-neutral, environmentally responsible design.

- The CPD modules may include topics such as
  - Passive design
  - Renewable energy systems
  - Embodied carbon
  - Circular construction
- These targeted learning opportunities empower architects to make future-focused decisions and reinforce their leadership in shaping a more sustainable built environment.

Events

- We will organise events and conference sessions focused on knowledge exchange, exploration and practical solutions inspiring architects to act.

Research

- We will identify gaps in knowledge, skills, and tools across the profession and engage with partners in addressing them and finding solutions.

Embodied Carbon Curriculum

Collaborating with the Department of Climate Change, Energy, the Environment, and Water, the Institute has introduced the Embodied Carbon Curriculum, a crucial step in educating the profession.

The curriculum consists of 3 Activity modules, (Module 1 A-C, Module 2A-C and Module 3A-B) each with activity sheets that require completion There are 2 presentation videos complete with slides. In total the curriculum takes around 5 hours to complete.

3.3 Advocacy, Partnerships and Collaboration

The Institute collaborates with local, national and global partners to harness efficiencies and achieve greater collective impact.

Advocacy

- We will work across sectors in the property and construction industry and with government to drive whole-of-system change.
- We will work towards agreed science-based pathways, harmonised standards and joint calls for action with industry bodies and peers.
- We will advocate for respective practical decarbonisation policies and regulations.
- We will work with partners across research and development to keep pace with the latest innovations, standards, and technologies.
- We will support open-source sustainability solutions to enhance collective knowledge and consistent practice

Australian partners and collaborators include:

- Australian Sustainable Built Environment Council (ASBEC)
- Australian Building Codes Board (ACBC)
- Architects Declare Australia
- Architects Climate Action Network (ACAN) Australia
- National Australian Built Environment Rating System (NABERS)
- Green Building Council of Australia (GBCA)
- Living Future Institute of Australia (LFIA)
- Materials & Embodied Carbon Leaders' Alliance (MECLA)
- Australian Institute of Landscape Architects (AILA)
- Planning Institute of Australia (PIA)
- Decarbonising the Building Industry (DBI)
- Retrofit Lab
- University architecture and built environment faculties

Global networks include:

- American Institute of Architects (AIA)
- Architects Declare (UK)
- ACAN UK
- The International Union of Architects (UIA)
- Commonwealth Architects Association (CAA)
- Royal Institute of British Architects (RIBA)
- World Green Building Council (WGBC)

Celebrate Achievements

- We will raise public awareness about the benefits of healthy, efficient and low-carbon buildings and the role architects play in delivering them.
- We will progressively align our awards program with the necessary science-based sustainability objectives and targets.
- We will support a 'Low Carbon Challenge' for architects to encourage architects to put their minds and design skills towhere carbon can be reduced in smaller scale projects.

3.4 A Sustainable Peak Body

The Institute supports all members no matter where they are in their decarbonisation journey, and will lead by example towards 2050. The Institute reinforces its commitment to sustainability as a core part of business.

- We will maintain certified carbon neutrality as an organisation.
- We will regularly review our organisational impacts and assess the effectiveness of our strategies and actions.
- Sustainability and decarbonisation will remain focus areas, integrated with our other strategic priorities.
- We will enable the National Climate Action and Sustainability Committee (NCASC) to collaboratively develop policy positions with the National Council, and support professional action. The committee will be refreshed regularly to ensure current expertise, diverse perspectives, and leadership opportunities for members.
- We will explore how architects can take a stronger role in projects by engage clients on risks, and benefits and leading the consultant team in sustainable design.

Key Links

Institute Strategic Plan

Off-cut Kitchen | Second Edition | Photographer: Hamish Mcintosh

Project Spotlight - Innovate

Off-cut Kitchen is a experimental design initiative by Sydney-based studio Second Edition. Developed as a continuation a thesis at the University of Technology Sydney led by Guillermo Fernandez-Abascal, the project explores the practicalities of circular design principles within architectural practice.

The kitchen is constructed almost entirely from salvaged and repurposed materials, including fibre-reinforced plastic grating from a local balustrade project, reclaimed appliances, and reused marble. An old exhibition display system serves as the structural framework, offering a modular, freestanding design that allows for future disassembly and reconfiguration.

All components were sourced within a 50-kilometre radius through supplier waste streams, residential demolition sites, and online marketplaces. Each reused material influenced the kitchen's overall dimensions and form. Additional efforts included verifying the safety of electrical components, and reconditioning formwork-grade plywood (Formply) for use as the internal shell. Though the design minimised the use of virgin materials, some new hardware—such as bolts and fasteners—was purchased to ensure the kitchen was constructed for repeated reuse.

Offcut Kitchen offers a tangible response to the vast material waste generated by the architecture and construction industries. It presents a replicable model for how adaptive reuse can be embedded into everyday spatial design.

Plastic Pavilion | TERROIR | Photographer: Torben Eskerod

CONCLUSION

The need for urgent, sustained action on climate change has never been more pressing. Architects have a unique ability to lead the shift toward a low-carbon built environment—one that is more resilient, inclusive, and regenerative.

By embracing their role as changemakers, architects can influence far more than the physical structures they design. Their impact extends to communities, policies, industries, and ecosystems. Through ethical, climate-conscious design, architects can lead the transformation to a future where people and the planet thrive together.

This call to action is both a reflection and an invitation—to lead with purpose, to collaborate boldly, and to continuously evolve our practices in service of decarbonisation. It highlights the opportunity for architects to become lifelong learners and active contributors to a just, climate-positive future.

The pathway to a net-zero built environment requires a fundamental rethinking of how we design, build, and collaborate. This document outlines a clear and comprehensive approach—embedding sustainability into business operations, design leadership, client engagement, digital innovation, and ethical decision-making.

Australian Institute of Architects

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