

# Sustainability Action Plan

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## Document Control

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m3architecture acknowledges the Traditional Custodians of the land on which we are privileged to work and design. We recognise the deep connection and ongoing contribution of Aboriginal and Torres Strait Islander people as we pay respect to Elders past and present.

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# 1.0 Preamble

## Architects Declare

In 2019 m3architecture became signatories to the Architects Declare movement.

The Australian Architect Declare movement is part of an international network of architectural practices committed to addressing the climate and biodiversity emergency.

m3architecture is supporting the Architects Declare movement and demonstrating our commitment to addressing the climate and biodiversity emergency by adopting a Sustainability Action Plan.

## Sustainability Action Plan (SAP)

The m3architecture SAP outlines our approach toward attaining sustainable outcomes as a practice. This is being considered in two parts.

- 1) Targeting sustainable outcomes in our architecture, with our clients and collaborators, and
- 2) Targeting sustainable outcomes in our business operations.

## SAP Working Group

A working group was formed in June 2022 to develop the SAP.

The group currently includes:

- Ben Vielle, Director
- Lindsay Grundy, Architect
- Samir Hamaiel, Architect
- Joseph Pappalardo, Architect
- Adam Hamilton, Architect
- Abbey Summerville, Architect

## Document Structure

### 1. SAP Client Inputs

The client facing document for briefing and setting an agenda for the project. This is intended to be used as a template for engaging with our clients on the sustainability agenda of the project.

### 2. SAP Architects Inputs

The architect focused document is an expanded version of the Client document. It serves as a working document that provides detail and direction for architects to assist in delivering the sustainable outcomes that have been established for the project.

### 3. SAP CO2-e Reporting

A table for reporting on Upfront Carbon and Operational Carbon on the project

### 4. m3architecture Emissions Reduction Plan

Since 2019 m3architecture has been certified as a Carbon Neutral organisation by Climate Active. The practice is committed to maintaining this certification into the future. m3architecture has developed an Emissions Reduction Plan with targets for further reducing Scope 1, 2, and 3 emissions.

### 5. SAP Management

This is the SAP working group document used to review, maintain, and improve the SAP in an on-going way.

In the spirit of sharing knowledge, the m3architecture SAP is available on the m3architecture website.

## Architects Declare

*The twin crises of climate breakdown and biodiversity loss are the most serious issue of our time. Globally, buildings and construction play a major part, accounting for nearly 40% of energy-related carbon dioxide (CO2) emissions whilst also having a significant impact on our natural habitats. Meeting the needs of our communities and staying within our ecological limits will require a shift in our behaviour as well as the design, delivery and performance of our buildings. Together with our clients, we will need to commission and design buildings, cities and infrastructures as indivisible components of a larger, constantly regenerating and self-sustaining system.*

*The research and technology exist for us to begin that transformation now, but what has been lacking is collective will. Recognising this, we are committing to strengthen our working practices to create architecture and urbanism that has a more positive impact on the world around us.*

*We will seek to:*

1. *Raise awareness of the climate and biodiversity emergencies and the urgent need for action amongst our clients and supply chains.*
2. *Advocate for faster change in our industry towards regenerative design practices and a higher Governmental funding priority to support this.*
3. *Establish climate and biodiversity mitigation principles as the key measure of our industry's success: demonstrated through awards, prizes and listings.*
4. *Share knowledge and research to that end on an open source basis.*

*5. Evaluate all new projects against the aspiration to contribute positively to mitigating climate breakdown, and encourage our clients to adopt this approach.*

*6. Upgrade existing buildings for extended use as a more carbon efficient alternative to demolition and new build whenever there is a viable choice.*

*7. Include life cycle costing, whole life carbon modelling and post occupancy evaluation as part of our basic scope of work, to reduce both embodied and operational resource use.*

*8. Adopt more regenerative design principles in our studios, with the aim of designing architecture and urbanism that goes beyond the standard of net zero carbon in use.*

*9. Collaborate with engineers, contractors and clients to further reduce construction waste.*

*10. Accelerate the shift to low embodied carbon materials in all our work. Minimise wasteful use of resources in architecture and urban planning, both in quantum and in detail.*

*In Australia, we as architects are aware that Aboriginal and Torres Strait Islander peoples have long espoused the cultural, social, economic and environmental benefits embedded in the holistic relationship of Caring for Country.*

Quote from <https://au.architectsdeclare.com/> accessed 28/11/2022

## 1.2 Project SAP - Introduction

### m3architecture SAP benchmark

The m3architecture SAP benchmark is based on the minimum sustainability standard set by the Australian Institute of Architects. This benchmark reflects the principles of the Architects Declare movement and a number of third party sustainability certification programs (e.g. GreenStar and NABERS).

The pre-selected (✓) items within the "SAP for Projects" pages achieve the m3architecture SAP benchmark. This benchmark is currently above the National Construction Code minimum requirements. Clients have the option to opt in or out of these initiatives, however, we advocate for adoption of the benchmark and encourage clients to exceed the benchmark by selecting additional initiatives from this list.

The pentagon motif is used to represent the five categories of initiatives and the total project sustainability agenda. When the inner segments are coloured the pre-selected initiatives (✓) are included to achieve the m3architecture SAP benchmark. When the outer segments are coloured the m3architecture SAP benchmark has been exceeded in the category.



Example of matrix for a project below the m3architecture SAP benchmark



Example of matrix for a project achieving m3architecture SAP benchmark.



Example of matrix for a project exceeding m3architecture SAP benchmark

### Third Party Benchmarking

Clients may choose to certify the project against a third party rating scheme. Depending on the scope of the third party benchmarking, parts or all of the m3architecture SAP may become redundant. Options include:

- National Australian Built Environment Rating System (NABERS).
- Green Building Council of Australia (GBCA) GreenStar.
- The Living Building Challenge™ (LBC).

### HOW TO USE SAP FOR PROJECTS

#### Concept Design

1. A meeting is held with the client to introduce the SAP process and set SAP targets for the project (see "SAP Client Inputs" page).
2. An internal meeting is held with the project team to discuss the more detailed SAP targets (see "SAP Architect Inputs" pages).
3. The above meeting discussions and resultant targets are recorded in the project response columns for each category (See "SAP Architect Inputs" pages). These initiatives are a touchstone for design responses.
4. Use the "SAP Architect inputs" pages and initiatives to brief the consulting team.
5. Use Carbon Designer 3D (by One Click LCA) to report on Upfront Carbon (A1-A5) and test alternatives.
6. Seek advice from the Electrical Engineer to report on Operation Carbon (B6).
7. Complete the "SAP CO2-e Reporting" page. Determine an emissions reduction plan and calculate emissions offsets. Present these findings to the client and confirm if any offsetting will be adopted.

#### Design Development and Construction Documentation

8. Enact any design related actions from the emissions reduction plan.
9. OPTIONAL - Client to engage a consultant to conduct a detailed measure and LCA to report on Upfront Carbon (A1-A5).
10. Seek advice from the Electrical Engineer to report on Operation Carbon (B6).
11. Complete the "CO2-e Reporting for Projects" page. Determine an emissions reduction plan and calculate emissions offsets. Present these findings to the client and confirm if any offsetting will be adopted.

#### Construction

12. OPTIONAL - Require the contractor to measure quantities to confirm the Upfront Carbon (A1-A5) and confirm the emissions offsets.

#### Post-Construction

13. Review 12 months of operational data with the client to confirm Operational Carbon (B6).

## 2.1 Project SAP - Client Inputs

### 1.0 Protection of Land and Ecological Systems

- ✓ 1.2 - Harvest rain water. Reducing the peak stormwater load on the adjacent land and waterways will reduce erosion and improve land and waterway ecology whilst providing a valuable resource for use in the building or landscape.
- ✓ 1.4 - Maintain/improve/regenerate site ecology.
- 1.6 - Adopt waste streaming (e.g. Land Fill, Mixed Recycling, Containers, Soft Plastics, Compost)

### 2.0 Siting and Urban Design

- ✓ 2.3 - Re-purpose existing buildings, structures, materials, resources, and trees from the site. Re-using and recycling resources reduces our reliance on virgin materials and their associated impacts
- 2.7 - Provide end of trip facilities to encourage pedestrian and cycling transport to the site.
- 2.7 - Provide on-site car charging to facilitate electric car use.

### 3.0 Energy Efficiency and Consumption

- ✓ 3.5 - Use on-site renewable power generation (e.g. roof top solar, geothermal, or wind). Pay back periods on roof top solar in Brisbane are typically 3-5 years.
- 3.5 - Consider the viability of on-site power storage.
- 3.6 - Design the project to be 'net zero' with respect to operational energy use. Purchase 100% Green Electricity for third party power supply to the building/site that can't be met by on-site power generation. This is a Federal Government scheme that requires power retailers to source 100% renewable (carbon neutral) power.
- ✓ 3.11 - Use solar and/or electric hot water systems. Do not use gas for water heating.
- ✓ 3.14 - Use efficient electric cooking appliances. Do not use gas cooking appliances.

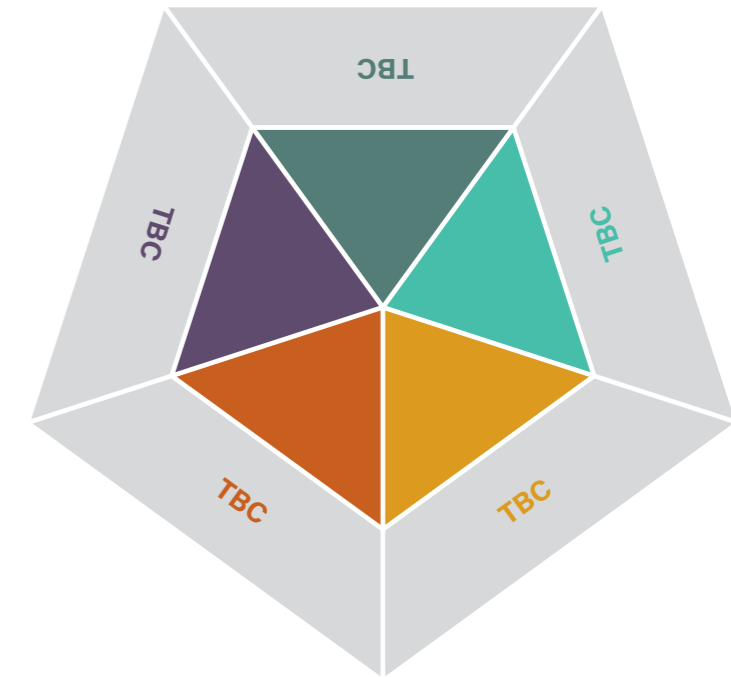
### 4.0 Selection of Building Materials and Processes

- ✓ 4.5 - Use Life Cycle Assessment (LCA) to measure and design to reduce upfront CO2-e emissions. Consider alternatives to traditional reinforced concrete structure (e.g., Cross Laminated Timber (CLT), Glue Laminated Timber (GLT), steel, or low carbon concrete). Traditional concrete contributes 8% of all global emissions.
- 4.6 - Offset upfront CO2-e emissions to make the building carbon neutral. This is a one time offset based on the upfront CO2-e emissions calculated as part of the LCA.

### 5.0 Social Issues

- ✓ 5.3 - Include First Nations research and advice to inform the design process and celebrate Aboriginal and Torres Strait Islander people, culture and heritage connected to the place and local community. e.g. Burrundi Studio can provide consultation and research about your place from a First Nations perspective.  
  
Consider Tendering criteria that require First Nations sub-contractors and/or apprenticeship programs.
- ✓ 5.5 - Design for inclusion and exceed the minimum industry standards for universal design. Consider enhanced PWD provisions for access, sanitary facilities, kitchens. Consider the need for prayer rooms. Consider the need for parent rooms and baby change rooms. Consider design for neurodiversity.
- 5.8 - Design the project to contribute to the local community. Consider third party uses, economic benefits, education & training benefits, and transport network benefits.

### SAP Benchmark Matrix



## 2.2 Project SAP - Architect Inputs

### 1.0 Protection of Land and Ecological Systems



Call To Action	Project Response
✓ 1.1 - Design opportunities to harvest, use, or recycle on-site resources during the construction.	<ul style="list-style-type: none"> <li>Harvest rain water.</li> <li>Transplant or retain existing landscape for re-use.</li> <li>Retain and protect trees.</li> <li>If trees are removed harvest the timber for use in the works.</li> </ul>
✓ 1.2 - Design opportunities to harvest, use, or recycle on-site resources during the life of the building	<ul style="list-style-type: none"> <li>Harvest rain water. Reducing the peak stormwater load on the adjacent land and waterways will reduce erosion and improve land and waterway ecology whilst providing a valuable resource for use in the building or landscape.</li> <li>Design edible landscapes and ensure they are cared for. Is there a custodian for the garden?</li> </ul>
✓ 1.3 - Design to minimise pollution to air, earth and water.	<ul style="list-style-type: none"> <li>Consider the impact of acid sulphate soils and salinity during construction.</li> <li>Provide erosion and sediment control during construction.</li> </ul>
✓ 1.4 - Design to protect, support or regenerate the site ecology.	<ul style="list-style-type: none"> <li>Retain site top soil for re-use.</li> <li>Remove invasive plant species.</li> <li>Specify endemic plant species.</li> <li>Create or link to habitat for native animals.</li> <li>Use water sensitive urban design (WSUD) principles including stormwater filtration prior to reconnecting with existing systems</li> <li>Slow peak water flows, retain water on site, create permeable surfaces.</li> <li>Engage an ecologist to advise on the existing ecological systems and proposed landscape design.</li> </ul>
✓ 1.5 - Design to minimise and recycle construction waste.	<ul style="list-style-type: none"> <li>Specify construction waste streaming and recycling by incorporating appropriate clauses in Architectural Specification as part of contractor Environmental Management Plan (EMP) requirements.</li> <li>Design to use standard material modules to limit waste e.g. plasterboard or fibre cement sheet size.</li> </ul>
1.6 - Design to minimise and recycle operational waste.	<ul style="list-style-type: none"> <li>On-site treatment of waste for sewerage and grey water.</li> <li>On-site compost.</li> <li>Recycling programs.</li> <li>Adopt and allocate space for waste streaming (e.g. Land Fill, Mixed Recycling, Containers, Soft Plastics, Compost).</li> </ul>

## 2.2 Project SAP - Architect Inputs

### 2.0 Siting and Urban Design



Call To Action	Project Response
<p>✓ <b>2.1</b> - Design the Master Plan / site plan to consider existing and/or future use of neighbouring sites.</p>	<ul style="list-style-type: none"> <li>Review and consider relevant Master Plans, Strategic Plans, and Town Plans.</li> <li>Consider impacts on neighbours including overshadowing, water run-off, and nature corridors.</li> </ul>
<p>✓ <b>2.2</b> - Design to improve passive thermal comfort to open spaces &amp; enclosed habitable rooms.</p>	<ul style="list-style-type: none"> <li>North/south oriented long edges of building.</li> <li>Improve natural ventilation by designing thin buildings with operable windows that allow cross ventilation. Avoid multiple room depth.</li> <li>Provide shaded and protected external spaces for entry, exit, circulation, and socialisation. Consider time of day when these spaces are used and the likely environmental conditions (sun, wind, humidity, rain, storm etc.).</li> </ul>
<p>✓ <b>2.3</b> - Design to retain and adapt the existing elements on the site.</p>	<ul style="list-style-type: none"> <li>Re-purpose existing buildings, structures, materials, resources, and trees from the site. Re-using and recycling resources reduces our reliance on virgin materials and their associated impacts.</li> </ul>
<p>✓ <b>2.4</b> - Design to improve resilience and adaptation relating to climate change events.</p>	<ul style="list-style-type: none"> <li>Consider the potential impacts of bushfire, cyclone, flood, storm surge, sea level rise, extreme temperature.</li> <li>Reduce heat island effect by minimising extent of unshaded dark coloured roofs, cladding, and groundscapes.</li> </ul>
<p><b>2.5</b> - Design to enable an increase to the anticipated mature tree canopy cover as compared to the existing tree canopy cover to the site</p>	<ul style="list-style-type: none"> <li>Avoid mature tree removal.</li> <li>Engage an arborist to advise on potential growth of existing trees and allow space for this increase in tree canopy size and root zone.</li> <li>If mature trees are removed use compensatory planting ratios in excess of local authority requirements. Local councils have good resources on this topic and often partner with large land holders to assist in caring for areas of high biodiversity.</li> </ul>
<p>✓ <b>2.6</b> - Design to enable adaptability/future proofing.</p>	<ul style="list-style-type: none"> <li>Consider floor plate size, floor to floor heights, expansion of existing facilities. e.g. car parking floor to floor heights to suit future habitable uses, or residential use conversion to commercial uses, etc.</li> <li>In education work establish a robust structural layout to accommodate teaching space modules of various size and type anticipating change in future.</li> </ul>
<p><b>2.7</b> - Design to facilitate pedestrian and non-motorised transport.</p>	<ul style="list-style-type: none"> <li>Provide end of trip facilities to encourage pedestrian and cycling transport to the site.</li> <li>Provide on-site car charging to facilitate electric car use.</li> </ul>

## 2.2 Project SAP - Architect Inputs

### 3.0 Energy Efficiency and Consumption



Call To Action	Project Response
✓ <b>3.1</b> - Use electricity to power the building.	<ul style="list-style-type: none"> <li>Do not use gas.</li> </ul>
✓ <b>3.2</b> - Calculate the annual estimated energy consumption and benchmark this figure.	<ul style="list-style-type: none"> <li>Engage the ESD consultant or electrical engineer to calculate the estimated energy consumption (kWh/m2/yr) and benchmark this figure. Note: this data will be used to design the on-site power generation.</li> <li>Design the building for energy efficiency in excess of the National Construction Code (NCC 2019) Section J = 43 kJ/m2.hr. Target .....%.</li> <li>Ensure that the electrical engineer includes an electrical meter for each building/tenancy.</li> <li>Confirm with the client post-occupation energy use (kWh/m2/yr).</li> <li>Refer CO2-e Reporting</li> </ul>
✓ <b>3.3</b> - Use passive thermal design principles to reduce the operational energy of the building.	<ul style="list-style-type: none"> <li>Design the building for natural ventilation or mixed mode ventilation.</li> <li>Design habitable rooms with openable windows.</li> <li>Design thin buildings with operable windows that allow cross ventilation. Avoid multiple room depth.</li> <li>Include ceiling fans or the like as alternatives to air-conditioning.</li> <li>Design for good natural lighting penetration to the interior of the building. This will reduce the need for artificial lighting. Use a good ceiling height to building depth ratio of 1H:2.5D for adequate natural light penetration.</li> </ul>
✓ <b>3.4</b> - Use NCC JV3 modelling during the design process.	<ul style="list-style-type: none"> <li>Engage the ESD consultant to model the project at each phase with opportunity for this process to be iterative to improve the design.</li> </ul>
✓ <b>3.5</b> - Design renewable energy technology integrated with the project/site to reduce the operational carbon footprint of this project.	<ul style="list-style-type: none"> <li>Use on-site renewable power generation (e.g. roof top solar, geothermal, or wind). Pay back periods on roof top solar in Brisbane are typically 3-5 years. Engage an electrical engineer to design the system.</li> <li>Consider the viability of on-site power storage. Engage an electrical engineer to design the system.</li> </ul>
<b>3.6</b> - Design the project to be 'net zero' with respect to operational energy use. Or design it so that it can be in future.	<ul style="list-style-type: none"> <li>Advocate for the client to purchase 100% Green Electricity for third party power supply to the building/site that can't be met by on-site power generation. This is a Federal Government scheme that requires power retailers to source 100% renewable (carbon neutral) power.</li> <li>OPTIONAL - Certify the building as Carbon Neutral with Climate Active. Carbon Accountant and Auditor to be engaged to achieve certification. Note: this is an on-going commitment for the client and there may be very little benefit aside from the marketing potential.</li> </ul>
✓ <b>3.7</b> - Design the building to be air tight for the climate zone.	<ul style="list-style-type: none"> <li>Refer NCC requirements</li> </ul>

Call To Action	Project Response
✓ <b>3.8</b> - Design the façade to exceed NCC 2022 minimum deemed to satisfy requirements for insulation and solar heat gain.	<ul style="list-style-type: none"> <li>Engage the ESD consultant for an alternative solution to NCC Section J. Note as part of a typical NCC JV3 the alternative solution will need to perform better than a deem to satisfy model.</li> <li>Test facade shading and design to adequately shade the facade from undesirable direct sun. External shading is more effective than internal shading. Avoid reliance on blinds for shading.</li> </ul>
✓ <b>3.9</b> - Design the walls, roof, and floors to exceed NCC 2022 minimum deemed to satisfy requirements for insulation.	
✓ <b>3.10</b> - Select efficient fittings, fixtures and equipment.	<ul style="list-style-type: none"> <li>Consider efficient kitchen and laundry appliances</li> <li>Efficient light fittings will need to be selected as part of the NCC JV3 process managed by the ESD consultant and electrical engineer</li> <li>Consider daylight harvesting with the electrical engineer to reduce the need for lighting when natural light levels are suitable.</li> </ul>
✓ <b>3.11</b> - Use an efficient hot water system.	<ul style="list-style-type: none"> <li>Use solar and/or electric hot water systems.</li> <li>Do not use gas for water heating.</li> </ul>
✓ <b>3.12</b> - Design to reduce reliance on space heating.	<ul style="list-style-type: none"> <li>In sub-tropical climates consider locking out the air-conditioning during the winter months.</li> </ul>
✓ <b>3.13</b> - Design efficient space cooling systems.	<ul style="list-style-type: none"> <li>Consider pre-conditioning with the mechanical engineer to improve the efficiency of air-conditioning systems in sub-tropical and tropical environments where room populations are high.</li> </ul>
✓ <b>3.14</b> - Use efficient cooking appliances.	<ul style="list-style-type: none"> <li>Use efficient electric cooking appliances.</li> <li>Do not use gas cooking appliances.</li> </ul>

## 2.2 Project SAP - Architect Inputs

### 4.0 Selection of Building Materials and Processes



Call To Action	Project Response
✓ <b>4.1</b> - Select materials and processes with consideration for a wide-range of environmental and social impacts.	<ul style="list-style-type: none"> <li>Consider environmental degradation, embodied carbon, supply chain slavery, and circular economy principles.</li> <li>Design for disassembly, re-use and recycling.</li> <li>Refer to GreenStar Material Framework for recognised initiatives and schemes with the aim of achieving GreenStar RPV (Responsible Product Value) benchmarks and refer to recommended third party material and product certification schemes:</li> <li>Global GreenTag (<a href="https://www.globalgreentag.com/">https://www.globalgreentag.com/</a>).</li> <li>GECA (<a href="https://geca.eco/">https://geca.eco/</a>).</li> <li>When specifying timber use Forestry Stewardship Council (FSC) with Chain of Custody certification, or GreenPeace Eco Timber with Chain of Custody certification.</li> </ul>
✓ <b>4.2</b> - Select renewable and/or recyclable materials and components.	
✓ <b>4.3</b> - Minimise the use of non-renewable resources (e.g. marble, coal powered steel etc.).	
✓ <b>4.4</b> - Design to promote improvements in indoor air quality and reduction of off-gassing	<ul style="list-style-type: none"> <li>Design mechanical systems to exceed the minimum requirements for fresh air volumes.</li> <li>Design for natural ventilation and/or mixed mode ventilation.</li> <li>Include benchmarks for VOC and formaldehyde in project specifications               <ul style="list-style-type: none"> <li>0171 General Requirements,</li> <li>0181 Adhesives, Sealants, and Fasteners,</li> <li>0621 Waterproofing - wet areas</li> <li>0652 Carpets</li> <li>0671 Painting</li> </ul> </li> </ul>

Call To Action	Project Response
✓ <b>4.5</b> - Use Life Cycle Assessment (LCA) to measure and design to reduce upfront CO2-e emissions.	<ul style="list-style-type: none"> <li>Refer CO2-e Reporting.</li> <li>In Concept Design use Carbon Designer 3D (by One Click LCA) to report on Upfront Carbon (A1-A5) and test alternatives.</li> <li>At the end of the Design Development use One Click LCA to report on Upfront Carbon (A1-A5). Alternatively engage a consultant to conduct this reporting.</li> <li>Seek alternatives to traditional reinforced concrete structure (e.g., Cross Laminated Timber (CLT), Glue Laminated Timber (GLT), steel, or low carbon concrete). Traditional concrete contributes 8% of all global emissions.</li> <li>Use CLT or mass timber structure. Note: these systems will require additional active and passive fire protection, and may cost more, but they also save time in construction. Seek advice early in the design process.</li> <li>Use low carbon concrete for structure. There are a few suppliers that offer low carbon concrete. Seek advice early in the design process.</li> <li>Optimise the structural grid to reduce upfront carbon.</li> <li>Use a timber framed glazing system in areas that are protected from weather and accessible for maintenance.</li> <li>Investigate sustainable steel or aluminium facade systems as alternatives to non-renewable products.</li> </ul>
<b>4.6</b> - Advocate for the client to offset upfront CO2-e emissions to make the building carbon neutral	<ul style="list-style-type: none"> <li>This is a one time offset based on the upfront CO2-e emissions calculated as part of the LCA.</li> </ul>

## 2.2 Project SAP - Architect Inputs

### 5.0 Social Issues



Call To Action	Project Response
✓ 5.1 - Design to improve human connections through developing community and improving the quality of people's lives.	<ul style="list-style-type: none"> <li>Design memorable, beautiful, vibrant, communal or public spaces that are equitable, safe, flexible, and enjoyable.</li> <li>Design to improve the resilience of the community. See GreenStar - "18 Resilient - Community Resilience" credit criteria with aim of preparing a Community Resilience Plan.</li> </ul>
✓ 5.2 - Support locally supplied and manufactured resources and skilled labour.	<ul style="list-style-type: none"> <li>Select locally manufactured products.</li> <li>Use local skilled labour.</li> </ul>
✓ 5.3 - Include First Nations businesses in the design, construction, and/or maintenance.	<ul style="list-style-type: none"> <li>Include a First Nations Advisory group as part of the project team and celebrate Aboriginal and Torres Strait Islander people, culture and heritage connected to the place and local community.</li> <li>Consider Tendering criteria that require First Nations sub-contractors and/or apprenticeship programs.</li> </ul>
✓ 5.4 - Design to prevent, as much as possible, the promulgation of modern slavery.	<ul style="list-style-type: none"> <li>Review accreditation of materials based on GreenStar Product Framework. The initiatives supported under the framework considers initiatives that address prevention of modern slavery.</li> <li>Technical reference sheet (specification) to include line-item prompt in template to enable GPV initiative addressing modern slaving to be recorded.</li> </ul>
✓ 5.5 - Design for equality and exceed the minimum industry standards for universal design.	<ul style="list-style-type: none"> <li>Consider enhanced PWD provisions for access, sanitary facilities, kitchens.</li> <li>Consider the need for prayer rooms.</li> <li>Consider the need for parent rooms and baby change rooms.</li> <li>Consider design for neurodiversity.</li> <li>Consider design for all genders.</li> </ul>

Call To Action	Project Response
✓ 5.6 - Design to improve the users well-being.	<ul style="list-style-type: none"> <li>Design with specificity that surprises. Make the idea particular to place, people and culture. Make the idea explicit, relevant, and indispensable for future generations. Make the architecture valuable to the users and custodians of the building in the long term.</li> <li>Find opportunities to connect the building to the adjacent natural environment - visually and physically.</li> <li>Consider indoor landscape opportunities to assist with air purification and other well-being benefits.</li> <li>Consider biophilic design principles.</li> <li>Use Crime Prevention Through Environmental Design (CPTED) principles to create safe places and spaces.</li> <li>Make generous walkways, ramps, and stairs to allow for efficient and enjoyable movement that is equitable for all.</li> <li>Make the building intuitive. Do the users need to be trained to operate the building, or is it obvious?</li> <li>Design mechanical systems to exceed the minimum requirements for fresh air volumes.</li> <li>Design for natural ventilation and/or mixed mode ventilation.</li> <li>Design for good natural lighting penetration to the interior of the building.</li> <li>Design glare management.</li> <li>Design acoustics of each space with the comfort of occupant in mind. Engage an acoustic engineer to benchmark performance of spaces/systems to provide appropriate acoustic separation and reverberation.</li> <li>Include benchmarks for VOC and formaldehyde in project specifications to limit impacts of toxins and off-gassing on occupants.</li> </ul>
✓ 5.7 - Design the project to be economically sustainable.	<ul style="list-style-type: none"> <li>Does the project represent a high level of value for the investment of funds without negatively impacting social, environmental, and cultural aspects of the community?</li> </ul>
5.8 - Design the project to contribute to the local community.	<ul style="list-style-type: none"> <li>Third party uses.</li> <li>Economic benefits.</li> <li>Education &amp; training benefits.</li> <li>Transport network benefits.</li> </ul>

## 2.3 Project SAP - CO<sub>2</sub>-e Reporting

The table below provides a summary of operational carbon analysis based on the [Concept Design or Design Development] as at [Date].

Operational Carbon (B6)				
Targets	Unit	Targets	As Designed	As Built
Energy Use intensity (EUI) - Whole Building (base + tenant end-use) <sup>1</sup> Note: the average existing building EUI = 199	kWh/m <sup>2</sup> /yr	33-43	?? GFA = ??m <sup>2</sup>	?? GFA = ??m <sup>2</sup>
Results	Unit	Notes	As Designed	As Built
Energy Consumption				
Mechanical Equipment	kWh/yr	Advised by [Elec Eng]	??	??
Lighting and Power	kWh/yr	Advised by [Elec Eng]	??	??
Other systems	kWh/yr	Advised by [Elec Eng]	??	??
Total Energy Consumption	kWh/yr	Advised by [Elec Eng]	??	??
Energy Generation				
On-site carbon neutral energy generation	kWh/yr	Advised by [Elec Eng]	??	??
On-site carbon neutral energy consumption	kWh/yr	Advised by [Elec Eng]	??	??
Off-site generated energy consumption	kWh/yr	Advised by [Elec Eng]	??	??
Green power consumption	kWh/yr	TBC by Client	-	-
Carbon Emissions (+) Offset (-)				
Total carbon emissions = Off-site energy consumption 0.81kg CO <sub>2</sub> -e/kWh (QLD) <sup>1</sup>	kg CO <sub>2</sub> -e/yr	Calculated by m3	+++	+++
Carbon offset = On-site energy generation - On-site energy consumption 0.81kg CO <sub>2</sub> -e/kWh (QLD) <sup>1</sup>	kg CO <sub>2</sub> -e/yr	Calculated by m3	-??	-??
Overall net emissions = Total carbon emissions - Carbon offset	kg CO <sub>2</sub> -e/yr		+++	+++
Emissions Reduction Plan				
Stage	Required Carbon Offset kg CO <sub>2</sub> -e/yr	Strategies	Target Time Frame	Achieved (Yes/No)
Stage 1	??	Purchase 100% Green Power at an extra 4.4c/kWh = \$??/yr for ??kWh or Purchase of yearly carbon offsets. Offset at \$22 TCO <sub>2</sub> -e with Greenfleet = \$??/yr	Yearly - TBC by Client	TBC

<sup>1</sup> Refer to UNSW Race to Net Zero Carbon: A Climate Emergency Guide for New and Existing Buildings in Australia.

The table below provides a summary of upfront carbon analysis based on the [Concept Design or Design Development] as at [Date].

Upfront Carbon (A1-A5)				
Targets	Unit	Reference Building at Concept Design using Carbon Designer 3D	As Designed at Design Development using OneClickLCA	As Built
Upfront Carbon Intensity Absolute (A1-A5)	kg CO <sub>2</sub> -e/m <sup>2</sup> /yr	?? GFA = ??m <sup>2</sup>	?? GFA = ??m <sup>2</sup>	?? GFA = ??m <sup>2</sup>
Results	Unit	Notes	As Designed	As Built
Carbon Emissions				
A1-A3 Construction Materials	kg CO <sub>2</sub> -e		??	??
A4 Transportation to Site	kg CO <sub>2</sub> -e		??	??
A5 Construction/Installation Process Installation Process	kg CO <sub>2</sub> -e		??	??
Total carbon emissions	kg CO <sub>2</sub> -e		??	??
Carbon Offset				
Carbon offset	kg CO <sub>2</sub> -e		??	??
Overall Upfront Net Emissions	kg CO <sub>2</sub> -e		??	??
Emissions Reduction Plan				
Stage	Required Carbon Offset kg CO <sub>2</sub> -e/yr	Strategies	Target Time Frame	Achieved (Yes/No)
Stage 1 - Concept Design	??	Determine strategies for embodied carbon reduction through design.	At completion of Design Development	TBC
Stage 2 - Construction Completion	??	Purchase carbon offsets. Offset at \$22/TCO <sub>2</sub> -e with Greenfleet=\$??	At completion of Construction - TBC	TBC

### 3.0 m3 - Emissions Reduction Plan



FY	Scope 1 (tCO <sub>2</sub> -e)	Scope 2 (tCO <sub>2</sub> -e)	Scope 3 (tCO <sub>2</sub> -e)	Total (tCO <sub>2</sub> -e)	% Change from base year	FTE Staff	Key Indicator per FTE Staff (tCO <sub>2</sub> -e)	Measures taken/proposed to reduce emissions
2019/20 Year 1 (base)	3.5	41.1	120.8	165.4	-	19.93	8.3	
2020/21 Year 2	8.6	0.0	104.8	109.4	-33.9%	21.88	5.0	<ul style="list-style-type: none"> <li>Scope 2 - Purchase 100% Green Electricity</li> <li>Scope 3 - Purchase business flights with carbon offset</li> <li>Scope 3 - Change to Carbon Neutral paper supplier</li> </ul>
2021/22 Year 3	2.7	0.0	83.9	92.5	-44.0%	21.02	4.4	<ul style="list-style-type: none"> <li>Scope 3 - Research key third party suppliers Carbon Neutral status</li> </ul>
2022/23 Year 4	3.64	0.0	134.7	137.4	-16.9%	21.47	6.4	<ul style="list-style-type: none"> <li>Scope 2 - Install 24kW solar panels on roof to reduce reliance on grid electricity = estimated 5.1tCO<sub>2</sub>-e credit (half first year) then 10tCO<sub>2</sub>-e credit (following years). Note: this is not recognised by Climate Active.</li> <li>Scope 2 - Reduce electricity use by: 1. Remote switch on/off of PCs so that they do not need to be left on when staff work from home, 2. Change pc updates to Thursday morning (in place of Monday mornings) so that computers do not need to be left on over the weekend. This will improve feed-in credit during the day on weekends. Note: this is not recognised by Climate Active.</li> <li>Scope 3 - Default to double side print settings across office to reduce paper use, waste and electricity for printing.</li> </ul>
2023/24 Year 5	3.64	0.0	107.73	111.37	-32.6%	28.66	3.9	<ul style="list-style-type: none"> <li>Scope 3 - Ensure all business flights are purchased with carbon offset.</li> <li>Scope 3 - Reduce external printing costs. Target 75% reduction.</li> <li>Scope 3 - Reduce construction repair / maintenance. Target 50% reduction.</li> <li>Scope 3 - Reduce food and drink consumption reduction / source carbon neutral food and drink suppliers.</li> </ul>
2024/25 Year 6	4.49	0.0	92.35	96.84	-41.4%	27.51	3.5	<ul style="list-style-type: none"> <li>Scope 1 - Encourage staff use Teams in lieu of in person meetings. Target 20% reduction of gasoline/diesel = 0.5tCO<sub>2</sub>-e reduction.</li> <li>Scope 3 - Encourage staff to use active transport to work by improving end of trip facilities. Target 25% reduction in employee commute = 2T CO<sub>2</sub> reduction.</li> <li>Scope 3 - Source Climate Active carbon neutral wine and reduce food and beverage consumption.</li> </ul>
2025-30 Year 7-12	2.59	0.0	80.08	82.67	-50%	TBC	TBC	<ul style="list-style-type: none"> <li>Scope 1 - Purchase of electric office car when current combustion vehicle reaches end of life = 1.9tCO<sub>2</sub>-e reduction</li> <li>Scope 3 - Encourage additional third party suppliers to become climate active carbon neutral. Target 20tCO<sub>2</sub>-e reduction.</li> </ul>

Climate Active (CA) requires minimum 30% reduction in total omissions over a 10 year period compared to the base year (2019/20)

Queensland Government Emissions targets; 50% renewable by 2030; 30% emissions reduction below 2005 levels by 2030; zero net emissions by 2050.

Australian Government targets under Paris Agreement (Nationally Determined Contribution (NDC)); reduce greenhouse gas emissions by 43% below 2005 levels by 2030; net zero emissions by 2050

# 4.0 m3 - SAP Management

## Document Control

Work in Progress	14/02/2023
Published to m3 website and HSQ	23/02/2023
Document reviewed:	28/08/2024
Document reviewed:	14/04/2025
Document reviewed:	6/2/2026 and 4/3/2026

Topic		Current Practice (March 2025)	1-5 year goals				
Based on Australian Architect's Declare SAP Framework			Mar 2023 - Feb 2024	Review Mar 2024 - Feb 2025	Actions List / Comments Mar 2025 - Feb 2026	Mar 2026 - Feb 2027	Mar 2027 - Feb 2028
<b>2</b>	<b>Design &amp; Approach</b>						
2.1	Identify how the Architects Declare principles are informing the project from brief development throughout all stages	<p>The m3architecture SAP is broken into 5 sections. These sections provide a framework for the sustainability initiatives that we advocate our clients adopt in their projects as well as the sustainability initiatives m3architecture have undertaken as a business.</p> <p>The five sections of m3's SAP are:</p> <ol style="list-style-type: none"> <li>1. Project SAP - Client Inputs</li> <li>2. Project SAP - Architect Inputs</li> <li>3. Project SAP - CO<sub>2</sub>-e Reporting</li> <li>4. m3 - Emissions Reduction Plan</li> <li>5. m3 - SAP Management.</li> </ol> <p><b>Project SAP</b> (Sections 1, 2, &amp; 3) address sustainability initiatives with the project context. Architects Declare principles are embedded in the initiatives set out in these Project SAP sections. These sections provide guidance for our clients to make informed decision about actions they can take towards sustainable outcomes, and provides a template to assist architects in delivering on the initiatives undertaken.</p> <p><b>m3 - Emissions Reduction Plan</b> (Section 4) sets out the practice Emissions Reduction Plan which supports a commitment to being a Carbon Neutral Organisation Certified by Climate Active since 2019.</p> <p><b>m3 - SAP Management</b> (this document - Section 5) lists the Architects Declare Principles outlined in the Australian Architect's Declare SAP Framework and serves as a 'review and action' template to list and track m3 approach to address the principals in the Architect's Declare SAP Framework</p>	m3 SAP published March 2023	SAP reviewed Aug 2024 SAP not republished in 2024 Republish SAP Apr 2025	<p><b>2025-26 Actions:</b> Review SAP Dec 2025 Republish SAP Mar 2026</p>	Review SAP Dec 2026 Republish SAP Mar 2027	Review SAP Dec 2027 Republish SAP Mar 2028
2.2	Identify the First Nations Country your projects are located in and engage with aboriginal culture and heritage in the making of the project.			<p><b>2024-25 review:</b> <b>EB to assist</b></p>	<p><b>2025-26 Actions:</b> <b>EB to assist</b></p>		
2.3	Identify how you will bring life cycle costing, whole life carbon modelling post occupancy evaluation and energy modelling to be integrated into and influence your design process	<p>m3SAP for Projects includes initiatives whereby whole of life carbon modelling and life cycle assessment may be undertaken at each stage of the project. A standard service in order to determine carbon emissions associated</p> <p><b>(Feasibility, SD)</b> <i>OneClickLCA - Carbon designer3D</i> Results for upfront carbon (A1-A5) reported in concept design report Results for operational carbon (B6) reported in concept design report</p> <p><b>(DD, CD)</b> <i>OneClickLCA - Autodesk Revit</i> Results for upfront carbon (A1-A5) reported in LCA report Results for operational carbon (B6) reported in LCA report</p> <p>At the end of the 12 month DLP, the results for operational carbon (B6) reported in LCA report</p> <p>Reporting outcomes are tabled and compared as case studies in the m3 SAP</p>	<p>1. Develop modelling protocol for pilot project(s) adopting SAP framework. <b>2024 review:</b> Goal Achieved</p> <p>2. Key staff to undertake training to using modelling software within pilot project. <b>2024 review:</b> Goal Achieved</p> <p>3. Framework of post occupancy evaluation to be developed and applied to pilot project <b>2024 review:</b> No projects have been completed where carbon modelling has begun.</p>	<p><b>1. Expand OneClickLCA knowledge within the studio</b> <b>2024-25 review:</b> Goal Achieved, OneClick academy learning modules have been completed by 3 staff members</p> <p><b>2. Test OneClickLCA workflow</b> <b>2024-25 review:</b> Goal Achieved, A preferred OneClickLCA workflow has been established by using LCA in Autodesk (Revit add-in)</p> <p><b>3. Test OneClickLCA duration on different project types</b> <b>2024-25 review:</b> Goal Achieved, 5-6 days are generally required to do an assessment &amp; report. 6-7 days for an adaptive re-use project.</p>	<p><b>2025-26 Actions:</b> 1. Establish a case study LCA database of m3 projects for comparison. New projects to be reported &amp; compared by kgCO<sub>2</sub>e/m<sup>2</sup>. Projects to be categorised by new build, adaptive reuse. Then key structural elements e.g. timber CLT, concrete, steel.</p> <p>2. Establish a OneClick LCA - Carbob Designer "how to guide" for the m3 QMS (Quality Management System)</p> <p>3. Post occupancy as-built assessment. Review how to assess what material quantities and wastage occurs during construction.</p> <p>4. Review how to engage with Builders to get as-built information. Establish whether it could be written into contracts to provide waste management/waste stream data (with targets needing to be met)</p> <p>5. Review NABERS embodied carbon certification</p>	Continue to build the database of project case studies for comparison with new projects	Continue to build the database of project case studies for comparison with new projects

# 4.0 m3 - SAP Management

Topic		Current Practice (March 2025)	1-5 year goals				
Based on Australian Architect's Declare SAP Framework			Mar 2023 - Feb 2024	Review Mar 2024 - Feb 2025	Actions List / Comments Mar 2025 - Feb 2026	Mar 2026 - Feb 2027	Mar 2027 - Feb 2028
2.4	Nominate which green certifications are and will become common practice in your firm, and how certified projects contribute to Sustainability goals and Architects Declare principles (Nabers, Basix, Living Building Challenge, Green Star, Well rating, Passive House, others).	<p>Educational and institutional work (Class 9b) forms a large proportion of the practice's work. Green Star or Living Building Challenge would be the most likely certification tool that we would use, however, the majority of our clients see little benefit in the increased consulting costs associated with such a scheme.</p> <p>Therefore, as more practical approach we have established our own sustainability benchmark in the m3 SAP.</p> <p>This benchmark is based on:</p> <ol style="list-style-type: none"> <li>initiatives that we have been practicing already,</li> <li>the AIA awards 2023 sustainability criteria and</li> <li>Minimum Greenstar initiatives.</li> </ol> <p>We advocate that our clients achieve this benchmark, and where possible, exceed it.</p>	<p>1. m3 working group to review Greenstar accreditation framework.</p> <p>2. m3 to review and update initiatives within SAP for Projects with changes or developments within the Green Star criteria.</p> <p><u>2024 Review:</u> Ongoing</p>	<p>1. SAP working group to undertake periodic review of accreditations schemes</p> <p><u>2024-25 Review:</u> Ongoing, certifications becoming common practice are a work in progress.</p> <p>Living Building Challenge 4.0 has been reviewed, LBC look to have an alignment to m3's current processes and established SAP principles.</p>	<p><u>2025-26 Actions</u> SAP working group to undertake periodic review of accreditations schemes applicable to the typology of work the practice undertakes, and to evaluate if increased advocacy for accreditations schemes should be undertaken.</p> <ol style="list-style-type: none"> <li>A working group session to review LBC4.0 certifications &amp; performance areas (imperatives) with a view of integrating some to the m3SAP (for architects) and to update any consultant fee request briefing letters.</li> <li>undertake research in NSW SEPP condition. NABERS calculator. Or if there is any need to change our approach.</li> <li>Review green star performance credits for (B6) operational carbon 2030 targets update SAP and consultant fee request letters where required</li> </ol>	Ongoing review	Ongoing review
2.5	Define your regenerative design principles, with the aim of designing architecture and urbanism that goes beyond the standard of net zero carbon in use	<p>The inclusion of regenerative design principles within the practice's work requires further development. Living Building Challenge 4.0 has been reviewed, but similar to (2.4) certification is reliant on the financial implications of the initiative.</p> <p>This requires a long-term vision and approval from clients beyond the duration of project design and delivery.</p>	<p>1. Review Regenerative Design principles in more detail.</p> <p>2. Review Living Building Challenge Framework</p> <p><u>2024 Review:</u> Ongoing</p>	<p>1. Update SAP to include Regenerative Design principles.</p> <p><u>2024-25 Review:</u> Ongoing, terminologies and definitions for regenerative design have been researched. Along with Living Building Challenge 4.0</p>	<p><u>2025-26 Actions:</u></p> <ol style="list-style-type: none"> <li>A working group session to review Living Building Challenge 4.0 performance areas (imperatives) &amp; GBCA carbon positive roadmap discussion paper with a view of integrating some to the m3SAP (for architects) and to update any consultant fee request briefing letters.</li> <li>Review Green star communities tool for biodiversity, resilience credits</li> <li>Establish a hierarchy of LBC4.0 (imperatives), with a view of the most important being added to m3SAP (for architects) to be considered for all projects.</li> <li>Establish 'Secondary' (imperatives) or seen to be costly performance criteria to be reviewed in the next review cycle or a Quantity Surveyor / Environmentally Sustainable Design consultant engaged to assist with communicating potential costs.</li> <li>Research a regeneration Action Plan (RegAP)</li> </ol>	<ol style="list-style-type: none"> <li>Update SAP based to include Regenerative Design principles.</li> <li>Further review Regenerative Design principles with a view to expand initiatives.</li> </ol>	<ol style="list-style-type: none"> <li>Update SAP based to include Regenerative Design principles.</li> <li>Further review Regenerative Design principles with a view to expand initiatives.</li> </ol>
2.6	Define your collaborative approach with engineers, contractors and clients to:	<p>Our approach to collaboration is to bring awareness of the m3 SAP to clients, contractors, and consultants so that sustainable objectives for projects are understood early in the consultation phase.</p> <p>m3 SAP for Projects includes initiatives that aim to address the points listed, as follows.</p> <ul style="list-style-type: none"> <li>The SAP process is to be introduced to clients and consults in one of the first client meetings or consultant meetings.</li> <li>A subsequent meeting, or portion of a meeting, is to be dedicated to reviewing the SAP in full with sustainability objectives, as outlined in the SAP, to be determined before concept design commences.</li> </ul>	<p>1. m3 working group to establish which elements of the m3 SAP for Projects can be rolled-out immediately, as compared with those that require further training and research. (Sans Regenerative principles)</p> <p>m3's SAP working group to inform practice of elements to be adopted.</p> <p><u>2024 Review:</u> Practice meetings, and smaller working group meetings were held to discuss the practicalities of the SAP roll-out.</p>	<p>1. m3 SAP Working Group to review success and failure of collaboration processes.</p> <p><u>2024-25 Review:</u> Lessons learned is that client engagement must occur early in the briefing process, with the introduction of the SAP process. Preferably during one of the first client and consultant meetings. Benchmarks and attitudes to sustainability need to be established early.</p> <p>The Electrical Consultant Fee Letter Request was updated for their scope to include the review of energy consumption and assessment of onsite energy generation as a deliverable as part of their service.</p>	<p><u>2025-26 Actions:</u></p> <ol style="list-style-type: none"> <li>m3 SAP Working Group to review success and failure of collaboration processes based on experiences gained through implementation of the SAP in projects.</li> <li>Update m3SAP articulating that consultation with clients and consultants should occur early in the design / briefing phase. Implementation of the SAP initiatives can not be retrospective.</li> <li>Review whether establishing an in-house sustainability lead or engaging a ESD consultant, similar to m3's first nations engagement process (through all project phases)</li> <li>Research/review responsibilities an in-house sustainability lead or ESD consultant could take ownership of &amp; provide guidance/monitor/research across the studio</li> </ol>	m3 SAP Working Group to review success and failure of collaboration processes. Recommendations to be tabled, recorded, and implemented, and reviewed going forward.	m3 SAP Working Group to review success and failure of collaboration processes. Recommendations to be tabled, recorded, and implemented, and reviewed going forward..
	a. Reduce waste through design.	SAP for Projects: Protection of Land and Ecological Systems, Items 1.5 and 1.6.		<p>1. SAP working group to undertake periodic review of reduction of waste through design</p> <p><u>2024-25 Review:</u> Ongoing</p>	<p><u>2025-26 Actions:</u></p> <ol style="list-style-type: none"> <li>Review project T-Sheet prompts on designing for material efficiency</li> <li>Review green star credits for reduction of construction waste &amp; reporting</li> <li>Review <a href="https://recyclingnearyou.com.au/materials/">https://recyclingnearyou.com.au/materials/</a> research nominating Regyp plasterboard recycling to all project specifications</li> </ol>	Ongoing review	Ongoing review
	b. Further reduce operational waste.	SAP for Projects: Protection of Land and Ecological Systems, Item 1.6.		<p>1. SAP working group to undertake periodic review of reduction of operational waste</p> <p><u>2024-25 Review:</u> Ongoing</p>	<p><u>2025-26 Actions:</u></p> <ol style="list-style-type: none"> <li>Review strategies on operational waste that become regenerative</li> <li><a href="https://recyclingnearyou.com.au/materials/">https://recyclingnearyou.com.au/materials/</a></li> </ol>	Ongoing review	Ongoing review

# 4.0 m3 - SAP Management

Topic		Current Practice (March 2025)		1-5 year goals				
Based on Australian Architect's Declare SAP Framework				Mar 2023 - Feb 2024	Review Mar 2024 - Feb 2025	Actions List / Comments Mar 2025 - Feb 2026	Mar 2026 - Feb 2027	Mar 2027 - Feb 2028
	c. Accelerate the shift to low embodied carbon materials in your work.	SAP for Projects, Selection of Building Materials and Processes, Items 4.1, 4.2, 4.3, 4.5.		<b>1. SAP working group to undertake periodic review of specifying low embodied materials</b>  <b>2024 Review:</b> Low embodied carbon materials have been selected for projects on a case-by-case basis depending on client appetite to sustainability or practicality.	<b>1. SAP working group to undertake periodic review of specifying low embodied materials</b>  <b>2024-25 Review:</b> Ongoing, review into material selection pathways. Identified a list of accredited schemes to use	<b>2025-26 Actions:</b> 1. Research industry initiatives to reducing embodied carbon in materials. E.g. attend information events through MECLA (Materials and Embodied Carbon Leaders' Alliance)  2. Prepare reference document to be linked from the practice's QMS. The document is to include guidance and links for specifiers, such as Greentag, productaware, WELS, WELL, WERS, Epic (material database for embodied carbon) MECLA  3. Review T-sheet clauses to include prompts for specifications to reference accredited schemes. e.g. Green Tag, LFI declare label, red list, product aware, OneClick material compass.  Include a prompt in the T-sheet proforma for specifiers to save off EPD as part of product selections. This becomes a category in the T-Sheet. e.g. laminates, carpet, paint, ceiling tiles, textiles, where it comes from (local or O/S)  4. Review Architects Declare & Breathe Architecture's sustainable materials guide  5. Studio session on specification/ material product selection tools	Ongoing review	Ongoing review
<b>3</b>	<b>Evaluation &amp; Reporting (this includes total energy reporting, utility data collection and post-occupancy evaluations)</b>							
3.1	What is your current live portfolio's total energy performance target and how does it compare to a zero carbon 2030 timeline as identified by AIA and Australian Architects Declare?	1. Electrical Engineers default consultancy is to include estimating the energy consumption for the project. This is to be reported in kWh/m <sup>2</sup> /yr. 2. Projects are to target energy consumption below NCC benchmarks - subject to client approval. 3. m3 to review energy efficient initiatives with clients in order to understand how energy use can be reduced or alternatively sourced to minimise carbon emissions. 4. Section E of the SAP, being the "CO2-e Report" is to be completed at end of Concept Design, Design Development, Practical Completion & 12 month post-occupancy phases of the project, so Operational and Upfront Carbon usage can be reported over the course of the project. 5. Based on the inclusion of sub-meters that are to be documented in the project, a 12month post-occupancy assessment is to be undertaken to review the energy usage of the building. This is so comparison can be made between Operational Carbon estimated to be generated during the 'Design' phase against the Operation Carbon actually being generate during occupation.		<b>1. Energy performance to be measured on pilot project(s). Target to exceed NCC minimum energy performance requirements</b>  <b>2024 Review:</b> Pilot project established	<b>1. Collate data on energy performance from pilot project(s).</b>  <b>2. Determine a higher target reduction on NCC minimum energy performance requirements</b>  <b>2024-25 Review:</b> CO2 reporting completed for pilot project at time of DD Design Report Issue.  The SAP has been restructured to incorporate a new section, Section E called "Co2-e Report". New projects, i.e. ones adopting the SAP process, are reporting on the energy consumption of the project via the Section E "Co2-e Report".	<b>2025-26 Actions:</b> 1. CO2 reporting for the pilot project to be completed for 'Tender' phase.  2. New projects to continue to assess energy usage during end-of-phase stage of design process.  3. Establish a suitable way to report on the practice's live portfolio total energy performance, this could be a new section in the m3 SAP documenting/comparing the projects designed (EUI) at each project phase and the (EUI) at 12 month post occupancy.  4. Compare each m3 project's post occupancy result to the 2030 minimum performance targets (EUI) E.g Class 9b, climate zone 2, minimum (EUI) 33-43  5. The ongoing level of a projects successfulness achieving the 2030 targets relies on clients acceptance of green star equivalency, carbon neutral energy generation being maximised and then 100% Green Power purchased for energy shortfall.	Determine a higher target reduction on the previous year for energy performance	Determine a higher target reduction on the previous year for energy performance
3.2	What are the firm's goals/targets for improvement towards uptake of regenerative design?	Refer Item 2.5 above.				<b>2025-26 Actions:</b> 1. See item 2.5 above, establish design & approach first.	Ongoing review	Ongoing review
3.3	How is project evaluation and reporting handled? How will you encourage your clients to adopt this approach?	The SAP for Projects sections will be included in client facing project reports from briefing/feasibility stage through design phases and construction documentation. This document will record the key performance data for the project. This performance data will be collated by the SAP working group to establish a database of reference projects.		1. Complete pilot project(s) and review workings of the SAP Projects framework. 2. Collate pilot project(s) data in a database for reference. In the practice.	<b>2024-25 Review:</b> Ongoing review of SAP Projects framework and project data to be added to the database	<b>2025-26 Actions:</b> 1. Prepare a project report using the SAP Projects proforma to be agreed with the client during the design phases.  2. Consult with engineers to establish information required to undertaken energy modelling.  3. Agree a regime of monitoring and data recording is undertaken beyond completion, in order for the on-going energy and water usage elements of the project to be tracked. no projects completed with SAP process that permit 12 month post occupancy energy monitor at the time of issue of this report - ongoing.  4. Format of energy reporting, and Life Cycle Assessment (embodied Carbon) to be developed through the pilot project(s).	Ongoing review of SAP Projects framework and project data to be added to the database	Ongoing review of SAP Projects framework and project data to be added to the database

# 4.0 m3 - SAP Management

Topic		Current Practice (March 2025)	1-5 year goals				
Based on Australian Architect's Declare SAP Framework			Mar 2023 - Feb 2024	Review Mar 2024 - Feb 2025	Actions List / Comments Mar 2025 - Feb 2026	Mar 2026 - Feb 2027	Mar 2027 - Feb 2028
3.4	What approaches are used to reach energy targets?	The current approach to reaching energy targets is based on 'above NCC compliance' for energy consumption assessed via JV3 modelling.	m3 project or industry data to be referenced to determine energy targets.	<b>2024-25 Review:</b> Ongoing review of Energy Use Intensity (EUI) (kWh/m <sup>2</sup> /year)	<b>2025-26 Actions:</b> 1. Energy targets to be reviewed under 3.1. 2. Actions under 3.1 to adopted. 3. Architects to advocate energy reduction with clients. 4. Energy Targets determined under 3.1 to be included in SAP for Projects: Energy Efficiency and Consumption. Confirm that we are targeting the 2030 minimum performance targets (EUI) now, noting that these vary on building class, climate zone. 5. Example / pilot project to be assessed and report prepared for inclusion in the SAP. 6. Friday talk on how this is tracking.	Ongoing review.	Ongoing review.
3.5	How do you share the findings of energy and post-occupancy evaluations with the firm, and use them to improve your processes?	Post occupancy evaluations are not currently undertaken. Where energy targets exceed NCC requirements this information has not been shared - as yet.	m3 working to determine. - what information is required from our clients as part of a post occupancy evaluation. - what do we do with this information. - how do we share this information. - how does this information led to better outcomes for our client, future projects, and future clients.	<b>2024-25 Review:</b> Ongoing review. Post occupancy evaluation and energy consumption data to be assessed for pilot project(s) when they reach this milestone	<b>2025-26 Actions:</b> Ongoing review. Post occupancy evaluation and energy consumption data to be assessed for pilot project(s) when they reach this milestone 1. Information reporting and sharing to be developed based on reference project. 2. Internal: information sharing via internal informal CPD meeting/s and via the HSQ system via m3's intranet portal. 3. External: Information sharing via appendices to SAP for Projects. consider how to provide anonymity of project data 4. External: Information sharing via m3 webpage as part of obligations under Architects Declare.	Ongoing review.	Ongoing review.

# 4.0 m3 - SAP Management

Topic		Current Practice (March 2025)
Based on Australian Architect's Declare SAP Framework		
<b>4 Outreach &amp; Advocacy</b> (this is "external" knowledge sharing)		
4.1	How are you talking with your clients about the Architects Declare principles?	The Architect's Declare principles are echoed in our SAP. The Architects Declare pledge forms the basis of our commitment to the movement and preparation and implementation of the practice's SAP. SAP (for clients) outline high level principles that guide the design process.
4.2	How are your strategies communicated to clients?	Our strategies are communicated through our SAP for Projects (Clients) document.
4.3	How does the firm contribute to the sustainable design community?	m3 is undertaking a refinement process of our services through implementation of the SAP in order to meet our obligations, and help our clients meet their obligations in relation to the climate emergency.
4.4	How will you share knowledge and research to that end on an open source basis?	m3 SAP will be posted on the m3 website.
4.5	Publish your SAP and update annually	Refer Item 4.4 above
<b>5 Training &amp; Education</b> (...and "internal" knowledge sharing)		
5.1	How does the firm support staff growth in sustainable design disciplines?	Through the formation of the SAP working group m3 has provided voluntary participation on practice sustainability initiatives, such as preparing and contributing to the m3's SAP framework. CPD focused on sustainability (e.g. Architects Declare events, and MECLA events) are shared with all staff and attendance is encouraged.
<b>6 Operations &amp; Outlook</b>		
6.1	Evaluate the firm's carbon footprint from operating your business.	m3architecture has been Carbon Neutral Organisation since 2019. This is certified by Climate Active each financial year. The practice is committed to maintaining this certification.
6.2	Identify ways to reduce the firm's footprint and increase its handprint	Refer m3 - Emissions Reduction Plan.
6.3	Publish the data set from your audit and your pathway to carbon neutrality as a business to help Accelerate the shift to low a low carbon society.	Refer Climate Active Website

1-5 year goals				
Mar 2023 - Feb 2024	Review Mar 2024 - Feb 2025	Actions List / Comments Mar 2025 - Feb 2026	Mar 2026 - Feb 2027	Mar 2027 - Feb 2028
1. Update practice mission statement to include reference to the SAP. 2. SAP to be rolled-out under pilot project(s).  2024 Review Actions completed	SAP to be rolled-out for all new projects.  2025 Review Action completed	<b>2025-26 Actions:</b> 1. Acknowledgement of Architect's Declare movement within the m3 SAP was undertaken. No actions arising.	Ongoing review.	Ongoing review.
Ongoing review.	Ongoing review	<b>2025-26 Actions:</b> 1. SAP working group to review what general improvements can be made to communicate our Sustainability objects to our clients.  2. Review strategy on communicating 'the race to Net Zero' document by the low carbon institute to clients.	Ongoing review	Ongoing review
Ongoing review.	Ongoing review	<b>2025-26 Actions:</b> 1. Next steps will be to share lessons learnt with the sustainable design community  2. Update this document and publish to website.  3. Present for architect's declare: BV.	Ongoing review	Ongoing review
1. Web page for sustainability including m3 SAP document.  2. Share via social media.	Seek opportunities to share lessons learnt with the design community	<b>2025-26 Actions:</b> Establish a sustainability web page and share the m3 SAP via social media. Next steps will be to share lessons learnt with the sustainable design community	Ongoing review	Ongoing review
Ongoing review	Ongoing review	<b>2025-26 Actions:</b> Ongoing review	Ongoing review	Ongoing review
1. Establish a quarterly meeting schedule. 2. Ongoing review	Ongoing review	<b>2025-26 Actions:</b> Items for consideration:  1. SAP working group to meet bi-monthly, (not on a wed). To discuss & progress actions list and review progress. Recurring calendar invite to be generated  2. CPD focused on sustainability (e.g. AIA, Architects Declare, MECLA, GBCA, LBC events) are attended/shared with all staff.  3. Friday Soiree CPD sessions to be allocated to enable presentation of progress / status of the SAP framework and its implementation on projects, and take opportunities for specialists in this industry to speak to staff.	Ongoing review	Ongoing review
Climate Active	Climate Active	<b>2025-26 Actions:</b> Yearly Climate Active Carbon Neutral Organisation submission	Climate Active	Climate Active
Emissions Reduction Plan review of targets with Climate Active	Emissions Reduction Plan review of targets with Climate Active	<b>2025-26 Actions:</b> Emissions Reduction Plan review of targets with Climate Active	Emissions Reduction Plan review of targets with Climate Active	Emissions Reduction Plan review of targets with Climate Active
Done	Yet to be published for 2024-25	<b>2025-26 Actions:</b> Publish 2025-26	Publish 2026-27	Publish 2027-28

## 5.0 Glossary of Terms

### Carbon emissions

Used in this report to refer to all emissions of greenhouse gases. Their global warming potential (GWP) is quantified in units of carbon dioxide equivalence. A kilogram of carbon dioxide therefore has a GWP of 1 kgCO<sub>2</sub>e.

### Beyond the lifecycle

Carbon emissions or emissions savings incurred due to reuse or recycling of materials or emissions avoided due to using waste as a fuel source for another process (module D). Consideration of module D is key for maximising resource efficient uses of materials at the end of life. Under forthcoming updates to European standards, it will be mandatory for product EPDs to report module D alongside other lifecycle stages in most cases, and will also be required for building assessments.

### Embodied carbon

Carbon emissions associated with materials and construction processes throughout the whole lifecycle of a building or infrastructure. Embodied carbon therefore includes: material extraction (module A1), transport to manufacturer (A2), manufacturing (A3), transport to site (A4), construction (A5), use phase (B1, eg concrete carbonation but excluding operational carbon), maintenance (B2), repair (B3), replacement (B4), refurbishment (B5), deconstruction (C1), transport to end of life facilities (C2), processing (C3), disposal (C4). Benefits beyond the system boundary (D) should also be reported separately to modules A-C.

In the report we refer to the embodied carbon of both buildings and infrastructure as well as the embodied carbon of individual materials.

### End of life carbon

The carbon emissions associated with deconstruction/demolition (C1), transport from site (C2), waste processing (C3) and disposal (C4) phases of a building or infrastructure's lifecycle which occur after its use.

### Operational carbon

The emissions associated with energy used (B6) to operate the building or in the operation of infrastructure.

### Upfront carbon

The emissions caused in the materials production and construction phases (A1-5) of the lifecycle before the building or infrastructure begins to be used. In contrast to other categories of emissions listed here, these emissions have already been released into the atmosphere before the building is occupied or the infrastructure begins operation.

### Use stage embodied carbon

Emissions associated with materials and processes needed to maintain the building or infrastructure during use such as for refurbishments. These are additional to operational carbon emitted due to heating, cooling and power etc.

### Whole life carbon

Emissions from all lifecycle phases, encompassing both embodied and operational carbon together (ie modules A1 to C4, with module D reported separately).

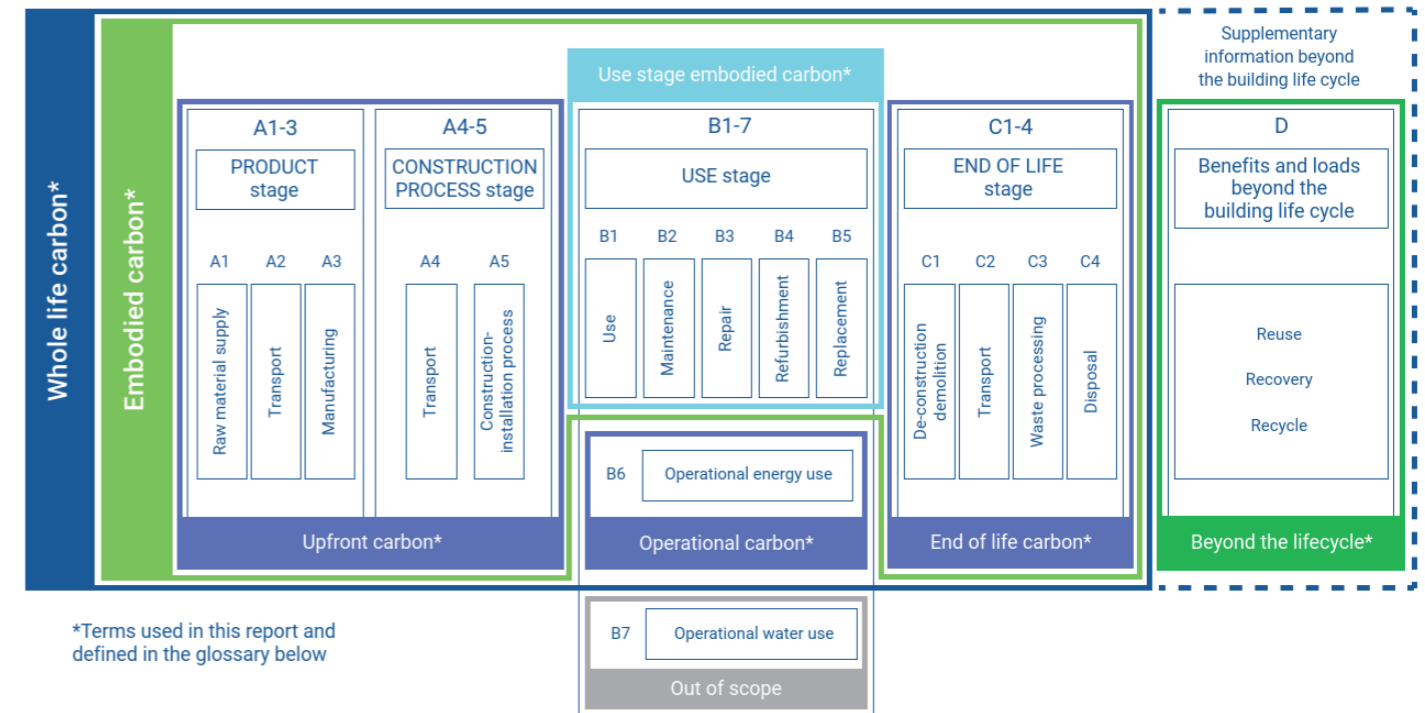


Figure 1: Terminology used in this report cross-referenced to terms and lifecycle stages defined in EN 15978

### Source

World Green Building Council, Bringing embodied carbon upfront report, September 2019, [https://worldgbc.s3.eu-west-2.amazonaws.com/wp-content/uploads/2022/09/22123951/WorldGBC\\_Bringing\\_Embodied\\_Carbon\\_Upfront.pdf](https://worldgbc.s3.eu-west-2.amazonaws.com/wp-content/uploads/2022/09/22123951/WorldGBC_Bringing_Embodied_Carbon_Upfront.pdf), accessed 30/11/22.

## 5.0 Glossary of Terms

### Carbon credit

Is a market-based mechanism and is typically transacted in metric tonnes of carbon dioxide equivalent (CO<sub>2</sub>-e). Purchasing one tonne of carbon credit means there will be one less tonne of carbon dioxide (or an equivalent greenhouse gas) in the atmosphere than there otherwise would have been. Once a carbon credit is purchased, it is retired permanently.

See also 'Carbon offset'.

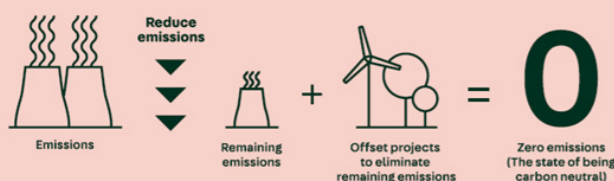
### Carbon dioxide equivalent (CO<sub>2</sub>-e)

A standard measure that takes account of the global warming potential (GWP) of different greenhouse gases and expresses the effect in a common unit.

The following gases are included under the term CO<sub>2</sub>-e:

Greenhouse Gas	GWP
Carbon dioxide (CO <sub>2</sub> )	1
Methane (CH <sub>4</sub> )	21
Nitrous oxide (N <sub>2</sub> O)	298
Hydrofluorocarbons (HFCs)	124 - 14,800
Perfluorocarbons (PFCs)	390 - 12,200
Sulphur hexafluoride (SF <sub>6</sub> )	23,900
Nitrogen trifluoride (NF <sub>3</sub> )	17,200

#### What does it mean to be carbon neutral.



### Carbon neutral

A situation where the net emissions associated with an activity are equal to zero because emissions have been reduced and offset units cancelled to fully account for all emissions.

### Carbon offset

An offset is an action that prevents or reduces carbon dioxide from being released into the atmosphere or removes carbon dioxide from the atmosphere. Carbon credits or offsets are typically measured in tonnes with 1 offset unit equalling 1 tonne of carbon dioxide equivalent. Offsets can be generated from projects such as renewable energy (prevent emissions from burning coal or gas) or waste gas recovery (prevent emissions from methane released from landfills).

See also carbon credit.

### Greenhouse gases (GHG)

The atmospheric gases responsible for causing global warming and climate change. The Kyoto Protocol lists six greenhouse gases – carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur-hexafluoride (SF<sub>6</sub>) – with the addition of nitrogen trifluoride (NF<sub>3</sub>) from the beginning of the protocol's second commitment period.

### Lifecycle assessment (LCA)

LCA is a systematic set of procedures for compiling and examining the inputs and outputs of materials and energy, and the associated environmental impacts directly attributable to a building, infrastructure, product or material throughout its lifecycle (ISO 14040: 2006).

### Offsetting

The activity of cancelling offset units.

### Offset unit

Represents reductions of greenhouse gases or removals of greenhouse gases from the atmosphere by sinks, relative to a business-as-usual baseline. Offset units are tradeable and can be used to negate (or offset) all or part of another entity's emissions.

### Regenerative design

Regenerative design is a holistic framework supporting waste-free systems that utilise renewable resources and energy, seeking a balance between production and consumption while also restoring and revitalising (regenerating) its own sources of energy and materials. Regenerative development is the process of cultivating capacity and capability in people, communities and natural systems to renew, sustain and thrive.

### Scope 1 emissions

The release of greenhouse gases into the atmosphere as a direct result of activities occurring within a responsible entity's control (or geographic boundary).

### Scope 2 emissions

The release of greenhouse gases into the atmosphere from the consumption of electricity, heating, cooling or steam that is generated outside of a responsible entity's control (or geographic boundary).

### Scope 3 emissions

Greenhouse gases emitted as a consequence of a responsible entity's activities but emitted outside the responsible entity's control (or geographic boundary).

#### Sources

- Climate Active Carbon Neutral Standard for Buildings at [https://www.climateactive.org.au/sites/default/files/2022-10/10572%20Environment%20-%20Building%20Standard%20A4\\_FA\\_Web.pdf](https://www.climateactive.org.au/sites/default/files/2022-10/10572%20Environment%20-%20Building%20Standard%20A4_FA_Web.pdf), accessed 28/11/2022,.
- <https://carbonneutral.com.au/glossary/>, accessed 28/11/22,
- <https://acumen.architecture.com.au/environment/making-it-happen/regenerative-design-approaches/>, accessed 28/11/22.

