

Steffen Welsch Architects | Sustainability Action Plan v1

Overall goals

- Be net zero carbon by 2050 (or earlier) through our business operation and delivery of architectural projects, with carbon offsets used only as a last resort
 - Interim: Reduce carbon emissions of projects by 50% by 2030, relative to our baseline*
 - Reduce office carbon emissions by 50% - compared to 2021 levels - by 2030
 - Utilise architectural projects to preserve and restore biodiversity
- *Our project baseline is yet to be established (see 4.6.1)

Priorities for 2024:

- Start conducting LCAs on at least 50% of our projects – begin empirically evaluating the carbon impact of our designs and measuring our improvement
- Become a Certified B Corporation
- Strengthen endeavours to start producing buildings that achieve the Living Building Challenge design standard

Tabled below are some of the major areas of action and strategies that (1) are already in practice, while also demonstrating some potential for extension (in green) – as well as (2) those that we aim to integrate in pursuit of achieving our interim and overall goals.

| # | Area of action | Strategies for addressing an area of action | Corresponding Architects Declare Principle* |
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| 1. MINIMISE WHOLE LIFE CARBON (EMBODIED + OPERATIONAL CARBON) | | | |
| 1.1 | Apply initiatives aimed at minimising embodied carbon from construction, materials used and waste generated | 1.1.1 Advocate for small houses and the efficient use of space 1.1.2 Design flexible spaces that allow for ageing in place 1.1.3 Demolish as little as possible 1.1.4 Use prefabricated building elements 1.1.5 Design for long building life (example of something to consider: designing for a changing climate) 1.1.6 Collaborate with builders, engineers and contractors to gain additional insight into how construction waste can be minimised 1.1.7 Implement measures to facilitate the integration of circular economy principles, e.g.: <ul style="list-style-type: none"> • Ensure that waste and/or embodied carbon goals are established at the outset • Consider the building's end of life early on: design for disassembly and deconstruction to facilitate future reuse, selecting materials which can be recycled and which can be extracted and separated easily for processing | (5) Evaluate projects (6) Upgrade (9) Collaborate and reduce (10) Accelerate the shift (11) Minimise waste |

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| | | <ul style="list-style-type: none"> • Ensure the proper deconstruction of a building at the end of its life by producing Deconstruction Plans and Material Passports, and • Ensure that sustainable demolition techniques are being used (recycle or reuse demolition waste if possible) <p>1.1.8 Employ strategies to account for the total embodied carbon emissions (tCO₂e) from construction.</p> <ul style="list-style-type: none"> • e.g. through the use of carbon-sequestering materials and/or through a one-time carbon offset purchase through an ILFI-approved carbon offset provider” | |
| 1.2 | Specify healthy and sustainable materials, and pursue initiatives that facilitate choosing these materials for projects | <p>1.2.1 Specify only FSC-certified timber, and use materials such as rammed earth and hempcrete</p> <p>1.2.2 Extend the use of reclaimed and recycled materials (e.g. recycled metal, recycled concrete, recycled insulation), as well as low carbon, carbon neutral, and carbon negative materials in projects</p> <ul style="list-style-type: none"> • Increase the use of rammed earth and hempcrete <p>1.2.3 Create a sustainable materials selection and specification guide that highlights these. The guide should also include a directory for suppliers we like to work with.</p> <p>1.2.4 Improve advocacy of these sustainable materials to encourage uptake from clients. Resources could be made/compiled and posted to our website and social media to achieve this. (See initiative 4.5.)</p> <p>1.2.5 Use product declarations to guide material specification and supplier choice: e.g. EPD's and the Living Future Institute's Declare label</p> <p>1.2.6 Investigate further into less explored, sustainable materials in our practice and include them in our guide</p> | <p>(2) Advocate</p> <p>(9) Collaborate</p> <p>(10) Accelerate the shift</p> <p>(11) Minimise waste</p> |
| 1.3 | Improve the operational carbon performance of our projects | <p>1.3.1 Employ passive solar design principles to achieve NatHERS star ratings above the minimum</p> <p>1.3.2 Specify energy efficient - and <i>resource</i> efficient, more generally - appliances, fittings and active systems</p> | <p>(3) Establish mitigation principles</p> <p>(5) Evaluate projects</p> |

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| | | 1.3.3 Create a checklist to facilitate adherence to passive design principles guidelines and streamline the design process | |
| 1.4 | Design houses that are “zero ready” for clients who are not ready to commit to zero carbon now | 1.4.1 Make provisions to accommodate for the future installation of renewable energy systems and electric vehicle charging 1.4.2 Make provisions for external shades | (1) Raise awareness (5) Evaluate projects |
| 1.5 | Take steps to ensure that construction is sustainable - that it aligns with our commitment | 1.5.1 Work with sustainable contractors (e.g. builders that are signatories of the Sustainable Builders Alliance and/or Australian Builders Declare) 1.5.2 Establish sustainability goals for our projects 1.6.3 Have builders develop a construction plan and choose those that employ low or zero carbon construction techniques (e.g. have renewable energy generators on site to power the build) | (9) Collaborate and reduce (10) Accelerate the shift |
| 1.6 | Take steps to implement more regenerative design principles into designs | 1.6.1 Upskill the office on the topic of regenerative design principles | (8) Adopt more regenerative design principles |
| 2. ADVANCE BIODIVERSITY GOALS | | | |
| 2.1 | Extend efforts to educate clients on and advocate for landscaping decisions that advance biodiversity goals | 2.1.1 Have a resource detailing the ways in which landscapes can be designed and maintained to mitigate biodiversity loss 2.1.2 Publish resources on our website and social media to raise awareness on the threats to biodiversity and the landscaping possibilities available for ameliorating it | (1) Raise awareness (2) Advocate |
| 2.2 | Explore more avenues for preserving and restoring biodiversity | 2.2.1 Work with landscape architects and arborists to integrate biodiversity-preserving/restoring principles and ensure that the environmental context is respected. 2.2.2 Investigate further into the feasibility of implementing <i>biodiversity</i> green roofs in projects 2.2.3 Collaborate with like-minded groups to strengthen efforts to address issues relating to biodiversity in the built environment sector 2.2.4 Investigate into previously unexplored initiatives that promote biodiversity | (8) Adopt more regenerative design principles (9) Collaborate |

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| 2.3 | Improve awareness and vigilance surrounding materials on the Red List and Watch List | 2.3.1 Use the Living Future Institute's Declare labels to guide material and supplier selection | (5) Evaluate projects (10) Accelerate the shift |
| 3. MAINTAIN CARBON NEUTRAL PRACTICE | | | |
| 3.1 | Conduct carbon audits on a more regular basis to track the progress of our practice's emissions reduction initiatives | | (3) Establish mitigation principles (9) Collaborate (10) Accelerate the shift (11) Minimise waste |
| 3.2 | Publish the results of our carbon audit on our website | | |
| 3.3 | Switch to 100% Certified GreenPower | | |
| 3.4 | Increase the percentage of goods and services purchased from carbon neutral brands and companies | | |
| 3.5 | Take steps to reduce waste in the office | 3.5.1 Investigate into ways we could reduce landfill waste | |
| 3.6 | Switch to using (more) energy efficient appliances in the office | | |
| 4. OTHER SUPPORTING STRUCTURES | | | |
| 4.1 | Integrate sustainability considerations to the checklist for each stage of a project | | (10) Accelerate the shift (11) Minimise waste |
| 4.2 | Conduct regular reviews of staff ESD knowledge and extend support for staff upskilling | 4.2.1 Arrange for CPD presentations as a means of expanding our design knowledge and toolkit 4.2.2 Improve upskilling resource bank | |

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| 4.3 | Implement new and/or relatively unexplored initiatives and technology | <p>4.3.1 Formalise a process for observing and sharing knowledge internally on developments in ESD thinking</p> <p>4.3.2 Be more active in updating our internal sustainability knowledge bank. Establish a system for doing this.</p> <p>4.3.3 Investigate further into the feasibility of doing green roofs, walls, and facades, for example.</p> <p>4.3.4 Investigate further into the feasibility of adding software that model whole-life carbon use to our office toolkit</p> | (4) Share knowledge |
| 4.4 | <p>Extend endeavours to educate clients on the merits of sustainable design and construction and increase advocacy of sustainable practices and standards.</p> <ul style="list-style-type: none"> The aim is to not only raise awareness of the issue, but to encourage clients to take action by making more sustainable design decisions. | <p>4.4.1 Include section on our website dedicated to highlighting educational resources relating to sustainable architecture</p> <p>4.4.2 Clients are made aware of the contribution of the built environment to global emissions on our website and social media</p> <p>4.4.3 Create accessible and easily digestible resources for clients on sustainable materials (like rammed earth and hempcrete), passive design principles, and design choices that improve energy efficiency</p> <ul style="list-style-type: none"> Include, for example, information on the estimated cost of working with a certain material, what can be achieved within a certain budget, and the pros and cons of specifying that material Include information on reclaimed and recycled material use, as well as low carbon, carbon neutral, and carbon negative materials <p>4.4.4 Pursue efforts to get clients on board with conducting LCAs</p> <p>4.4.5 Continue to advocate for strategies that reduce operational and embodied carbon, e.g.</p> <ul style="list-style-type: none"> the efficient use of spaces and avoiding the construction of unnecessary spaces | <p>(1) Raise awareness</p> <p>(2) Advocate</p> <p>(9) Collaborate</p> <p>(10) Accelerate the shift</p> <p>(11) Minimise waste</p> |
| 4.5 | Create more room in the brief stage of the process for establishing various sustainability goals with the clients e.g. embodied and operational carbon goals | <p>4.5.1 Clients are asked to note the environmentally friendly measures that are important to them and provide an insight into where sustainability ranks among a list of other priorities (budget, time, quality, etc.) in our questionnaire and brief document</p> | (1) Raise awareness |

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| 4.6 | LCA's, whole-life carbon modelling and post occupancy evaluations | <p>4.6.1 Conduct post-construction evaluations</p> <p>4.6.2 Start conducting LCAs to establish a baseline carbon emissions value for projects</p> | (7) Whole of life approach |
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*Australian Architects Declare Climate and Biodiversity Emergency

As a signatory to Australian Architects Declare, we have committed to 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.
- 11) **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.