

Sustainability Action Plan

2023

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Hayball acknowledge the Traditional Custodians of the land and pay respect to Elders past, present and emerging. We honour Australian Aboriginal and Torres Strait Islander peoples' unique cultural and spiritual relationships to place and their rich contribution to our society.

To that end, all our work seeks to uphold the idea that if we care for Country, it will care for us.



Trinity College, University of Melbourne
Woiworung Country, Kulin Nation.
Melbourne, VIC.

Executive Summary

Hayball's Sustainability Action Plan intends to shape and improve our approach to sustainable design and business operations.

Climate change is the most serious issue of our time. It is impacting people, climate and land now, and very profoundly, within this decade.

Globally, the construction industry and the existing built environment are contributors to nearly 40% of energy-related carbon dioxide emissions whilst also having a significant impact on our natural habitats and well-being.¹

Political stasis has impacted the Australian legislative environment over the last decade and given a free pass to the construction and development industries, compared to global norms.

There is now pressure to change. Hayball's Sustainability Action Plan establishes a road map with measurable objectives in short, medium, and long term time frames. The document is a way of cementing our ambitions into a concrete framework for progress, and to ensure our ongoing alignment of values, goals, and practices.

References:
1. IPCC Sixth Assessment Report

Context

Hayball is a national practice of architects, designers and consultants who share a set of values to make and enable a positive and sustainable impact at all scales; from the people who use our spaces, the land we build on and to the climate that we influence.

Our user-centred design approach is underpinned by research, ensuring more sustainable outcomes for people and the planet.



TOTAL NUMBER OF STAFF

120+

YEARS IN BUSINESS

40

% CARBON NEUTRAL

100

NATIONALITIES REPRESENTED

22

SECTORS WE WORK ACROSS

06

% FEMALE ARCHITECTS

50

Who we are

We know that businesses, livelihoods, and goals are all potentially impacted by climate change. This could be because of adverse climate risks, by disruptions to business practice explicitly required to adapt and comply, or by the impact on people's health & well-being.

Although Hayball's operations have a relatively low impact on the environment - 456.99 tCO₂e annually¹ - the projects we design and develop are within the construction sector.

This sector is a significant contributor to the twin crises of climate breakdown and biodiversity loss, ultimately with a significant impact on the communities we serve. The corollary is that we are well placed to make a significant impact through our influence, with advocacy, and in changing our practice for the better.

References:

1. Hayball Carbon Audit by the Carbon Reduction Institute (FY2021)
2. Based on the Australian Architects Declare Framework for Progress

How we've started

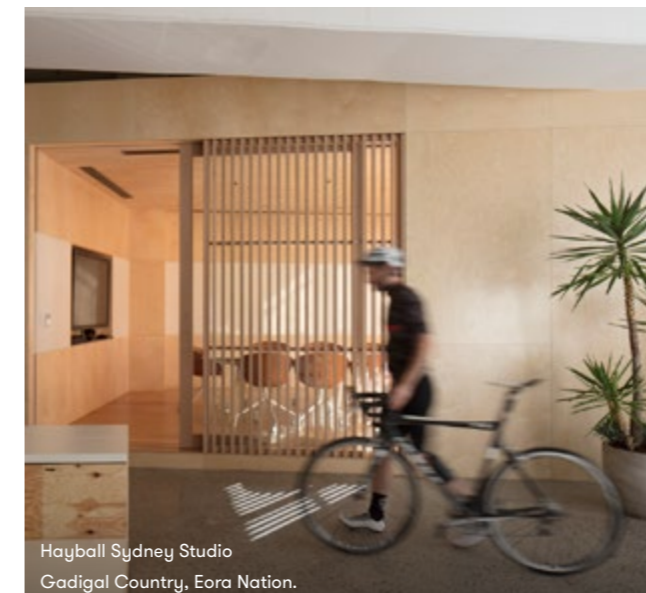
Hayball is committed to making change, and to an actionable plan for real impact.

Over the last year, we have critically analysed our current practice, run internal workshops with leadership teams to formalise our sustainability vision, and run focus groups to gather feedback on the improved sustainable design practices.

The result is a comprehensive roadmap for transforming the firm's practice and portfolio through our ambitious commitments to the planet and future generations, an analysis of our current practice, practical actions, and time frames. The Sustainability Action Plan will act as a long-term planning tool to ensure the ongoing alignment of values, goals, and practices. It will also provide a measurement framework to track and report on progress to 2030.

The Australian Architects Declare group has established a 'Framework for Progress' which provides a four-level structure to advance our action plan.

There is a lot of work in front of us but we are committed to making regenerative practice² our default option.





Mission Statement

Our vision is of restorative architectural practice, underpinned by integrated research, analysis, design, and advocacy founded on strongly user-centred design values.

Resilient communities are at the heart of our practice, our methods, and our thinking.

All stakeholders have a key part to play and we will drive change by leading with our own operations, listening and leading on design, advocating for all stakeholders both present and absent, and championing the values of generations that will be most impacted.

2030 Commitments

In order to stimulate action and progress tracking, we have committed ourselves to achieving a series of ambitious goals by 2030. These goals are categorised around three issues that are deeply important to Hayball.

This SAP seeks to follow the Aboriginal worldview; to consider natural systems that include people, climate and, land as equal¹. If considered like this, and through all our design processes, we can make a significant contribution to a more sustainable future world.



People

Track social value impact by conducting targeted POE on 60% of projects.

Why is it important?

Decisions made by design teams influence an inhabitant's well-being, health and safety, economic development - as well as equity and social justice, more generally. It is not only the design but, according to the latest IPCC report, climate hazards are also increasingly having a detrimental impact on health, mental health, and well-being¹.

However, according to the Architect's Journal, about 75% of architects often don't obtain feedback on the outcomes of their work.² It therefore becomes difficult to explain or define the impact of our contribution to making places. We know that Post Occupancy Evaluation (POE) has a significant role in allowing us to learn and improve on projects.

What are we going to do about it?

We will continue to add social value in everything that we do from our projects, research, initiatives, policy making, and the way we work. We will seek to design, deliver, and measure our impact in making resilient communities that are healthy, safe, equitable and economically sustainable. This will be achieved by:

- Tracking our social value across the practice operations
- Formalising the measurement of our social value that occurs throughout a project's lifespan

References:

1. Intergovernmental Panel on Climate Change Sixth Assessment Report
2. AJ100 Survey Report, 2020 (Architect's Journal)



Climate

Net zero operational carbon & 40% reduction in upfront carbon for all new projects.¹

Why is it important?

The building sector in Australia is responsible for 21% of all carbon emissions². If the status quo is to prevail, the industry's national share of emissions will significantly increase in the near future. This is particularly likely, considering that Australia's building stock is forecasted to double by 2050 in comparison with the 2019 level².

Any building that does not deliver net zero carbon whole-life carbon performance, or is not designed to be easily adapted for that, is a liability for future generations.

Compared to other industries, the building and construction sector has greater potential and opportunity for rapid and effective change.

What are we going to do about it?

We will significantly reduce our contribution to climate change by rapidly reducing the whole-life carbon footprint of our projects. This will be achieved by:

- Defining ambitious project-specific sustainability agendas for all projects
- Setting up protocols, performance targets and measurement methods to track progress
- Fostering shared values in design leadership

Notes & references:

1. In line with the World Green Building Council commitments. Measured as an average of performance across all projects.
2. PRASAD, D., DAVE, M., KURA, A., OLDFIELD, P., DING, L., NOLLER, C. & HE, B. 2021 Race to Net Zero Carbon: A Climate Emergency Guide for New and Existing Buildings in Australia v1b, Low Carbon Institute (Updated July 2022)



Land

Net zero loss of biodiversity on 100% of projects.¹

Why is it important?

According to the United Nations, "Human activity has altered almost 75% of the earth's surface, squeezing wildlife and nature into an ever-smaller corner of the planet"². The consequences of taking nature for granted and exploiting its resources wastefully are significant: loss of lives and economic assets from extreme weather, aggravated poverty, and food insecurity from droughts and floods; and increased risks of zoonotic diseases like COVID-19³.

The construction industry has a significant impact on biodiversity, both directly and indirectly. Urban development contributes to habitat fragmentation and destruction, soil erosion and water pollution. The production of building materials and the development of new construction sites often results in deforestation.

What are we going to do about it?

We will endeavour to eliminate the direct impact of our projects on ecosystems and wildlife, and push for positive ecological impact. This will be achieved by:

- Elevating the consideration for ecological value in the office
- Avoiding deforestation and degradation of existing ecosystems
- Supporting the long-term health of ecosystems in communities, and when possible, restoring the terrestrial and aquatic ecosystems in place

Notes & references:

1. Target in line with the WWF Living Planet Report, 2022 cited below
2. UN Sustainable Development Goals #15 : Life on Land
3. WWF (2022) Living Planet Report 2022 - Building a nature-positive society. Almond, R.E.A., Grooten, M., Jufe Bignoli, D. & Petersen, T. (Eds). WWF, Gland, Switzerland.

References:

1. Designing with Country, NSW Government



Hayball Studio
Woiworong Country, East Kulin Nation
Melbourne, VIC.

Current Practice

People & Operations

People

Resilient communities are at the heart of our practice, our methods, and our thinking.

Our business currently holds a gender balance across all levels. We are one of eight architecture firms, forming the Champions of Change (CoC) Architecture Group with a commitment to advocating the advance of equality in our profession. We were Australia's first architectural practice to introduce an employee share scheme, empowering and engaging our staff in all areas of the business.

We're convinced that the best design is the result of exploration, different ways of thinking, and the open exchange of ideas. We create places through true collaboration at every stage by working together across studios and states. To constantly improve our learning we do the following:

- Undertake research in collaboration with Universities and in practice
- Contribute to local policy at a state-wide level
- Get involved with influential bodies such as AIA
- Curate mentoring initiatives such as GROW

We love to share our knowledge and thoughts through attending and speaking at conferences while allowing us to gain valuable insights into other industries.

As a practice, we are about advancing collective understandings for more sustainable futures. In recent years our GLEAM forums have been a fantastic platform to discuss, share, and understand issues around environmental sustainability, bridging design and use, and social value amongst others. This approach goes hand-in-hand with our understanding that these issues are bigger than us, and that collaboration is essential.

We have a clear and strong commitment to supporting local people with employment opportunities through our Local Industry Participation and Social Procurement Plan policies. We recognise and promote indigenous cultures and practices by actively pursuing a range of activities that engage with Aboriginal and Torres Strait Islander communities and organisations. Hayball stands firmly against all forms of slavery, corruption, and the violation of human rights. We strive to achieve our commitments by acting ethically, with integrity, and with transparency, in all areas of our practice.

Hayball has a strong sense of obligation to the communities we serve by regularly undertaking pro-bono projects to help improve social and community infrastructure throughout Australia. We have worked on a number of pro bono projects around Australia, such as:

- Girls & Boys Brigade Community Centre, Surry Hills, NSW.
- Good Samaritan Inn, Preston, VIC
- Welcome Precinct Masterplan, Maningrida, NT

Climate & Land

We are dedicated to integrating responsible, ethical, and sustainable business practices.

Hayball is proudly carbon neutral certified NoC02 by the Carbon Reduction Institute and is a signatory of the Australian Architects Declare Climate & Biodiversity Emergency. Since our first carbon audit completed in 2020, we have successfully achieved a 14% reduction in our nationwide carbon footprint. A reduced number of flights and lowered electricity consumption were the two main contributors to this improvement. To further reduce our direct impact on the planet, we are currently investigating ways to decrease our waste production, continuing to lower our electricity consumption, amongst other initiatives.

Our Brisbane, Sydney, and Melbourne studios recently relocated to new premises. The locations were strategically chosen for their proximity to public transport links and bike paths to encourage staff to reduce the impact of travelling to and from the office. The location of our new studio in Canberra was selected with the same rationale. Although the new fitouts generated waste and an increase in expenses, they also allowed us to equip the studios with efficient lighting fixtures, and heating and cooling systems.

On a daily basis we seek to procure local and Australian made products to reduce our impact on our daily operations. Plastic-free catering is prioritised.

Becoming carbon neutral was the first step in the right direction and we are continuing to make real, positive changes to mitigate the climate crisis.

Current Practice

Successful projects and challenges

Successful Projects

Sustainability has been integrated into Hayball's design approach for over a decade. Our designs seek to fully consider the ecology of a place - the climate, the land on which we live, and the people - to create sustainable and resilient places. Our holistic approach to sustainability invites both research and innovation by design. We collaborate with clients and stakeholders throughout to address a complex matrix of environmental objectives and offer expertise in sustainable construction methods and technologies.

We developed DESIGN CODE - a retrospective analysis of our work that enables reflection and learnings to be distilled coherently. This creates a lens through which current initiatives can be reviewed, critiqued, and debated. Our approach to sustainability in projects is woven throughout the CODE, which will be a key tool deployed in our ongoing assessment of our performance in design.

Through the delivery of leading-edge projects like the Library at the Dock, Australia's first public building to be awarded a 6-star Green Star rating, we have developed expertise in mass timber construction methodologies and pre-fabricated modular construction techniques.

We have valuable experience with environmental certification schemes such as Green Star, NABERS, NaTHERS, BREEAM, LEED and the WELL Building Standard. Projects like CRT+YRD Nightingale Village - which is a socially, financially and environmentally sustainable housing model - reflect Hayball's belief in a socially flourishing and equitable future.

Challenges

The evaluation of our current practice against the 11 Architects Declare principles has revealed that the opportunities for real emissions reduction in our design work over the last decades have largely been driven by client aspirations, legislation, or individual leadership in projects. To achieve real, significant change we need a cohesive Hayball-driven approach.

While we endeavour to improve environmental performance on all our projects, we currently focus our efforts on implementing innovative initiatives on key projects. We believe this will assist us with increasing our knowledge base and creating a portfolio of best practice examples to inspire the next generation of projects and stakeholders.

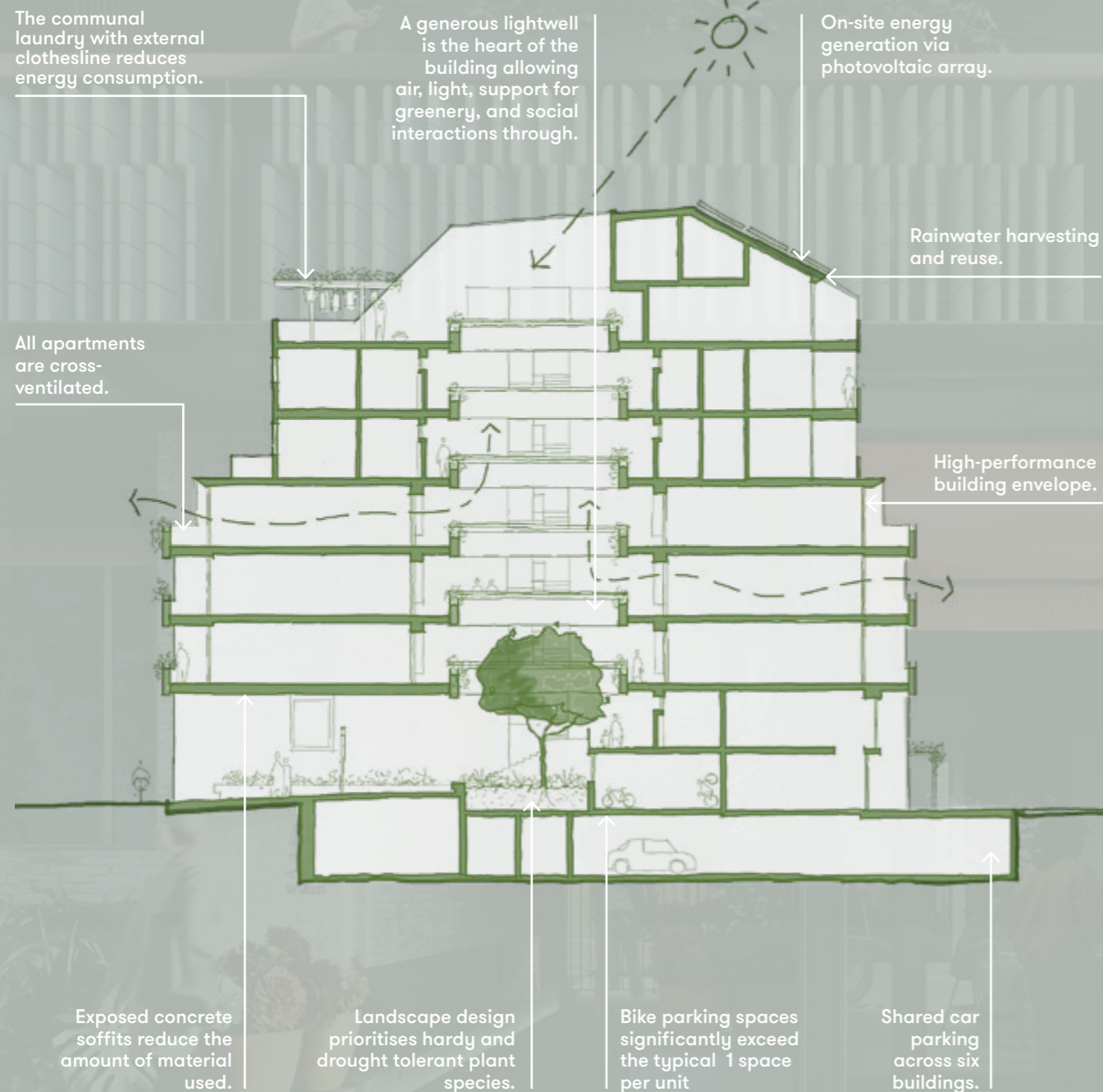
Reflecting on past experiences, common challenges in putting sustainable initiatives into reality have come from disengaged stakeholder groups, as well as a lack of capacity to 'pivot' when initiatives face headwinds within the procurement process. In equipping our project teams with the tools and knowledge to advocate to clients and stakeholders for the benefits of sustainable choices, we aim to close the gap between ambition and reality.



1. CRT+YRD Nightingale Village (2022) 7.5 Stars NaTHERS, fossil fuel free development, carbon neutral in operation and high social value principles.
2. Dunlop Avenue Social & Affordable Housing (2022) 5-star Green Star and 7-star NaTHERS average rating.
3. Melbourne Connect Student Accommodation (2021) 5-star Green Star Design & As Built v1.3.

4. Trinity College, The University of Melbourne. Junior Common Room (2020) High performing building envelope and geothermal heating and cooling system
5. Gandel Group Head Office (2017) 5-star Green Star.
6. Carey Baptist Grammar School (2016) 4-star Green Star.
7. Library at The Dock (2014) 6-star Green Star Design & As Built. Zero embodied energy structure using CLT construction technologies.

CRT+YRD is part of Australia's first medium-density carbon neutral precinct: Nightingale Village



CRT+YRD Nightingale Village

LOCATION	Woiworung Country, Kulin Nation. Brunswick, Victoria
CLIENT	Nightingale Housing
COMPLETION	2022
TYPOLOGY	Multi-Residential
SERVICES PROVIDED	Architecture Interior Design

7.5 Stars NaTHERS

Fossil Fuel Free Development

100% Cross-Ventilated Dwellings

Strong Focus on Social Value Principles

Carbon Neutral in Operation

Hayball's Nightingale at 5-7 Duckett St Brunswick explores flexibility in private and communal living. It deploys a building form and articulation that is contextual, respectful to its neighbours and environmentally responsible. The proposal is a coherent extension of the principles established in the Nightingale Village masterplan.

CRT+YRD has been designed to **foster a sense of belonging and community**. To achieve this, a number of shared spaces are provided:

- Communal laundry.
- Shared clothes drying space adjacent the laundry.
- Outdoor communal open space with a BBQ, communal dining facilities, and a lawn area with vibrant planting.
- Shared bike parking: 2.2 bikes per apartment.

18% of the apartments are attributed to Community Housing providers, and are distributed across 4 levels. All of these apartments are north-facing.

The design anticipates a variety of modes of occupation but does not presume a particular lifestyle. The majority of apartments facilitate adaptable living to support a resident occupant of diverse age and physical capacity. Furthermore, apartments are designed to allow the owners to age in place, and assist people with limited mobility. There are no steps from the lift lobby through to the apartment and out to the apartment balcony (with the exception of 6no. of apartments at Level 4).

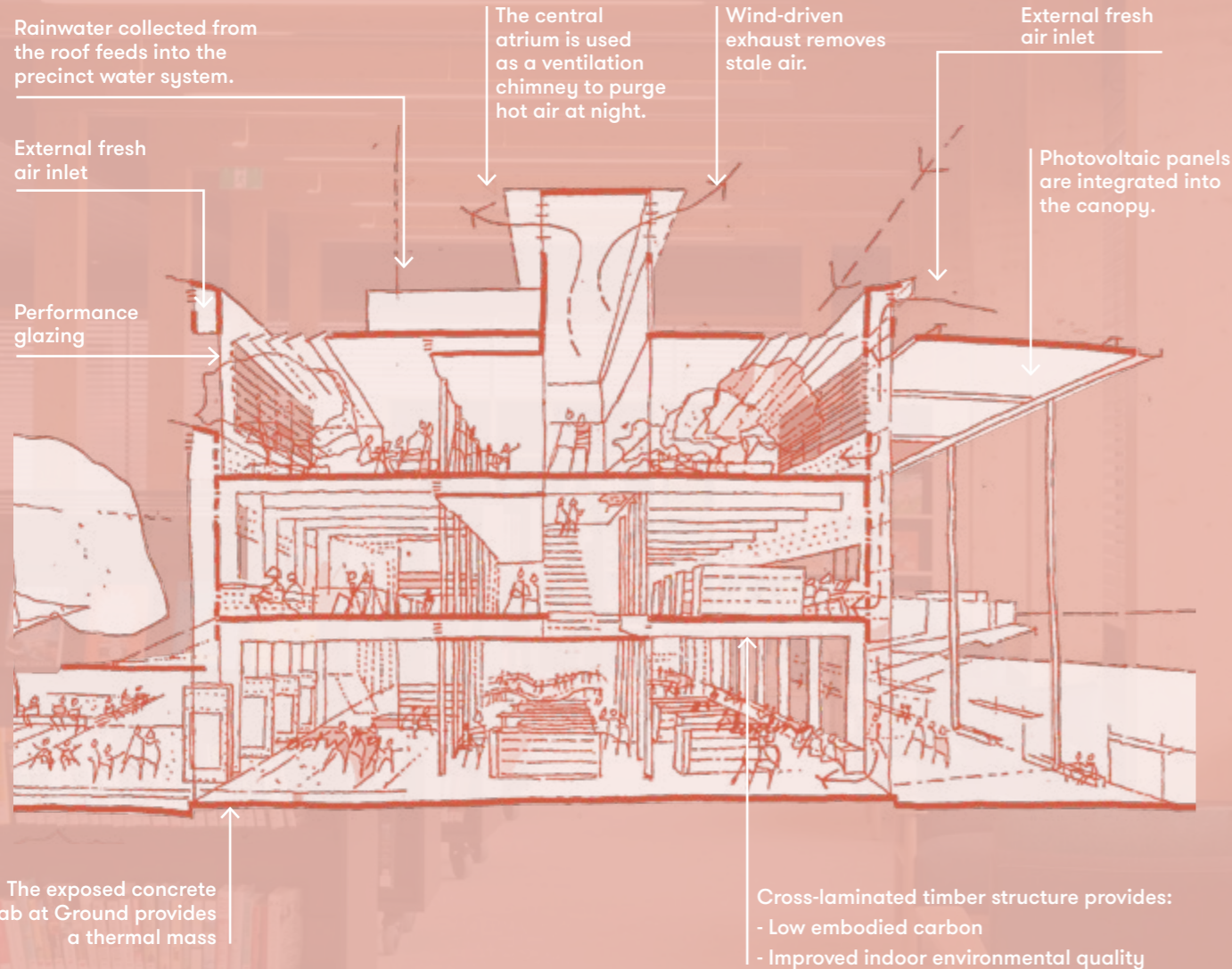
Great care has been taken to reduce the building's operational and embodied carbon footprint. CRT+YRD achieves an average 7.5 stars NaTHERS energy rating across the whole building. The building's **high energy efficiency** has been achieved using high insulation, thermally broken window suites & high-performance glazing. One hydraulic heating panel is provided per living room. There are no air conditioners within the apartments, and ceiling fans are provided to living areas to augment cross-flow ventilation.

The project was designed to **minimise the amount of material resources utilised**. There are no second bathrooms, and generally no laundries are provided within the dwellings (with the exception of 3no. Community Housing apartments). Materials were specified to reduce their carbon footprint. Fly-ash has been used in the concrete, reclaimed brickwork was used where possible, and ceilings have been removed throughout the living rooms and bedrooms. By building less and carefully selecting materials, the project gives back living space to the occupants and reduces its embodied carbon footprint.

A close connection to public transport infrastructure provides residents with rich a choice of transport options allowing for a reduced provision of car parking spaces. The project's landscape design proposal significantly improves the site's ecological value by prioritising hardy and drought-tolerant plant species wherever possible. The plant selection includes species that attract native insects and birds.

Australia's first public building constructed in CLT.

Australia's first public building awarded 6-Star Green Star.



Library at the Dock

LOCATION	Boonwurrung/Woiworong Country, Kulin Nation. Docklands, Victoria
CLIENT	Lend Lease City of Melbourne Places Victoria
COMPLETION	2014
TYOLOGY	Public Library
DESIGN ARCHITECT	Clare Design (commissioned by City of Melbourne)
ARCHITECT OF RECORD	Hayball (commissioned by Lendlease)
AWARDS	AIA National Architecture Awards, Sustainable Architecture Award 2015, AIA Victorian Architecture Awards, Allan and Beth Coldicutt Award for Sustainable Architecture 2015, AIA Victorian Architecture Awards, Commendation for Public Architecture 2015

- 6 Stars GreenStar
- Cross-Laminated Timber (CLT) Structure
- Waste Reduction through Pre-fabrication
- Passive Ventilation
- 85kw Solar Array on-site energy generation
- Rainwater Harvesting

Library at the Dock is an elegant, three-storey, lightweight timber building sitting atop a heritage-listed wharf. The Library is constructed primarily from **Cross Laminated Timber (CLT)**, Glulam, recycled tallowwood, and hardwood. It's design includes mixed-mode passive ventilation, an 85kw solar array, water harvesting, and optimised natural lighting.

The use of CLT allowed the realisation of several attributes aligned with sustainable development including the reduction of carbon emissions, dematerialisation and waste, and the use of renewable materials. These key benefits, in addition to water capture and re-use, renewable energy production, mixed-mode ventilation, and the use of recycled materials resulted in the Library receiving **Australia's first 6 Star Green Star** rating from the Green Building Council of Australia's Public Buildings Pilot scheme.

During the design phase, Hayball partnered with Rijke Marsh Morgan Architects (dRMM), a London-based firm who are internationally recognised as a pioneer of engineered timber architecture. Key discussions were held around the construction sequence for CLT, considerations to minimise on-site work, services integration and reticulation, tolerances of the technology, and strategies to mitigate damage, defects, and surface quality issues.

The Green Star certification included consideration of the minimal energy required for shipping. The Glulam and CLT arrived from Austrian manufacturers Stora Enso, prefabricated and packed into 21 shipping containers.

The CLT is comprised of PEFC-certified softwood (spruce or pinewood), guaranteeing **sustainably managed forests and ethical, controlled sources**. CLT technology is used on the upper floor slabs, roof, columns, beams, and core wall construction to achieve a building that is two-thirds the weight of conventional construction. Closely spaced columns allow the weight to be evenly distributed, eliminating the need to put any new footings in the mud of the Yarra River.

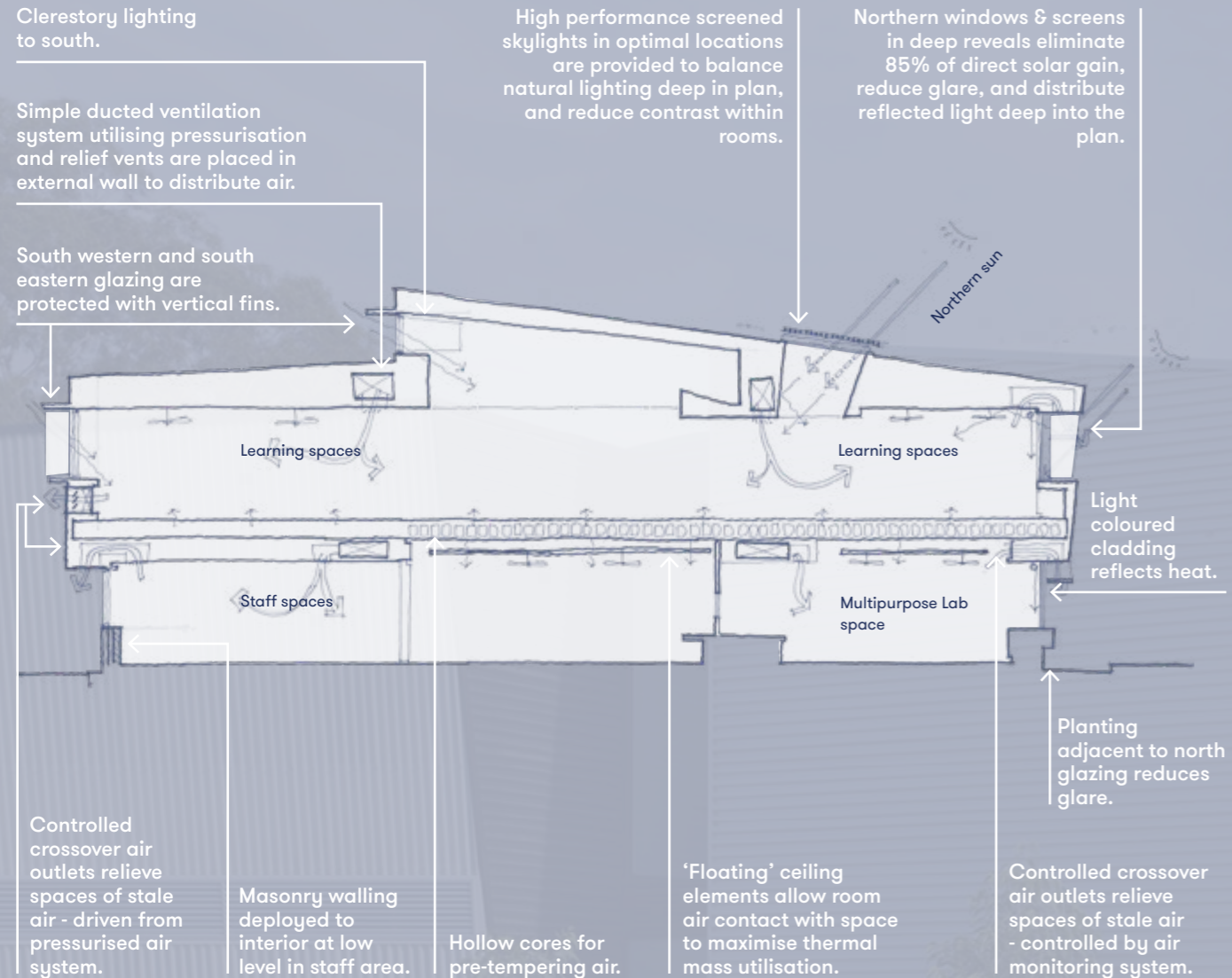
Due to the quantum of off-site fabrication, the time spent on site was significantly reduced. The structure was constructed in 60 days with a crew of six carpenters. No construction waste was produced during the construction process and, most importantly, the timber used on the project saved approximately 250 tonnes of CO2 emissions.

In addition to the innovative use of CLT, the building's passive design uses a **high-performance building envelope**, natural ventilation, daylight, and fresh indoor air quality to reduce energy consumption and provide a **productive indoor environment**. The entire ground floor is naturally ventilated through a system of mechanical operable louvres. This mixed-mode system is also able to condition the air during extreme weather.

The generous double-glazed windows allow the occupants to visually connect with the adjacent park and wharves. The **85kw rooftop solar array** provides 30% of the building's energy demand. Water is also collected from the roof and discharged to a 55,000 litre tank in the nearby Victoria Green park for reuse within the building.

Winner of Best New Facility,
2010 CEFPI Awards.

Winner of Best Overall Project,
2009 DEECD School Design Awards.



Dandenong High School

LOCATION	Bunurong Country, Kulin Nation. Dandenong, Victoria
CLIENT	Department of Education & Training
COMPLETION	2009
TYOLOGY	Education
SERVICES PROVIDED	Urban Design Architecture Interior Design

AWARDS
2010 CEFPI Award: (Australasia Region) Winner Best New Facility, 2009 DEECD School Design Award: Best Overall Project, 2009 DEECD School Design Award: Best Secondary School, 2009 CEFPI Award (Victoria Chapter): Winner New Construction / Major Facility

Five circular icons representing different sustainability and performance metrics:

- GreenStar Education Pilot:** A circle containing a '4' and a star.
- Exceptional Indoor Environmental Quality:** A circle containing a sun and a person.
- Low Operational Carbon Footprint:** A circle containing a lightning bolt.
- Performance Monitoring:** A circle containing a document and a pie chart.
- Waste Management:** A circle containing a trash bin.

Recognised internationally as an exemplary model of innovative and cohesive education design, this major regeneration amalgamated three existing schools and two thousand culturally diverse students into one campus. The design of Dandenong High School tackles the dilemma of the 'large' school by organising students within seven discrete SWIS (School Within a School) buildings. This promotes the students' sense of familiarity and ownership.

The project's key ESD initiatives include air tempering, water collection and re-use, improved natural lighting, environmentally preferable materials, building waste management, and active monitoring and display of building performance to aid ongoing research.

The School was used as a case study for the AGBR 'GreenStar' education pilot and targeted a 4-star Green Star rating under the new education Green Star tool.

The project had a strong focus on outstanding indoor environmental quality. Fresh air is provided through a simple ducted ventilation system that utilises pressurisation and relief vents in external walls to distribute air. Automated window louvres within the pop-up roof structure allow for hot air to be expelled from the building and also provide natural ventilation to the first level. A building management system manages air quality and temperature.

With the objective of reducing the energy demand, fresh air is pre-tempered by circulating through the hollow cores of the first-floor slab before air-conditioning occurs, when required. The indoor temperature is set to an upper limit of 27 degrees. Light cladding and deep reveals were designed into the northern facade to eliminate 85% of direct solar gain and to reduce glare. Similarly, south-western and south-eastern glazing are protected with vertical fins. Low energy LED lighting fixtures were specified.

Great natural lighting is provided to the deeper parts of the floor plan through clerestory lighting and high-performance screened skylights.

Materials were chosen for their recyclability. Most of the materials used on-site were designed to have a minimal impact on the environment such as low VOC paints, rubber skirtings (instead of vinyl), and eco-friendly plywood.

All environmental performance data is transferred through the building management system and displayed on LCD screens throughout the school. This enables students to be exposed to, and be engaged with, the ESD performance of their school. The data can also be used as an educational tool.

The school has observed higher levels of student engagement, improved staff-student interaction, and increased collaboration between staff.

Current Practice

Self-Evaluation Summary

As a signatory of the Australian Architects Declare movement, Hayball joined the collective effort in 2020 to tackle the current climate crisis and loss of biodiversity. The 11 principles set up by the initiative are an effective tool to evaluate our current practice and identify pathways for improvement. We reviewed the targets to see where we are now and how can we do better:

Architects Declare Comparison Table

	11 Architects Declare Principles	Current Practice	How Can We Do Better?
1	Raise awareness of the climate and biodiversity emergencies and the urgent need for action amongst our clients and supply chains.	Our carbon neutral status is promoted internally and externally. Environmental topics feature in our social media posts. Discussions around environmental challenges on projects are driven by enthusiastic individuals within our office. We recognise the need for a more systematic approach across all work that we do.	Create a toolset for our project teams to enable early discussions with clients to promote and set an environmental agenda for each project.
2	Advocate for faster change in our industry towards regenerative design practices and a higher Governmental funding priority to support this.	We are actively advocating for prefabrication & CLT construction on current projects and have achieved successful implementation on past projects.	Advocate our position towards regenerative design practices on all platforms we currently have access to. Expand advocacy on all projects.
3	Establish climate and biodiversity mitigation principles as the key measure of our industry's success: demonstrated through awards, prizes and listings	We encourage clients to commit to a formal project assessment under a recognised environmental rating scheme wherever possible.	Promote positive climate & biodiversity outcomes as key measures of success in awards, prizes & listings. Elevate holistic consideration of landscape on all projects.
4	Share knowledge and research to that end on an open source basis.	This SAP is our first step in sharing our commitments publicly. Our current efforts are focused on developing in-house strategies, information material and tool sets which will help our office transition to be a leader in regenerative design.	Develop case studies and papers that can be shared on our website. Participate in industry discussions and knowledge sharing events.
5	Evaluate all new projects against the aspiration to contribute positively to mitigating climate breakdown, and encourage our clients to adopt this approach.	We have set up an internal process that will equip all projects with an internal 'Sustainability Agenda'. This will arm our project teams with the right knowledge and tools to advocate for improved outcomes.	Make this new internal process mandatory for all projects. Establish measurement methods to track performance, set targets and timelines to assist in monitoring progress.
6	Upgrade existing buildings for extended use as a more carbon efficient alternative to demolition and new build whenever there is a viable choice.	We are conscious of the value of existing buildings and aim to reuse and/or upgrade existing buildings where ever possible. Hayball has a good track record for 'Adaptive Reuse'.	Develop knowledge and promote the use of salvaged and recycled materials in order to stimulate the circular economy.

	11 Architects Declare Principles	Current Practice	How Can We Do Better?
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.	Post-occupancy evaluations are conducted on a number of our projects, aiding our research in the educational sector especially. We aim to broaden POEs to our other project typologies. While the commitment to LCA and whole life carbon modelling heavily depends on a client's ambitions, we work closely with ESD consultants to achieve long term benefits on targeted projects.	Review and implement software that could help us quantify the environmental impact of our design as they progress through the different stages. Develop internal knowledge around social value for architecture to equip us with better arguments to promote POE.
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.	We are currently implementing a 'green' component to existing design review processes to make sure regenerative design principles are thought through at each project stage. These reviews are already well implemented and embraced within the office.	Actively promote professional development in regenerative design principles for all staff. There's a need to up-skill the whole office, quickly.
9	Collaborate with engineers, contractors and clients to form a cohesive approach in addressing the climate and biodiversity emergencies*	We have partnered with Atelier 10 to assist us with advancing our sustainable design practices. We are also actively building relationships with other key consultants whose values align with ours in order to facilitate the design process and client advocacy.	Develop new relationships with industry leaders in regenerative design practices.
10	Accelerate the shift to low embodied carbon materials in all our work.	This subject has received a lot of attention from the internal 'Sustainability Push Team'. It is an area that is promoted on all projects the team is currently involved in. Our in-house database of materials and finishes has been updated to include information on environmental credentials.	Continue to actively research and stay up-to-date with the latest information on low embodied carbon materials and share the information with all staff. Run internal design workshops on low carbon material options.
11	Minimize wasteful use of resources in architecture and urban planning, both in quantum and in detail.	Hayball has long been a leader in implementing prefabrication within its design. This thinking is embedded within the practice. We also promote designing to modular sizes to reduce material offcuts on a project-by-project basis.	Further research and implement Design for Disassembly principles.

*AD principle edited

Implementation Plan

Our Framework

This Sustainability Action Plan (SAP) establishes a road map with measurable objectives in short, medium, and long term time frames. This is a way of cementing our ambitions into a concrete framework for progress. As part of our ongoing commitment, we will review and publish updated versions of the SAP bi-annually. Through an annual reporting program, we will track our performance against our goals outlined in the following pages and identify areas where further improvements are needed to remain on track for achieving our targets.

A key requirement for the successful implementation of the SAP is buy-in from staff, associates, and principals alike. To ensure the plan will be widely embraced, we have conducted a series of workshops with key personnel. In addition to this, the SAP will be presented and distributed broadly within the practice so that questions and comments for future improvements are encouraged.

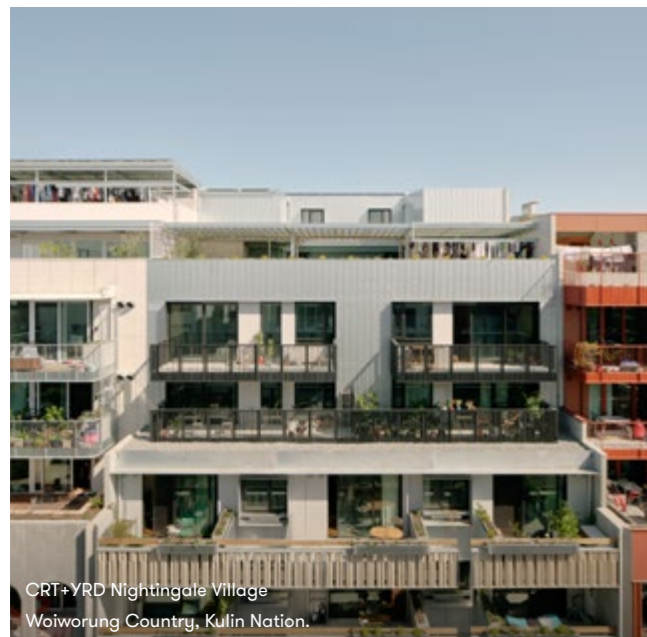
As we move forward, Hayball must implement protocols, policies and metrics for measuring our progress, reporting our results, and continuously improving our efforts. By 2030, Hayball will have a comprehensive approach to regenerative design which will be implemented on all projects within the practice.

To achieve this, we must provide our architects and leaders with the necessary tools to achieve the goals outlined in the plan. This will require testing and implementing tools and resources that will allow us to select the right materials, evaluate energy performance, water usage, carbon footprints, biodiversity loss, social value, and overall performance of our buildings. It will require a significant amount of disruption in the way we are used to working.

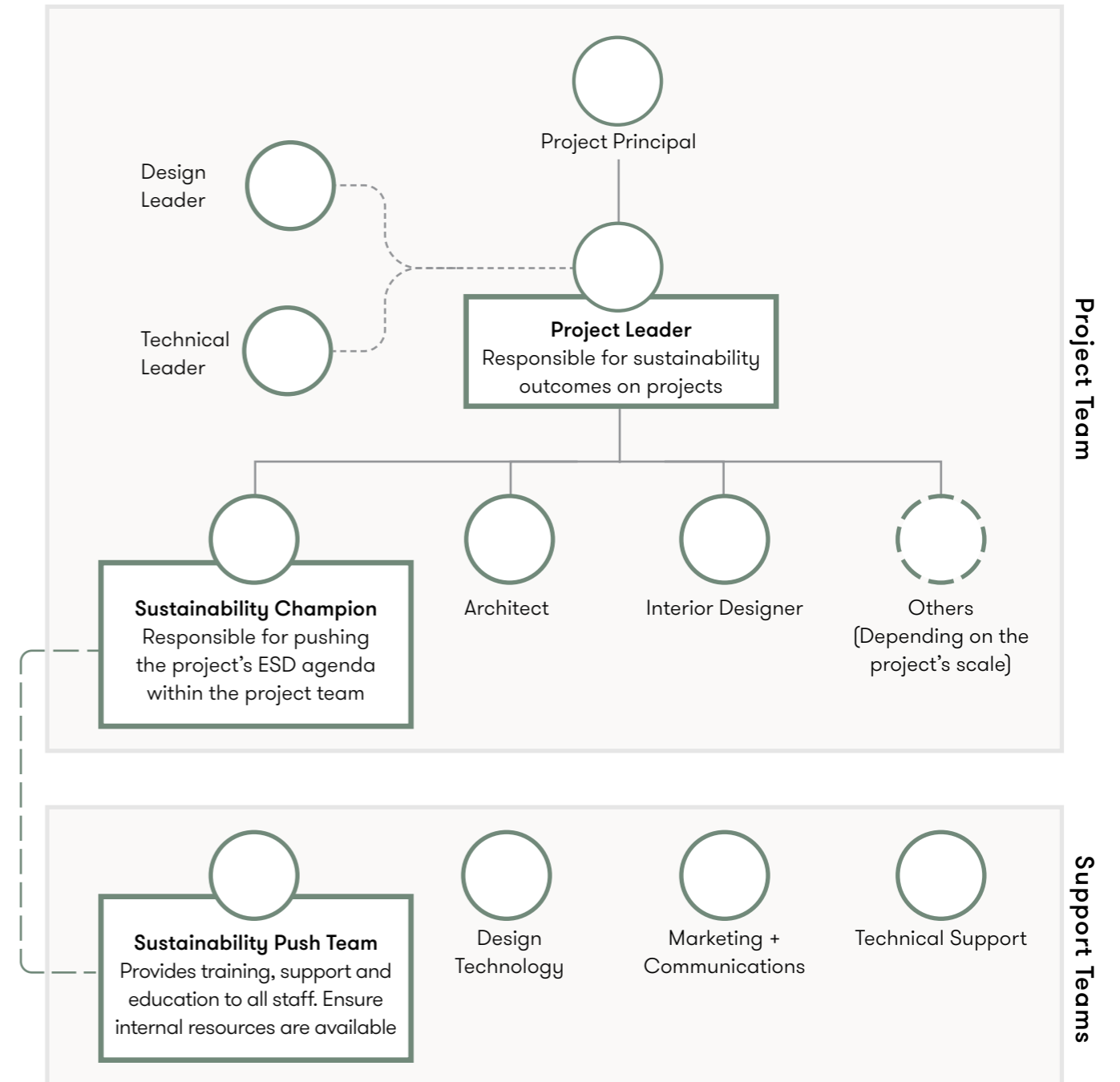
The establishment of these initiatives will be led by an in-house Sustainability Push Team consisting of members with different skill sets and professional knowledge in different areas of architectural practice. The group focuses on driving Hayball's sustainable design values throughout the practice in design thinking and implementation. It actively contributes to advocacy, research, and knowledge sharing across all studios and supports design teams in their efforts to achieve greater sustainability outcomes on their projects.

Members of the Push team will support a key individual within project teams – the Sustainability Champion – responsible for carrying project initiatives through.

Although the Push Team will lead on many fronts, the ultimate responsibility of achieving project goals lies with the project Principals. Their overseeing position within the project team makes them the most influential person able to drive regenerative outcomes on projects.



Team Structure





Little Hall Student Accommodation (5 stars green star [certification in progress])
Woiworung Country, Kulin Nation.
Melbourne, VIC.

Implementation Plan

Our Framework

Responding to the 11 principles of the Australian Architects Declare Initiative, Hayball has established key strategies on how to fulfil our pledge to action. These key strategies have been organized into five working streams, each led by one staff member. These streams are as follows:

A.

Design & Approach

- Promote the universality of sustainable design approaches within project teams.
- Focus on cohesive design review processes to implement goals.
- Put in place protocols, performance targets, and measurement methods to track progress.

B.

Research & Resources

- Explore and develop tools and knowledge to interrogate project performance.
- Collate, distil, and synthesise our existing information into effective resources.

C.

Training & Education

- Provide staff with the right tools and knowledge to test, develop, and interrogate projects.
- Elevate staff's skills and knowledge of regenerative practices to develop excellent sustainable outcomes.
- Targeted recruitment with a focus on sustainable design.

D.

Office & Culture

- Lead by example by keeping our own house in order and maintaining our carbon neutral status.
- Critically analyse our practices with the goal of consistently reducing our annual environmental footprint.
- Focus strongly on values alignment in design.

E.

Outreach & Advocacy

- Share our passion and approach towards regenerative design with the industry and our international, national, and local communities.
- Establish strategic partnerships with clients, contractors, suppliers, and consultants that will help us drive sustainable design excellence.
- Celebrate our success and communicate our expertise to inspire like-minded clients and partners.

Implementation Plan

A. Design & Approach

Our approach to sustainable design is project-specific and responds to the client's objectives, site context, budget, and local climate. Our focus is a tailored design that aims to harness passive and active design strategies based on an understanding of each project's potential.

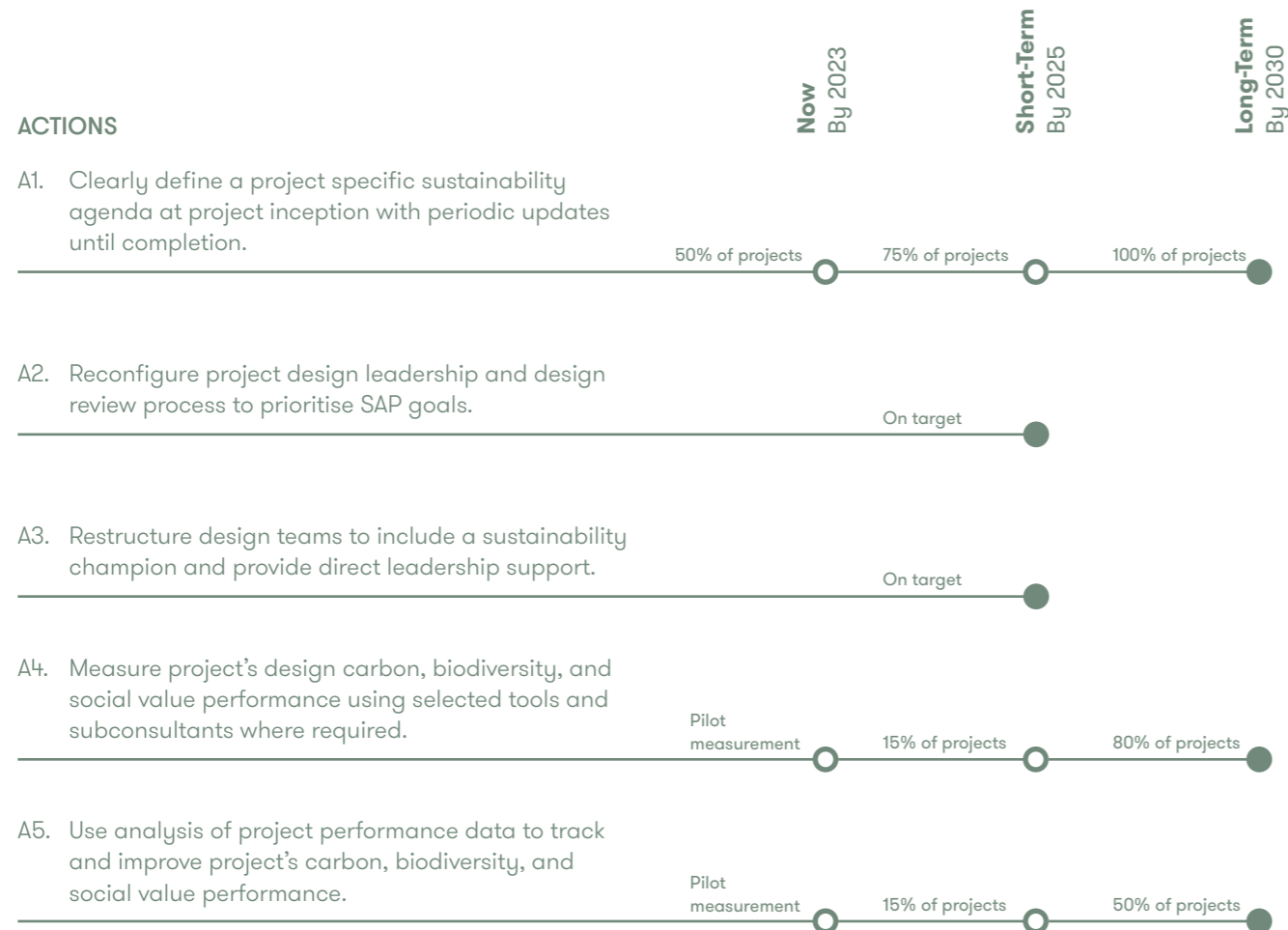
Our work is founded on influencing and developing opportunities for strong design outcomes within a lean and predominantly commercial context - some of our deeply rooted design reflexes and methods have not been driven primarily by environmental design excellence but by other imperatives. We are committed to evolving our approach, starting with implementing the initiatives and actions described on this page.

To ensure we maximise environmental outcomes, all prospective and live projects will be evaluated against sustainability potentials and be tracked via a project database. We have set up a framework that defines the integration of sustainable practices into the design process and project delivery.

At the heart of this framework is a project-specific 'Sustainability Agenda' which outlines the overarching sustainability principles complementing the project's brief, budget, and vision. It is intended to guide decision-making and provides solid ground for discussion with all parties involved.

A series of project environmental performance reviews integrated throughout the design process will assist in elevating the importance of sustainability within the project teams.

The Green Star framework, widely accepted and understood within the industry, has been used to assist with establishing the agenda criteria.



B. Research & Resources

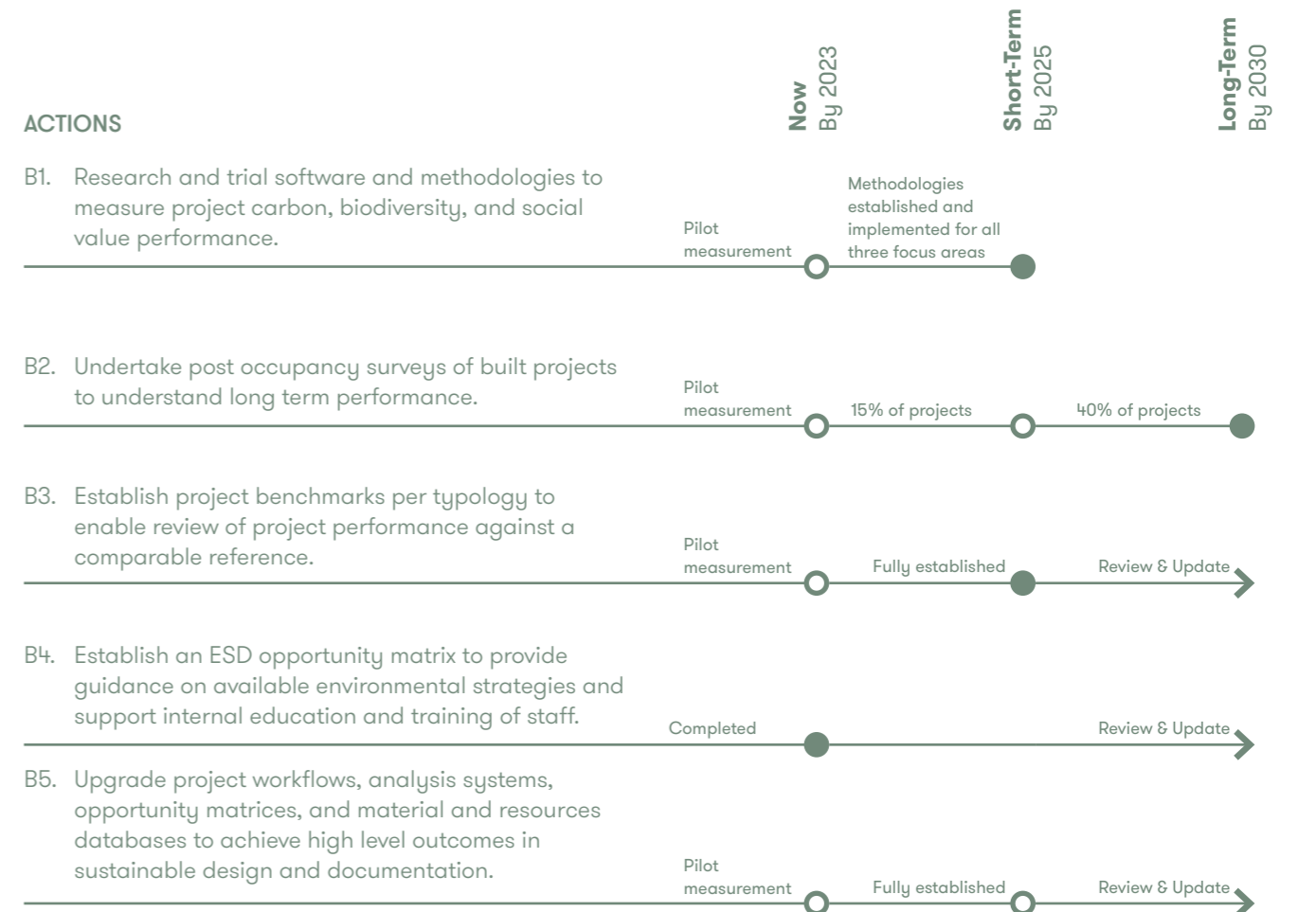
Key to achieving our commitment is establishing a framework of how we will measure project performance in our three core pillars: people, climate, and land. Formal certification schemes such as Green Star, WELL Building Standard, or Life-Cycle Assessment are widely used in Australia, however require the project to be set up and designed to meet pre-established criteria which might not be accessible on projects that do not undergo formal certification.

International measurement tools such as the UK-based tools DEFRA's biodiversity metric or SROI for measuring social return on investment can provide a guideline where there are no formal measurement tools available in Australia. The aim is to set up a holistic measurement framework that does not rely on a client's commitment to project certification, but is tailored to Hayball's field of influence and uses information readily available on every project. Building analysis software and post-occupancy surveys will provide us with in-depth data that will be used to evaluate and measure project performance.

While we investigate and trial a better and more detailed building analysis software that can be easily integrated into our BIM workflow, we have started to collate and synthesize the huge amount of knowledge available to us into useful "rule of thumb" guides aimed at assisting project teams with decision making and advocacy early on in the project life.

Key initiatives are already in place, and onto which we are building to assist project teams with raising the baseline for environmental standards:

- Our in-house product database has been extended to include information on the environmental impact of products, materials, and suppliers.
- We have red-listed under-performers to raise awareness on sustainable choices
- We have recently put together a sustainable master specification focussing on sustainable product selection, low pollutant emissions, recycled materials, and waste minimisation.



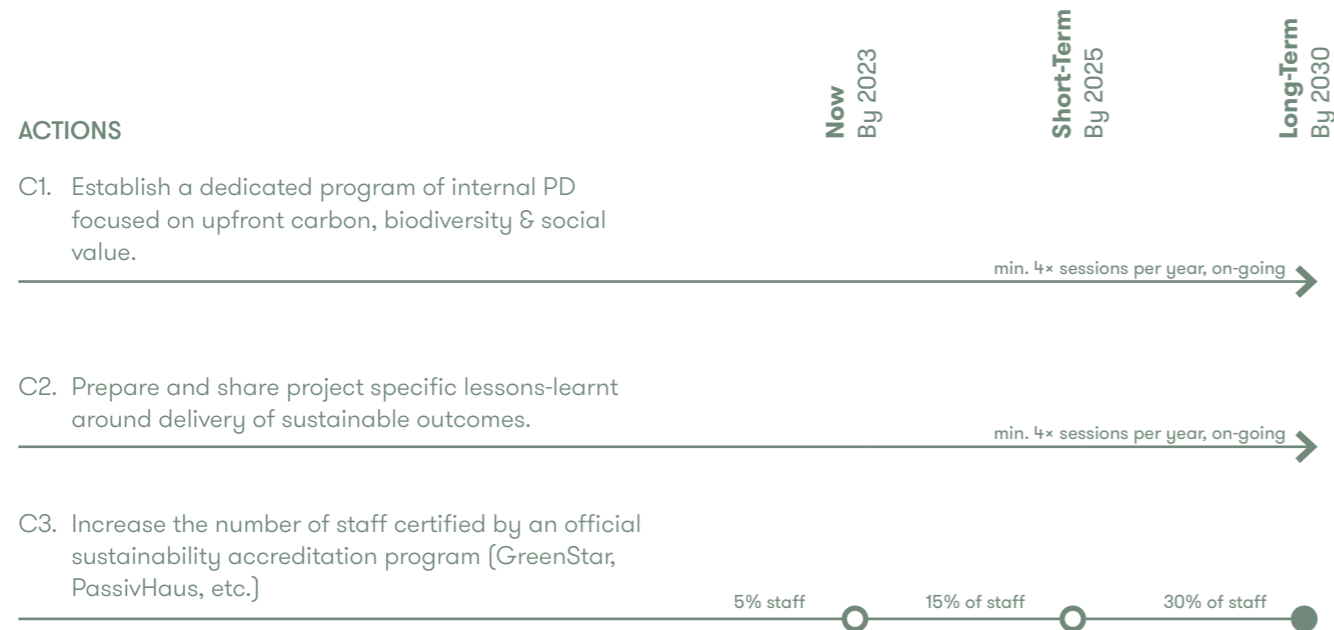
Implementation Plan

C. Training & Education

Hayball know that the key to successfully addressing the climate and biodiversity crisis lies with the talent and passion of its staff. The protocols, strategies, and resources we are aiming to develop are useless without active engagement.

Our workshops have identified that staff members have different personal drivers and focus in their work as design professionals. The will to pivot to address climate change can be daunting, and emotionally and mentally taxing. Part of our challenge is to make sustainability exciting, relatable, and engaging. While our colleagues range in their core knowledge base, our approach is to raise all of our team's potential with a broad-based mentoring and professional development approach.

Ultimately, the success of this Action Plan relies on our capacity to elevate staff skills, knowledge, and interest towards regenerative practices. Increased knowledge will boost confidence to advocate and promote sustainability initiatives with clients, consultants, and colleagues.



D. Office & Culture

At Hayball, we believe in the importance of leading by example. We have been a proudly certified carbon neutral business since 2020 and are committed to continuing to reduce our direct environmental impact through a series of in-house initiatives informed by our carbon audit.

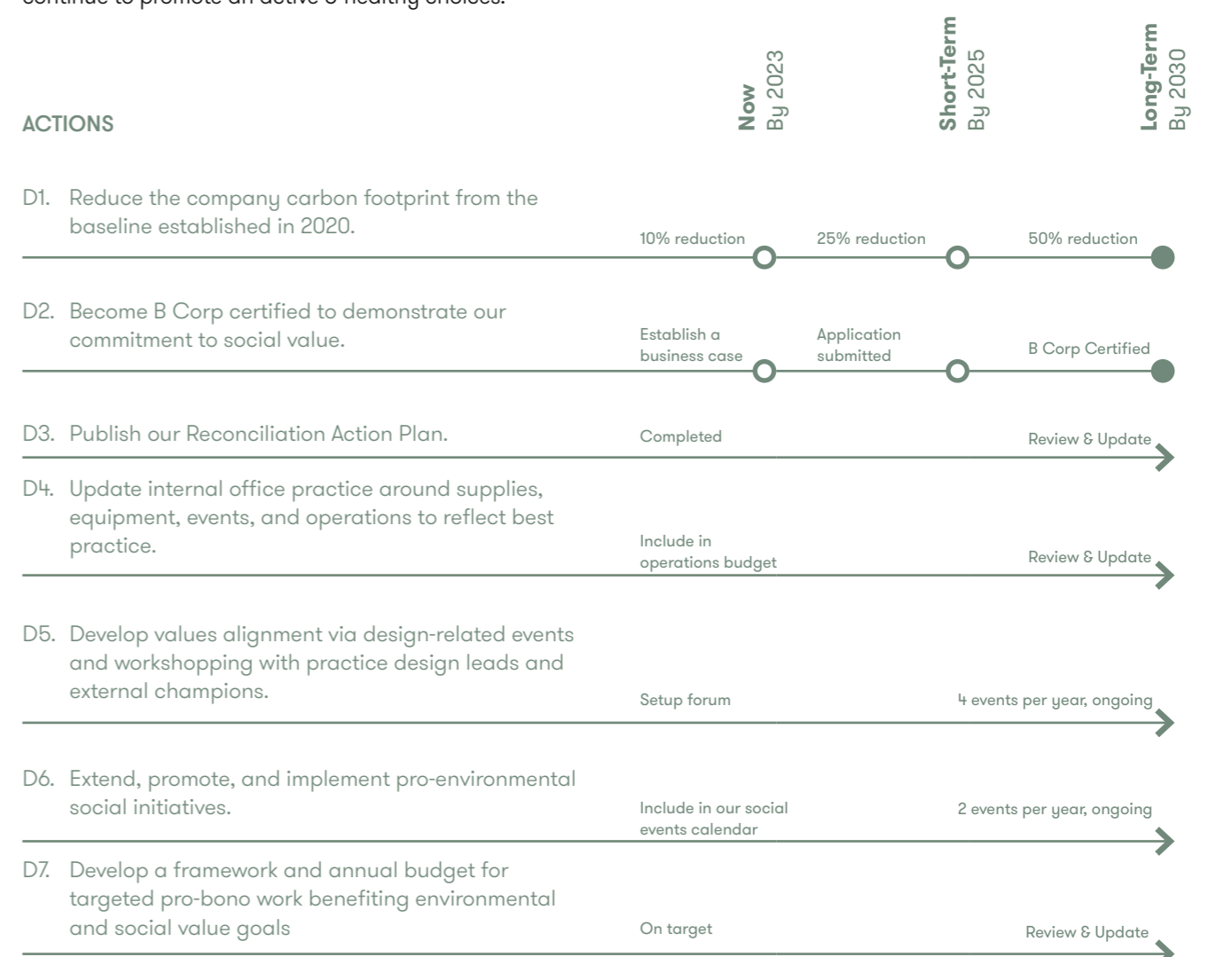
Three of our offices across the nation have recently moved into new premises, strategically located close to public transport. These contemporary workplaces are equipped with energy efficient lighting throughout, kitchen appliances with high star energy rating labels, high-quality ergonomic furniture and joinery, End-of-Trip facilities, and a minimum provision of on-site car parking to promote the use of public transport. We will continue to rigorously work on reducing the environmental impact of our operations from year to year.

Health and well-being is critically important at Hayball. Initiatives such as the nation wide Bike Club, and our on-going participation in the Archisoccer league in Melbourne and Sydney are a few examples of how we continue to promote an active & healthy choices.

Our practice is dedicated to integrating responsible, ethical and sustainable business practices. Hayball has a long-standing relationship with Architects Without Frontiers, assisting them in providing pro-bono services to support local and international communities in need. We actively pursue a range of actions to engage with Aboriginal and Torres Strait Islander communities and organisations which is reflected in our Indigenous Procurement Policy (IPP) and our recently published Reconciliation Action Plan (RAP).

Our next steps will be to elevate the practice's awareness and engagement with regenerative practices.

We are continually building up our library to include literature on environmental design, social value, and biodiversity for our staff to browse in person or read online across all studios. We are collecting information on the cost benefits of different building systems to assist in the selection of appropriate sustainability strategies.



Implementation Plan

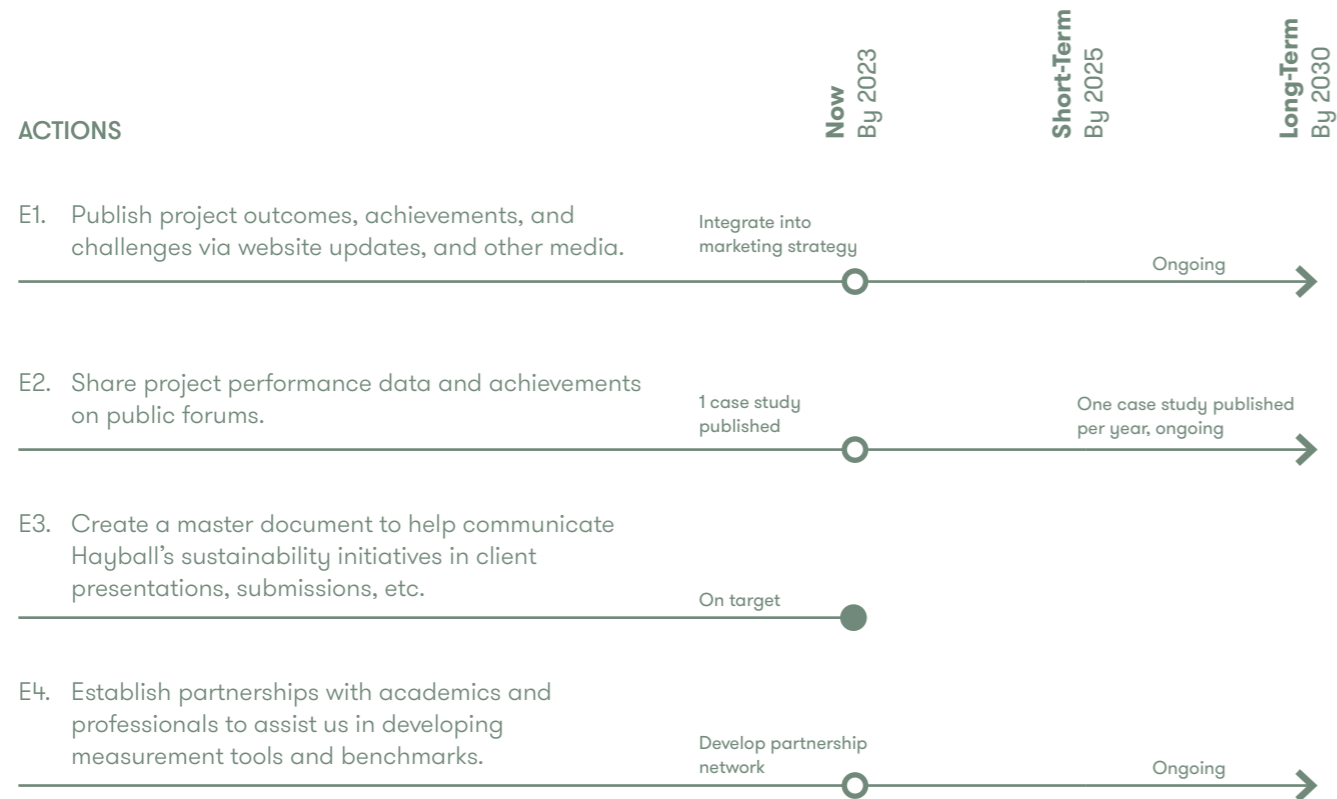
E. Outreach & Advocacy

Since 2020, we have proudly promoted our carbon neutral status (NoCO2), certified by the Carbon Reduction Institute. We also define the sustainability principles that we subscribe to within our EOI documents. As part of this initiative, we have partnered up with Atelier 10 to assist us at the project inception stage with guidance on early sustainable design principles and with the review of our in-house ESD tools.

We are currently building up our network of consultants who are striving to promote environmentally sustainable design proactively and innovatively on their projects.

We see the publication of this SAP as a substantial leap forward in communicating our ambitions toward a regenerative future across the practice and to the outside world. Fundamentally we see our mission to support the values of future generations who are most significantly impacted, and in this sense, we are committed to having our young design leaders driving change across all our projects.

In the future, we are aiming to improve our outreach and advocacy by reinforcing our strategic, academic, and industry partnerships. By doing this we will further celebrate our successes and improve the dissemination of our sustainable knowledge both within and outside the practice.



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