



# SUSTAINABILITY ACTION PLAN 2.0

APRIL 2023

fitzpatrick  
+ partners

## INTRODUCTION

This Sustainability Action Plan has been prepared by Fitzpatrick + Partners to improve and track the studio's sustainability performance.

It is essential we all do dramatically more to urgently rethink our output to help replenish the planet's capacity to thrive. Guided through sustainability objectives, this action plan stands as a proud initiative of our commitment as a signatory of the Architects Declare movement.

This document defines our studio's current design and operational methods as they relate to sustainability and our proposed improvements. It also includes a review of our current research, education and advocacy strategies and defines a time-line for improved performance in these areas.

***We acknowledge the Traditional Owners of Country, the Gadigal people of the Eora nation and recognise their continuing connection to land, waters and culture. We pay respect to Elders past and present and extend this respect to all Aboriginal people living in or visiting the area.***

"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 (CO<sub>2</sub>) emissions whilst also having a significant impact on our natural habitats.



For everyone working in the construction industry, meeting the needs of our society without breaching the earth's ecological boundaries will demand a paradigm shift in our behaviour. Together with our clients, we will need to collaborate on buildings, cities and infrastructure 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."

**Fitzpatrick + Partners**



# OUR COMMITMENT

Fitzpatrick + Partners are continually researching means of delivering more regenerative buildings; ones that consider all contexts, from cultural and historical to environmental and experiential, that a work of architecture will impact.

Fitzpatrick + Partners are committed to taking on all twelve principles of the Architects Declare movement. We have formalised our Sustainability agenda and have developed several strategies to make all of our portfolio progressively more sustainable.

We have advanced from the 'Extend' level of sustainability operations to the 'Amplify' category through refining our sustainability tools, promoting our sustainable initiatives and taking an active leadership role in the Architects Declare movement.

***Our most important objective is for all our projects to achieve zero net carbon by 2030. We recognise this as our top priority to meet the global climate challenge of reducing the global temperature increase inline with Australia's Paris commitments.***

## Progress

The past year and a half has seen our first Sustainability Action Plan implemented within the studio and shared throughout the industry. This action plan will be reviewed and updated annually, and this represents the second version of our action plan, identifying our progress since July 2021. As we have stepped up our efforts in-house, we are able to lead by greater example, collaboration and advocacy. We're also prepared to share our knowledge and experiences with our peers and other industry professionals, in order to best serve all our futures.

We are committed to raise awareness of the need for sustainability as 'standard' within our industry. This process is embedded in our relationship with clients and suppliers, but spills across to consultants and building users too. It starts with raising the issue at the feasibility and concept phases of the design process and maintaining clear goals with the consultant team throughout design development and documentation. Upon project completion, awareness can be raised by integrating information or visually expressing the regenerative strategies for the building users, and by presenting completed projects to peers and detailing some of the lessons learned.

Advocacy for faster industry change will be tackled by asking our suppliers

to join us and giving priority to those who do. To further this agenda we have created a sustainable materials guide which is being rolled out for materials selection across all of our projects. We are sharing this information with the broader industry and will continue to advance discussions and forums that highlight the issue and demand industry change.

We already champion the call to upgrade, re-use and recycle, rather than demolishing and re-building. We find that the greater coordination challenges are offset, not just by cost and material savings, but by more unique integration solutions. The coordination between existing and new elements is an area ripe for streamlining to make the process more viable.

We have established climate and bio-diversity mitigation principles within our Evaluation tool which is being finalised and will soon be rolled out across projects. Our preference is for all projects to achieve sustainability ratings from established organisations such as NABERS, WELLS and Green Star. To ensure that all of our projects are guided by a sustainable agenda we will evaluate each project and create individualised solutions using our established set of sustainable design principles. This is achieved with various analytical tools, rich contextual research and project team collaboration.

To better understand the embodied carbon in our projects we have developed an embodied carbon design tool which is now being used at the concept design stage to grow knowledge of upfront and embodied carbon and to influence decisions on building structure. This tool is already making a difference in our design methodology by providing a means to compare and contrast embodied carbon in different options. The tool has been shared with the industry to help to establish a baseline methodology for calculating carbon in design.

We are committed to further develop the area of regenerative design, and establishing a design strategy studio-wide so that within the next five years, regenerative design principles will drive all our projects.

Life-cycle costing and post-occupancy evaluation are not currently standard, but we are reviewing available tools to best provide the data we need and inform our next steps. This design analysis and life-cycle evaluation goes hand-in-hand with the desire to reduce material and resource waste, and carbon emissions across the 'building process', from design to occupation and finally adaptive reuse, disassembly or de-commissioning.

These areas of development are described in further detail in our Annual Sustainability Report which categorises our progress on these issues.



## OUR VISION

### **Carbon positive buildings.**

The climate crisis is real and we need to take action to minimise global warming.

As responsible professionals, we must do something. The global impact of our built environment has reached a point where we can no longer deny it. The construction industry is a major contributor to environmental impact, and it's now imperative we take action.

Regenerative design is the next step in this process: reversing the damage of the past and contributing more than has been removed.

Fitzpatrick + Partners see the dilemma as a very simple one:

***Will we continue to ignore the environmental, cultural, social and economic impacts of our work?***

Or

***Will we strive to do better than yesterday and be part of the solution for the planet***

**We choose the planet.**



# THE FRAMEWORK

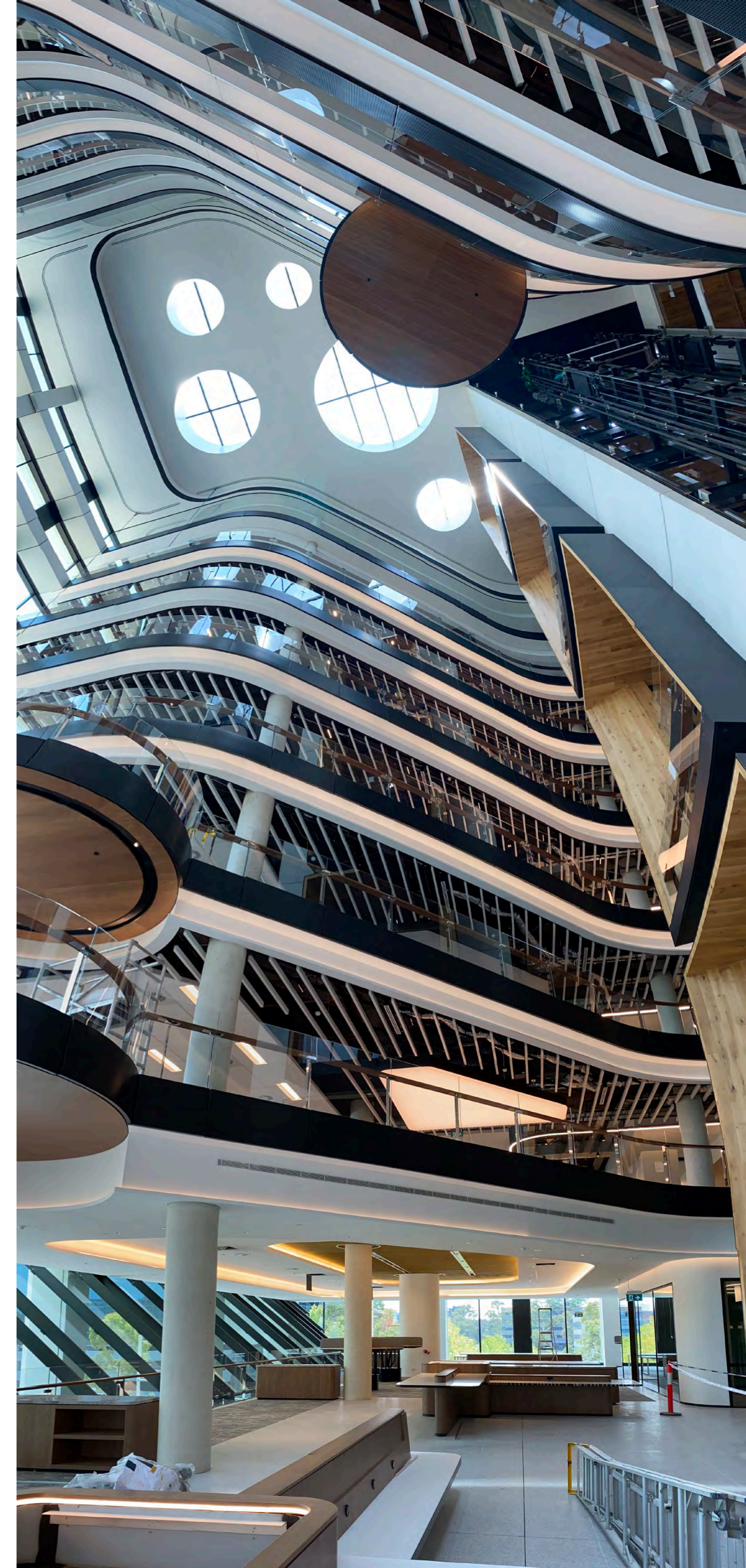
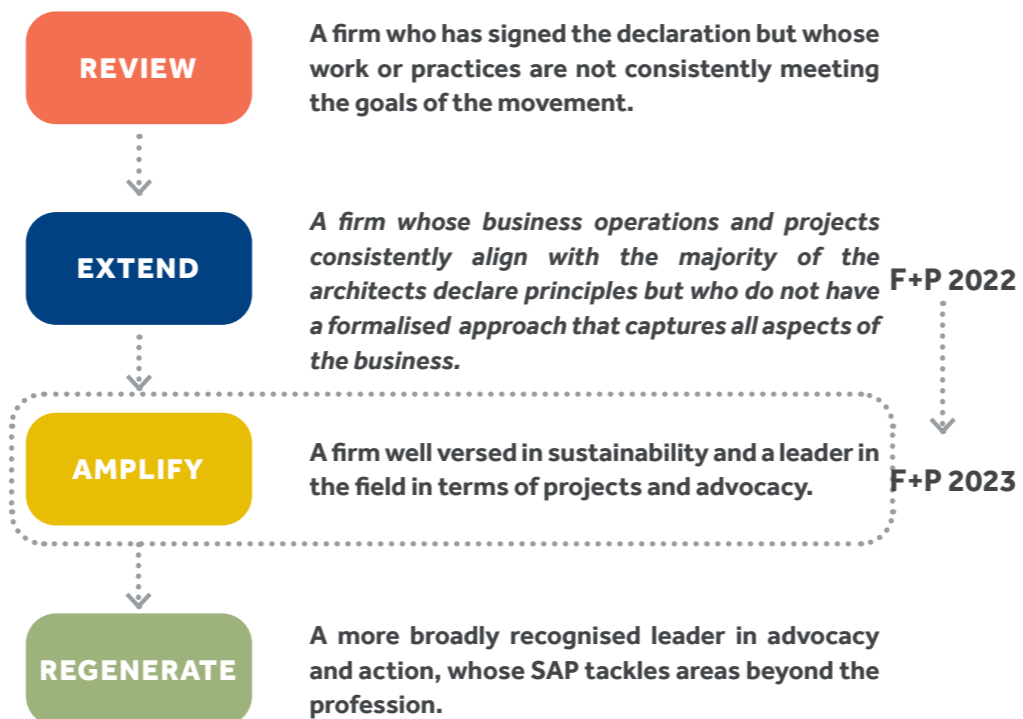
## ARCHITECTS DECLARE 11 GUIDING PRINCIPLES

Architect's Declare is a voluntary global movement, started in the UK in 2019, declaring climate and biodiversity emergencies.

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 modeling 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.
12. Support those who are working for climate justice and strive to ensure equity and an improved quality of life for all.

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.

Each Signatory should define their current location and develop a plan to improve. The degree of commitment by an architectural practice to these 11 principles, defines the level of the Sustainability Action Plan (SAP).



# MOVING TOWARDS A BETTER BUILDING FRAMEWORK

## REGENERATIVE DESIGN

The diagram below illustrates the steps from conventional building practice, leading to the ultimate goal of regenerative design. While sustainable design aims for carbon neutral buildings, we need to do more to restore and not just sustain.

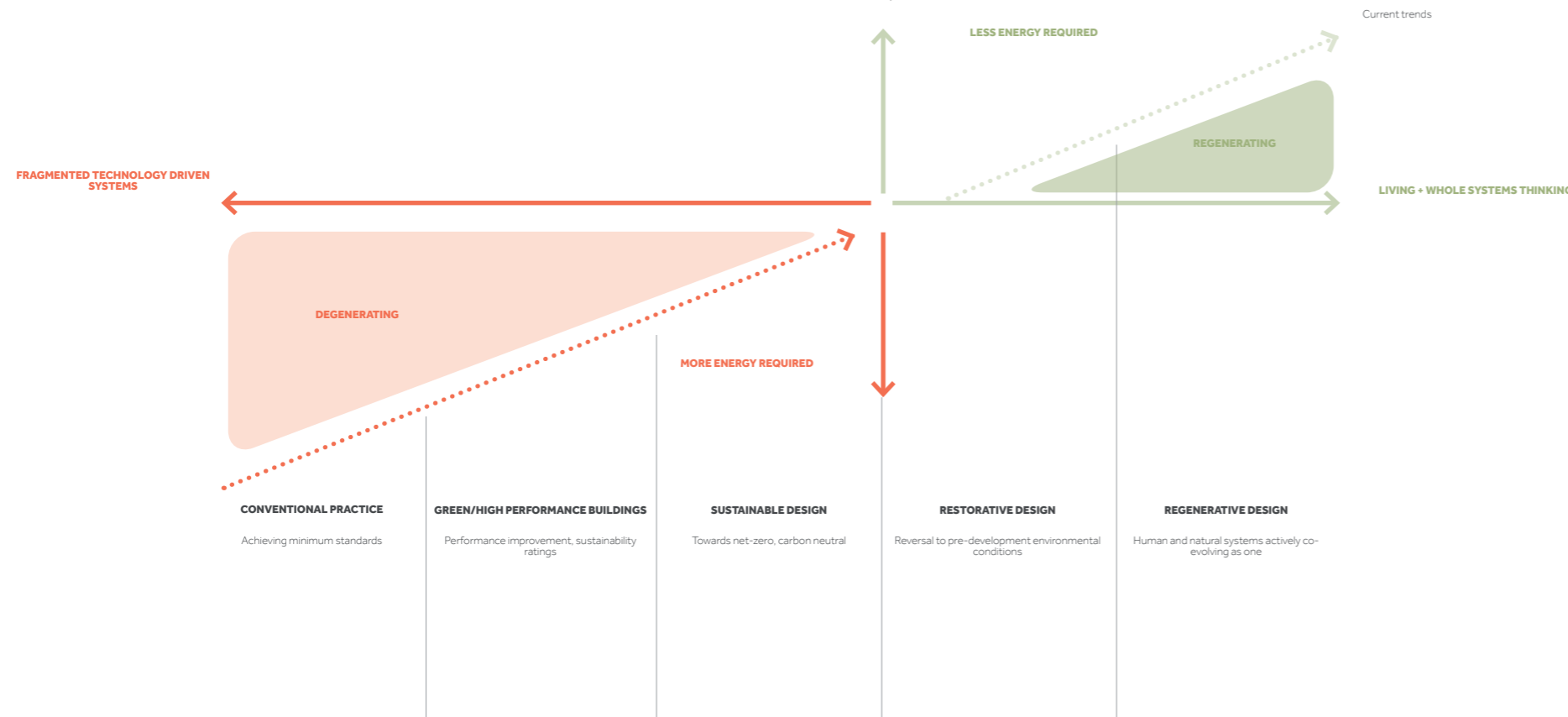
Regenerative development is defined as "a process by which cities, towns, and other human communities bring themselves back into life-giving alignment with the ecological systems that support them. As a practice, it seeks to create a built environment and human systems that are capable of co-evolving with nature"

## ASSISTIVE TOOLS TO GET US THERE

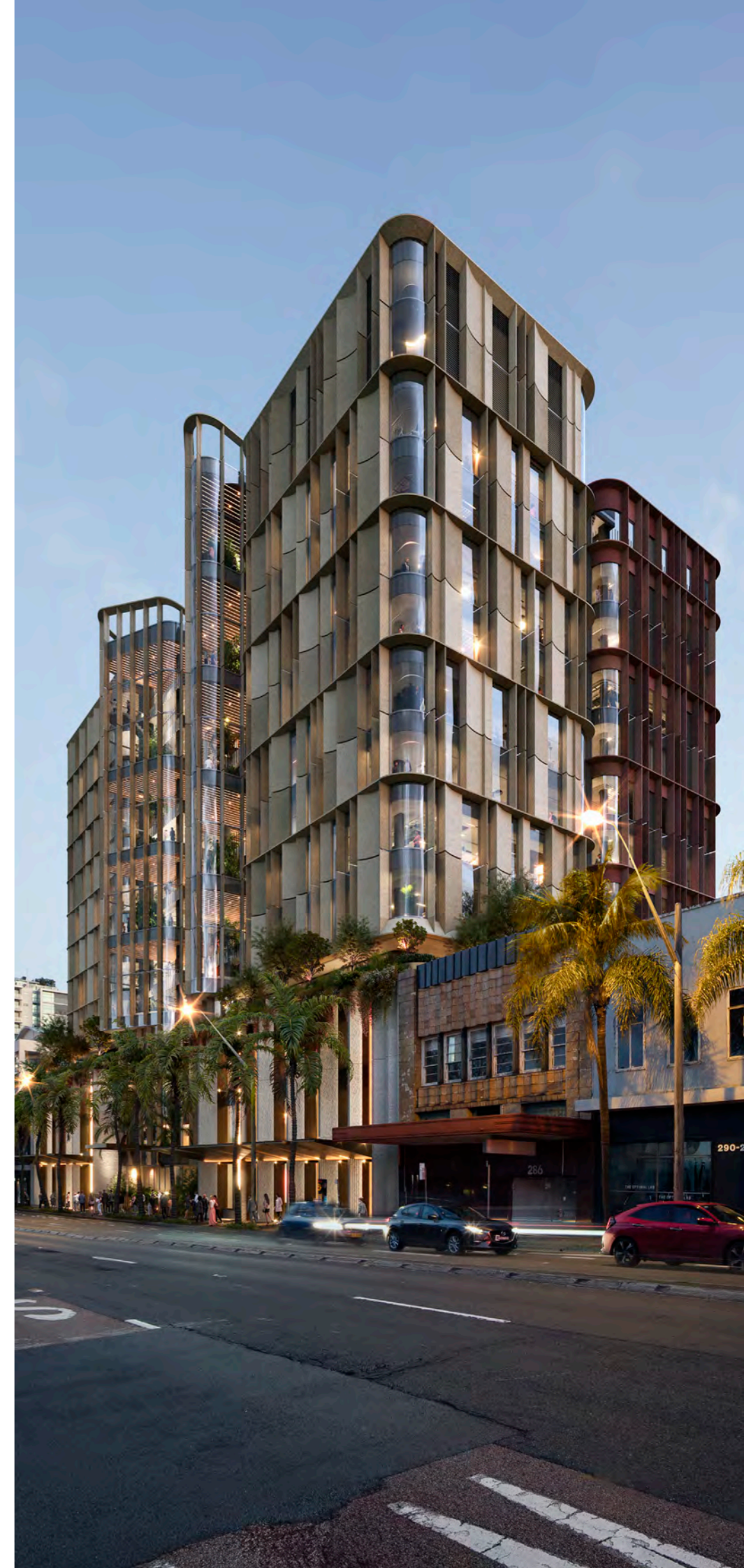
There are a number of frameworks and initiatives to measure environmental efficiency as it relates to buildings. The more widely known are listed:

Life-cycle Assessment (LCA) is emerging as one of the most function assessment tools used to calculate environmental impacts associated in a building. It is conducted under the International Organisation for Standardisation (ISO) and is effectively a cradle-to-grave analysis of a buildings impact on the environment. It consists of a series of modules to assess impacts at various stages of a project.

Whole Life Carbon Assessment is a hybrid LCA assessment encompassing just the assessment modules that measure the embodied and operational carbon for the life of a building: modules A1-A5 (embodied carbon) and B6 (operational carbon).

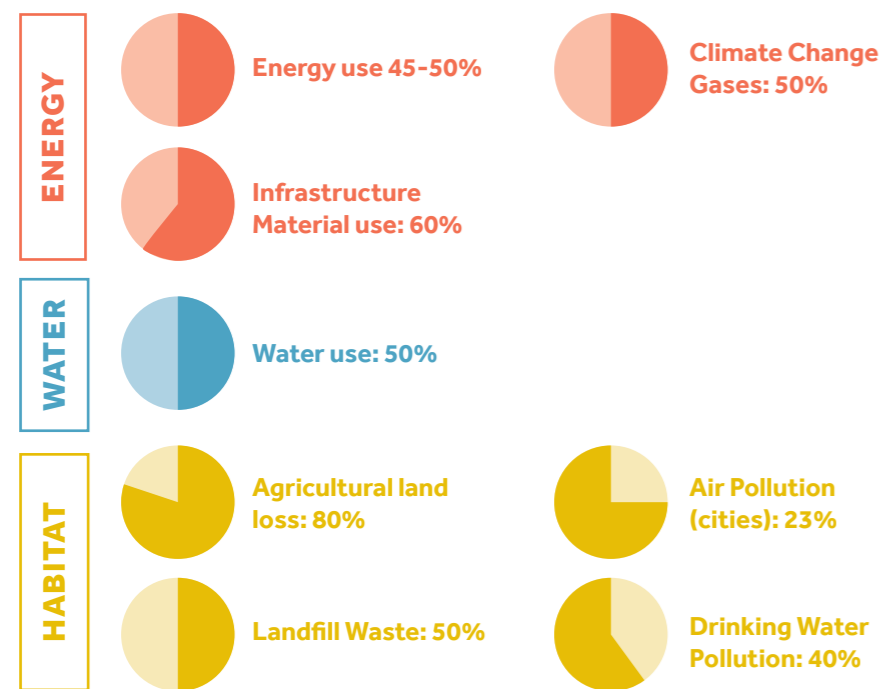


Source: Development of a regenerative design model for building retrofits, Craft et al. Developed from Bill Reed, 2007



# THE IMPACT OF OUR BUILDINGS

So, how much impact does the construction industry really have on our environment? Well, the statistics show our buildings have a huge impact:



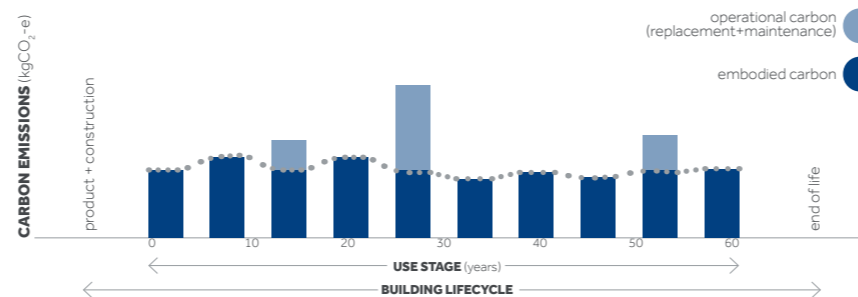
While it is evident there are numerous environmental impacts from the construction sector, operating and embodied energy are two that are of particular concern due to their link to greenhouse gases and in-turn global warming.

For embodied energy (the energy expended to produce or transport a product), construction materials can be as high as 40% of a building's total energy consumption across a 50 year lifespan. Below are some of the 'big hitters' when it comes to embodied energy in materials, shown with comparative values (MJ/kg):

170	Aluminium	70	PVC
32	Steel	12.7	Glass
5.6	Cement	2.5	Bricks
3.6	AAC (Autoclaved aerated concrete)		

Source: <https://www.yourhome.gov.au/materials/embodied-energy>

In terms of operational carbon, (the carbon produced in the operation of a building) the table below indicates the relative contribution over the life cycle of the building. Operating carbon contributes a significant on-going impact to building emissions and should be minimised where possible.



Source: Whole-of-life Embodied Carbon Emissions Reduction Framework, Ministry of Business, Innovation + Employment, New Zealand Government

## HOW EXPENSIVE ARE 'GREEN BUILDINGS'?

Below are the expected business benefits of green buildings in Australia in 2018:

- Decreased operating costs over one year is 9% for new buildings and 11% for retro-fits
- Decreased operating costs over five years is 27% for new buildings and 15% for retro-fits
- The payback time was 7 years for new green buildings and 6 years for green retro-fits

Source: World Green Building Trends 2018

We've categorised the environmental impacts into the broader targets areas of action as listed below:



Our specific targets for each of these are listed on page 7.



# 2030 PERFORMANCE TARGETS

In order to track our progress we must measure our output. This process will be necessary across the industry. We must also aim for audacious goals in order to follow the science and get the environmental outcomes we all want, therefore the below targets are our goals;

## 1 ENERGY

Reduce green-house gases and global warming by:

- REDUCE OPERATING CARBON: 0 kWh/ m<sup>2</sup>/ y
- REDUCE EMBODIED CARBON: 40% less than current benchmarks

## 2 WATER

Preserve a limited resource by:

- REDUCE POTABLE WATER: <10 litres/ person/ day

## 3 HABITAT

Save our natural environment by:

- BIODIVERSITY: Leaving a site enhanced and maximising green cover as much as possible specific to circumstance and site.
- BIRD LIFE: Minimising harm through materials such as careful selection of glazing.

## 4 HEALTHY BUILDINGS

Create healthy buildings for healthy humans:

- OVERCONDITIONING: 21-27°C seasonally adjusted temperature range for occupied hours
- DAYLIGHTING: >2% avg. daylight factor, 0.4 uniformity
- CO<sup>2</sup> LEVELS: <900 ppm
- TOTAL VOCS: <0.3 mg/ m<sup>3</sup>
- FORMALDEHYDE: <0.1 mg/ m<sup>3</sup>





# DESIGN + APPROACH

## GOALS

### RELEVANT ARCHITECTS DECLARE PRINCIPLES

3. Establish climate and biodiversity mitigation principles as the key measure of our industry's success: demonstrated through awards, prizes and listings.
6. Upgrade existing buildings for extended use as a more carbon efficient alternative to demolition and new build whenever there is a viable choice.
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.

## 2022

### STUDIO PRACTICE

1. F+P have established a set of guiding principles and consistent areas of focus for every project in the studio. Our overarching goal is regenerative design. Simply stated this goal aims to create holistic improvements through our architectural interventions. ✓
2. Regenerating rather than depleting as a mindset means our work aims to have a net positive impact on the environment. While this is not always possible today it is the goal we aim for. ✓
3. These principles are a starting point in the development of a project specific set of goals and aspirations which are encapsulated in sustainability strategies for each project in the studio. These strategies are then expressed as single page overviews available to the whole studio so projects can learn from each other. ✓
4. We are continually seeking to understand the environmental impacts of our work and have created a series of design tools to improve upon the efficiency and impact of our projects. Our Embodied Carbon tools in particular are freely available for other practices to utilise as part of our broad commitment to sharing knowledge across the industry in order to broaden the positive impact beyond just F+P projects. ✓
5. Fitzpatrick+Partners acknowledge that we are working on land that was not ceded and which always was and always will be Aboriginal Land. At F+P we have always sought to place our work in its context and we are continuing to evolve this strategy to a more holistic understanding of Place and Country, one that recognises the original custodians of the land and learns from their understanding. ✓

## 2023

### STUDIO TARGETS

1. The overarching focus on **material selection, carbon minimisation, water optimisation, biodiversity enhancement and the creation of places of delight** are consistent themes across projects.
2. Design for human habitation and delight centres our work back to beauty and impact on the individuals who interact with the buildings. **Beautiful buildings tend to last** as the relationship people have with the building is one of respect and admiration over time, the retention of already spent carbon is therefore aligned with designing beautiful buildings.
3. **Enhance our embodied carbon tools to capture data, develop a database of current and recent projects** together with tactics to minimise embodied carbon. Our **mid-term goal is to expand the toolkit to capture façade carbon as well**. These tools and others will be used on all projects moving forward to track and minimise embodied carbon.
4. We have embarked on a research project on material selection which will aim to add to both the knowledge of the studio and the quality of the products and materials we specify. ACTION: To share and educate the AAD MWG Handbook with the studio.

### TIMING

Q4

Q4

Q4

Q4

# EVALUATION + REPORTING

## GOALS

### RELEVANT ARCHITECTS DECLARE PRINCIPLES

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

## 2022

### STUDIO PRACTICE

1. An evaluation system is being developed which will compare and assess all projects within our design portfolio, regardless of whether they are being certified via an outside assessment platform. ✓
2. The assessment criteria represent the areas which we are able to broadly control at the early stages of the design process and are continued to be monitored through to the project delivery. ✓
3. F+P have been developing our own carbon assessment tool in-house. At this stage it is capable of assessing structure only (due to this being the largest contributor of carbon within a building) however we are developing this further to assess facades. ✓
4. We utilise Green star and NABERS on a number of projects to evaluate and report on the environmental performance of a project. This is undertaken by clients who elect to finance this assessment and currently encompasses most of our projects. ✓
5. We have one project that is having a full life-cycle assessment undertaken. ✓
6. Building Challenge and Passive House standards are currently being adopted for a project that is, in turn improving the studio's regenerative design approach for future projects. ✓
7. We are currently reviewing and considering adopting life-cycle assessment tool E-Tool, so we can undertake self-assessment for our projects. ✓

## 2023

### STUDIO TARGETS

1. Implement the sustainability evaluation tool as a design and assessment tool on all projects
2. Produce project data sheets identifying the sustainable elements of each of our projects
3. Progress our in-house carbon tool, and assess completed projects to develop our database
4. Develop the capability of the carbon tool to assess facades
5. Determine if we are undertaking LCA assessments internally or via an external consultant
6. Provide an annual summary of our achievements and make it available through the website and social media

### TIMING

**Q2**

**Q4**

**Q2**

**Q4**

**Q4**

**Q4**

# OUTREACH + ADVOCACY

## GOALS

### RELEVANT ARCHITECTS DECLARE PRINCIPLES

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.
4. Share knowledge and research to that end on an open source basis.
12. Support those who are working for climate justice and strive to ensure equity and an improved quality of life for all.

## 2022

### STUDIO PRACTICE

1. Partner, Paul Reidy participates on the NSW Steering Committee for Architects Declare. ✓
2. We developed and shared our own Carbon Assessment Tool that allows other architects and designers to assess their own buildings. We have widely shared this tool and the insights we have gained from it to clients, consultants and the wider architectural community. ✓
3. Our Studio has presented at the following events: ✓
  - University of Newcastle, Department of Architecture: *Embodied Carbon and using the F+P Carbon Tool*. Paul Reidy
  - Mecca CPD Event: *Facade Performance*. Paul Reidy
  - Australia India Council (AIC): *Forum on Zero Carbon*. Paul Reidy
4. We are actively involved in Architects Declare Materials Working Group (AAD MWG) and this year together with other architecture firms we have created overarching supplier questionnaires and letters advocating and calling on suppliers to do better. ✓
5. We have created an in house 'Sustainability Guide' that will be shared with the wider architecture community, as an education piece as well as showing sustainability considerations are at the forefront of what we do. This will be an evolving document. ✓

## 2023

### STUDIO TARGETS

1. Finalise the AAD MWG Handbook incorporating resources created in 2022 in collaboration with other stakeholders. Share to larger design community by End of Q1.
2. Lobbying our major suppliers for sustainable alternatives. We will request their sustainability action plans and prioritise the suppliers and products with greatest sustainability merits for all future projects.
3. Our studio is also committed to continue sharing our sustainable knowledge and research in an open source. We will be continuing our involvement with Architects Declare MWG, promoting and expanding on the handbook and resources already created to further help educate the wider architecture and design community.
4. Provide greater education to clients to make better and more informed decisions around sustainable and regenerative design.

### TIMING

**Q1**

**Q4**

**Q4**

**Q4**

# TRAINING + EDUCATION

## GOALS

### RELEVANT ARCHITECTS DECLARE PRINCIPLES

4. Share knowledge and research to that end on an open source basis.
12. Support those who are working for climate justice and strive to ensure equity and an improved quality of life for all.

## 2022

### STUDIO PRACTICE

1. Our sustainability action group meets every two weeks to do the following:
  - Continually review and assess our progress against our SAP document
  - Discuss ways to improve and implement sustainable strategies within our projects.
2. We have started a sustainability newsletter to share sustainability stories and expand the knowledge base of the studio ✓
3. We have developed and shared an embodied carbon calculator to be implemented across projects. ✓
4. We are developing a sustainable materials list in collaboration with other practices to form a universal guide that can be shared y within the wider architectural community. ✓

## 2023

### STUDIO TARGETS

1. Implementation of the tools we have developed for embodied carbon and materials list across projects. This requires training of staff and the continual development of an intuitive interface
2. Establish a program to execute more formal training across the studio.
3. Increase studio wide knowledge and participation of sustainable design

### TIMING

**Q4**

**Q1**

**Q4**

# OPERATIONS + OUTLOOK

## GOALS

### RELEVANT ARCHITECTS DECLARE PRINCIPLES

How we conduct our own operations is a fundamental goal, as it is the one we have most control over. It is also the one that assists to educate, advocate and engage our studio in our sustainable journey.

## 2022

### STUDIO PRACTICE

1. Obtained our second third party certification carbon audit of our own studio operations. ✓
2. Offset our studio emissions to achieve net zero carbon operations for the previous year. ✓
3. Obtained our first NABERS rating (3.5 stars) for tenancy ✓
4. Utilised 100% Green Power for studio power ✓
5. Multiple waste streams collected within the studio: Recycling, Compost and General ✓
6. Became signatories to City Switch with the City of Sydney and now reviewing our scope 1, 2 and 3 emissions as part of their broader program of a net zero pathway. ✓
7. Conducted meetings on-line where possible to minimise travel of our staff and our clients and consultants. ✓
8. Minimised waste through actively encouraging staff to minimise printing and rely on electronic flow of information ✓
9. Our building owner, Charter Hall recently entered into a supply-linked Power Purchase Agreement (PPA) with global renewable energy giant, ENGIE Australia & New Zealand. This long-term agreement will supply Charter Hall's property portfolio (including all office assets) with 100 per cent electricity from renewable sources within the National Energy Market until 2030. ✓

## 2023

### STUDIO TARGETS

1. Further develop our Scope 1, 2 and 3 emissions tracking to align with Architects Declare goal of net zero carbon built buildings.
2. Develop clear targets for our studio emissions based on the carbon auditing undertaken for FY2022
3. Work with other tenants in our building (9 Castlereagh Street) to introduce further building wide strategies to reduce waste and emissions.
4. Inform our studio about the outcome of our carbon audits and NABERS tenancy reports and eventual adopted strategies.
5. Undertake all assessment requirements as signatories of City Switch

### TIMING

**Q4**

**Q4**

**Q4**

**Q1**

**Q1**

# SUSTAINABILITY AT FITZPATRICK + PARTNERS

## WHO ARE WE?

Fitzpatrick + Partners are leaders in providing sustainable solutions for the built environment. Sustainability has always been a driving force in our approach to building design. We don't believe that sustainability is something which is governed by a rating tool, but is the result of investigation and implementation of sustainable principles across all of our projects in the studio.

## WHAT WE PROMOTE

We focus on promoting a sustainable architecture agenda from the concept design through to the project realisation on site, with the aim of finding solutions which will take us towards a regenerative architecture that restores and adds to the built environment.

## WHAT WE ACCOMPLISHED SO FAR

Fitzpatrick + Partners were an early adopter and promoter of sustainable design principles, having delivered the first 5-star Green star as-built office building in Perth and the first 6-star Green star as-built office building in Australia, the beginnings of an extensive portfolio of sustainable built work. Green star, as well as NABERS and WELL ratings are now common place on projects in our office.

Our studio includes a core group of staff who are champions of sustainable and regenerative design and are actively researching and collaborating to develop new systems, approaches and products within the field.

As a part of this research Fitzpatrick + Partners has invested significantly in the research and development of numerous foundational research projects from our embodied carbon tool through to earlier experiments in CLT and other engineered timber. CLT not only has the biophilic benefits of a natural material, but it has a lower embodied energy per KG than most other building materials.

## WHAT WE ARE WORKING TOWARDS

As a part of our commitment to a Sustainable Future we embrace the principles of Regenerative Design, specifically accepting the challenge of designing net zero and carbon positive buildings, and we aim to make all of the projects in our portfolio regenerative by 2030. This date has been established as critical to reduce the impact our buildings have on climate change, and to minimise the harmful effects of global warming.

## HOW WE WILL BUILD A SUSTAINABLE FUTURE

To achieve this, we have created a Sustainability Action Plan which outlines the critical steps that we, as architects, must take to make Regenerative Design a cornerstone of all of our projects.

Critically, we recognise that while we can be an advocate for sustainable design principles, we cannot do this alone. Our success is dependent on having industry wide recognition of the importance of this issue and collaboration towards realising a Sustainable Future.

In short, we depend on the entire community to recognise the unique challenge we are facing and to buy in to a Sustainable Future.

***Creating a sustainable future is the challenge of our generation. As architects, we are in a unique position to affect the built environment on a scale that can make a significant impact on our planet.***

***We believe that it is our responsibility to provide ethical, thoughtful, environmentally sensitive and well designed buildings for the benefit of our clients, our community, and our planet.***





# SUSTAINABILITY ACTION PLAN

2023