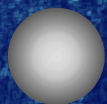# Climate Action in Australian Architectural Practice

2022 Industry Survey Results

ARCHITECTURE
CLIMATE FUTURES

Australian
Institute of
Architects

ASSOCIATION OF
ARCHITECTURE SCHOOLS OF
AUSTRALASIA

Title Climate Action in Australian Architectural Practice:
2022 Industry Survey Results

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Note on engaging with this document

This document has been designed to be read in a two-page
PDF spread format, with a cover page.

The authors are affiliated with "Architecture Climate Futures",
an Australian cross-institutional research collective promoting
climate action through architecture education in universities
and practice.

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**ARCHITECTURE
CLIMATE FUTURES**

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Review Statement

Through the review process we invited feedback from our funding partners and engaged First Nations readers. All feedback that was provided is incorporated in this final report.

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Climate Action and Sustainability Taskforce (CAST) | Australian Institute of Architects
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Contents

Introduction

This project was funded by the Australian Institute of Architects, and the Association of Architecture Schools of Australasia.

The work was completed by a team of academics across five institutions: The University of Queensland, The University of New South Wales, RMIT University, Building 4.0 CRC, and The University of Sydney.

Australian Institute of Architects

ASSOCIATION OF ARCHITECTURE SCHOOLS OF AUSTRALASIA

This report presents a summary and analysis of 899 responses to a survey of the architecture industry conducted at the end of 2022. The survey asked practitioners in architecture about their perceptions of the climate crisis, what action they and their practice were currently engaged in, and their hopes for the future of the profession.

The survey was undertaken as part of a broader research project that aims to drive climate action in architecture across education and practice, as well as identify what new knowledge and skills are required for the profession to proactively respond to the climate crisis.

In 2021, we surveyed all architecture schools in Australia and New Zealand to examine current knowledge, values, and beliefs about climate change among staff and students, and current action in teaching and research. But, universities are not the only place where architecture education and climate action occurs; rather these form a daily part of architecture practices across the country.

This report completes the picture about current climate perceptions, education, and action across the architectural profession.

Let's say it like it is. The horse has bolted.

In combination with the Climate Literacy and Action in Architecture Education[1] report, this report offers a broad overview of climate action and literacy across the entire pipeline of the architecture profession. From undergraduate students to academics, practicing architects, and company directors, one thing is clear: We all need to up-skill rapidly in response to the climate crisis.

Australian architects are now bound by a National Standard of Competency for Architects (NSCA), which has recently changed to emphasise climate and sustainability professional competencies. The National Construction Code (NCC) is under review, and the construction sector is on the precipice of a cascading transition to a "net zero" built environment. For a profession that grew out of an artisan culture and remains ethics-bound to high ideals, the cognitive dissonance of architectural practice in a climate crisis is reaching fever pitch.

In response to a collective drive for climate action, peak industry bodies such as the Royal Institute of British Architects (RIBA), the American Institute of Architects, and the Australian Institute of Architects (the Institute) are actively developing sustainability resources, toolkits, and guides in response to their members' needs. The RIBA has developed a Climate Literacy Knowledge Schedule[2] as a framework for climate action through architectural practice and education.

Multinational architectural organisations like the International Union of Architects (UIA) and the Architects Council of Europe (ACE) are driving change through policy advocacy and by foregrounding the United Nations (UN) Sustainable Development Goals (SDGs). In fact, as this document was being written, the UIA 2023 World Congress of Architects

was being promoted as "a chance to make architecture a central tool in achieving the 17 UN Sustainable Development Goals".[3] This is in addition to the UIA's existing SDG Compulsory Professional Development (CPD) Guidelines,[4] and two Architecture Guides to the UN 17 SDGs.[5]

This report focuses on architectural practice in Australia, but is positioned as part of a broader international climate action movement in the profession. While we are is geographically isolated from climate action in the Global North, architects in Australia operate within similar governance structures, which were transplanted here through colonisation. As a result, architects in Australia are faced with similar challenges when it comes to resisting and redirecting the systems that currently drive unsustainable built environment outcomes.

While there are common challenges to face as a global community, there is also the opportunity to develop design solutions that respond to the needs of local communities, cultures, and climatic conditions. It is essential that architects in Australia strike a balance in adopting international standards of best practice while also advocating for place-based approaches to sustainable design. This includes acknowledging, through collaboration, First Nations' perspectives and knowledge in architectural design.

The survey results presented in this report reinforce a solutions-oriented perspective on climate change and sustainability issues, in order to empower practitioners in architecture. To do this, the report is structured according to six recommendations to generate climate action and build climate literacy in architecture: (1) build agency, (2) overcome inertia, (3) advocate, (4) build knowledge, (5) connect, and ultimately, (6) choose hope.

Executive Summary

The survey results in this report are framed to reinforce how survey respondents saw the role of architects and their hopes for the future. The six main actions shown were drawn from the survey answers. They aim to reinforce the determination of a profession that is concerned about climate change and ready for climate action.
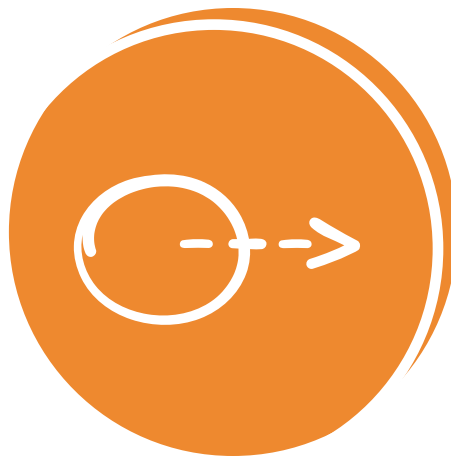

1

Build Agency

Harness high levels of motivation for change.

Practitioners are worried about climate change and want to see more action across the profession. They are highly motivated to engage with sustainability and climate change issues through their practice, which is resulting in an increasingly multifaceted role for the 21st century architect.

2

Overcome Inertia

Embrace changes to practice by up-skilling.

Practitioners feel obstructed by barriers at multiple levels. There are a variety of reasons for resistance to climate action in the profession, including a lack of knowledge and confidence in implementing new systems. To up-skill, practitioners need to draw on a wide range of sources.

3

Advocate

Drive change from top down and bottom up.

Practitioners need support from the top down to implement change and to build new professional competencies. The profession is highly ethics-driven and carries a strong sense of responsibility. Current climate action in architecture is driven mainly through collective action and bottom-up initiatives, not government policy.

4

Build Knowledge

Construct a sustainability knowledge framework.

The number of different sustainability resources, rating systems and tools is overwhelming. Practitioners want a central source of connected, verified information and access to high quality, accessible CPD. They believe that Indigenous cultural knowledge and collaboration with First Nations peoples' is a crucial part of the solution to climate change.
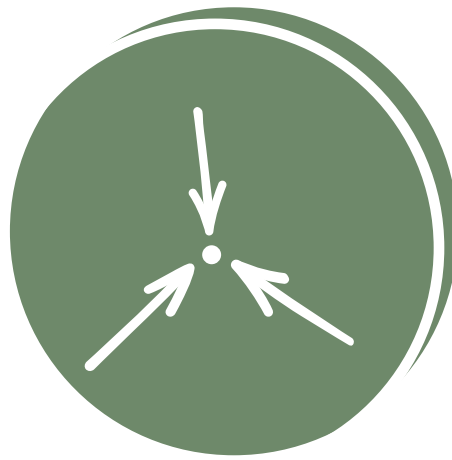
5

Connect

Collaborate across boundaries.

Practitioners are forming new connections to address climate and sustainability issues. This includes cross-industry and multi-disciplinary collaborations, and fostering connections with First Nations People and Country. Architects are not fully capitalising on connections with schools of architecture to drive sustainability outcomes.

6

Choose Hope

Actively imagine a sustainable future.

Practitioners feel implicated in climate change issues due to the environmental impacts of the built environment. This has psychosocial implications for a profession that is determined to lead change. As a creative discipline, architecture is ideally positioned and skilled to generate hope for a sustainable future.

Key Recommendations for Action

Build Agency

Practitioners
Focus on individual choices and actions and attend sustainability focused industry events.

p. 25

Practices
Work towards a net zero practice commitment by developing a Sustainability Action Plan.
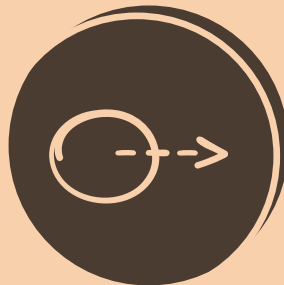
p. 24

Industry Bodies
Facilitate climate action initiatives with students who are the most concerned about climate change.

pp. 22-23

Policy and Governance
Raise sustainability standards to reinforce architects' role as part of the solution for climate change.

p. 27

Overcome Inertia

Practitioners
Seek ongoing education using resources, both within architecture and beyond the profession.

p. 36

Practices
Develop resources and tools to use with clients to justify the additional upfront cost of a sustainable project.

p. 33

Industry Bodies
Provide resources to build certainty and trust in certification systems and sustainability tools.

p. 33

Policy and Governance
Develop regulations that require material supply chain transparency and embodied carbon reporting.

p. 33

Advocate

Practitioners
Join a climate advocacy group or connect with sustainability initiatives in the community.

p. 48

Practices
Discuss and circulate current information about changes to policy and regulations among staff.

p. 46

Industry Bodies
Develop targeted initiatives to help small and regional practices build new professional competencies.

p. 45

Policy and Governance
Provide funding, incentives, and grants for practices to up-skill and implement certification systems.

p. 44

Build Knowledge

Practitioners

Reduce information overload by building a live personal library of robust information sources.

p. 54

Practices

Consider what resources could be shared as open source information on company websites.

p. 54

Industry Bodies

Develop CPD that is easily accessible, affordable, and offered in flexible formats.

pp. 56-57

Policy and Governance

Require that First Nations cultural knowledge and sustainability is incorporated into all built environment projects.

p. 58

Connect

Practitioners

Develop reciprocal relationships with Indigenous Knowledge Holders to learn about Country.

p. 66

Practices

Foster learning "feedback loops" with schools through R&D and teaching collaborations.

pp. 68, 69

Industry Bodies

Build multidisciplinary knowledge through collaborations, both across industries and with universities.

pp. 64-65

Policy and Governance

Boost research grant funding for sustainability projects between universities and industry.

p. 69

Choose Hope

Practitioners

Seek solutions-oriented information about climate change while acknowledging its emotional impact.

p. 75

Practices

Allow space for pragmatic and imaginative thinking when addressing climate and sustainability issues.

pp.. 74-75

Industry Bodies

Celebrate and award sustainable projects through awards programs and media.

p. 46

Policy and Governance

Reinforce the importance of design and creative thinking when developing built environment strategies.

p. 76

Survey Design

How did we run the survey and what questions did we ask?

The survey targeted anyone working in architectural practice and was open for one month in November 2022. A web link was circulated across multiple organisations, including the Australian Institute of Architects, Parlour, and Australian Architects Declare. A targeted email was also sent to signatories listed on the Australian Architects Declare website.[6]

The survey asked a total of 26 questions and included a combination of multiple choice, short answer, and Likert scale responses (e.g., "strongly agree" to "strongly disagree"). Respondents were asked where they were located, their role in architectural practice, the size of that practice, how many years' experience they had, and whether they were registered as an architect.

The results were first analysed as a complete data set, then broken down according to the type of respondent. These quantitative results were then enriched using thematic analysis to determine common ideas, themes, and patterns in the short answer responses.

The questions were structured according to three broad categories: (1) positions on climate change, (2) climate action happening now in architectural practice, and (3) hopes held for the future of architecture.

1
Positions on climate change

What beliefs, knowledge, and values do those practising in architecture hold about climate change?

We asked a series of questions intended to gauge levels of concern about climate change and appetite for climate action across the architecture profession.

This included a question about whether respondents wanted to see policy and regulation change to better support climate action through architectural practice, and whether they believed that Indigenous care for Country is an important part of the solution to climate change.*

Questions were asked to understand how those working in architectural practice currently up-skill about climate change and sustainability, as well as the support and resources that would be useful to them. We also asked which types of CPD topics were in most demand.

2
Climate action happening now

What is currently happening in practice? What are the main enablers and barriers to climate action?

We asked whether respondents thought their workplace was actively engaged in sustainable practice, how their practice was engaged, and the top-three drivers of sustainability outcomes.

We also asked whether those working in architectural practice felt obstructed by barriers in relation to changing practice in response to climate change. Following this, we asked people to indicate their top-three barriers to action, and to expand on this with short answer responses.

Questions were asked about whether practices were collaborating with Schools of Architecture, the nature of the collaboration, the benefits to their practice, and how such collaborations could be enhanced.

3
Hopes for the future

What hopes do those working in architectural practice hold for the future of the profession?

The third and final section of the survey was designed to encourage speculative, creative responses from respondents.

We asked whether respondents believed architects should be part of the solution for climate change, and what role architects should play in developing solutions for climate change.

We asked how confident they felt in their ability to build new sustainability knowledge and skills, and which current areas they were most confident in applying through their practice.

The survey concluded with an open-ended question, What are your hopes for the future of architecture?

95%

of staff and students in schools of architecture said they were "very concerned" or "concerned" about climate change and sustainability issues.

Recapping the results of our 2021 survey of architecture schools, 95% of staff and students "strongly agreed" or "agreed" that they wanted to see more teaching about climate change. They felt a strong sense of responsibility, but felt obstructed by barriers to climate action. To get the full picture, we wanted to know what practitioners thought.

How many people responded and where were they located?

899

responses

Of the 1,103 people who began the survey, 899 completed it.

In accordance with the project's research ethics approval and consent to participate, partial responses were removed before data analysis.

These findings outlined in this report focus almost exclusively on the 899 responses of those working in architectural practice.
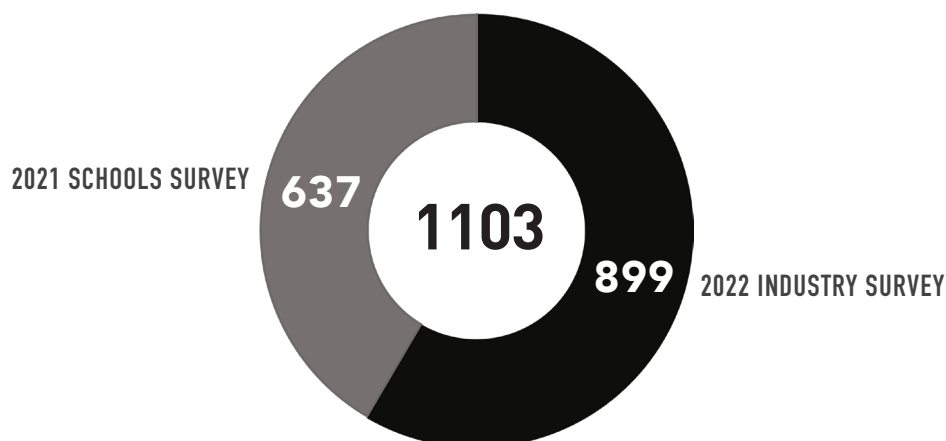
However, the questions we asked pair with those asked in our 2021 survey of architecture schools, which attracted 637 responses. Together, the two reports provide insights from 1,536 people and are representative of those in the current pipeline of the architecture profession.

The 2021 survey of architecture schools survey revealed that architecture academics and students

are very motivated to see change and believe that architects can be part of the solution for climate change. They are relatively confident in their ability to learn and implement new knowledge but feel obstructed by barriers and are frustrated by a sense of inertia.

When it comes to the delivery of teaching programs and research projects, there are close ties between architecture schools and practitioners in Australia.

Through this 2022 industry survey, we wanted to understand the unique challenges faced by practitioners, as well as the shared barriers and opportunities they perceive for collective action between universities and practice.

2021 SCHOOLS SURVEY **637** **1103** **899** 2022 INDUSTRY SURVEY

Comparative number of responses between our two surveys.

QU: Where are you located?

Location	Count
New South Wales	246
Queensland	216
Victoria	199
International	86
Western Australia	63
Tasmania	33
South Australia	31
ACT	21
Northern Territory	4
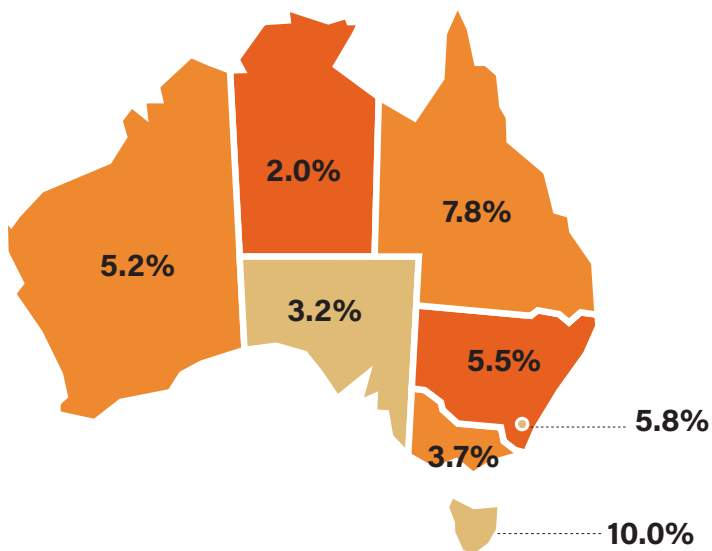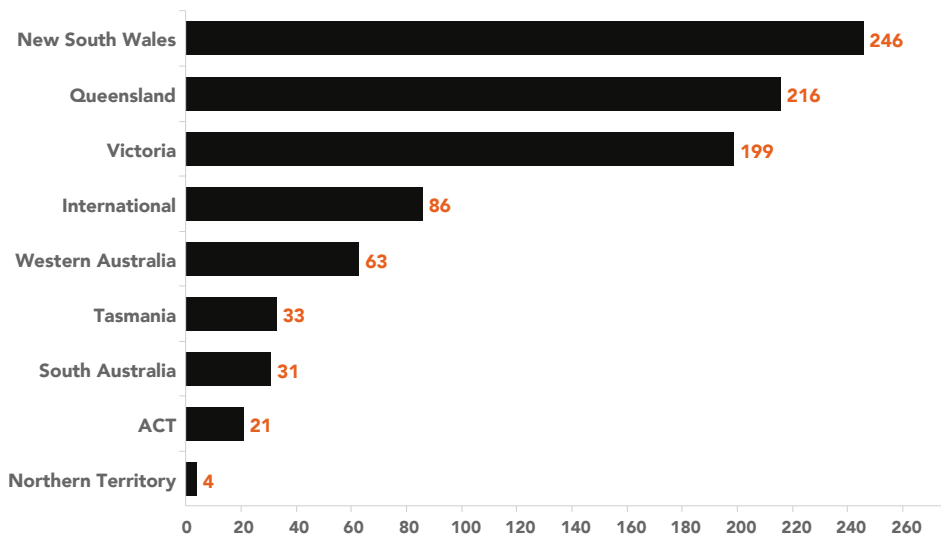
Indicative response rates weighted according to the number of practicing architects in each state and territory.[7]

Map response rates: Western Australia 5.2%, Northern Territory 2.0%, Queensland 7.8%, South Australia 3.2%, New South Wales 5.5%, Victoria 3.7%, ACT 5.8%, Tasmania 10.0%

90% of the survey respondents were located in Australia, with 10% indicating that they worked in architectural practice overseas.

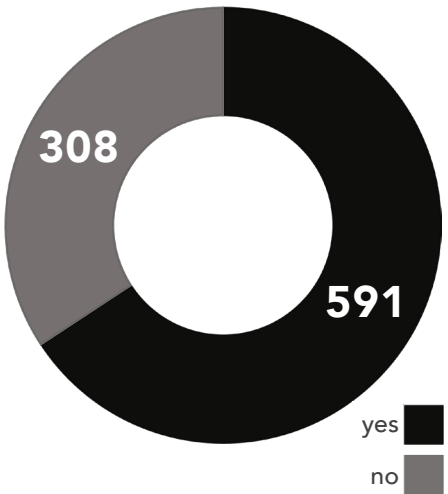| Country	Count
Australia	809
United Kingdom	19
United States	14
India	9
New Zealand	6
Canada	5
Ireland	5
England	3
Switzerland	3
Germany	2
Nigeria	2
Spain	2
Sweden	2
United Arab Emirates	2
Bulgaria	1
El Salvador	1
Hong Kong	1
Malta	1
Mexico	1
Netherlands	1
Pakistan	1
Tuvalu	1
United Republic of Tanzania	1
International (unspecified)	3

How much experience did respondents have and what was the nature of their roles?

The survey attracted responses from people at all stages of a career in architectural practice, with good representation from both registered architects and unregistered practitioners. It also attracted responses from a variety of role types and from a range of architectural practice sizes.
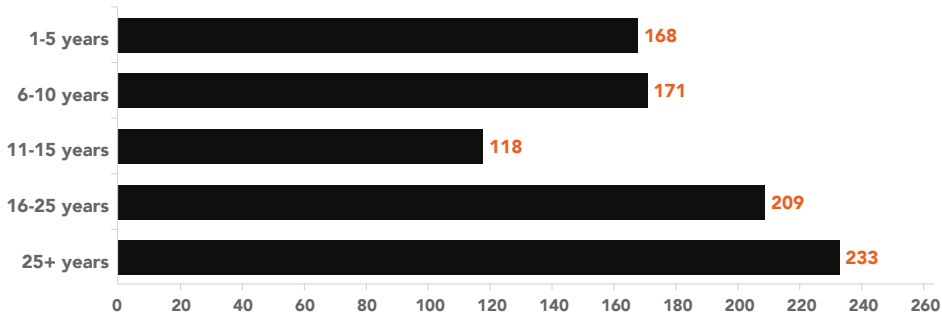
While the amount of experience represented in our sample was fairly evenly distributed, it is likely that the number of respondents with greater levels of experience is higher than would generally appear in a cross-section of all architectural practice.

26% of respondents reported having 25 or more years' experience working in architectural practice. 23% stated that they had been working for 16-25 years, 13% had 11-15 years, and 19% had 6-10 years and 1-5 years' experience, respectively.

The higher proportion of responses from those with more experience in practice is also reflected in the ratio of registered architects who responded (66%) compared to unregistered practitioners (34%).

308

591

yes ■

no ■

QU: Are you a registered architect?

Experience	
1-5 years	168
6-10 years	171
11-15 years	118
16-25 years	209
25+ years	233

0 20 40 60 80 100 120 140 160 180 200 220 240 260

QU: How much experience do you have in practice?

26%

of survey respondents had over 25 years' experience working in architectural practice.

Of the 899 survey participants, 44% stated that they worked in an architectural practice that employed more than 20 staff. 11% said that their practice had 10-20 staff, 13% had 5-10 staff, and 32% worked in small practices with 1-5 staff.

Of those working in small practice, almost half (45%) described themselves as a director or partner.
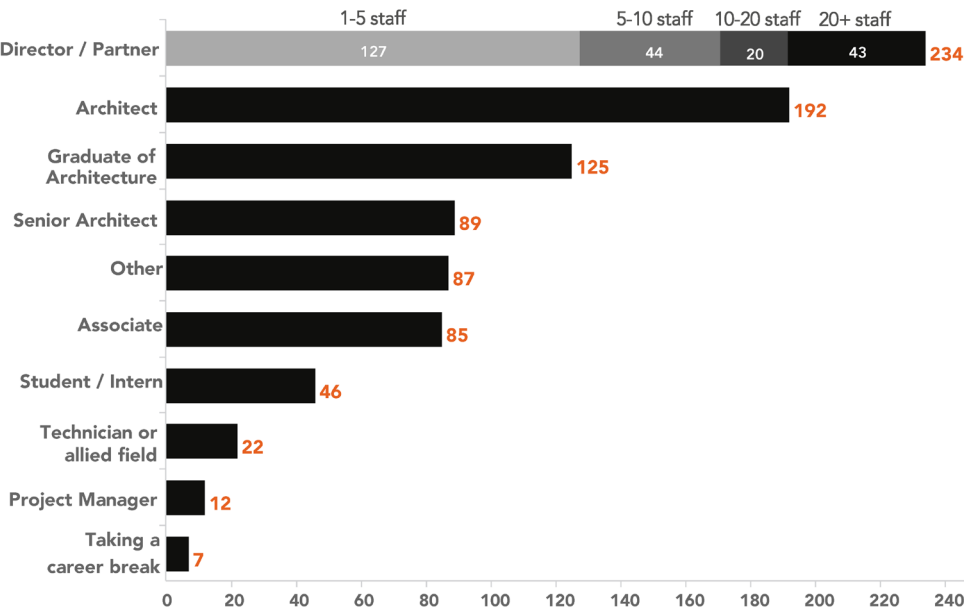
26% of respondents were directors or partners in their practice. 21% stated that they were an architect, while a further 14% were graduates of architecture. 20% were either senior architects or associates, 5% were working as student interns, and 4% indicated that they were either technicians, in an allied field or were project managers. 1% of respondents were taking a career break.

10% of respondents selected "other" in response to the question about their current role in architectural practice. Short answer explanations revealed that these roles included those working in government, office administrators, practice managers, researchers, academics, consultants, suppliers, and retired practitioners.

1-5 staff
5-10 staff
10-20 staff
20+ staff
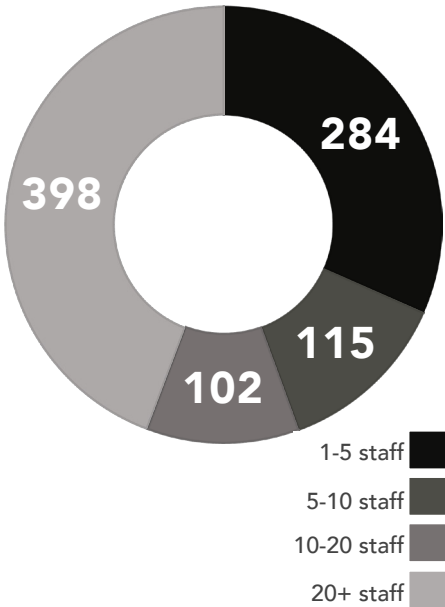
QU: What is the size of your practice?

The survey attracted a variety of perspectives, from student interns and graduates through to experienced directors. Responses came from practitioners working in a range of practice sizes, two-thirds of whom were registered architects.

	1-5 staff	5-10 staff	10-20 staff	20+ staff	
Director / Partner	127	44	20	43	234
Architect					192
Graduate of Architecture					125
Senior Architect					89
Other					87
Associate					85
Student / Intern					46
Technician or allied field					22
Project Manager					12
Taking a career break					7

QU: What is your current role in practice?

Build Agency

1

Harness high levels of motivation for change.

Harness high levels of motivation for change.

Build Agency.

Practitioners in architecture are concerned about climate change and want to see more action across the profession.

They feel a strong sense of responsibility when it comes to climate change. Practitioners in architecture are engaging with climate and sustainability issues in a range of different ways, both through their projects at work and during their personal time.

Climate change is generating an increasingly multifaceted role for architects to fulfil.

93% of practitioners are concerned about climate change and want to see more climate action.

79% of workplaces are actively involved in sustainable practice.

95% of practitioners agree that architects should be part of the solution for climate change issues.

"I hope we realise our agency to lead regenerative change for the whole built environment profession, and don't wait for others to do this."

// survey response
on hopes for the future of architecture

93%

of respondents were "concerned" or "very concerned" about climate change.

Practitioners are worried and want to see climate action.

Survey responses indicated high levels of concern about climate change and a strong desire to see more climate action across the profession.

Short answer responses frequently included emotive language that conveyed a sense of frustration and urgency.

The distribution in Figure 1.1 shows that 21% of respondents were "concerned" and 72% were "very concerned" about climate change.

Figure 1.3 (opposite) shows levels of concern by participant type, ranked in order from highest to lowest "concern scores" out of 5.

Students / Interns indicated the highest levels of concern, with a weighted concern "score" of 4.54 out of 5.0, which is consistent with results from the 2021 survey of architecture schools. Architectural technicians, or those working in allied fields, had a similar concern score of 4.5 out of 5.

The remaining participant types mostly described themselves as "concerned", with Associates being the only participant type to consistently indicate more neutral levels of concern, with a score of 2.8 out of 5.
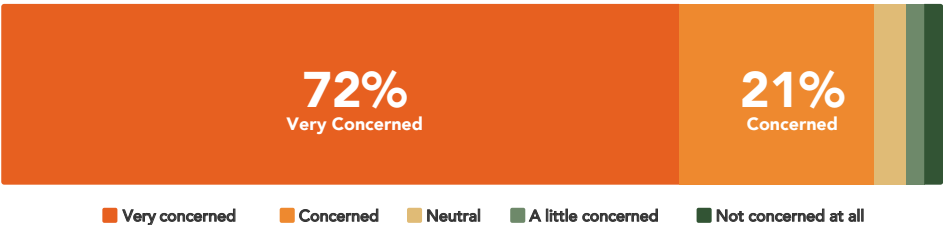
72% Very Concerned	21% Concerned	

■ Very concerned ■ Concerned ■ Neutral ■ A little concerned ■ Not concerned at all

**Fig 1.1 How concerned are you about climate change?**

Figure 1.2 shows that 16% "somewhat agree" and 77% "strongly agree" that they would like to see more climate change across the profession, making a total of 93% of respondents.

Responses to short answer questions tended to be passionate in tone, indicating a strong sense of urgency, and a desire to avoid contributing to the problem of climate change through their practice.

A commitment to sustainable practices, such as addressing "green washing", architects' complicity in climate change, and embracing transformational change were key themes throughout responses.

Practitioners frequently described architects as leaders and recognised that waiting for cultural change within practice was an insufficient response.


■Strongly agree ■Somewhat agree ■Neither agree nor disagree ■Somewhat disagree ■Strongly disagree
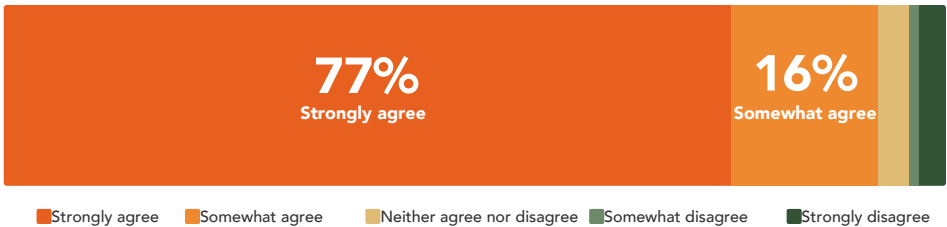
Fig 1.2 Would you like to see more climate action across the architecture profession?

Architecture schools survey

These results align with those from the 2021 survey of architecture schools. Academics and students also described high levels of concern about climate change and a strong desire to see more research and teaching on climate and sustainability issues. Figure 1.3 shows that staff and researchers in universities have the highest levels of concern across the profession.

Short answer responses about climate action in research, teaching, and learning in architecture schools revealed a strong sense of responsibility from both educators and students. This responsibility expanded beyond higher education and into the profession. Educators felt a responsibility to shape the values of future practitioners who will consider ethical decision-making alongside aesthetics.[1]

Fig 1.3 Levels of concern by participant type (weighted out of 5).

Comparative results from the 2021 survey of architecture schools
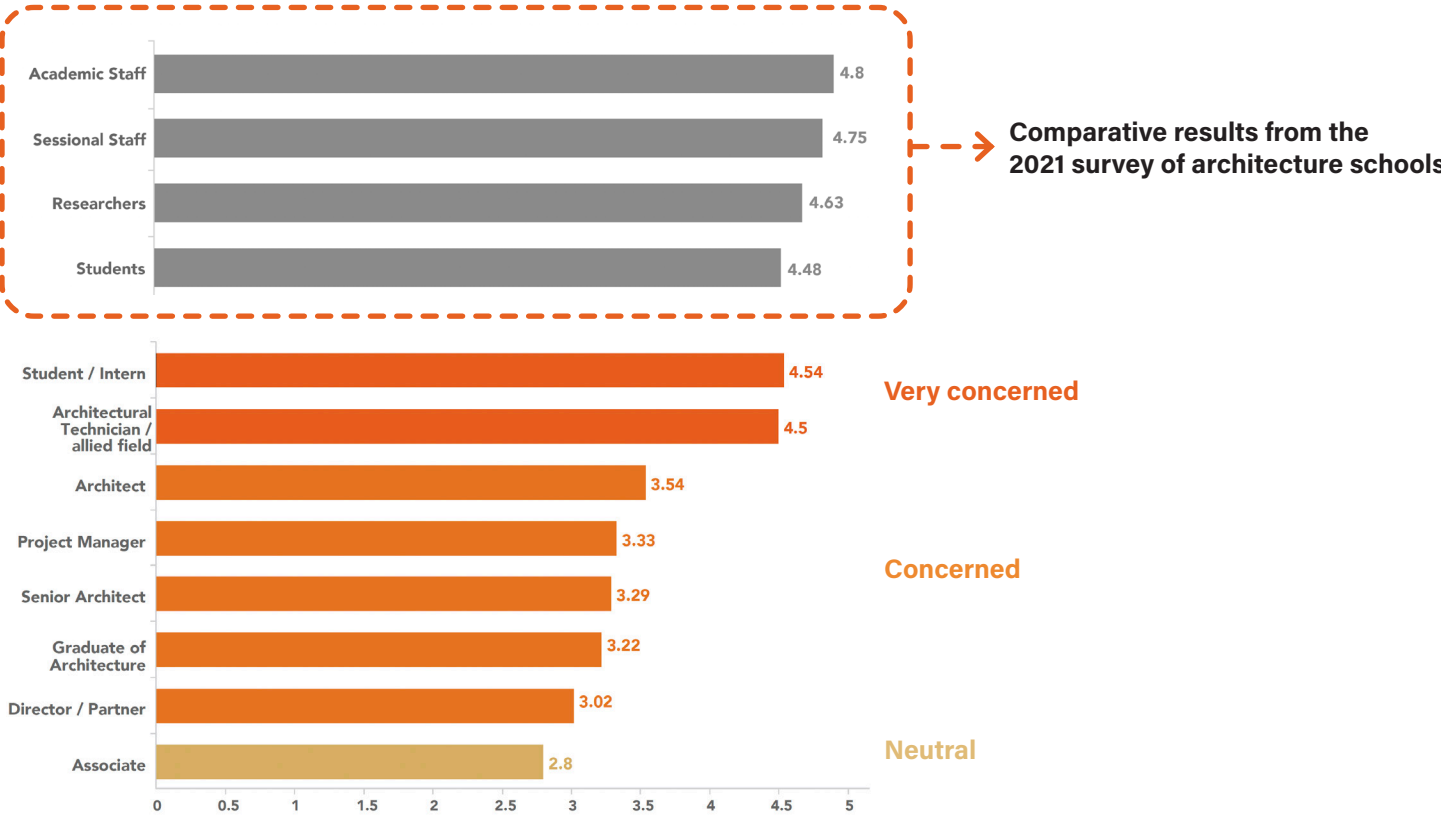
79%

of respondents "somewhat agree" or "strongly agree" that their workplace is actively engaged in sustainable practice.

How are practitioners engaging with climate change issues?

Most respondents stated that they were actively engaged in sustainable practice through their work. Practitioners felt a strong sense of responsibility in relation to climate change and were determined to help lead the way.

Architects indicated they were also responding to local opportunities and navigating place-based approaches to sustainable practice.

The distribution in Figure 1.4 shows that 46% of respondents "somewhat agree" and 33% "strongly agree" that their workplace is actively engaged in sustainable practice.
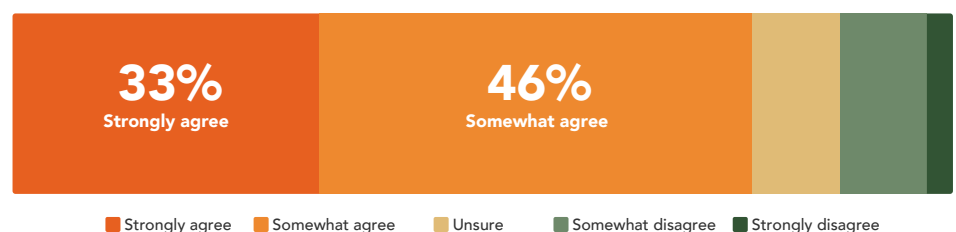
Participants were asked to select the ways that they engaged with sustainability through their practice from a list of options. Figure 1.5 (opposite) shows that 80.2% of practices use passive design principles, followed by 78.9% of practices that encourage their clients to make sustainable choices.

Despite high levels of concern and a

strong desire for climate action, only 51.1% of practices were specifying low embodied carbon materials, 48.3% were using sustainability certification systems, and 21.6% applied Life Cycle Assessment (LCA) through their projects.

16.8% of practices were a certified net zero business, with a further 37.4% indicating that they were working towards a net zero commitment. This data indicates that 45.8% of practices have not yet initiated an in-house net zero carbon commitment.

36.6% of respondents stated that their practice was engaged in external advocacy work relating to sustainability. Short answer responses revealed that this frequently involved activities through the Australian Institute of Architects, and included sitting on design review panels and committees. Some practices were signatories for Australian Architects Declare and had implemented, or were preparing, a Sustainability Action Plan.[8] Others were engaged with a range of member organisations and independent associations (see pp. 38-39 for a full list).

| 33% Strongly agree | 46% Somewhat agree | | | |

■ Strongly agree ■ Somewhat agree ■ Unsure ■ Somewhat disagree ■ Strongly disagree

Fig 1.4 My workplace is actively engaged in sustainable practice

16.6% of respondents indicated there were "other" ways that they engaged with sustainability issues through their practice. When asked to elaborate on this engagement, short answer responses revealed a range of more specific, often localised approaches to sustainability.

A significant number of practitioners mentioned that they were certified PassivHaus Designers, which involved engagement with the Australian Passive House Association. Others mentioned that they had completed Living Future Institute accredited training, and followed the seven performance areas of the "Living Building Challenge".[9]

The application of regenerative design principles was also mentioned throughout the short answer responses, as was a focus on design strategies such as adaptive reuse,

conservation, use of recycled materials, carbon offsetting, and encouraging clients to consider smaller scale buildings.

Practitioners also stated that they engaged with sustainability issues through events and initiatives such as the Canberra Low Carbon Housing Challenge, the Sydney Architecture Festival, and the Asia Pacific Architecture Festival.

Many of the short answer responses emphasised the importance of First Nations' knowledge when engaging with sustainability. Approaches included: direct engagement with Indigenous communities and expert consultants, accessing guidance material and research, and developing a Reconciliation Action Plan.

Responses included mention of climate-responsive design, including the use of permaculture and landscaping to generate desirable

microclimates, land management, and disaster resilient design principles and material specification.

Operational and individual behavioural changes were also mentioned, which included switching to a green energy provider or running an entirely off-grid office. Others indicated they were prioritising research and development, limiting or ceasing use of air-conditioning, and using active, public, or electric modes of transport.

"Sustainability is less. Smaller footprint, passive cooling and heating, connection to nature, response to site, minimal impact and it encourages life around it."

- survey response
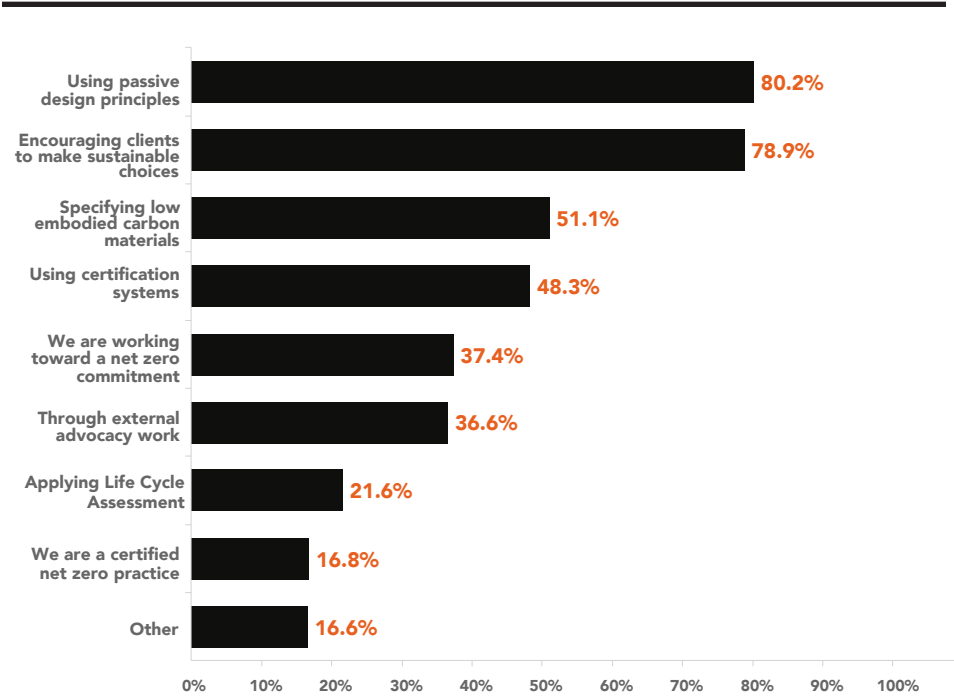
Fig 1.5 How do you engage with sustainability issues through your practice?

"We must immediately shift our attention towards this issue across all scales and stages of projects. We need to work to share methods and knowledge."

A multifaceted role is emerging for architects.
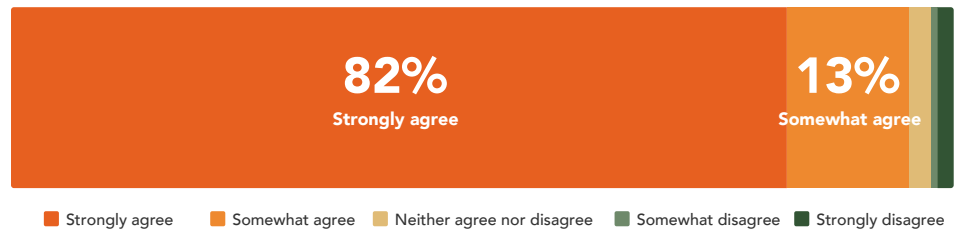

82%		13%
Strongly agree		**Somewhat agree**

■ Strongly agree   ■ Somewhat agree   ■ Neither agree nor disagree   ■ Somewhat disagree   ■ Strongly disagree

Fig 1.4 Do you agree that architects should be part of the solution for climate change issues?

Architects have a crucial part to play in climate change action, with varied roles that require both technical knowledge and people skills. Respondents felt that architects should lead by example, focus on developing solutions to problems, and share their knowledge.

Figure 1.4 shows that 13% of survey respondents "somewhat agree" and a further 82% "strongly agree" that architects should be part of the solution for climate change issues.

Participants were then asked to describe the role architects should play. Short answer responses were broadly categorised according to the three themes below.

They expressed a desire to lead by example, guiding clients and advocating for new policy and legislation. This leadership role was seen as crucial in accelerating change and ensuring a sustainable future.

01 ▶ Leading by example

Responses indicated that architects should be leaders who ensure sustainable built environment outcomes. This is based on an understanding that the construction sector is a major contributor to greenhouse gas emissions and that built environments can be designed to build resilience.

Practitioners felt that architects should also be sustainability advocates who resist wasteful practices, promote better standards, and push for stronger policies. Architects were described as engaging in roles as activists, protesters, and provocateurs for change.

02 ▶ A focus on solutions

Responses indicated that architects can generate ideas through a solutions-oriented approach. They are able to identify opportunities when addressing climate change challenges. This includes generating ideas for retrofit and reuse of existing buildings. People also described the crucial role that architects should play in disaster management as experts in resilient design.

There was an emphasis on the role of architects in the transition to net zero, and the need for new approaches to post occupancy evaluation and material data.

03 ▶ Sharing knowledge

There was a strong emphasis on architects' responsibility for educating the broader public, particularly their clients, about the benefits of sustainable design. Given that architects work closely with clients, government, and the construction industry, sharing knowledge was seen as a vital part of an architect's role.

Architects can act as a conduit between communities and the environment. They can bridge the gap between different industries and stakeholders.

Overcome Inertia
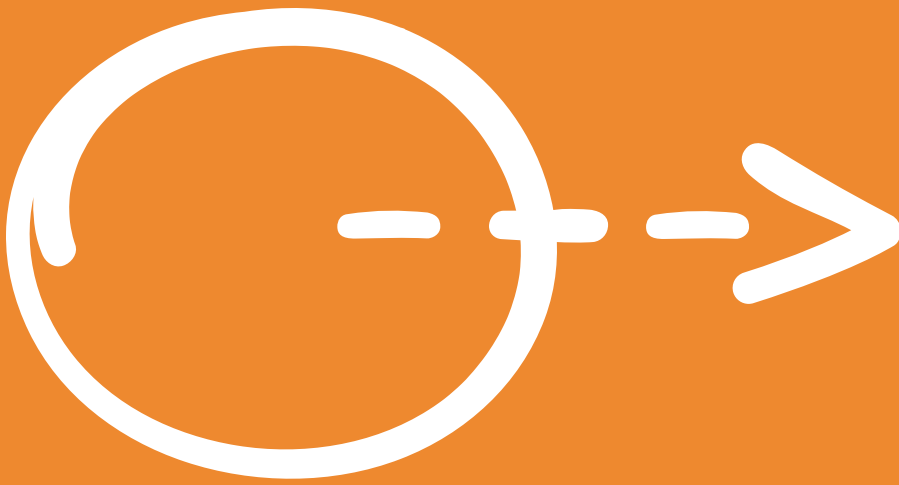
2

Embrace changes to practice by up-skilling.

Embrace changes to practice by up-skilling.

Overcome inertia.

Practitioners in architecture feel obstructed by barriers to change through their practice at multiple levels; resistance appears from within their workplaces, from clients, through poor industry standards in the construction sector, and in slow policy reform.

In-house resistance to progress may not be due to low concern, or climate denial. There is a lack of certainty and trust in sustainability rating systems as well as logistical challenges in navigating changes in practice.

To overcome barriers, practitioners are drawing on a large range of information sources, including those beyond architecture.

82% of practitioners feel obstructed by barriers when changing practice in response to climate change.

61% of practitioners stated that clients were a top barrier to achieving sustainable design outcomes.

83% of practitioners are using self-education to up-skill about climate and sustainability issues.

"Transformational change is coming whether we like it or not. We can be dragged, kicking and screaming into it, unprepared ... or we can start preparing."

82%

of practitioners "somewhat agree" or "strongly agree" they feel obstructed by barriers.

Practitioners feel obstructed by barriers at multiple levels.

"There is a general focus in the industry on optimising a project to meet the bare minimum requirements of the NCC ... It is generally assumed that a project will be done this way."

- survey response

Despite high levels of concern about climate change, and a strong desire to see action, most respondents felt that the change they wanted to see in architectural practice being obstructed by a range of factors at multiple scales.

Figure 2.1 shows 40% "somewhat agree" and 42% "strongly agree" that they feel obstructed by barriers when it comes to changing practice in response to climate change.

Figure 2.2 (opposite) shows respondents' 'top-three' identified barriers to achieving sustainable design outcomes in practice. 61.3% of people stated that clients were one of the biggest obstacles. 51.9% indicated that developers were a main barrier to sustainable design, and 44.8% selected builders, contractors and trades.

Material availability and supply was selected by 36.2% of respondents, a barrier that was likely exacerbated by 2021-2022 material shortages

in Australia. Policy, legislation and codes were selected by about 35% of respondents, with approximately 19% stating that access to training and resources, as well as available contract models were key barriers.

The 82% of respondents who felt obstructed by barriers were asked to elaborate on the nature of these barriers; responses revealed a complex array of interconnected factors obstructing climate action in architectural practice.

A lack of knowledge

Many felt that the profession falls short due to a lack of knowledge. Some practitioners believed that they were already implementing sustainable practices effectively, without seeing room for improvement beyond implementation of passive design principles. Others commented that they worked alongside colleagues who had a total lack of basic understanding about sustainable design.

This knowledge gap was observed by some as a "pipeline problem" starting in higher education, where outdated curricula perpetuate a lack of skills and knowledge about sustainability. In practice, staff need retraining, with some respondents expressing frustration that senior staff hold entrenched beliefs and resist change. The need to build change management skills was also mentioned.

| 42% Strongly agree | 40% Somewhat agree | | | |

■ Strongly agree   ■ Somewhat agree   ■ Neither agree nor disagree   ■ Somewhat disagree   ■ Strongly disagree

Fig 2.1. Do you feel obstructed by barriers when it comes to changing practice in response to climate change?

Perception of cost

A repeated theme in the short answer responses was the problem of cost as a barrier to sustainable design. The idea was discussed from a range of different perspectives, including the cost of allocating the time and resources required to train staff and implement new software and processes.

Respondents often mentioned the "perception of cost", which generates a circular problem for architects. They observed that clients frequently focus on capital expenditure without considering operational costs over the life cycle of a project. Compounding this problem is the fast turnover development model driving a "race to the bottom" approach to sustainable design.

To change perceptions of cost, architects need current data that demonstrate the cost-effectiveness of upfront investment in a sustainable build. Resistance from clients, lenders, and insurers stems from an inability to calculate return on investment, as well as from product warranties and unregulated sustainability rating systems that undermine consumer confidence.
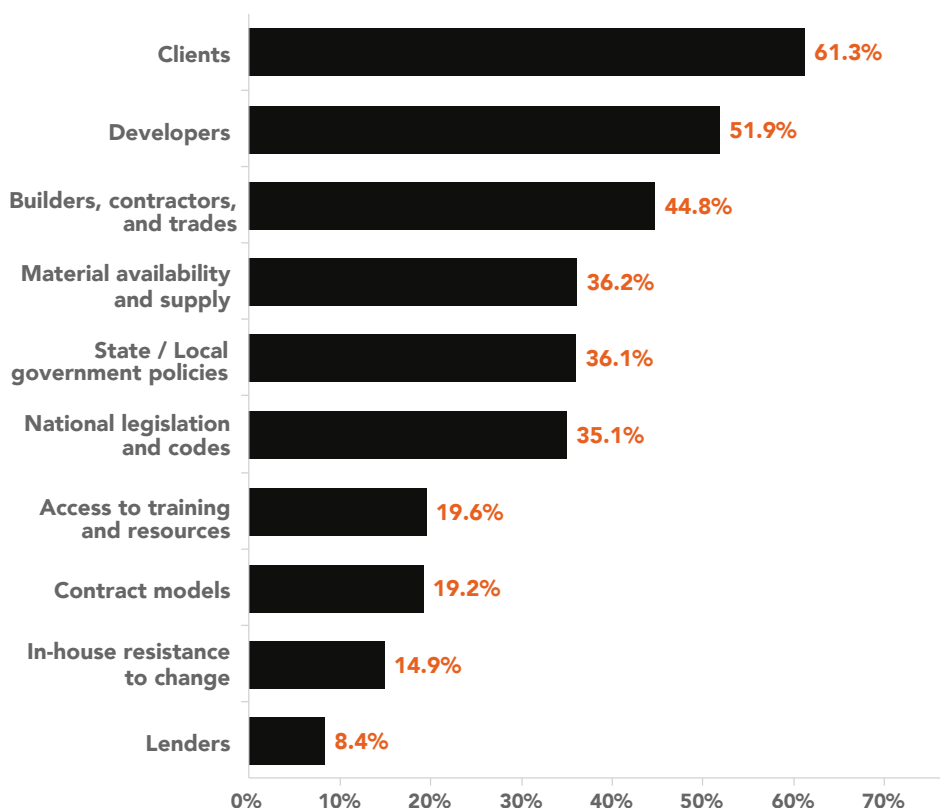
Systemic barriers

Many respondents mentioned that primary barriers to sustainability exist at the state and/or national level, rather than emerging at the individual project scale. They called for a focus on policy and legislation change to promote transit-oriented development, and address outdated zoning regulations and parking minimums

that contribute to a reliance on cars Answers also pointed to the problem of town planning and local government laws that override national policies, creating inconsistencies and inhibiting sustainable urban development.

Respondents also noted the political influence of international investment in the construction sector. Short-term thinking and the prevalence of a "buy-and-flip" investment model was seen as a major barrier to sustainable development.

People working in architectural practice operate within a construction sector that is driven by minimum standards set by the NCC. This limits their ability to exceed sustainability requirements, a challenge that becomes even more significant on larger projects where multiple stakeholders resist innovation.

Some responses to the question mentioned that contracts tend to prioritise financial benefits for clients, leading to a lack of consideration for LCA and low transparency in design and construction decisions. These challenges were seen to be systemic in nature, and there was a desire for changes to procurement processes to allow for both earlier input for architects and consideration of supply chains.

Fig 2.2. What are the top three barriers when it comes to achieving sustainable design outcomes in your practice?

Clients — 61.3%
Developers — 51.9%
Builders, contractors, and trades — 44.8%
Material availability and supply — 36.2%
State / Local government policies — 36.1%
National legislation and codes — 35.1%
Access to training and resources — 19.6%
Contract models — 19.2%
In-house resistance to change — 14.9%
Lenders — 8.4%

"The systems are not all in place; it is hard to convince clients when the life cycle chain doesn't exist."

- survey response

Understanding climate action resistance.

Climate denial and in-house resistance to progress.

When it comes to climate action resistance, results demonstrated more than whether or not practitioners believed in climate change. While a small number of practitioners did deny the validity of climate science, others described high levels of concern with climate practices and offered a range of reasons for their hesitation.
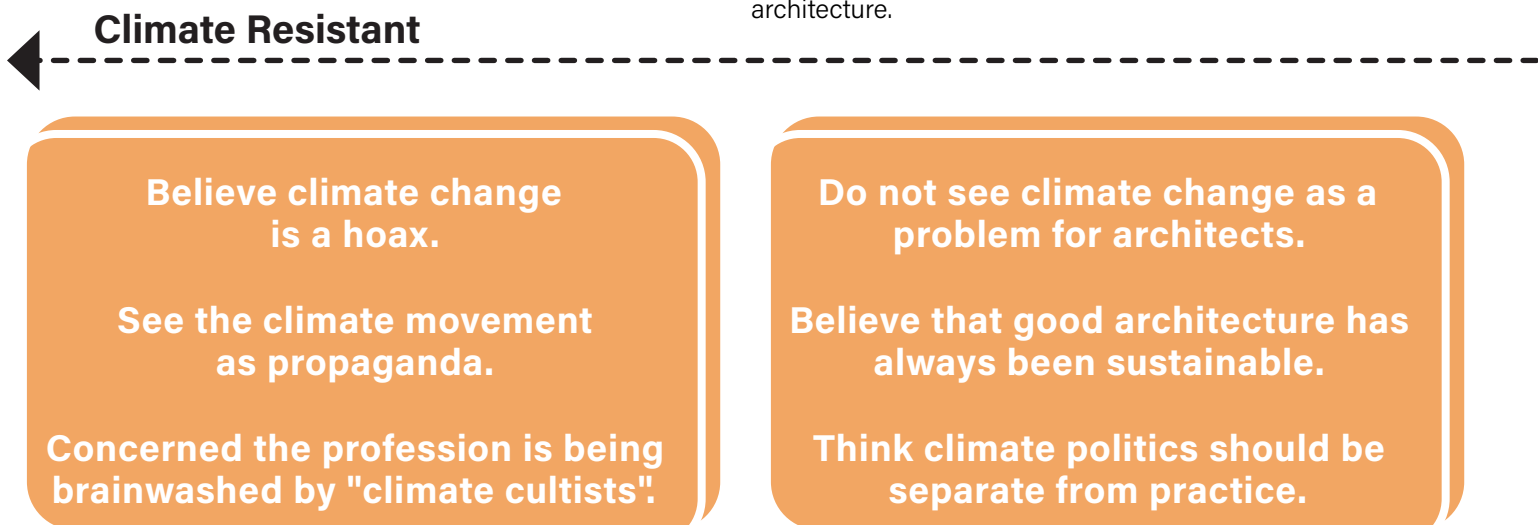
These included a lack of certainty and trust in rating systems and sustainability tools, and the need for resourcing and support to manage change in professional practice.

93% of practitioners indicated that they were either 'somewhat concerned' or 'very concerned' about climate change. Figure 2.3 (below and opposite) shows four categories of response type, ranging from the most 'climate resistant' to the most 'climate active'. Despite generally high levels of concern, it is important to consider the reasoning of those who were unconcerned.

To estimate the proportion of practitioners in this "climate resistant" category, we calculated the number of respondents who reported very low, or no concern about climate change; this totalled 47 out of 899 survey responses, or 5.2%. 3.9% of this group indicated that they did not want to see more climate action across the profession.

The practitioners who were most resistant to climate action tended to deny that anthropogenic (human-made) climate change was real. These practitioners described climate change as a collective delusion, frequently in animated terms, and expressed strong concerns that the profession was being brainwashed by propaganda. They did sometimes state that sustainability was important, offering responses such as: "Sustainability, yes. 'Climate change' is a rort."

The second broad category of reasons for resisting climate action was more complex. Some climate resistant practitioners did not see climate change as an issue for architects, while others were supportive of sustainable practices, agreed that climate change was a concern, but disagreed that there was a place for climate activism in architecture.

Climate Resistant

> **Believe climate change is a hoax.**
>
> **See the climate movement as propaganda.**
>
> **Concerned the profession is being brainwashed by "climate cultists".**

> **Do not see climate change as a problem for architects.**
>
> **Believe that good architecture has always been sustainable.**
>
> **Think climate politics should be separate from practice.**

Fig 2.3 A spectrum of the sentiments evident in survey responses, ranging from "climate resistant" to "climate active".

A lack of certainty and trust.

Some respondents who were concerned about climate change held reservations about climate action in practice, while others expressed a desire for an immediate response.

A lack of confidence in rating systems and sustainability tools emerged as a significant theme in the short answer responses. Some practitioners who were concerned about climate change and wanted to see more climate action across the profession expressed skepticism about things like sustainability claims from material manufacturers, independent rating schemes, unregulated and inconsistent carbon data, and "clunky" energy modelling software.

The prevalence of "greenwashing" and use of sustainability "buzzwords" was seen to be a main source of distrust when navigating sustainability transitions. Additionally, contradictory information was mentioned as a cause for inaction, in that pathways to sustainability were obstructed or blocked by uncertainties.

Navigating change.

Some respondents described frustration about poor practice, culturally ingrained beliefs in architects, and directors who showed no interest in climate change issues. But, of the 234 participants who described themselves as directors or partners, 73% "strongly agreed" and 17% "somewhat agreed" that they wanted to see more climate action across the profession.

When asked what support or resources would be most useful, many practitioners mentioned access to resourcing and information to support changes in practice. Others felt that practices were "held back by the attitude that they are already doing everything right, when there is so much room for improvement". This is perhaps reflected in the finding that 80% of practices were using sustainable design principles, but only 22% applying LCA.

Climate Active ▶

> **Believe climate change is a significant concern.**
>
> **Are cautious about unregulated sustainability standards.**
>
> **Carefully consider how to make changes to practice.**

> **Believe climate change is an emergency.**
>
> **Express a strong desire for "climate action now".**
>
> **Want to see urgent, radical change in practice across the profession.**

83%

of respondents rely on self-education to up-skill about climate change and sustainability issues.

"I think a lot of practices are held back by the attitude that they are already doing everything right, when there is so much room for improvement."

- survey response

Practitioners are drawing on sustainability information from a wide range of sources.

Given that so many people working in architecture were motivated to see more climate action across the profession, it is unsurprising that self-education emerged as the most common method of up-skilling. Practitioners were learning about sustainability and climate change in many ways, not just through traditional training and CPD.

Figure 2.4 shows that the most common way that practitioners in architecture were up-skilling about climate and sustainability issues was through self-education, with 83.3% of survey respondents selecting this method.

More than half of the respondents accessed Continuing Professional Development (CPD) both in-house and through organisations other than the peak industry body. 46.3% of respondents accessed Australian

Institute of Architects CPD to up-skill about climate and sustainability issues, and a further 19.0% used Institute Acumen Notes.

Of the people surveyed, 19.1% selected "other" methods of up-skilling, which included attending talks and events, engaging with expert consultants, gaining informal learning through both industry and peer networks, and social media forums.

Many practitioners were drawing on sustainability information from communities of practice emerging out of organisations such as the Australian Passive House Association, Living Future Institute, Architects Climate Action Network, and Architects Declare.

Short answer responses also stressed the value of collaborating with First Nations Peoples and their knowledge to learn about sustainability, which is expanded on in Sections 4 and 5 of the report.
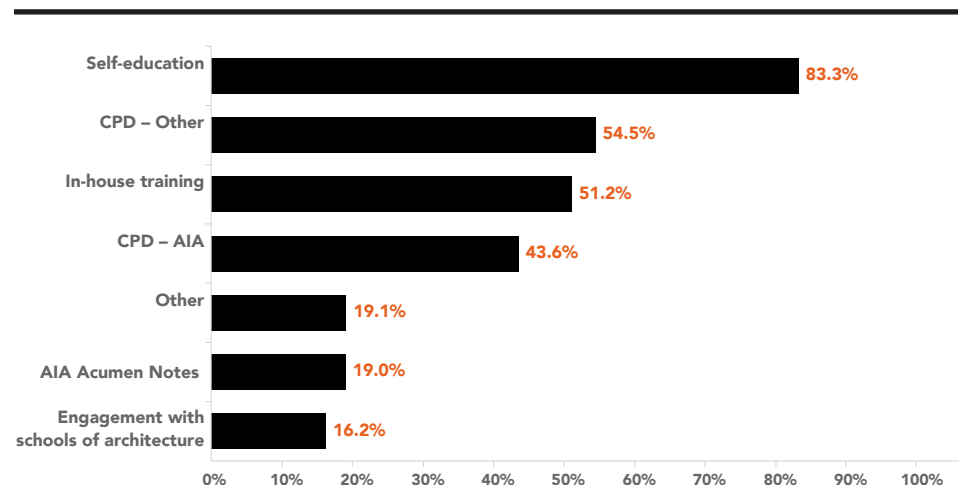
Fig 2.4 How do you up-skill about climate change and sustainability issues?

"It is imperative that architects make addressing climate change their first priority, and in response, radically change their practice ... Everything must change."

Where are practitioners finding sustainability resources and training material?

Independent Organisations

- Permaculture Education Institute
- Adelaide Sustainable Building Network (ASBN)
- Architects Climate Action Network (ACAN)
- Australian Architects Declare
- Green Building Council (Australia and New Zealand)
- Parlour
- Passive House Accelerator
- Materials and Embodied Carbon Leaders' Alliance (MECLA)
- Post Carbon Institute
- Climate Risk Institute (Canada)
- Architects 4 Future

Universities & Continued Education

- Postgraduate research (Masters / PhD)
- UNSW High Performance Series
- Academic journals
- Conferences
- Postgraduate diplomas
- TAFE certificates

Membership Associations

- Australian Institute of Architects (including Acumen Notes and CPD)
- New Zealand Institute of Architects (NZIA)
- Royal Institute of British Architects (RIBA)
- Association of Consulting Architects (ACA)
- Architeam
- Chartered Institute of Architectural Technologists (CIAT)
- Building Designers Association of Australia (BDAA)
- Living Future Institute of Australia
- Australian Passive House Association (APHA)
- Association for Environment Conscious Building (AECB)
- Australian Sustainable Built Environment Council (ASBEC)
- Passivhaus Institute
- Australian Institute of Landscape Architects (AILA)
- Australian Institute of Refrigeration, Air Conditioning and Heating (AIRAH)

Professional and Regulatory Bodies

- Australian Building Codes Board (ABCB)
- Construct NSW
- Architects Registration Board UK (ARB)

Certification Programs and Tools

- LEED
- BREAAM
- Green Star
- One Click LCA
- WELL Building Standard (WELL)
- NatHERS
- NABERS
- Carbon Neutral
- Greenpeace Good Wood Guide

Sustainability Initiatives

- Canberra Low Carbon Housing Challenge
- Events, e.g. Sydney Architecture Festival, APAF

Media, Magazines, and Websites

- *Renew* magazine
- Sanctuary
- Choice
- In Design
- Podcasts (e.g. Hearing Architecture)
- Coalition for Conservation
- LinkedIn Learning
- YouTube

Community Education

- Social media forums
- Indigenous communities and elders
- Peer networks

Industry

- Software companies
- Manufacturers and suppliers

Advocate

3

Drive change from top down and bottom up.

Drive change from top down and bottom up.

Advocate.

Practitioners in architecture need a range of supports to build new competencies in architectural practice. Small and regional practices need targeted support.

Practitioners do not feel that they have support from the top to address climate and sustainability issues.

The profession is highly ethics-driven, with the main drivers of climate action coming from collective, bottom-up efforts.

5% of small practices are certified net zero practices compared to 25% of large practices.
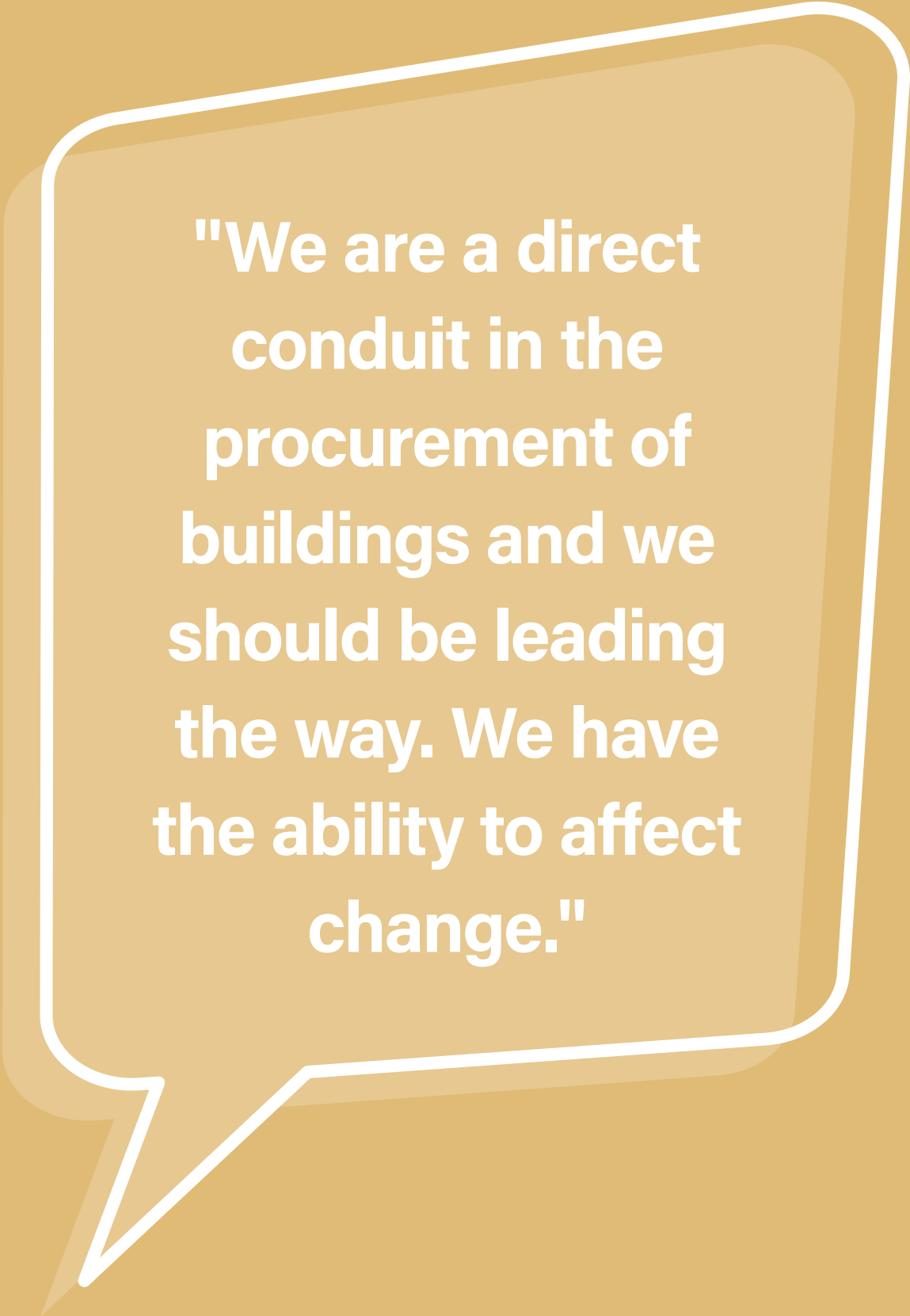
91% want to see policy and regulation change to better support climate action in architectural practice.

75% chose "practice values and purpose" as the most common driver of sustainable design outcomes in practice.

"We are a direct conduit in the procurement of buildings and we should be leading the way. We have the ability to affect change."

What support is needed to build new competencies in architectural practice?

Practitioners were actively seeking information from a wide range of sources to up-skill in response to climate and sustainability issues. When asked what types of support or resources, would be most useful, practitioners had six main recommendations.

When asked "What support or resources would be most useful to up-skill in response to climate and sustainability issues?" 693 of the 899 participants provided a short answer response. These included a total of 1093 recommendations for support or resources, which have been broadly categorised according to six themes: CPD, tools, advocacy, new collaborations, funding support, and sustainability certifications.

1. CPD

Of the 1093 recommendations provided, 42% involved CPD. This included a range of specific CPD topics from peak industry bodies, independent organisations, and universities. CPD is expanded further in Section 4, "Build Knowledge" (p. 50).

2. Tools

23% of recommendations related to tools that support sustainable practice. This theme included ideas such as a database of sustainable materials and suppliers, access to the Australian Institute of Architects' Acumen Notes; a verified sustainability platform of resources for architects; and user-friendly modelling, analysis, and calculation software.

3. Advocacy

20% of recommendations mentioned forms of advocacy. Practitioners wanted to see government and industry bodies petition for climate responsive policy and sustainable design, and wanted events planned between industry bodies and with universities.

4. New Collaborations

New collaborations featured in 6% of recommendations. These practitioners would like to see collaboration between industry bodies, government bodies, and institutions at local, regional, and global scales, as well as documented outputs that are shared between these bodies and practices. Collaborative support also included project guidance from third-party sustainability experts, change management support for practices, and external experts who are engaged by practices to lecture and share their knowledge. New collaborations are expanded further in Section 5, "Connect" (p. 60).

5. Funding Support

3% of respondents mentioned the need for funding, incentives or grants from government bodies for the time and educational costs of up-skilling.

6. Sustainability Certifications

2% of practitioners mentioned the need to adopt certification systems and a desire for readily accessible cost-effective training and certification explainers.

EXPERT CONSULTANTS
CROSS-INDUSTRY EVENTS
AFFORDABLE RESOURCES
TALENT
ADVOCACY
AIA ACUMEN ACCESS
CPD
AFFORDABLE SOFTWARE
FUNDING
DATA
TECHNOLOGY
GREEN BUILDING CERTIFICATION
TRANSDISCIPLINARY COLLABORATION

Fig 3.1 Supports to build new competencies in practice.

Small and regional practices need targeted support.

Small practices and those in regional areas are faced with a unique set of challenges when it comes to building new sustainability competencies through their practice.

Small Practice

According to the short answer responses, small practices have less capacity to up-skill and implement change in comparison to large practices. Respondents explained that they were "too small for in-house training", "time poor", and that a leaner business model prevented them from implementing costly certification systems and tools. The cost of CPD was also mentioned as a problem.

The survey results suggest that there is the risk of small practices lagging behind large practices when it comes to meeting sustainability requirements. This was reinforced by data on carbon commitments and the use of certification tools. Figure 3.2 shows that the smaller the practice, the less likely it was to be certified net zero, working toward net zero, or using sustainability certification systems.

Regional Practice

Regionally-based practitioners mentioned difficulties accessing CPD talks and industry events in capital cities, as well as connecting with research and teaching activities through universities. The need to travel long distances to project sites was mentioned as an additional challenge in achieving a net zero practice.
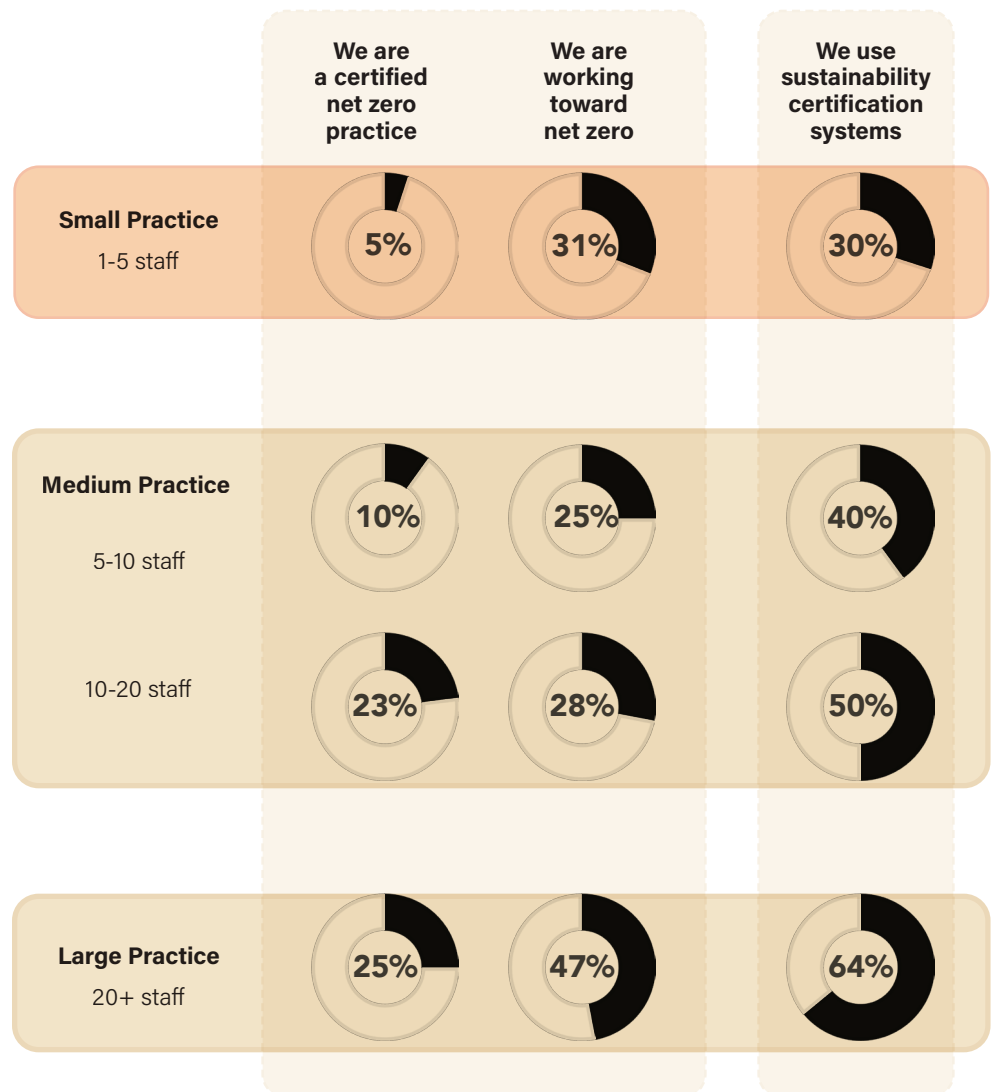
Fig 3.2 Carbon commitments according to practice size

"An occasional, relevant, face-to-face presentation to regional architects would be a helpful resource."

- survey response
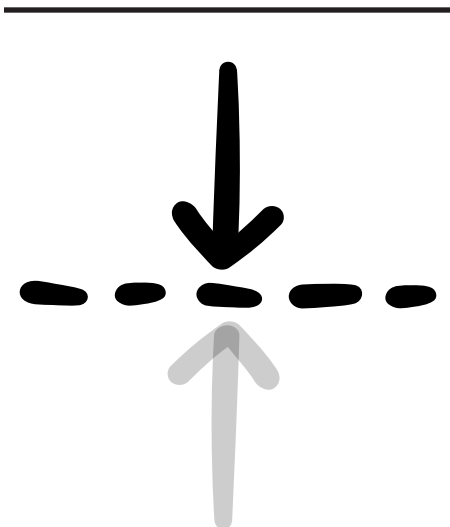
Where is the support for climate action from the top?

When it comes to climate action in the architectural profession, top-down mechanisms for change appeared to be the most obstructed by barriers. This was seen to be stalling progress within practice, across the profession, and via a lack of government schemes and policy change.

Practitioners wanted to see new legislated sustainability requirements, stronger advocacy from industry bodies, and support mechanisms that scaffold change management within architectural practice.

91% of practitioners were in favour of policy and regulation change to better support climate action through architectural practice. Figure 3.3 shows that 15% "somewhat agree" and 76% "strongly agree" that they would like to see such change.
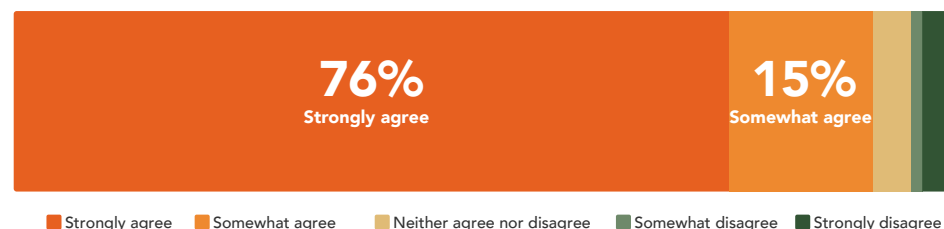
People working in architectural practice felt that top-down climate action within practice was hindered by a lack of support, resources, and change management skills, and described the need to retrain staff.

Across the profession, practitioners wanted to see better representation at key events, as well as media and awards programs that only give accolades to responsible projects. Survey responses mentioned a desire for things like compulsory CPD, and messaging from peak bodies that speaks to CEOs and CFOs. The need for more flexible or innovative contract models was also mentioned.
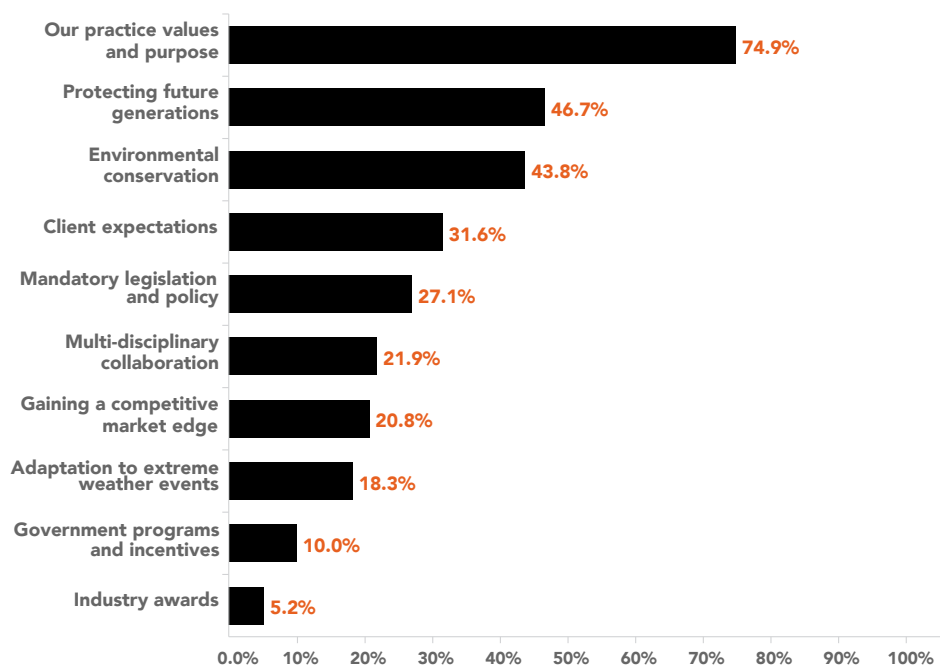
Respondents wanted to see stronger policy and regulation for sustainable development enforced by all levels of government, including mandatory carbon reporting, and incentive schemes. Many felt that the government was failing to lead issues of climate and sustainability.

"The greatest barriers exist not at the project scale, but at the state and national level. This *must* be dealt with at the level of policy framework and legislation."

- survey response

76% Strongly agree	15% Somewhat agree			

Strongly agree · Somewhat agree · Neither agree nor disagree · Somewhat disagree · Strongly disagree

Fig 3.3 Would you like to see policy and regulation change to better support climate action through architectural practice?

Chart data:
- Our practice values and purpose: 74.9%
- Protecting future generations: 46.7%
- Environmental conservation: 43.8%
- Client expectations: 31.6%
- Mandatory legislation and policy: 27.1%
- Multi-disciplinary collaboration: 21.9%
- Gaining a competitive market edge: 20.8%
- Adaptation to extreme weather events: 18.3%
- Government programs and incentives: 10.0%
- Industry awards: 5.2%

Fig 3.4 Which are the top three drivers of sustainable design outcomes in your practice?

Sustainable design outcomes in architectural practice are more likely to be driven by professional culture and values, not top-down mechanisms, financial incentives, or industry recognition.

Figure 3.4 shows the drivers of sustainable design outcomes ranked in order of impact. "Practice values and purpose" was seen as the most significant sustainability driver in practice, with 74.9% of practitioners selecting this as a top-three influence. 46.7% selected "protecting future generations" and 43.8% chose "environmental conservation" as key sustainability drivers.

The next most common sustainability driver was "client expectations", which was selected by 31.6% of practitioners, followed by 27.1% who selected "mandatory legislation and policy".

This sentiment aligns with the short answer responses that called for stronger legislation and policy to drive sustainability outcomes. Only 10% of practitioners selected "government programs and incentives" as a top-three driver of sustainability in practice.

With increased public awareness of disaster risk, state governments are implementing disaster recovery and resilience policies. 18.3% of practitioners selected "adaptation to extreme weather events" as a key driver of sustainable design.

21.9% of respondents chose "multi-disciplinary collaboration", 20.8% chose "gaining a competitive market edge", and only 5.2% of respondents chose "industry awards" as top-three sustainability drivers.

"Stop glorifying single-residential architecture. Consumer-driven culture has become, unfortunately, the benchmark by which we justify 'design excellence'. It is time to move away from 'Instagrammable' aesthetics, greenwashing, 'sustainable housing' and narcissism ..."
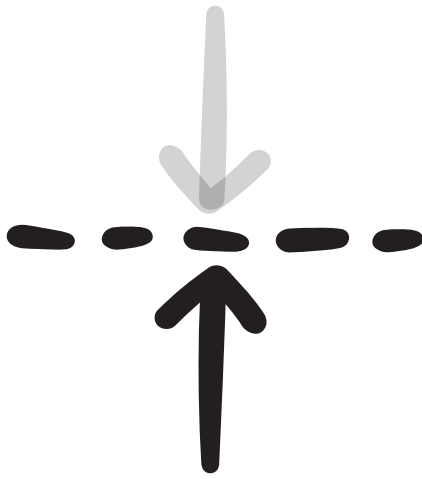
- survey response

"Climate action needs collective behavioural change. This starts at the very top of politics and business."

- survey response

Pushing collective action from the bottom up.

People working in architecture are highly ethics driven and feel a strong sense of environmental responsibility.

Collective, bottom-up action is currently the main driver of climate action in the profession, with practitioners more likely to describe moral reasoning than external incentives for sustainability.

When asked to elaborate on the main drivers of sustainability in their practice, short answer responses confirmed an emphasis on professional culture and values. Many put it simply as the "right thing to do" or having "a moral sense" of "saving the earth and the environment".

Most practitioners who were actively engaged in bottom-up forms of climate advocacy described action according to the three broad themes shown below.

01 ▶ Building a community of practice

Practitioners described a range of collective forms of action that are characteristic of a Community of Practice (CoP) model.

One respondent referred explicitly to an in-house CoP in their practice, while others described being a part of "the community driving action" in the "architecture community", "professional community", or "design community". These CoPs were often accessed through online forums and social media.

Membership associations were also mentioned in terms of a CoP. For example, the Passive House Association and the Australian Institute of Architects were both referred to as as "a community" and "communities of practitioners" respectively.

02 ▶ Driving cultural change in the profession

Survey responses indicated a collective desire to drive cultural change in architectural practice.

Respondents expressed the view that, "climate action needs collective behavioural change", and that we need a "complete shift away from the old ways of working, practicing, and awards".

Practitioners wanted to see in-house investment in cultural change, including "dedicated members of staff to champion this work" and "designated paid time during office hours for up-skilling". The importance of "soft" skills in change management, client skills, and the need for "retraining of senior staff" were also mentioned.

03 ▶ Engaging with the broader community

Many practitioners frequently mentioned involvement with the broader community as a form of climate and sustainability action.

This included activities as embedded citizens in a neighbourhood network, where architects advocated for sustainable and resilient development in their local area.

Practitioners mentioned the importance of community engagement to understand and advocate for local needs, as well as the need to ensure connecting with Country through collaboration with Indigenous community groups.

The importance of providing community education and courses that are available to the general public was also mentioned. Practitioners wanted support and resources to help "educate clients" about sustainability.

"... We must be leveraging our voice to collectively push for policy and legislative changes and incentives to create the change we need for our future."
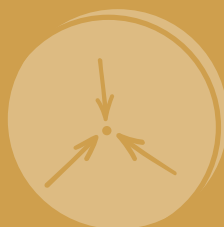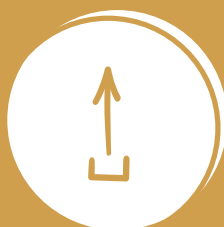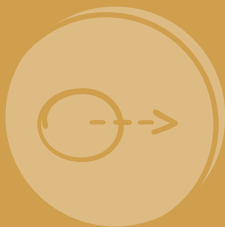
Build Knowledge

4

Construct a sustainability knowledge framework.

Construct a sustainability knowledge framework for architecture.

Build Knowledge.

Practitioners in architecture want interconnected sources of information and data. The number of different resources, rating systems, and tools is overwhelming.

There is a strong demand for high quality, accessible CPD across a range of topics.

A proportion of practitioners are now foregrounding collaboration with First Nations' communities and knowledge systems when addressing climate and sustainability issues through their practice.
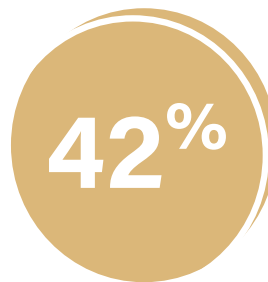
42% of practitioners say that targeted sustainability CPD would be the most useful form of support.

79% agree that Indigenous care for Country is an important part of the solution for climate change.*

Please see pp. 58-59 for the authors' reflection on the survey *
design with respect to questions and recommendations about
Indigenous knowledge systems and care for Country.

"I sometimes feel overwhelmed. It would be fantastic to have some clarity around certifications and labels. The only way to get everyone on board is to make it as easy as possible to apply in our everyday work."

// survey response
on useful support and resources

The number of different resources, rating systems, and tools is overwhelming.

Architects wanted verified information about climate action and sustainable design that is connected-up and clear across the life cycle of a project.

Many respondents described challenges navigating the many different sources of information. Practitioners were finding it difficult to:

1. find information about material supply chains,
2. navigate conflicting embodied carbon data,
3. trust the accuracy of calculation tools,
4. determine how design guidance should be applied across regulatory environments,
5. choose between competing standards and rating systems, and
6. confidently choose between contradictory information.

Despite high levels of concern about climate change and a strong desire to see more climate action across the profession, many practitioners felt overwhelmed or confused. Without regulated systems and confidence in product information, architects were in a double bind. They found it hard to convince clients to build to current unregulated standards of best practice, and potentially compromise their integrity by perpetuating "greenwashing".

Connecting up a knowledge framework

Survey respondents consistently described the need for a verified, single source of information to guide sustainability outcomes through their practice (see responses opposite on p. 53). This included access to material data, case studies, simple guides for rating tools, "explainers", and supplier directories. They felt that the information should be clear, readily available, and affordable or even free.

The ability to "draw on networked knowledge" underpinned these comments. Rather than piecing together information like a puzzle, practitioners wanted climate information "standardised", and "searchable and sortable", with consistent use of terms and definitions.

"[We need] a clear platform that gathers policy, guidance, and the wider ecosystem of industry participants into a one-stop location, providing a source of confidence to the broader industry."

- survey response

"Anything that is concise and comprehensive [would be useful]. The amount of resources out there is a barrier in itself. People are confused about where to start, and what to read."

- survey response

"free information"

"a central database"

"handbooks and guidelines"

"a dedicated website"

"collated information"

"materials portal"

"shared library"

"collated links"

"resource library"

"readily available list"

"education packs"

"national repository"

// sample survey responses
on useful support and resources

There is strong demand for high quality, accessible CPD.

Architects wanted more CPD that is high quality and professionally delivered by peak industry bodies, product manufacturers and suppliers, industry leaders, and academic experts. CPD that supports climate action should be accessible, affordable, flexible, and offered in multiple formats. CPD was seen as a crucial, highly valued mechanism for climate action in the profession.

As described in Section 3, "Advocate" (p. 40), 42% of respondents mentioned CPD in response to the question, "What support and resources would be useful to up-skill in response to climate and sustainability issues?" Some felt that the CPD currently on offer was "going in the wrong direction", while others found the CPD offered through the Australian Institute of Architects "very good" although there was an observed need for "better advertising of CPD courses on offer". Respondents wanted courses that were professionally delivered from a range of perspectives and built environment professions.

Practitioners emphasised the need for "technical", "evidence-based" CPD, and a desire to learn about sustainability case studies, precedents and exemplar projects that include post occupancy evaluations (POEs). An emphasis on targeted, practical CPD to support applied skills could help to address the overwhelm and conceptual confusion described in Section 3, "Advocate" (p. 40).

Access to CPD was identified as one barrier to achieving sustainable design outcomes. Accessibility was a notable issue mentioned by small and regional practices, but across the board, practitioners described a desire for CPD that was affordable (or free), offered on-line or in-person, recorded or live.

Respondents also expressed a desire for flexible CPD options, including short events after work, industry events, short workshops, extended seminars, and short courses. The idea of providing a range of CPD complexity, from introductory to advanced concepts, was also mentioned.

Some respondents speculated about new CPD model ideas, such as the option to "opt-in" to a platform associated with a topic and gain permanent access to continued conversations with fellow attendees. Others mentioned the need to make some CPD sustainability programs compulsory, presumably as a mandatory requirement for Institute membership, or to maintain registration.

What CPD topics do practitioners want?

Practitioners wanted access to CPD across a range of topic areas. Architects expressed motivation to get to net zero, with the most commonly requested topic being LCA along with other practical learning on sustainability case studies that included POEs, building performance, and passive design principles.

Of the 42% of responses that mentioned CPD when asked, "What support and resources would be useful to up-skill in response to climate and sustainability issues?", 62% simply stated "CPD" in a general sense. These answers were indicative of the view that more sustainability knowledge is needed across the board.

The remaining 38% of this group nominated specific topic areas ranging from practical or technical learning to conceptual or theoretical approaches to climate and sustainability issues. Figure 4.1 shows useful CPD topic areas.

CPD Topics

- Life Cycle Assessment
- Case studies, precedents, and exemplars
- Building performance
- Passive design
- Climate action and advocacy
- Multi-disciplinary sustainability systems
- Impact analysis
- Green building technologies
- Sustainable materials and products
- Regenerative design
- Content specific to building typology
- Financial literacy: insurance, risk, liability
- First Nations Voices and Knowledge
- Sustainable interiors
- Disaster resilience and recovery

Fig 4.1 The most common CPD topics survey respondents wanted access to.

Practitioners are foregrounding First Nations' cultural knowledge.

79% of practitioners agreed that Indigenous care for Country is an important part of the solution to climate change. But given that care for Country does not necessarily equate with climate mitigating or adaptive design response, what does this mean in practice?

This report describes answers to the survey questions as provided. It is noted, however, that questions as to how Indigenous Knowledges can allow for sustainable societal practices and culture as part of climate response were not asked. These questions lie beyond the scope of the project and call for further research.

In Australia, architects need to engage in culturally responsive climate action that respects Country. Results suggest a desire for strengthened connections between First Nations' cultural knowledge and the climate action movement in architecture.

* A note on positioning and process

In recognition of the importance of Indigenous Voices, the limitations inherent in the survey question, "Do you think Indigenous care for Country is an important part of the solution for climate change?" (Figure 4.2) must be acknowledged.

This question was included in the survey as a scoping mechanism that was informed by language of care for Country that is emphasised in the National Standard of Competency for Architects (NSCA) and Explanatory Notes. This is one frame among many that are included in these documents.

In retrospect, a more robust research process should have included engagement with Aboriginal peoples at the survey design stage.

Many survey answers elaborated further on First Nations cultural knowledge and collaboration. The use of correct language when reporting on these responses extended beyond the expertise of the research team.
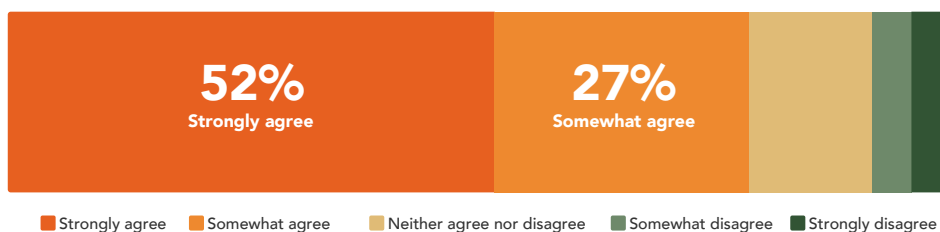
To remedy this oversight, First Nations readers were engaged at the project review stage. The team would like to thank Carroll Go-Sam and Owen Cafe for their generous feedback (see front matter).

Building Cultural Competency

Figure 4.2 shows that 27% of practitioners "somewhat agree" and 52% " strongly agree" that Indigenous care for Country is an important part of the solution to climate change.

Short answer responses across multiple survey questions highlighted the crucial importance of First Nations knowledge as "what's proven to have worked for 60,000 years or more" when navigating climate and sustainability issues in practice.

Care for Country and the importance of First Nations knowledge were consistently mentioned by practitioners throughout short answer responses on sustainable design drivers, methods of up-skilling, hopes for the future of architecture, the role architects should play, and how they are currently engaging with sustainability through their practice. Some practitioners referred to this as "designing for Country", or "respecting Country".

52% Strongly agree | 27% Somewhat agree

■ Strongly agree ■ Somewhat agree ■ Neither agree nor disagree ■ Somewhat disagree ■ Strongly disagree

Fig 4.2 Do you think Indigenous care for Country is an important part of the solution to climate change?

Indigenous Knowledge and Information Sources

First Nations cultural knowledge was often presented as a source of hope and inspiration for architects.

Practitioners mentioned that one source for learning about Indigenous cultural knowledge was Parlour's "Deadly Djurrumin" talks. They also mentioned engaging expert consultants, and directly with local Knowledge Holders and Traditional Custodians.

Additional resources are available, which were not explicitly mentioned in survey responses. These include (among others):

- Architecture Schools Association of Australasia (AASA) "Indigenous Archive" with more than 300 articles across nine categories and themes.[10]
- The Institute's "First Nations Competency Crash Course" CPD offering.[11]
- NSCA Explanatory Notes and Definitions.
- Articles in Architecture Australia written by First Nations authors.
- The Government Architect of NSW "Connecting with Country Framework".[12]
- Blaklash FORUM talks.[13]

Survey responses indicated a desire to embrace First Nations ecological knowledges, through the use of native plants on projects, and to work "hands-on" in collaboration with First Nations people.

There was a sense that climate change mitigation, and reducing carbon emissions are ways to care for Country.

It was not evident in the responses how the use of native species impacts climate change issues, nor which specific land management practices are used.

The importance of authentic connection with Country through Knowledge Holders and Traditional Custodians is discussed further in

"Connecting with Country needs to be the foundation of all projects ... there is still a long way to go, which will only happen once the industry comes together and genuinely engages in shared knowledge."

- survey response

Connect

5

Collaborate across boundaries.

Collaborate across boundaries.

Connect.

Practitioners in architecture are connecting with different industries and fields through their practice in order to improve sustainability outcomes.

There is growing recognition that reciprocal relationships with Indigenous Knowledge Holders are essential, as well as connecting with Country with the consent of Traditional Custodians. However, confidence in applying this through practice is low.

Schools of architecture are a rich source of sustainability knowledge, but are frequently overlooked as collaborators for climate action through research and teaching.

22% of practitioners are engaging in multidisciplinary collaborations to drive sustainable design outcomes.

22% feel confident applying First Nations knowledge through their practice.

24% collaborate with schools of architecture to drive sustainability outcomes.

"I hope that we can work better as a community in sharing collateral and research rather than the current cloak-and-dagger approach, which is a race to the bottom."

Practitioners are connecting with different industries and fields.

New forms of cross-industry collaboration are a critical driver of climate action across the architectural profession. Practitioners reported high confidence across knowledge areas that are traditionally included in architecture education and training. Where they lacked confidence in emerging knowledge areas, architects were engaging expert sustainability specialists beyond the discipline.

22% of survey respondents chose "multidisciplinary collaboration" as a top-three driver of sustainable design outcomes. Practitioners also mentioned the importance of collaborating with sustainability
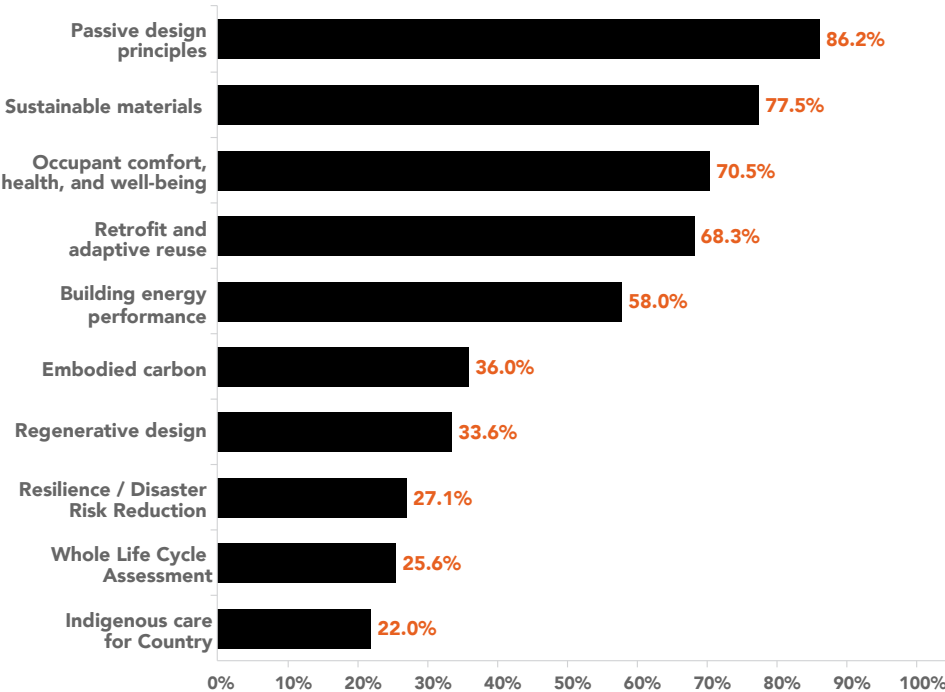
experts, Indigenous design consultants, environmental engineers, and product suppliers.

As outlined in Section 2, "Overcome Intertia" (p. 36), survey participants were asked to select the ways that they up-skill about climate and sustainability from a pre-populated list. 19.1% of practitioners selected "other". When asked to describe these methods, their answers showed a

variety of ways practitioners were engaging beyond the profession of architecture to respond to climate change through their practice.

Figure 5.1 shows confidence levels in knowledge areas related to climate change and sustainability in practice. Practitioners reported the highest confidence levels in knowledge areas traditionally included in architecture education and training.

22%

of respondents chose "multidisciplinary collaboration" as a driver of sustainable design outcomes.

Knowledge area	Confidence
Passive design principles	86.2%
Sustainable materials	77.5%
Occupant comfort, health, and well-being	70.5%
Retrofit and adaptive reuse	68.3%
Building energy performance	58.0%
Embodied carbon	36.0%
Regenerative design	33.6%
Resilience / Disaster Risk Reduction	27.1%
Whole Life Cycle Assessment	25.6%
Indigenous care for Country	22.0%

Fig 5.1 Which knowledge areas do you feel confident in applying through your practice?

86% of practitioners indicated that they felt confident applying "passive design principles", and 78% were confident specifying "sustainable materials". 70% were confident applying "occupant comfort, health and well-being" considerations, and 68% felt confident with "retrofit and adaptive reuse" projects.

Confidence levels were seen to drop in relation to newer knowledge areas that have gained importance in recent years due to climate change and sustainability issues. These included quantifiable approaches to energy and resource use, environmental impact, changing climates and disaster risk, and cultural land management. Short answer responses to the question, "What ways do you use to up-skill about climate change and sustainability issues?" showed that architects were engaging with expert sustainability consultants in these new knowledge areas.

The importance of connecting across different industries was also touched on in Section 1, "Build Agency" (p. 25). As projects become increasingly complex, architects are acting as a conduit between a growing number of stakeholder types. But this cross-industry engagement is also occurring beyond project-related activities, with many practitioners in architecture connecting beyond the discipline to learn and retrain.

Practitioners indicated they were engaging beyond architectural practice, through higher education institutions, to develop new competencies and professional networks. This included through PhD or Master's research, further university studies, TAFE diplomas, and by completing courses from independent providers.

Others indicated that they were connecting with industry bodies beyond architecture, such as MECLA, GBCA, ASBEC, and CIAT (see pp. 38-39 for a full list). There was a desire for collaboration between different peak industry bodies.

"Radical cooperation within architecture and across disciplines is key to accelerating change."

- survey response

"Architects are a fundamental part of the puzzle in developing a solution for climate change. It is a collective solution—we are unique in that we collaborate so well with a diverse range of stakeholders."

- survey response

Reciprocal relationships and connecting with Country.

In an effort to foreground First Nations collaboration and knowledge through climate action, many practitioners were connecting directly with Knowledge Holders and Traditional Custodians.

Section 4, "Build Knowledge" (p. 58) has discussed that practitioners value First Nations' cultural knowledge when navigating climate and sustainability issues through their practice.

Another theme, along these lines, extended beyond an appreciation for, or desire to apply, First Nations' knowledge. Some practitioners also described their efforts to personally connect with Country and First Nations People through their practice.

But, as shown in Figure 5.2, while 79% of practitioners agreed that Indigenous

care for Country is an important part of the solution for climate change, only 22% felt confident applying this knowledge through their practice. It is important to note that this could be indicative of a desired aspiration that is not yet enacted in practice.

The idea of "care for Country" was used most frequently in short answer responses, but some practitioners also described the idea of "connecting with Country", a phrase endorsed by the NSW Government Architect through its "Connecting with Country Framework"[17] and the Australian Institute of Landscape Architects (AILA) "Connection to Country" committee.[18]
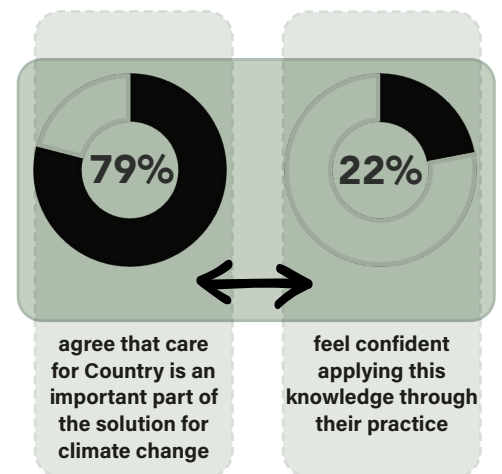
The desire to connect with Country tended to be indicative of a deeper, empathetic cultural appreciation; as well, practitioners described being "guided by Country", listening to the "voice of Country", and designing or working "with Country" as an entity.

Connecting with Country through Knowledge Holders

Practitioners were engaging directly with First Nations Knowledge Holders and Traditional Custodians to address sustainability issues through their practice. Responses included engaging Indigenous consultants on projects, participating in designing for Country workshops, "yarning circles", and by "walking Country" with First Nations People.

Given the strong interest in care for Country and a desire to connect with First Nations' knowledge, concern emerged that a "cultural load is being felt by the limited First Nations consultants". One respondent noted that this could "create an expectation and requirement of extra work beyond the norm".

The 2021 NSCA Explanatory Notes and Definitions for "Understanding Country" emphasise the importance of culturally responsive approaches that also foster cultural safety when navigating reciprocal relationships with First Nations Peoples.

79%

agree that care for Country is an important part of the solution for climate change

22%

feel confident applying this knowledge through their practice

Fig 5.2 There is strong interest in care for Country, but confidence levels aren't as strong.

"My hope is that the future of architecture can take a step back from imposing the design on the landscape and be guided by Country. Let the process start with Country."

- survey response

"Knowledge Holders are individuals and/or particular family groups that hold and maintain specific aspects of cultural knowledge, including knowledge about places, the environment and methodologies of caring for Country. Knowledge Holders and Traditional Custodians are those who can speak for Country due to their deep ancestral connections to place."
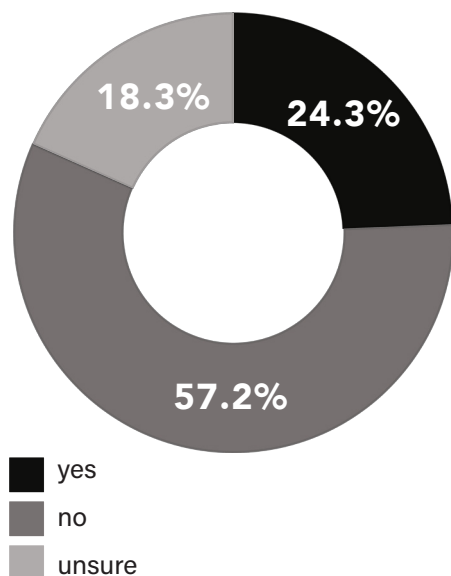
**2021 NSCA
Explanatory Notes and Definitions[10]**

Schools of architecture are being overlooked as potential collaborators.

Only 24% of practitioners were connecting with architecture schools to drive sustainable project outcomes.

Despite the fact that academics and architects are up-skilling in parallel on climate and sustainability issues, current collaborative action between practice and architecture schools was limited.

The NSCA is a single framework that outlines the minimum requirements for both degree accreditation and registration as an architect. It also informs CPD. New professional competencies (PCs) in the 2021 NSCA demonstrate a substantially greater emphasis on climate and sustainability issues, as well as care for Country.

The NSCA changes have catalysed widespread curriculum reform across Australasian schools of architecture. In 2021, 85% of schools had either recently reviewed or had plans to review their curriculum in response to climate and sustainability issues, and 84% indicated that their program would benefit from support to help inform changes.[1]

Figure 5.3 shows that 24.3% of practitioners were collaborating with architecture schools to innovate or drive sustainability outcomes, while 16% said they engaged with schools to up-skill on sustainability and climate issues. 18% of respondents did not know whether their practice collaborated with schools of architecture to drive sustainability outcomes. When asked "What ways, if any, could your practice benefit from collaboration with schools of architecture?", 16% did not see how they would benefit.

Working with Students

Some practitioners described the value of engaging directly with architecture students in the capacity of studio leads, as tutors, guest lecturers, by sitting on critique panels, and through mentoring programs.

Practitioners benefitted from "dialogue with students", with one stating: "collaborating with students fosters great learning outcomes for both practitioners and students". The value

16%

of practitioners did not see how they would benefit from collaborating with schools of architecture

of "fresh perspectives" from the "next generation" and "future generations of architects" was described as a source of inspiration.

Respondents appreciated the freedom to "innovate", "test ideas", and "experiment" with design ideas. While some described the "inherent advantages" of exploring projects without financial constraints or a client, others saw the benefit of engaging with students on real projects. This included students conducting LCAs on buildings through their coursework. The potential impact of student design competitions was also mentioned.

Practitioners described the benefits of hosting students through placements and internship programs. Others mentioned engagement with schools of architecture as a way to open student employment pathways by "establishing a hiring pipeline" and "attracting talent".

18.3% **24.3%**

57.2%

■ yes
■ no
■ unsure

Fig 5.3 Does your practice collaborate with school/s of architecture to drive sustainability outcomes?

> "It's hard to stay up to date with changes to sustainability initiatives and incorporate them into our projects. Any opportunity to collaborate with universities could be a way for us to exchange knowledge."

Research Collaborations

Practitioners were also engaging with architecture schools through research collaborations, as members of school advisory boards, and as sponsors.

The benefit of reciprocal learning between academics in architecture schools and industry featured strongly in the short answer responses. Practitioners described the need for "up-to-date knowledge" and access to the latest research, as well as the potential for "affordable and accessible research for small practices". Respondents also stated that they wanted certified CPD courses through universities.

Figure 5.4 shows the percentage of practitioners who felt confident applying their knowledge of LCA, resilience, care for Country, and regenerative design. These percentages can be compared to results of the 2021 survey of architecture schools, which show the percentage of universities doing research into these topic areas.

> "Reconnecting with teaching can enhance the feedback loops between practice, teaching, and research."
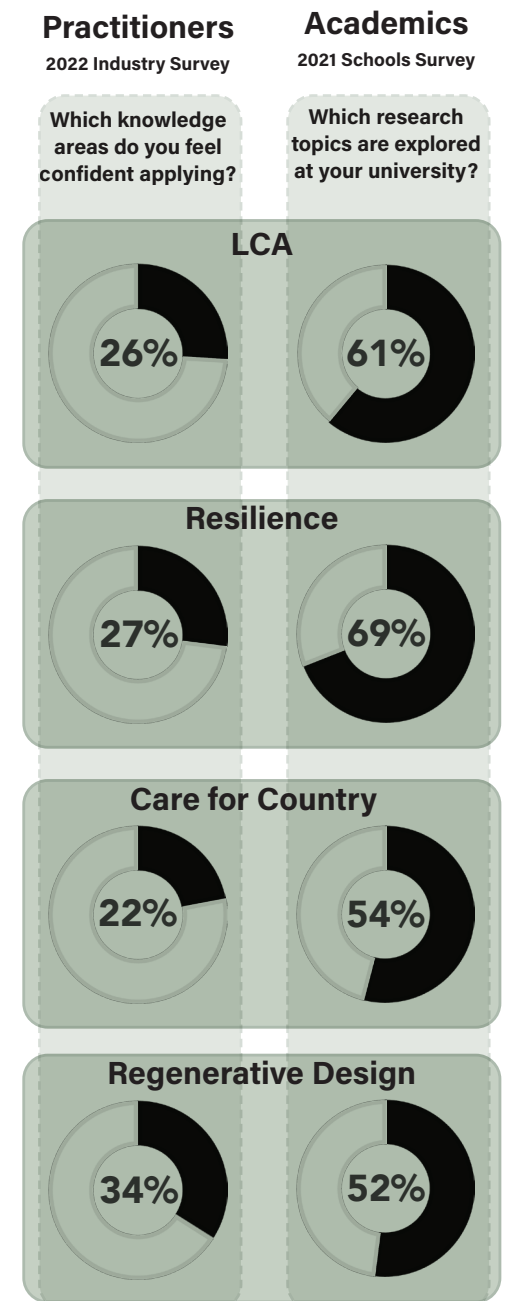>
> — survey response

These particular knowledge areas are represented due to the difference between confidence levels in practice, and the research capacity of academics, and may point to opportunities for research collaborations between architecture schools and practice.

Collaborative research projects were seen as one way to educate practitioners within firms, with some employing either dedicated researchers as staff, a PhD researcher, or a research assistant in their practice.

Limitations

Not all respondents agreed that collaboration with schools of architecture was possible or even desirable. The need for easier partnership funding mechanisms was mentioned, as well as the problem of unpaid contributions from practice, particularly through teaching activities.

Teaching was seen to be time-consuming, making connecting with schools especially hard for small practice. Additionally, regional practitioners described their inability to engage with architecture schools.

Practitioners
2022 Industry Survey

Academics
2021 Schools Survey

Which knowledge areas do you feel confident applying?

Which research topics are explored at your university?

LCA

26%   61%

Resilience

27%   69%

Care for Country

22%   54%

Regenerative Design

34%   52%

Fig 5.4 Comparative confidence / competence in key climate literacy areas

Choose Hope

6

Actively imagine a sustainable future.

Actively imagine a sustainable future.

Choose hope.

Architecture is implicated in the climate crisis. Practitioners are conscious that the built environment is a contributor to climate change.

Climate change is having a strong emotional and social impact on practitioners, which is overlooked in Professional Development and change management in practice. This has implications for architectural practice.

Despite practitioners' concerns about climate change, the profession is determined to lead change. Architects have a strong ability to generate hope by imagining, visualising, and realising sustainable futures.
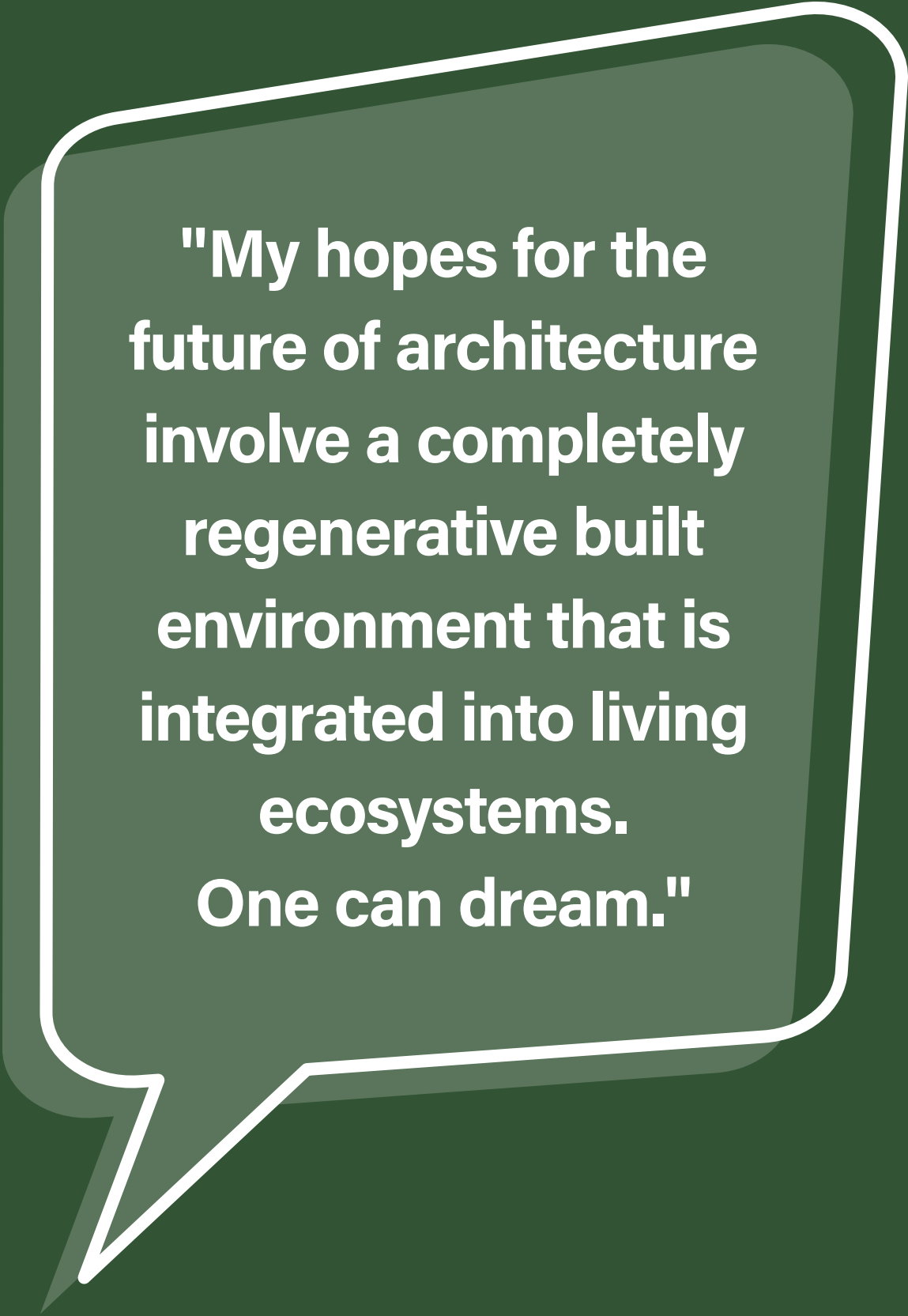
79% of practitioners are confident in their ability to build new sustainability knowledge and skills.

75% chose "practice values and purpose" as the most common driver of sustainable design outcomes in practice.

95% of practitioners agree that architects should be part of the solution for climate change issues.

"My hopes for the future of architecture involve a completely regenerative built environment that is integrated into living ecosystems.
One can dream."

Architecture is implicated in climate change.

"The built environment is responsible for 40% of carbon emissions, so we can also be 40% of the solution."

— survey response

The idea of the built environment as a main contributor to climate change informed many of the survey responses. Architects sensed their responsibility in the problems they were seeking to address. Responses indicated that many also felt personally affected by climate change, whether professionally or emotionally.

Many practitioners revealed that they felt a strong sense of responsibility about climate change, with 93% of respondents also agreeing that they wanted to see more climate action across the profession.

The status of the built environment as a "main contributor" to climate change informed many of the responses, leaving practitioners feeling implicated in sustainability problems through their work.

The impact of climate change on architects extended beyond a sense of their professional role and crossed into more personal, affective (emotional) aspects of self.

The depth of emotional connection was most evident in short answer responses to the questions, "What role do you think architects should play in developing solutions for climate change?" and "What are your hopes for the future of architecture?"

Responses to these questions were varied; while some examples were pessimistic or neutral in tone, more often they demonstrated optimism about the future and the role of architecture.

Pessimistic perspectives tended to be bleak, and at times antagonistic. These responses were indicative of the view that "it is too late", or that there will be no future at all. Other responses were dispirited because they could not imagine a viable future for the profession.

Neutral responses tended to describe pragmatic approaches to architectural practice. These practitioners could see the steps that needed to be taken, including ideas such as prioritising building performance, sustainable material specification, achieving a net zero built environment, policy advocacy, and so on.

Most responses were optimistic in tone, with practitioners emphasising the value of architects' "rare skill-set" and their "vital role" and ability to inspire change. These response types are expanded further in the section "Hopes for the Future" (p. 76).

"It is safe to say that architects should certainly play a key role in developing solutions for climate change."

— survey response

The softer side of climate change impacts.

As the profession of architecture and practitioners across the built environment sector focus on the knowledge and skills required to respond to the climate crisis, it appeared the psychosocial impact was being overlooked.

This became evident in that responses tended to focus on practical, tangible, measurable actions that can be taken. However, some practitioners did mention "softer" approaches to climate action, including the need for change management skills, changes to professional culture, and connecting with the local community.

The emotional impact of climate change was evident in the tone of the short answer responses and implicit in the combined percentages of practitioners who were very concerned about climate change and also felt obstructed by barriers.

It is worthwhile considering the psychosocial impact on architects, given that 93% of practitioners are "very concerned" or "somewhat concerned" about climate change, and 82% "strongly agree" or "somewhat agree" that they felt obstructed by barriers when it comes to changing practice in response to climate change (see Figure 6.1).

Given the strong ethical responsibilities felt by architects, it is possible that the profession is vulnerable to the kind of emotional toll that is typically attributed to "helping professions", particularly as climate risks to their clients increase.

Further, high stress levels are known to negatively impact creative cognition, and, coupled with the potential "moral injury" of designing built environments that are seen to be responsible for climate change, architects are being caught in a complex psychosocial web.
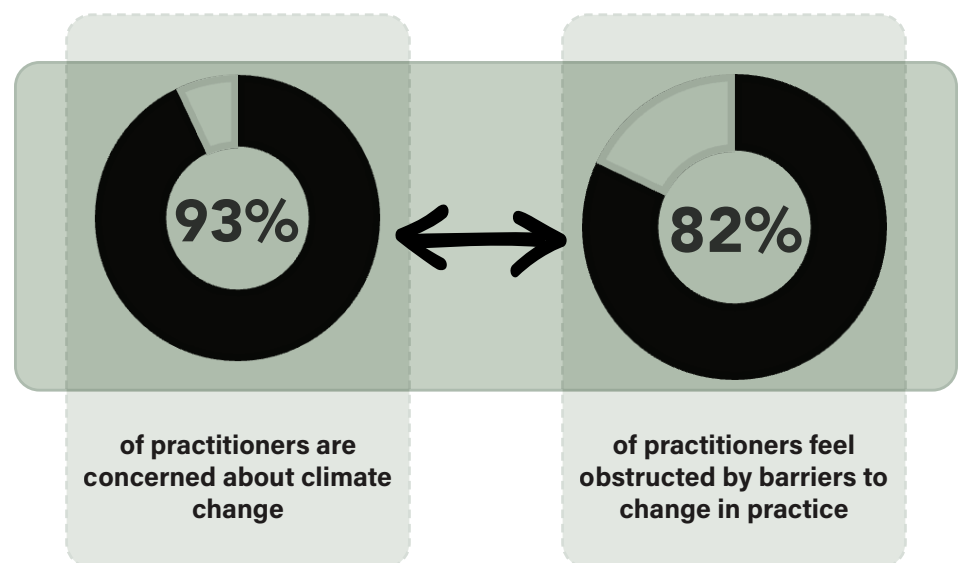
This "softer" side of climate change impacts could help to explain the emotive nature of many survey responses, as well as to be utilised to inform approaches to transitions to practice and professional culture.

"We are one of the main contributors to climate change. It is our duty to make an active commitment to reduce the impact of our actions."

- survey response

of practitioners are concerned about climate change

of practitioners feel obstructed by barriers to change in practice

Fig 6.1 Practitioners are concerned about climate change and feel obstructed by barriers when it comes to changing practice.

Hopes for the future.

"I have high hopes; architecture is a profession of creativity and a positive outlook. We are in a position to drive real change and to have an influence. We should collectively use it."

- survey response

Although architectural practice is implicated in climate change and practitioners are tangled in a complex psychosocial impact of current "crisis narratives", they tended to be confident in their abilities and optimistic about the future.

The survey revealed that 79% of practitioners in architecture felt confident in their ability to build new sustainability knowledge and skills in response to climate change. Figure 6.2 shows this percentage broken into 32% of respondents who felt "very confident" and 47% who felt "somewhat confident".

Practitioners were taking it upon themselves to act, with 83% selecting "self-education" as the most common form of up-skilling. 79% of practitioners stated that their workplace was actively involved in sustainable practice, and 75% indicated that "practice values and purpose" was the most common driver of sustainability outcomes.
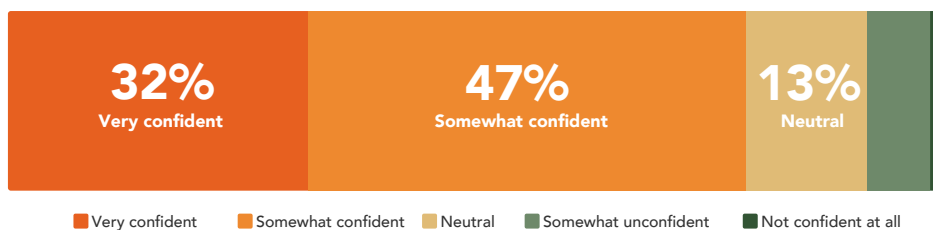
Short answer responses to the question "What are your hopes for the future of architecture" revealed a rich and compelling vision for the profession. While some respondents described despondent or negative views, the majority of practitioners were optimistic when asked to imagine the future. Considering the degree of concern and strong sense of being obstructed by barriers, responses to this question were indicative of a highly determined profession.

Practitioners would like to see a future for architecture that is less about "the architect's ego" (an idea that was repeatedly mentioned), the celebration of "starchitects", and "grandiose design". Instead, the idea emerged to "put the people and the planet before our ego" as a "torch" or "beacon" for healing and regenerative design.

There was hope for a future in which social and environmental justice could be prioritised, along with "a greater focus on legacy instead of novelty" as well as accountability and responsibility to future generations with "long-term thinking".

Architects' hopes for the future revealed a shift in recognising that architecture is embedded in global systems, supply chains, and ecologies. As "problem solvers and systems thinkers", architects are seen to be positioned to take a "holistic approach" to their practice so that impacts beyond the immediate site can become a standard consideration in architectural practice.[19]

| 32% Very confident | 47% Somewhat confident | 13% Neutral | | |

■ Very confident ■ Somewhat confident ■ Neutral ■ Somewhat unconfident ■ Not confident at all

Figure 6.2 How confident do you feel in your ability to build new sustainability knowledge and skills?

"I hope architecture moves away from grandiose and ego-centric design ... and more towards caring and considerate design that aspires to enhance environment, ecosystems, culture, and well-being."

// survey response
on hopes for the future of architecture

Conclusion
Where to from here?

Contemplating next steps for the profession of architecture in Australia

This document is presented as a solutions-oriented guide to climate action for architects in Australia. It highlights the crucial role of architects in responding to climate change, as well as opportunities to drive climate action across the profession.

Architects are ideally positioned to advocate for sustainable, regenerative built environment design in response to climate change. To do this, the profession needs to overcome a sense of frustrated inertia and see past current barriers. The 21st century architect is able to "think big" about the importance of good design and how it can redirect complex global systems. This requires connected efforts to build both collective and individual agency, and generate the hopeful worldviews that are needed to enable creative practice.

We invite you to imagine …

… a profession with a strong sense of agency, engaged in climate action that is driven by the collective motivation of practitioners at every career level. All architectural practices are actively engaged in sustainable practice, sharing knowledge and collaborating to advocate for policy change. Architects also advocate for the value of good design through local, community-led initiatives, as well as through their individual lives and lifestyle choices. The role of the architect is growing to incorporate alternative pathways and hybridised forms of practice. Practitioners in architecture are known for their focus on developing solutions, leading by example, and a willingness to share sustainability knowledge.

Architects in the future are overcoming barriers to sustainable practice by up-skilling and embracing change. Practices are celebrated for their deep sustainability knowledge and application of regenerative design principles. Good architecture is valued across the construction sector and sustainability outcomes are reinforced by lenders and regulators. Architects trust the rating systems and sustainability tools that they use and have access to the data they need to confidently specify sustainable materials. As architectural practice continues to transform, practitioners are incorporating new knowledge from a wide range of sources both within the profession and beyond.

Climate action in architecture is now driven by targeted advocacy initiatives from peak industry bodies and independent organisations. There is a wide range of accessible and affordable CPD available for architects to use, user-friendly sustainability tools, and funding mechanisms to support innovation and change management in practice. Small and regional practices have the same access to the supports required to build new competencies as large practices. Architects are collectively driving climate action from the bottom-up by building communities of practice and a professional culture with a strong public presence.

In this imagined future, architects know where to find the information they need to design sustainable buildings. They are able to confidently navigate new knowledge, which is built from clearly connected sources of information. This information is consistent, regulated and transparent. CPD and training material is developed in alignment with these information sources, and is accessible, affordable, and flexible. First Nations collaboration and knowledges are now a standard consideration when addressing climate and sustainability issues through architectural practice.

Architects are now freely connecting across traditional professional boundaries and collaborating to apply multidisciplinary knowledge. Practices are actively developing reciprocal relationships with Indigenous Knowledge Holders and Traditional Custodians to ensure projects maintain strong connections to Country. Feedback loops between industry and universities drive innovation in practice through research partnerships, which are reinforced through teaching programs. Students benefit from connections with real projects, and architects regularly teach through university programs as a form of design experimentation.

Given that architects are optimistic and hopeful about the future, they no longer feel implicated in climate change through their practice. Instead, they now work to redirect built environment design with the long-term view of environmental and social justice. Instead of competing, the profession is responding to climate change issues by banding together and fostering professional support networks. Practitioners are confident in their ability to lead by example and choose to use their creative skills to generate hope for the future.

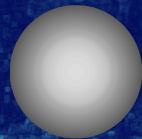**These are practitioners hopes for the future of architecture.**

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