



Sustainability: a career in construction

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1. Introduction

Australia's construction industry is at an inflection point.

Our nation must grow its construction workforce at a time when many industries are struggling with a long-term shortage of skilled workers.

We need people with strong sustainability skills to meet our national net zero imperative and to ensure our infrastructure delivers cultural, social, economic and environmental benefits.

However, the construction industry is failing to attract diverse talent due to a range of issues, including a perceived lack of inclusive and gender-diverse workplaces.

At the same time, a growing cohort of female talent has developed complementary sustainability skills that the construction sector desperately needs.

Can we use sustainability as a strategy to attract more women to construction? What barriers stand in our way? And what levers can we pull to empower more women with sustainability skills to embrace careers in construction?

The Infrastructure Sustainability Council (IS Council), with support from the NSW Government, set out to answer these questions.

Following a series of workshops, interviews, surveys and deep dive research, the IS Council has produced *Sustainability: a career in construction*.

This report provides an overview of several components of this project:

- ▶ **Market overview and outlook:** A desktop review of the current market outlook and skills gaps.
- ▶ **Case studies:** Insights gleaned from one-on-one interviews with women who hold leadership roles in sustainability, and the key lessons learnt.
- ▶ **Survey of sustainability professionals:** A sentiment survey of 316 Infrastructure Sustainability Accredited Professionals in Australia and Aotearoa New Zealand.
- ▶ **Infrastructure Sustainability Capability Framework:** A proposed structured approach, developed by the IS Council's Skills Working Group, to human resource capability and professional development.
- ▶ **Leadership insights:** Case studies detailing industry-led initiatives to enhance workforce diversity, and takeaways from education leaders developing innovative programs, as well as observations from other industry practitioners.
- ▶ **Calls to action:** Next steps and practical strategies for the various stakeholder groups in the infrastructure sector to consider as they look to tackle the twin challenges of boosting sustainability skills and improving diversity.

As Australia's construction industry stands at critical crossroads, the findings from IS Council's research suggest that roles that improve the sustainability outcomes on infrastructure projects can also be a pathway to a more diverse and inclusive workforce.

Women in Construction Industry Innovation Program

In 2023, the Infrastructure Sustainability Council secured a grant from the NSW Government as part of the Women in Construction Industry Innovation Program. This program was designed to support a range of industry-led initiatives to increase the number of women working in construction, improve workplace culture, create inclusive and safe work environments, and to empower women in leadership roles. The IS Council thanks the NSW Government for its ongoing support.

2. Sustainable infrastructure overview

Sustainability skills matter to Australia's future

Infrastructure shapes our nation and has a significant, lasting influence on our environment.

[Around 70% of Australia's emissions](#) are enabled by infrastructure. Australia has legislated net zero targets, including a 43% reduction from 2005 levels by 2030 and net zero by 2050. The infrastructure assets under construction today will still be in use in 2050, when Australia must be operating at net zero emissions.

All Australian states and territories have set commitments to achieve net zero emissions by 2050 or earlier. Private investors are aligning their investment portfolios with net zero emissions to future-proof their assets. Consumers are demanding corporations take responsibility for their environmental impact.

Sustainable infrastructure is not just responsive to climate change. The IS Council defines 'sustainable infrastructure' as infrastructure that is planned, designed, constructed and operated to optimise environmental, social and economic outcomes for the long term.

The IS Council's work and strategic focus across four key dimensions is instructive:

- ▶ **Planet:** Working to drive climate action, regenerate our ecosystems and transition to a circular economy.
- ▶ **People:** Enabling communities to thrive through structural change and transition, ensuring wellbeing for current and future generations.
- ▶ **Prosperity:** Measuring infrastructure's socioeconomic value to better deliver inclusive, resilient and sustainable livelihoods and economies.
- ▶ **Industry:** Collaborating to build a world-class industry with a healthy, inclusive workforce, responsible agile supply chain, and aligned investment and governance.

The IS Council's IS Rating Scheme, launched in 2012, verifies infrastructure projects designed, delivered and operated across these four dimensions. Independent [analysis by RPS](#) in 2020 found that projects rated by the IS Rating Scheme deliver a minimum return on investment of \$1.60 for every dollar spent – and this figure could be as high as \$2.40.

We know sustainable infrastructure delivers significant dividends – and projects teams are achieving impressive outcomes on real-world projects today. What Australia needs is more people with the skills to drive sustainability at speed and scale.

"Infrastructure delivery is inherently complex and multifaceted, and solving several complex problems synchronously is what the infrastructure sector does best. We can apply this holistic approach to solve skills shortages, grow diverse teams and meet net zero targets at the same time. Industry leaders are stepping up to build inclusive cultures and remove structural barriers in their companies. But this is an industry-wide challenge. Consult Australia and the IS Council are foundation members of Infrastructure Net Zero, and we are working together to identify core skills gaps, enhance knowledge sharing and build capability. We need pathways to help small companies, as well as big ones, attract and retain female talent, build diverse teams and supercharge innovation."

Jonathan Cartledge, Chief Executive Officer, Consult Australia



3. Skills outlook

Australia has a skills supply and demand mismatch

Skills shortages are an economy-wide problem. More than a third (36%) of occupations were in national shortage in 2023, according to the Australian Government's [Skills Priority List](#).

Australia's construction industry suffers from acute skills shortages as a host of competing priorities and projects draw talent from the same pool. Consider the following examples:

- ▶ **Public infrastructure:** [Infrastructure Australia](#) estimates the workforce will need to grow by 127% to deliver the \$230 billion public infrastructure pipeline over the next five years.
- ▶ **Residential construction:** [BuildSkills Australia](#) forecasts an additional 90,000 trades are required to build 60,000 new homes each quarter for the Australian Government to meet its target of 1.2 million homes by 2029.
- ▶ **Renewable energy transition:** [Jobs and Skills Australia](#) estimates an additional 42,000 electricians are needed over the next seven years alone for Australia to achieve net zero emissions by 2050.

Construction and infrastructure specialists are also in demand for projects that expand Australia's defence capabilities, and to capitalise on demand for critical minerals.



“Demand for talent, coupled with record low unemployment rates, mean that organisations need to have a strong value proposition to attract and retain staff. That value proposition must extend beyond remuneration and today’s workforce are highly cognisant of the impact that they are having on the community and planet, so sustainability credentials must be clearly articulated in position descriptions.”

Richard Evans, Chief Executive Officer, Talent Nation

“As a country, we have strong ambitions to build – our nation’s total five-year infrastructure and buildings pipeline stands at \$691 billion. A critical part of this pipeline is the country’s energy transition ambitions. Over the next five years, we are seeing a four-fold increase in announced investment in energy projects, which will be integral to helping Australia meet its legislated goal of net zero by 2050. Through our annual Market Capacity research, we know there is a shortfall of 229,000 infrastructure workers. While we need to attract more people into the workforce, we also need to attract people with the right skills at the right time to deliver projects coming through the pipeline. All avenues need to be explored and adopted to drive greater diversity within the infrastructure sector.”

Adam Copp, Chief Executive, Infrastructure Australia

Construction faces significant cultural challenges

Australia's construction industry suffers from some significant cultural challenges that deter both male and female talent. These include:

- ▶ **Gender diversity:** Construction is the most male-dominated industry in Australia. The [Construction Industry Culture Taskforce](#) (CICT) says just 12% of the workforce female, and less than 2% of site roles, are held by women. The reasons why women aren't choosing careers in construction are [well documented](#) and span everything from recruitment practices to lack of role models to unconscious bias.
- ▶ **Workplace flexibility:** A survey by [RMIT University](#) for the CICT in April 2024 found only 31% of trainees aged between 17 and 23 believed they could combine a career in infrastructure construction with family and social commitments. Just 26% of survey respondents thought they could combine construction with parenthood.
- ▶ **Everyday respect:** The Australian Human Rights Commission's 2022 [National Survey](#) found just over half of all women working in construction reported sexual harassment over the previous five-year period.
- ▶ **Productivity:** People across the construction industry are working harder for less output. [Productivity Commission](#) figures reveal that construction industry productivity fell by 1.8% in 2023, despite a 5.7% increase in the hours worked.



Construction companies are changing workplace cultures.

Companies across the spectrum of infrastructure construction have stepped up.

The [Construction Industry Culture Taskforce](#) is advocating for the adoption of an industry-wide 'Culture Standard' underpinned by three pillars: time for life; wellbeing; diversity and inclusion.

Backed by the Australian Constructors Association, the NSW and Victorian governments and leading workplace researchers, the Taskforce recommends several strategies to grow the female talent pool: target setting; addressing gender pay gaps; and creating inclusive workplaces for everyone, regardless of gender, age, culture, sexual orientation or heritage.

Meanwhile, the [Champions of Change Coalition](#) has subgroups across consulting, engineering, property development, architecture and energy. Participating companies are also setting targets, addressing pay gaps, reframing policies and procedures, and strengthening sexual harassment responses.

To amplify this work, the IS Council has developed a digital resource to support infrastructure companies. The [Workplace Culture in Construction](#) module outlines the cultural dynamics that can support a thriving industry.

But the structural barriers established over many generations will take time to dismantle. And Australia doesn't have the luxury of time.

"Construction is the most male dominated industry in Australia, and through the Women in Construction program, the NSW Government is investing \$20.2 million over three years to address this gender gap. The purpose of the Industry Innovation Grants Program is to support industry initiatives that will encourage female participation and retention in the construction industry and throughout the whole supply chain. We are excited about the Infrastructure Sustainability Council grant project, as it is a positive step towards creating a more gender balanced construction industry and upskilling women for the future, importantly also increasing capability in the sustainability sector."

Margot Brassi, Director, Construction Leadership Group and Women in Construction Program Lead, Infrastructure NSW



Career Spotlight: Alyssa Slaney

As Sustainability Project Manager on the Sydney Central Station Metro project, Alyssa Slaney has helped to transform Australia's busiest transport hub into a sustainability showstopper.

Alyssa was named 'Emerging Leader' at the 2023 Infrastructure Sustainability Council Awards for her work as a role model, mentor and sustainability champion.

Lessons learnt

- 1. Break down inclusion barriers:** Some of the most obvious obstacles to inclusion – like appropriate female site facilities, personal protective equipment and safety procedures – can be easily remedied. Others, like tackling unconscious bias, are longer-term challenges. "I can recommend finding someone with the skills and behaviours you want for yourself, and getting them to mentor you," Alyssa suggests.
- 2. Foster male champions of change:** Alyssa's experience underscores the powerful role that male mentors play in identifying and

nurturing female talent. Alyssa's introduction to construction came from an enthusiastic male advocate who helped her navigate her way in the early days of her career. "I also had some great managers that showed a lot of interest in my development and told me about opportunities and connections I could make," she says.

- 3. Use sustainability to tell a powerful positive story:** Alyssa's efforts to educate STEM students about sustainable construction points to the power of sustainability to inspire young talent and catalyse careers. As a teacher from Sydney Girls High School said in thanks to her presentation: "Sustainable design is very relevant to them [the students] and they were really glad to hear that organisations are really taking it seriously. They said it made them feel more positive about the future!"

Read more about Alyssa Slaney's career journey and insights from other women in construction on the IS Council website: www.iscouncil.org/career-stories/

"You don't need to have sustainability in your title to make a positive change. You can be in safety, engineering, marketing and communications, commercial, design, planning, quality, human resources or any other function for that matter. There is a place for you in construction – and you are very much wanted and needed."

Alyssa Slaney, Project Sustainability Manager, Laing O'Rourke



4. Women and sustainability careers

While many factors contribute to our career choices, there is a growing body of evidence to suggest women are attracted to and add value to sustainability roles.

The IS Council's cohort of IS Accredited Professionals, which is 55% female, is one powerful proof point, as is the percentage of women working in environmental and sustainability roles in public infrastructure.

The Talent Nation [ESG, Environment & Sustainability Remuneration Report 2023/2024](#), which surveyed 1,700-plus sustainability, environment and sustainable finance professionals from across Australia and Aotearoa New Zealand, found 51% identified as female.

Women also account for 56.1% of students pursuing environmental studies at university, according to data from the [Workplace Gender Equality Agency](#) (illustrated in Exhibit 2 on the next page).

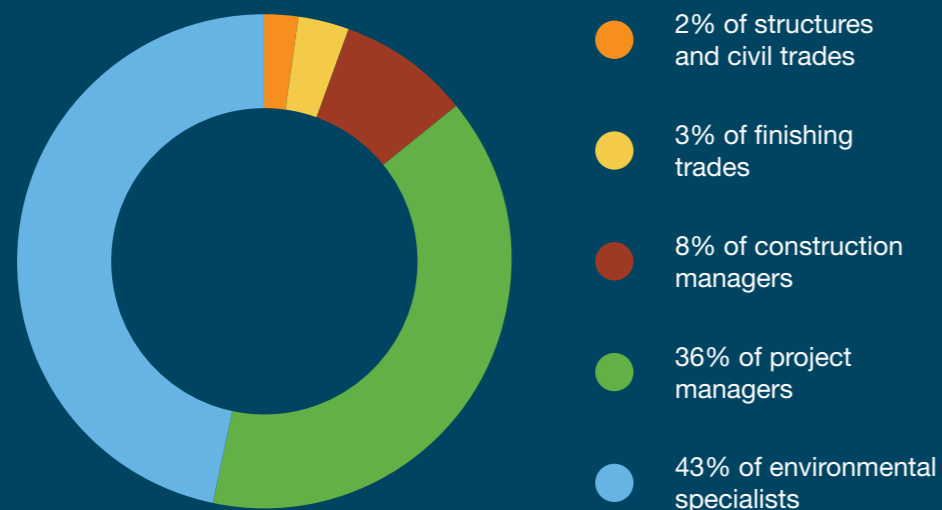
Another recent indicator is the record number of chief sustainability officers present at the [World Economic Forum at Davos](#) in January 2024. The CSO presence has tripled from 20 to 60 in the past five years, with

more than 60% of these posts held by women. And recent [analysis from the United States](#) has found 54% of CSO roles are held by women.

These data points highlight the growing involvement and impact of women in the sustainability sector.

Ultimately, diverse perspectives help us to understand and address complex problems – and no problem is more complex than driving down carbon emissions as our nation grows.

Women in public infrastructure roles



Source: [Infrastructure Australia Public Infrastructure Workforce Supply Dashboard, May 2024](#).

Gender composition of domestic enrolments by field of study, 2007-2019

		2019		Change between 2007 and 2019
Field of study		Female (%)	Male (%)	Female (p.p.)
Female dominated	Education	73.9%	26.1%	-0.5
	Health	74.4%	25.6%	0.7
	Society and culture	65.8%	34.2%	1.1
	Creative arts	63.6%	39.1%	-2.6
Mixed	Agriculture and environmental related studies	▶ 56.1%	43.9%	▶ 5.3
	Natural and physical sciences	▶ 51.1%	48.9%	-0.6
	Management and commerce	47.0%	53.0%	-1.2
	Architecture and building	41.6%	58.4%	▶ 1.9
Male dominated	Information technology	19.2%	80.8%	0.3
	Engineering and related technologies	17.9%	82.1%	▶ 3.2
TOTAL		59.0%	41.0%	1.4

Source: [WGEA, 2021](#).

A woman with long dark hair, wearing a grey blazer over a black top, sitting in a brown office chair and smiling.

Career Spotlight: Ann Azzopardi

Practice Lead for Sustainability for WolfPeak, Ann Azzopardi has influenced the sustainability outcomes on some of Australia's largest infrastructure projects.


Among her many achievements, Ann prepared the IS rating submission for the \$2.8 billion Sydney Metro City and Southwest Tunnel and station excavation works. The project was subsequently awarded a 'Leading' IS rating and a score of 100 – the highest score achieved at the time.

Lessons learnt

1. **Prioritise 'people people':** Sustainability specialists need technical skills, but they also need to be adept at building relationships. "The sustainability manager role is so all encompassing and holistic you need to be able to talk to everyone across a project. Each role has its own jargon; you need to speak in their language and to adapt to your audience."
2. **Play the long game:** Construction teams grow and contract, and the careers of team members shifts with the tides of their lives. "I've made hard career choices, but I've always worked with leaders who encouraged and supported those choices." This support builds individual confidence, and strengthens the network of female sustainability professionals working across construction.

3. **Look beyond the 'usual suspects':** "We need more people who are passionate about sustainability to enter the construction industry – and that means embracing diversity in all its forms," Ann says. "More women, more neurodiverse people, more people from different ethnic and language backgrounds... Leadership can look different to what it has looked like in the past, but we need different thinkers to get different results."

Read more about Ann Azzopardi's career journey and insights from other women in construction on the IS Council website: www.iscouncil.org/career-stories/

A small blue arrow icon pointing right.

"When I began my career, I had no idea about construction, but my eyes were opened to the role that construction plays in our economy, in finance and planning, in the shape of our cities and how we live. It was exciting to enter this dynamic new world."

Ann Azzopardi, Practice Lead - Sustainability, WolfPeak



5. Women in Sustainable Construction Leadership Mentoring Program

Mentoring has long been recognised as a powerful tool to help companies develop their talent and boost job satisfaction.

Mentoring programs are also a well-established strategy to empower women to overcome obstacles, seize opportunities and thrive in their careers.

The Women in Sustainable Construction (WiSC) Leadership Mentoring Program has even bolder ambitions, with a goal to support the attraction and retention of women in the construction sector by enhancing the visibility of sustainability as a credible career and leadership path.

The program, which has attracted great interest from across Australia, New Zealand and as far afield as the United Kingdom, matches established female construction professionals based in New South Wales with senior leaders in sustainability for nine months.

The first 20 mentors and mentees were matched in 2023, with the program commencing in 2024. Matches were made with care. One mentee expressed interest in learning from a mentor with experience balancing a career with parenting, for instance; another was interested in a particular specialism that was accommodated.

Participants committed to attend three online events: a program launch, progress review and a program close. Mentors and mentees maintain monthly contact, either virtually or in person, and mentees and first-time mentors completed an online training module on the 'Art of Mentoring'.

It is still early days, but participants already report clearer career direction, enhanced communication skills and more confidence in their leadership.

"For me, joining the program is about the opportunity to support someone on their professional journey. I also get an opportunity to improve my mentoring and coaching skills... Mentoring is a two-way street where we will both gain new insights and perspectives."

Karin Wallin, Acting Hub Sustainability Lead, Laing O'Rourke

"I wanted to take on the mentoring opportunity for the WiSC program because it empowers women in the industry, cultivates sustainability leadership capabilities, and contributes to a more inclusive and diverse construction sector. I hope that the program can elevate the up-and-coming sustainability leaders in our industry and help them along their own journeys to leadership."

Cameron Ginn, Environment & Quality Manager, Fulton Hogan

"I see my career transitioning towards a leadership role and was drawn to this program to seek insights and feedback from sustainability professionals. This is an opportunity to meet other sustainability professionals, particularly those who have implemented organisational change and can share their insights and advice."

Claire Quy, Sustainability Engineer, Scentre Design & Construction



Career Spotlight: Jayne Whitney

Jayne Whitney has spent her career solving big problems. As Chief Strategy Officer at John Holland, Jayne has amassed some impressive achievements: driving a growth strategy; leading successful acquisitions; and championing an ambitious digital transformation program.

Jayne is also a Non-Executive Director of the Australian Constructors Association, and among many other achievements served two terms on the board of the Infrastructure Sustainability Council.

Lessons learnt

- 1. Encourage mentors and sponsors to step up:** Both male and female mentors play an important role in nurturing female talent. Some of Jayne's most important career moves were made because male leaders backed her, and created an environment for success, but also to 'fail safely' and learn. "I think I've had an easier journey over the course of my career because I've had great leaders, sponsors and mentors."
- 2. Foster the right connections to turn ripples into waves:** Several "amazing" women have played their part in furthering Jayne's career by showing her "the enormous potential to

make changes" in the infrastructure space. One of those is Romilly Madew, the current CEO of Engineers Australia, and former CEO of the Green Building Council of Australia and Infrastructure Australia. "Romilly is a contagious force of nature. She took me on the journey with the Green Building Council of Australia and showed me what might be possible for infrastructure."

- 3. Cast a wide net for talent:** Jayne's early years were spent in marketing, business development and human resources roles. But these positions laid the foundation for a formidable skill set that adds value to the sustainability conversation from multiple angles. Jayne's background in economics proved invaluable when selling the business case for sustainability, and her strengths in marketing gave her message additional firepower. "I recognised that I could bring the two together – sustainability and commercial outcomes – to create compelling conversations."

Read more about Jayne Whitney's career journey and insights from other women in construction on the IS Council website: www.iscouncil.org/career-stories/

"Construction is still the least diverse workforce in Australia, and we are missing out on 50% of the talent when we overlook women. There is nothing on a job site that can't be done by a woman. Our problem is one of perception."

Jayne Whitney, Chief Strategy Officer, John Holland

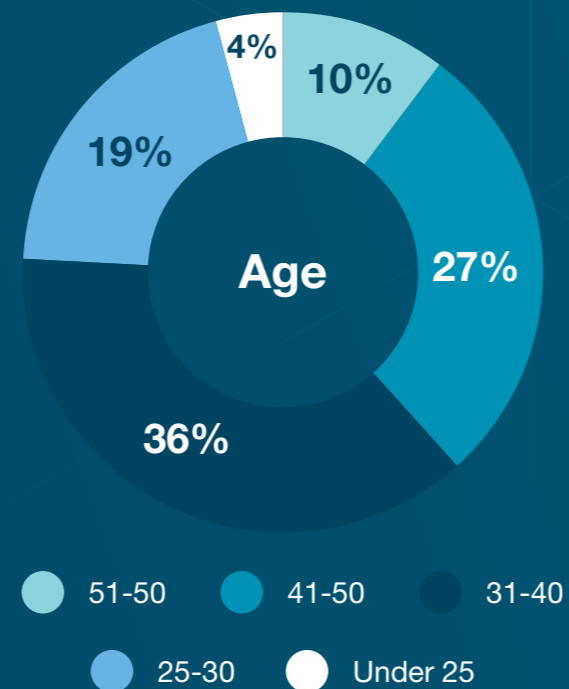
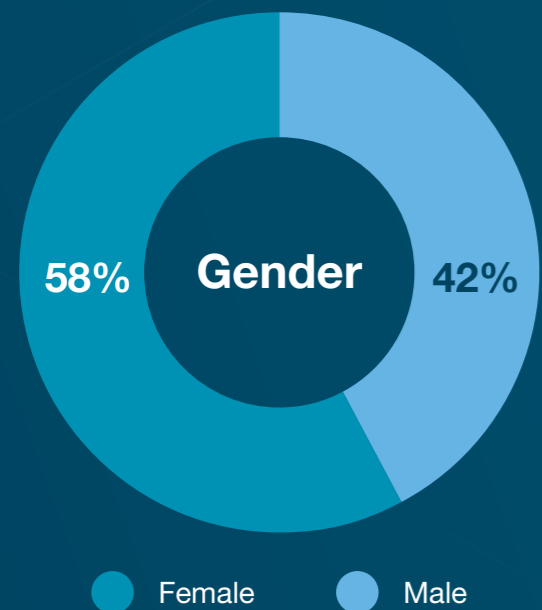
6. Infrastructure sustainability skills survey

To dig deeper into what motivates people to pursue careers in sustainability – and what retains them over time – the IS Council surveyed 316 sustainability professionals across Australia and Aotearoa New Zealand in 2023.

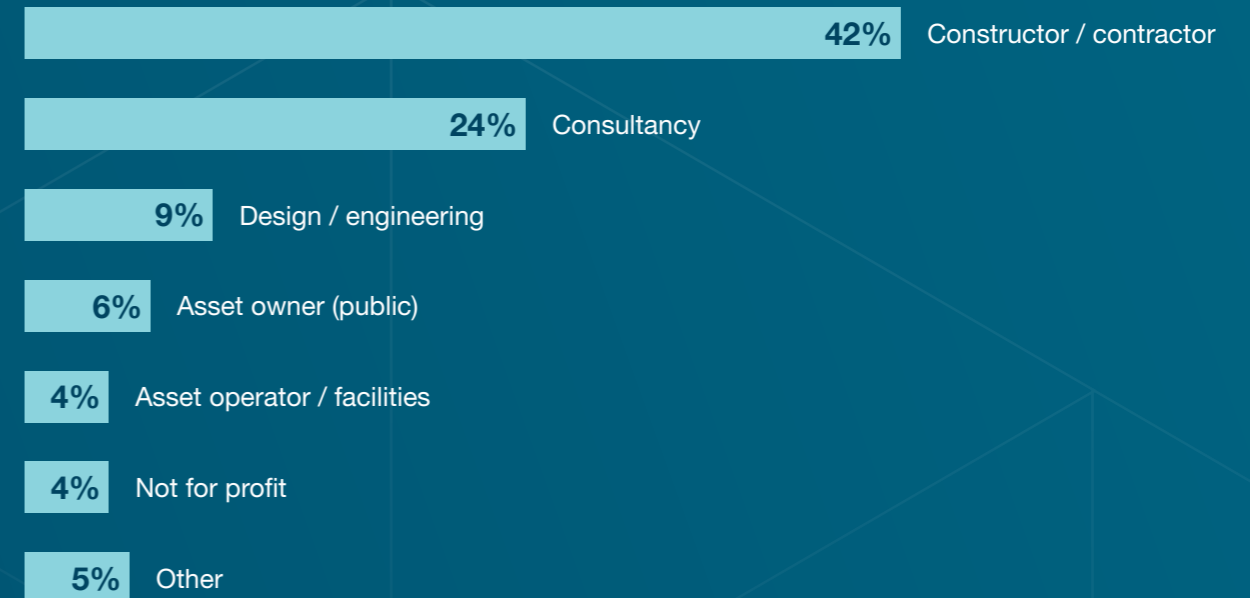
Respondents hailed from a broad cross-section of job roles and career stages. Women accounted for 58% of those surveyed.

Of those surveyed, 70% said they could see a clear career pathway in infrastructure sustainability.

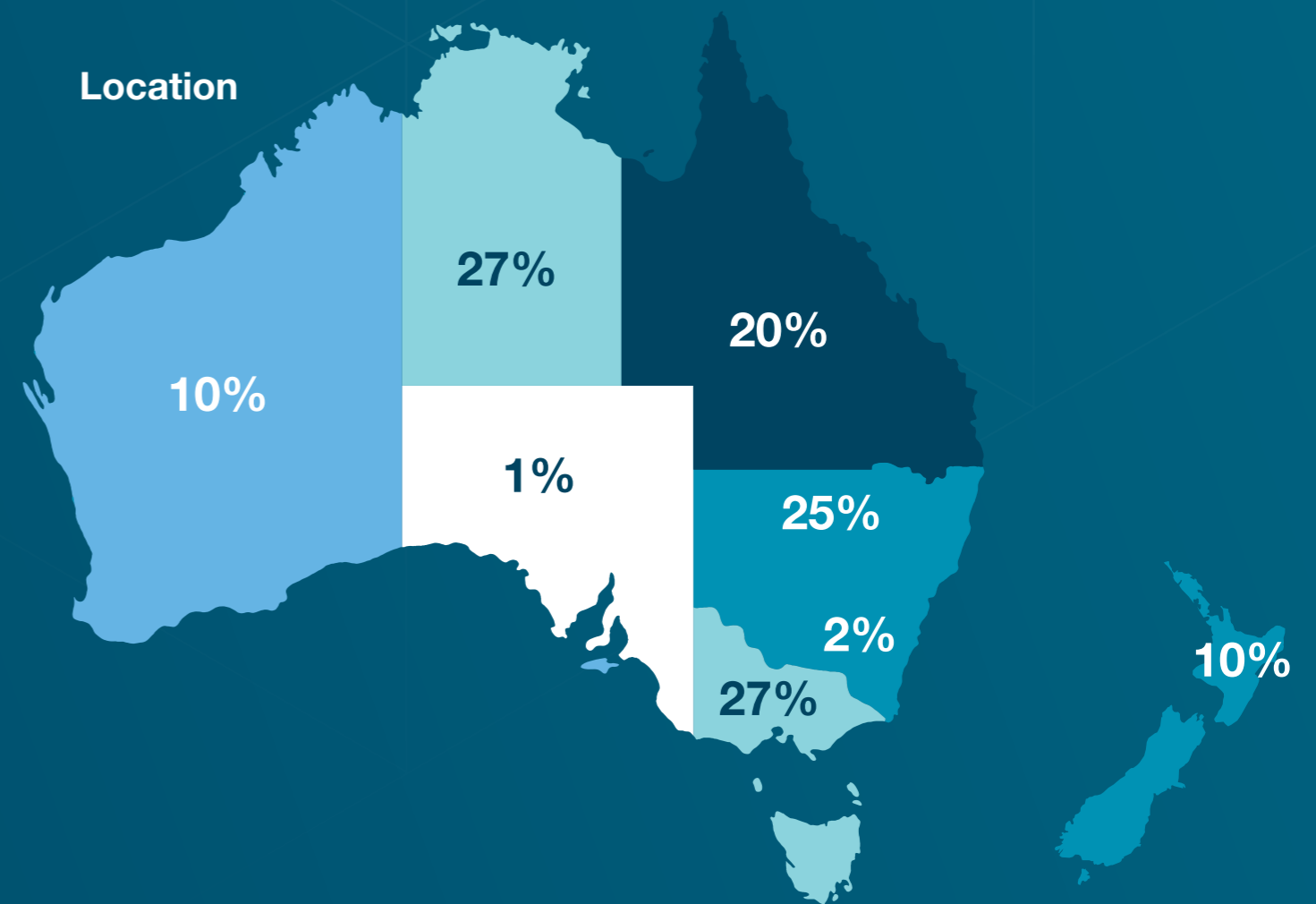
- 1. Key drivers and barriers to a career in infrastructure sustainability
- 2. Key skills of IS professionals
- 3. Preparedness of industry to address future sustainability issues
- 4. Professional and career development opportunities



Organisation type



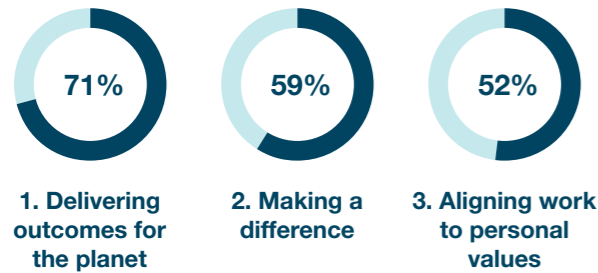
Location



Key findings

Top three drivers

Top three drivers for pursuing a career in infrastructure sustainability:



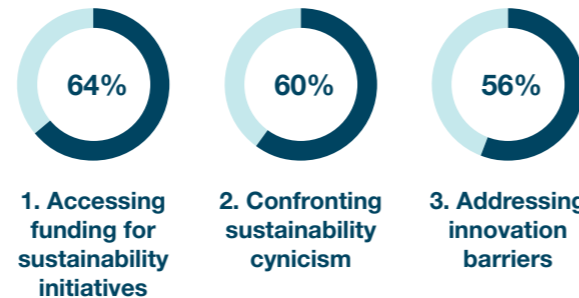
Note: Respondents were able to choose more than one driver.

From this, we can infer sustainability specialists are mission driven.

To attract talent from adjacent industries with a strong sense of purpose, infrastructure companies can showcase real-world examples of how their work is delivering positive outcomes for communities, ecosystems and future generations.

Top three barriers

Top three barriers to maintaining a career in infrastructure sustainability:



Note: Respondents were able to choose more than one barrier.

To address the first and second key barrier, organisations should lead by example with an authentic commitment to sustainability values and practices, backed by funding for sustainability initiatives.

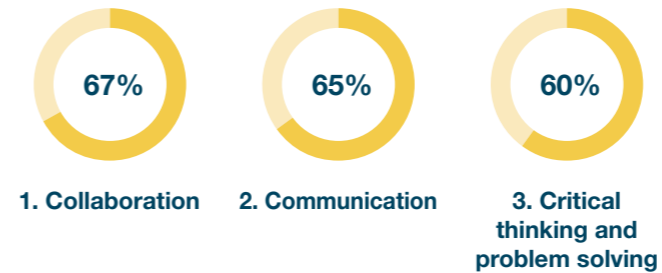
Diversity dimensions

Women (35%) ranked lack of industry diversity, equality and inclusion as a more significant barrier than their male counterparts (20%).

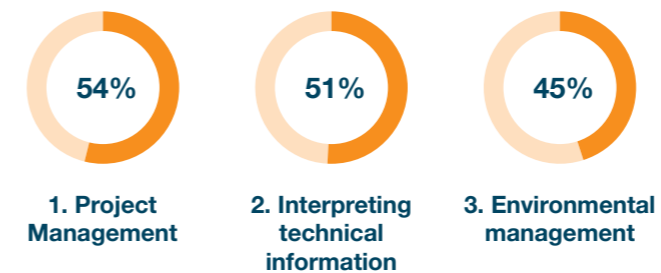
Skill strengths

Respondents indicated, in their role, they demonstrated high levels of proficiency in core transferrable skills, alongside business and technical sustainability skills.

Core skills



Business skills



Technical skills



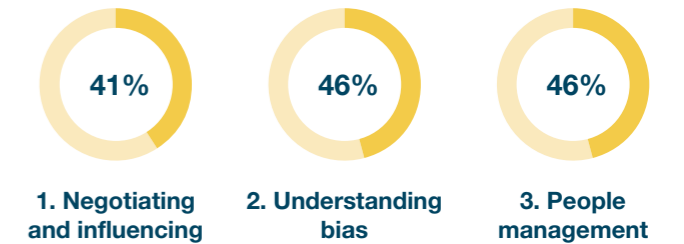
This data supports a view that sustainability professionals are not required to be technical experts. The varying proficiency rating across core business and technical skills demonstrates the interdisciplinary nature of sustainability as a profession. As an attraction tool, recruitment professionals and HR teams can respond with programs that illustrate the diverse range of career opportunities within infrastructure sustainability, with emphasis on transferrable skills.

High proficiency in collaboration, communication, critical thinking and problem-solving are characteristic traits of effective leaders. Professionals who excel in these areas may be well-positioned to lead or advocate for change in broader contexts.

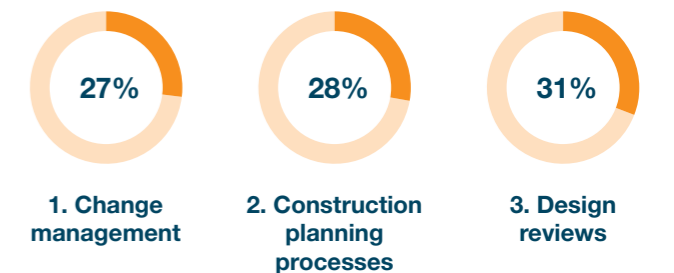
Skill gaps

The areas where respondents felt their biggest skills gaps were:

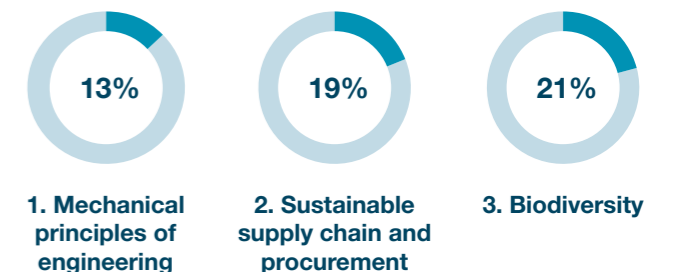
Core skills



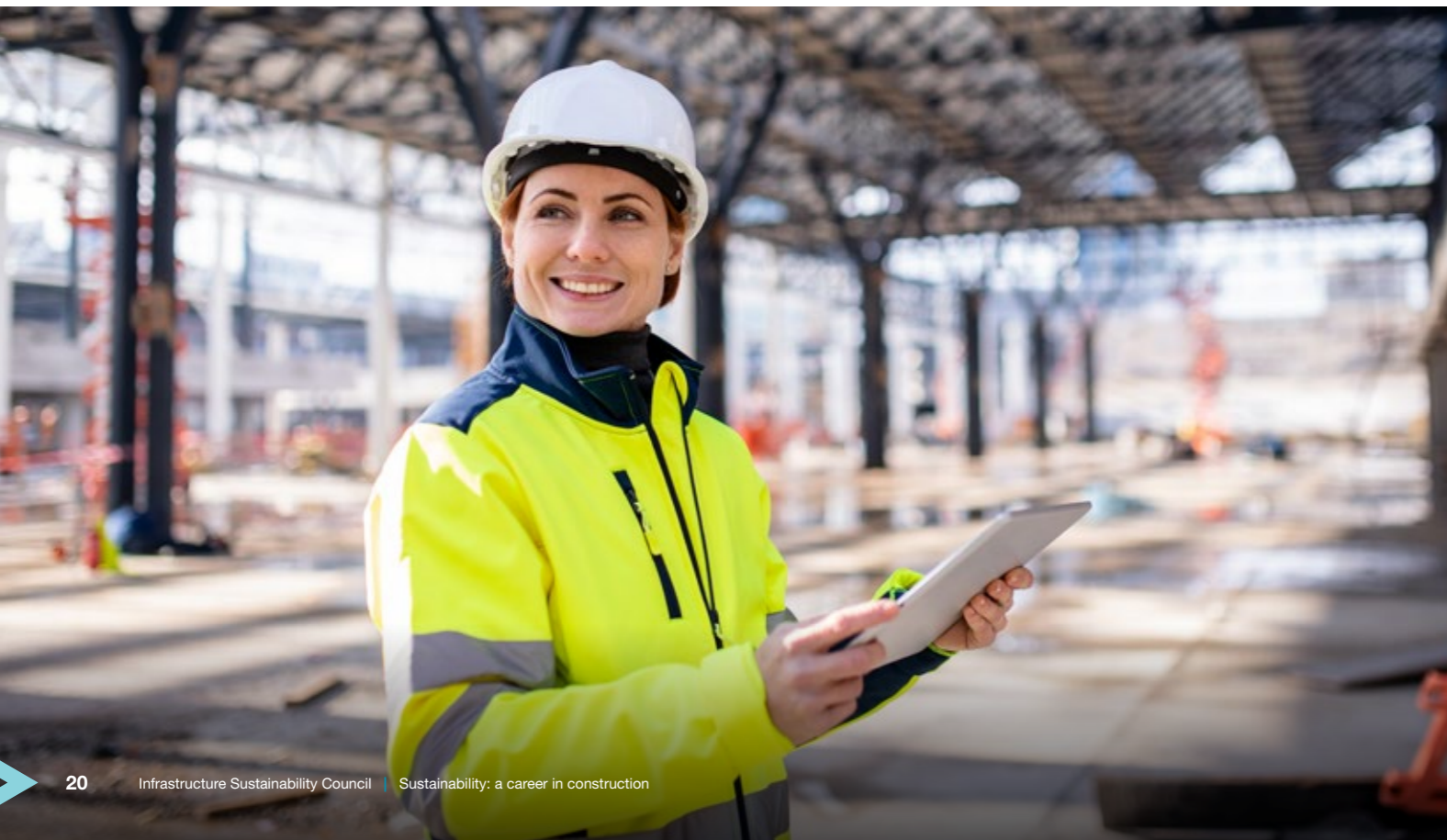
Business skills



Technical skills



Understanding bias is identified as a skill gap among sustainability professionals (46%). HR professionals can contribute to addressing this gap by implementing diversity and inclusion initiatives aimed at raising awareness of unconscious biases and promoting a more inclusive workplace culture. Business leaders can respond by investing in programs to bridge these gaps. By providing resources for skill-building initiatives, leaders can enhance the effectiveness of their sustainability teams and their organisation-wide impact.

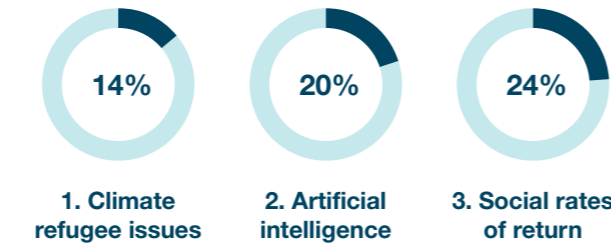


Prepared or not?

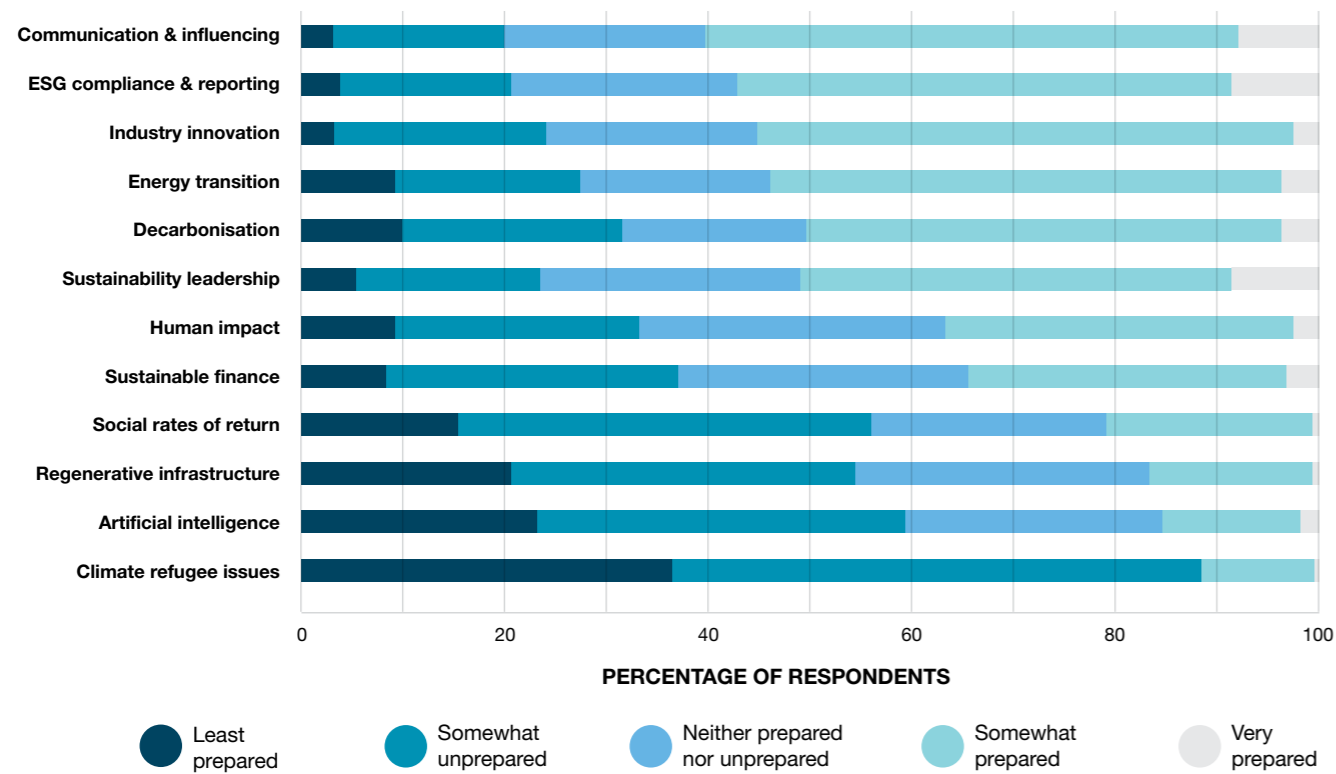
Areas where respondents felt the industry is most prepared:



Areas where respondents felt the industry is least prepared:



Industry preparedness on issues that matter most

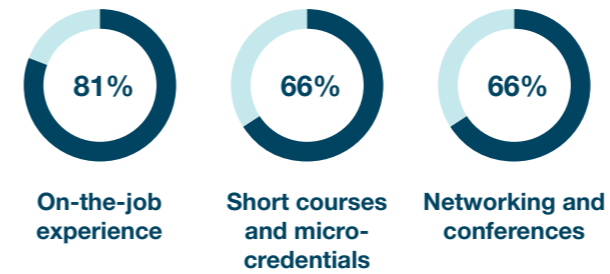


Interestingly, decarbonisation ranked number 6 out of 12 on a scale of most prepared to least prepared, with 50% of sustainability professionals indicating the industry is very, or somewhat prepared, 32% indicating the industry is unprepared or somewhat unprepared, and 18% indicating the industry is neither prepared or unprepared.

“Leadership is primarily about exerting influence. All sustainability practitioners need to learn how to become more influential to drive positive change. We need to learn how to positively influence ourselves, other individuals, teams and organisations. There is much to learn, so leadership development needs to begin as early as possible in one’s career.”

Dr André Taylor, Leadership Specialist, Coach and Director, André Taylor Consulting, Adjunct Associate Professor, Griffith University

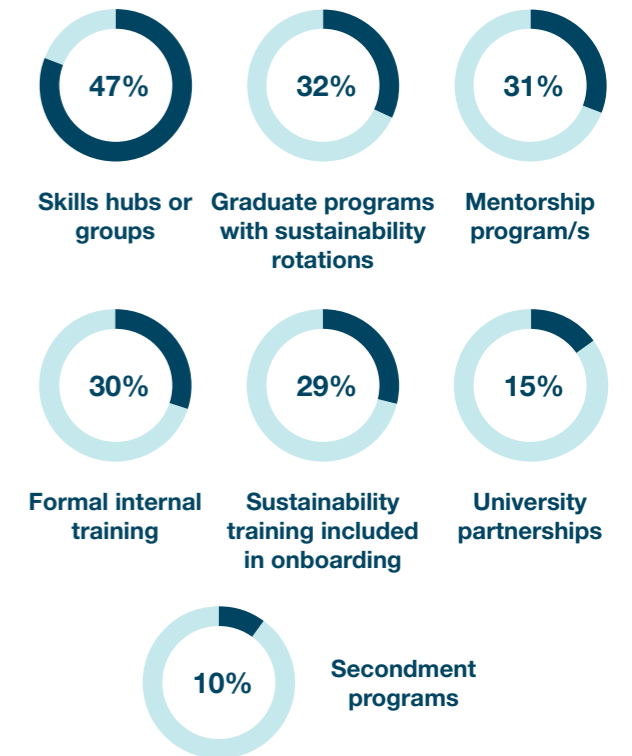
Preferred method of professional development



Demand for ongoing professional development.

Overall, almost all respondents (98%) plan to further develop their skills and capabilities. This indicates a strong commitment to continuous learning and improvement. Professionals are on the hunt for experiential learning, targeted training programs and networking opportunities over traditional methods of educational delivery.

80% of professionals surveyed suggested their organisation had at least one sustainability skills initiative in place.



7. Infrastructure sustainability core competencies

Globally, organisations are increasingly hiring people based on their skills rather than their industry experience. [Global recruitment agency Hays](#), for instance, expects this to be a long-term trend, as companies across most developed economies struggle to find the necessary skills to fuel growth. Nearly nine in 10 executives (89%) say skills are becoming a more important way for organisations to define work, deploy talent, manage careers, and value employees, [according to Deloitte](#).

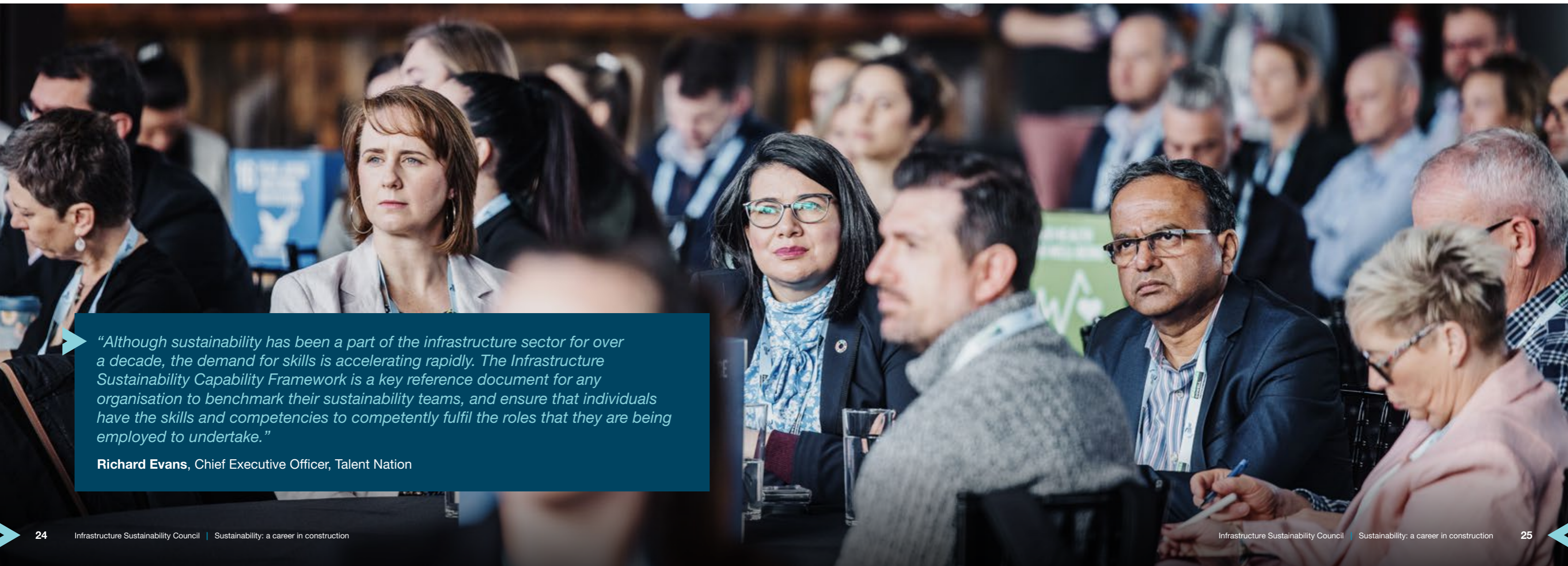
As businesses in all sectors strive to meet environmental regulations, achieve sustainability goals, and respond to increasing consumer, employee and shareholder expectations for climate action, professionals with expertise in sustainability are in demand. Sustainability skills are essential not only for compliance and corporate responsibility, but also to enhance reputation and competitive edge.

The Infrastructure Sustainability Capability Framework, developed by the IS Council's Contractor Working Group, outlines 27 areas of practice that are common to infrastructure sustainability professionals working in the construction sector and the capability expectations from graduate level through to senior professional.

The Framework focuses on three areas of development – core, business and technical – which are outlined in the following table. The Working Group has found that sustainability professionals are successful when they overlay a combination of skills, knowledge and mindsets.

Capability subtypes for infrastructure sustainability professionals

Capability subtype	Definition
TECHNICAL	Technical capability refers to areas of specific ability and knowledge in the governance, environmental, social and economic dimensions of sustainability which enable professionals to support positive outcomes across the infrastructure lifecycle.
BUSINESS	Business capability refers to the foundational and strategic business skills and knowledge which enable infrastructure sustainability professionals to align sustainability goals, objectives and management plans with project and organisational processes and policies.
CORE	Core capability refers to the professional skills and attributes which enable an infrastructure sustainability professional to work with others and can be grouped into communication with others, self and team leadership and 'thinking'.



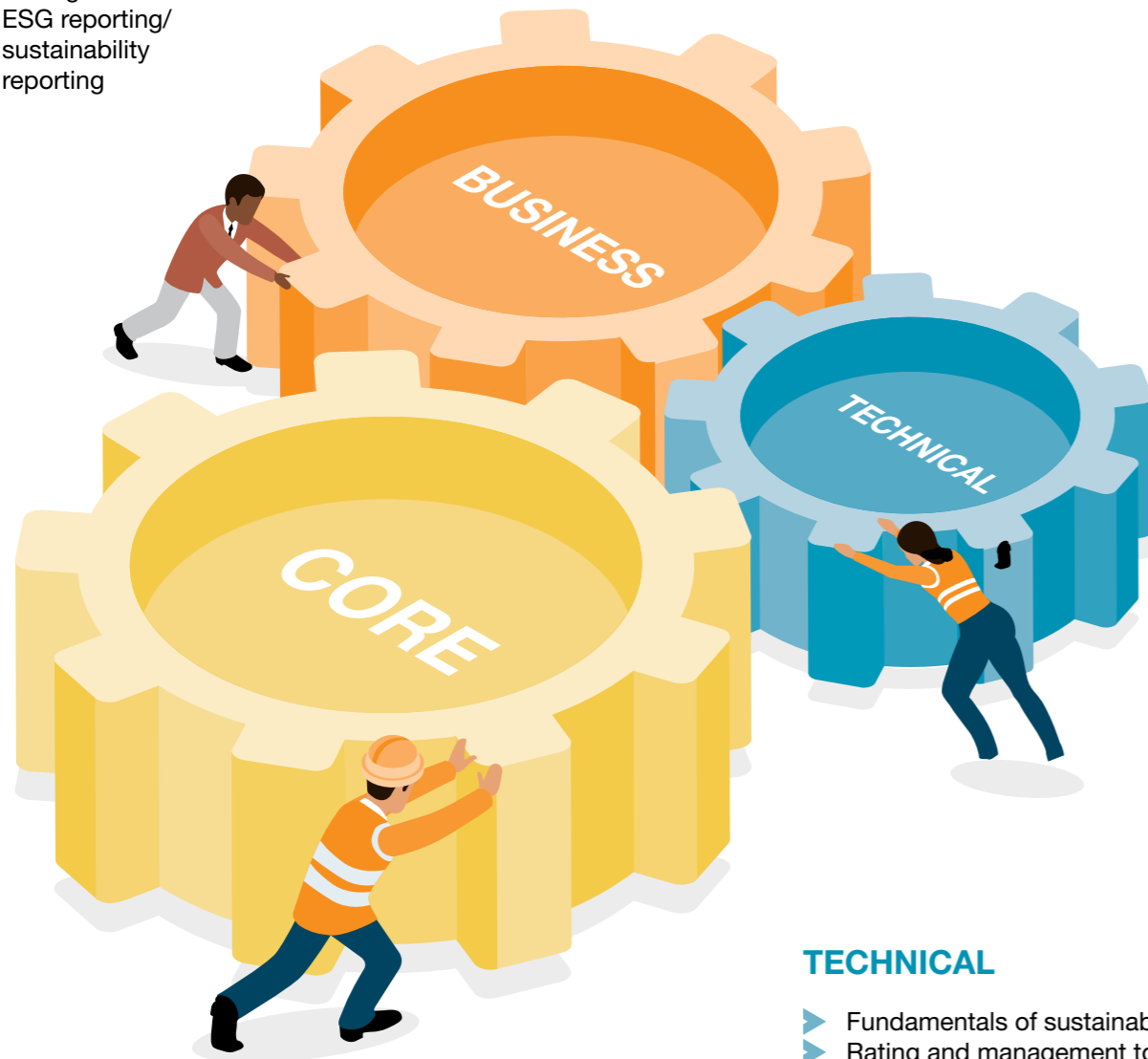
“Although sustainability has been a part of the infrastructure sector for over a decade, the demand for skills is accelerating rapidly. The Infrastructure Sustainability Capability Framework is a key reference document for any organisation to benchmark their sustainability teams, and ensure that individuals have the skills and competencies to competently fulfil the roles that they are being employed to undertake.”

Richard Evans, Chief Executive Officer, Talent Nation

Infrastructure sustainability capability areas of practice

BUSINESS

- ▶ Change management
- ▶ Construction planning process
- ▶ Data literacy
- ▶ Design reviews
- ▶ Environmental management
- ▶ ESG reporting/ sustainability reporting
- ▶ Interpreting technical information
- ▶ Project management
- ▶ Stakeholder engagement



CORE

- ▶ Critical thinking and problem solving
- ▶ Collaboration
- ▶ Coping with uncertainty and ambiguity
- ▶ Negotiation and influencing
- ▶ Leadership
- ▶ People management
- ▶ Understanding biases
- ▶ Communication

TECHNICAL

- ▶ Fundamentals of sustainability
- ▶ Rating and management tools
- ▶ Innovation
- ▶ Social outcomes
- ▶ Energy and carbon
- ▶ Climate risk, adaptation and resilience
- ▶ Sustainable supply chain and procurement
- ▶ Resource efficiency
- ▶ Biodiversity
- ▶ Mechanical and physical principles of engineering



"I started my career as a macroeconomist, working in central banking for around 10 years, and then as an economist in the infrastructure sector. I was asked to lead our decarbonisation efforts when the position came up in the team and urgent action was required. I had experience in policy development and understood government processes but was not a sustainability expert. However, I've found that skills like innovative thinking, collaboration, working with multi-disciplinary teams and problem solving are highly transferrable. In particular, I came to see that communicating technical matters to non-technical audiences and integrating consideration of sustainability into regular government processes was a key gap and required broader skills"

Dena Jacobs, Executive Director Strategy Planning and Innovation, Infrastructure NSW

8. Industry leadership

By working together, industry and academia can expand the pipeline of skilled, diverse professionals equipped to lead the infrastructure sector towards a more sustainable and inclusive future.

Leaders in the infrastructure industry are proactively striking innovative partnerships and collaborating with educational institutions to foster sustainability skills and enhance the attraction and retention of women in the infrastructure sector.

Many companies are embracing a range of human resources strategies: refining their diversity and inclusion policies, establishing women's networks, fostering professional development opportunities and creating more inclusive workplace cultures.

Some companies are thinking outside the box. John Holland, for example, has established an industry-leading careers platform, Workplay, that connects all 540 players in the AFL Women's league with flexible employment, education and professional development opportunities in the construction industry.

Educational institutions play a critical role by embedding sustainability into coursework and by championing the diverse and dynamic career opportunities available. Education and industry leaders have long teamed up to provide students with scholarships, outreach programs and hands-on work experience. Joint efforts such as internships and research partnerships also allow students to gain valuable industry experience while contributing to sustainable projects. But TAFE NSW is taking this a step further with a micro-credential program that allows people to upskill in sustainability and uplift their careers.



"We operate in a far more complex environment today than we ever have before, so the kind of problem solving, systems thinking and responsible decision making that sustainability professionals bring provides immense value and is a key differentiator for businesses like ours."

Helen Fraser, Director – People, Laing O'Rourke



Industry case study: John Holland's Workplay



Female athletes have a wealth of valuable and transferrable skills but often need flexible work. With a skills shortage and diversity challenges plaguing the industry, construction companies are looking for female talent with diverse experiences. John Holland's innovative Workplay partnership offers a solution that tackles these challenges in tandem.

As the Australian Football League's (AFL) construction partner on the upgrade of Melbourne's Marvel Stadium, John Holland launched a pioneering new approach to talent attraction in 2022, becoming the principal sponsor of the league's [Workplay platform](#).

Workplay is a careers and networking platform designed to empower female athletes in sport and business. All 540 players in the AFL Women's (AFLW) competition can access Workplay to tap into flexible employment, education and professional development opportunities.

Workplay challenges the construction industry's approach to flexibility and helps female athletes to achieve their best on and off the field, says Bronte Enright, John Holland's Strategic Talent Programs Manager.

"Construction offers interesting and challenging careers for women that can be flexible, but not enough women know this. We decided to create a 'brokerage' platform to show female talent that they can have a 'hire to retire' career with us," Bronte says.

Since launching Workplay in 2022, John Holland has placed 20 AFLW players in flexible work – the equivalent of an entire team. "These players each have very different backgrounds and skill sets. They come from nearly a dozen different clubs and work across a broad range of flexible roles, including in sustainability," Bronte says.

Western Bulldogs midfielder Deanna Berry is employed by John Holland as a Social Procurement Officer. To find the best employment fit for Dee, John Holland hosted a "mini careers fair" to showcase the wide range of options on offer, Bronte explains. "When Dee first met with the social procurement team, her face just lit up. It was the purpose element that attracted her to the role, and she hasn't looked back."

Lessons learnt

- 1. Look beyond job titles:** High-performance athletes have a range of transferrable skills – like situational awareness, resilience and teamwork – that are highly valued on construction sites. The secret is to break down the capabilities of the job, understand the behaviours and skills required, and then look for those skills in other industries.
- 2. Partner to pioneer solutions:** While all 540 AFLW players have access to Workplay, not all of them are looking for careers in construction, Bronte notes. "We have partners across multiple industries. Workplay helps us to broker the right opportunities for each player," she says. In the first quarter of 2024, Workplay

made 90 placements. "We are creating an employment ecosystem, and a community with a variety of career pathways – with flexibility being the common characteristic."

- 3. Think bespoke:** John Holland's efforts show how offering a "bespoke" approach to career development can pay dividends. "We want to find new ways to bring amazing capability and leadership into construction. We have a 'quality over quantity' attitude – and that means going the extra mile to place female talent in roles that are right for them."

▶ "Around 50% of Australia's population is purpose driven when making career decisions. There are so many meaningful careers in construction that people don't know about – and sustainability can tell a powerful story that attracts female talent. It's not all high vis and holes in the ground."

Bronte Enright, Strategic Talent Programs Manager, John Holland



Industry case study: Institute of Applied Technology Construction



▶ *“Microcredentials can help people speak in the language of sustainability today, to build their confidence and offer new pathways to employment in the construction industry.”*

Chhavi Shaw, Industry Innovation Specialist, TAFE NSW

A new education delivery model, pioneered by the Institute of Applied Technology Construction, could change mindsets and encourage more women to step into non-traditional careers.

Sustainability skills are evolving rapidly. [The Institute of Applied Technology Construction](#), or IAT Construction, offers construction companies a suite of affordable, accessible ‘microcredentials’ to upskill the workforce. But the IAT model, which attracts learners from outside traditional construction training pathways, may also be a magnet for women exploring new career opportunities.

IAT Construction was developed in response to the Gonski Shergold review into the vocational education and training sector in 2021. The review, commissioned by the former NSW Government, found the structural bifurcation between Australia’s two primary types of tertiary study – higher and vocational education – often prevents people from gaining the capabilities they need for jobs today.

“University content is focused on knowledge and principles, TAFE on hands-on skills. Most jobs need a mix of both practical and theoretical skills,” says Chhavi Shaw, TAFE NSW’s Industry Innovation Specialist who spearheaded the education model for IAT Construction.

Microcredentials and microskills

The Gonski Shergold review found that “short-duration, employer-specific courses and industry-focused microcredentials” will become more important in the years ahead.

Microcredentials are practical, assessed short courses that provide recognised certification in relevant industry skills. Microskills are bite-sized, self-directed courses that contain a few hours of on-demand content. Both types of courses are co-designed and co-delivered with industry and university partners to develop practical and academic skillsets that apply directly in the workforce.

Microcredentials and microskills aren’t only practical, they are also flexible and affordable. [Introduction to Women in Construction](#) is a microskill course, fully funded by the NSW Government, which allows learners to explore the full range of career options in the sector in 1.5 hours. [Sustainability Practices in Construction](#), on the other hand, is a microcredential which costs \$1,500 and takes 50 hours to complete. The flexible course offers interactive activities, case studies from real-world projects, and an in-depth project-based assessment.

“We get a lot of great feedback from the students on the relevance and practical experience of microcredentials and microskills,” Chhavi says.

A new pathway to construction careers

IAT Construction is being delivered in partnership between TAFE NSW, Western Sydney University and CPB Contractors.

Associate Professor Yingbin Feng is Director of Academic Program for Undergraduate Construction Management at Western Sydney University and is involved in developing and teaching several of IAT Construction’s microcredential courses.

“The cycle for microcredentials – from ideation to design to delivery – is much shorter than for a university course. I started developing one microcredential in the second half of last year. Now I am delivering it in the classroom,” he says.

Students studying microcredentials come from a variety of disciplines, few of those with construction backgrounds, Dr Feng notes. “When students are selecting degree subjects, they often see the name of a program, like ‘Bachelor of Construction Management’, and they think of dirty sites. They don’t understand the many career options within construction.”

Microcredentials are broad in scope and, importantly, low risk in terms of cost and time. Students often start a construction microcredential and are inspired by pathways and possibilities they never knew existed, Dr Feng says. “They discover, after taking a microcredential, that they like construction.”

Microcredentials can be undertaken by anyone, irrespective of their qualifications. Microcredentials can be grouped together in a ‘stack’ to achieve pathway credits if the learner chooses to pursue

higher education. “Microcredentials may offer a new pathway to university,” Dr Feng says. “Western Sydney University has endorsed the first group of pathway credits for students who have completed relevant IAT Construction Microcredential ‘stacks’, but there will be more, I believe.”

Lessons learnt

- Stacking microcredentials can open many doors:** ‘Stacking’ microcredentials could be the secret to attracting more women into construction. A sustainability microcredential may appeal to a school leaver wanting to bolster her CV, a professional looking to move into a new field, or a parent re-entering the workforce who wants to refresh her skills, for instance.
- Focus on both practical and big picture skills:** When IAT Construction consulted the construction industry to identify the greatest areas of need sustainability “topped the charts,” Chhavi says. This was in part because sustainability skills are so broad – covering everything from renewable energy to ESG, circular economy to carbon – and because sustainability specialists need to rely on a combination of both tactical skills and big picture principles. Microcredentials offer both.
- Collaborate instead of customising training:** For companies across the construction sector, the microcredential opportunity can complement existing education channels. “They don’t have to create customised induction or onboarding programs or on-the-job training. It’s all out there and ready for them to tap into,” Chhavi notes.

9. Practical calls to action

Actions for all

This report has outlined how sustainability can be used as a strategic tool to attract and retain more women into the infrastructure construction sector while also leveraging skills to meet national net-zero targets and optimise environmental, social and economic outcomes.

Women hold around half of the infrastructure sector's sustainability positions – a far greater percentage than the broader construction industry. They are already making positive contributions to projects around Australia.

Various initiatives, including an industry-wide culture standard, company diversity policies and education programs, are creating more inclusive workplaces. Progress is being made, but there are greater opportunities for the infrastructure sector to leverage sustainability as a pathway to attract and retain female talent.

What can leaders do next? From our research, interviews and survey, we have identified several practical calls to action for all stakeholders.

Recruitment professionals

1. Embed sustainability into recruitment processes, including job descriptions. Ensure hiring managers require an understanding of the value and competencies that sustainability professionals bring to infrastructure.
2. Consider skills gaps when designing job descriptions and assessing candidates. Hiring managers should emphasise the importance of core skills and business acumen in job postings to attract candidates who are well-equipped to develop into sustainability professionals with the support of technical upskilling.

Diversity and inclusion professionals

1. Elevate policies beyond minimum practice to support diversity, flexibility and family-friendly work environments.
2. Establish mentoring or buddy systems to support new hires.
3. Implement unconscious bias training programs to help all employees recognise and address unconscious biases, and foster a more inclusive workplace culture.

Sustainability leaders

1. Seek out and advocate for capability building opportunities for your organisation enabling other professionals to discover and develop skills in sustainability.
2. Foster a workplace culture that values authentic sustainability; establish and measure culture change initiatives. Develop sustainability champions within your organisation. Mentor and support emerging talent by sharing knowledge and experiences, fostering a new generation of sustainability leaders.

Organisation leaders

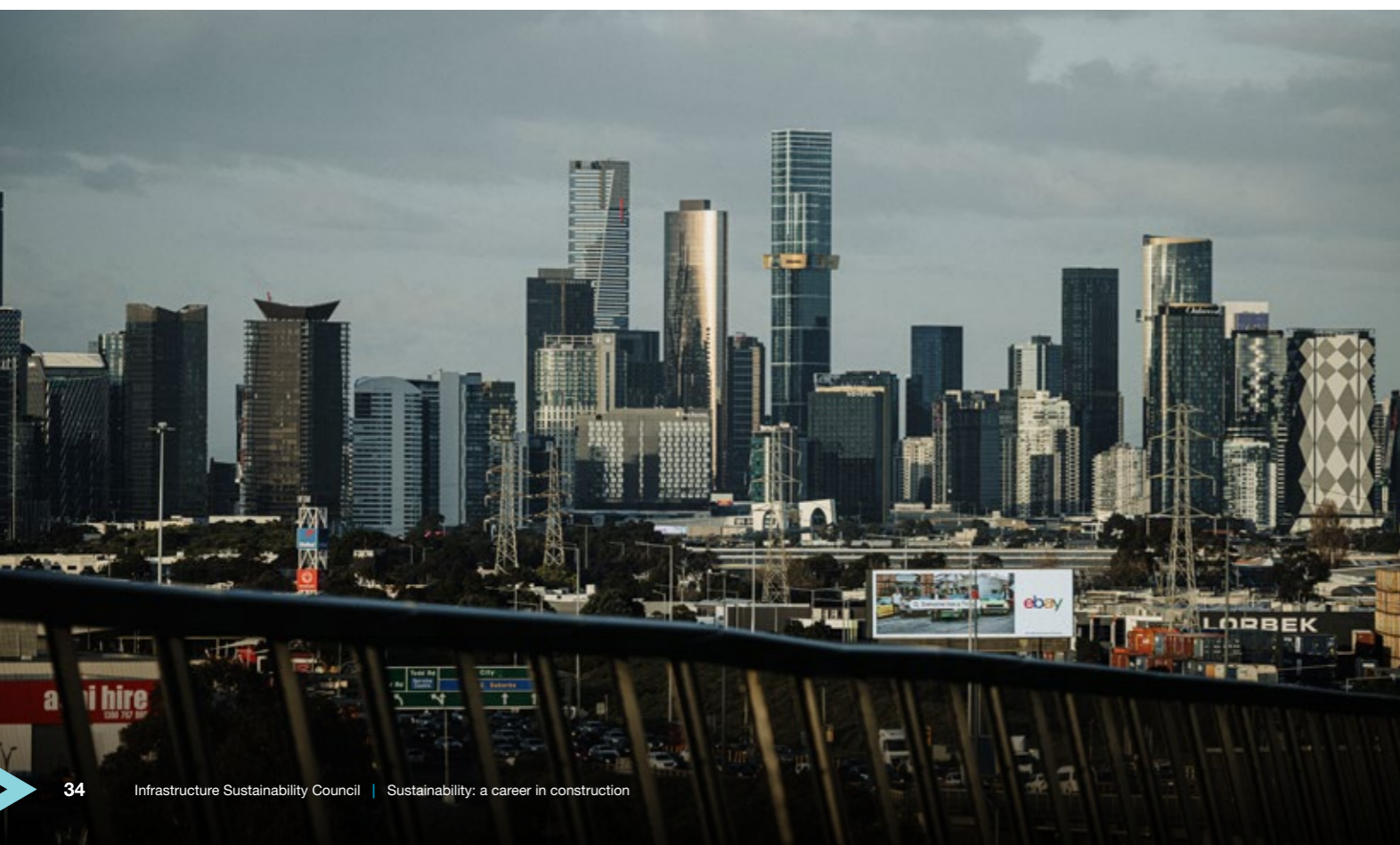
1. Train staff in the skills and competencies required for success in sustainability roles within the infrastructure sector; provide technical and cross-discipline sustainability upskilling opportunities to all employees.
2. Empower and advocate for young professionals to participate in sustainability conferences and panels.
3. Benchmark the performance of workforce sustainability against IS rating best practice criteria. The workforce sustainability category of the IS Rating scheme can be used as a measurement tool.

4. Commit to sustainability internships and other placements to provide those new to the workforce with an understanding of sustainability in a corporate context.

University leaders

1. Collaborate with industry to develop short courses and microcredentials to build core skills into educational offerings.
2. Promote sustainability as a career pathway within existing STEM programs
3. Establish scholarships, grants and other financial aid specifically targeted at women pursuing degrees or certifications in sustainability and construction-related fields.
4. Partner with industry to develop mentorship, networking and other collaborative programs that pair female students with experienced sustainability professionals in infrastructure construction, and that connect talent to potential employers.

Above all, collaborative and collective action can build the workplaces Australia needs for diverse talent can thrive and to deliver infrastructure with cultural, social, economic and environmental benefits.





“With a background in sustainability throughout my 30-year career in construction, I am acutely aware that despite our striving for greater female participation, barriers for women remain. I am however encouraged that progress is evident with industry bodies like the Infrastructure Sustainability Council and the Australian Constructors Association Culture Pledge leading the way.

All 18 ACA members have committed to the Culture Pledge, promoting equal opportunities and workplace flexibility, aiming for the WGEA Employer of Choice citation by 2028. This commitment goes beyond addressing pay disparities; it’s about creating a work environment where opportunities are open to everyone, regardless of gender.

The construction sector is embracing change for Australia’s benefit, with major contractors and industry efforts making significant steps towards creating a more inclusive future.”

Sarah Marshall, Board Director, Australian Constructors Association, Executive General Manager, Fulton Hogan

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