2022 IMPACT REPORT

Pathways to Impact

Infrastructure Sustainability Council

Acknowledgements

We acknowledge, respect and honour the Traditional Custodians of the lands on which we carry out our work. We also acknowledge their deep connection to land, water and culture, and pay our respects to their Elders past, present and emerging.

We respect the tangata whenua of Aotearoa and are committed to upholding the principles of Te Tiriti o Waitangi and to safeguarding te reo and other taonga.

We thank all our partners who have contributed to this report including the Infrastructure Sustainability Council members, suppliers, partners, policy makers, regulators, industry bodies, communities, tangata whenua and the Traditional Custodians of the lands we are privileged to work on.



10 year anniversary of the IS Rating Scheme



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"The ten-year history of the Infrastructure Sustainability Rating Scheme is shaped by the same ideal, elevating sustainable infrastructure that is transformative and enabling, conscious of impact, and designed in anticipation of future need.

Throughout history we have celebrated infrastructure as the material evidence of human progress. Whether it is aqueducts and bridges, roads and railways, undersea cables and skyscrapers, we find a source of wonder. Not just in their size or their scope, but also the imagination that lit the fire of their creation, and the ambition and skill that turned vision into reality.

Pursuing a positive future for people, the planet and the economy, the IS Rating Scheme challenges us to embed sustainability in what we build today as the cornerstone of a resilient, thriving tomorrow.

For a decade, the Scheme has worked in Australia and New Zealand to advance the shift towards infrastructure that meets cultural and social needs, while benefiting the environment and the economy.

our goal of sustainability.

Today, in projects across the country, the Scheme is working to educate and inspire industry to design and construct sustainable infrastructure with expertise, experience, and optimism."

Hon. Anthony Albanese PM

Albanese, A. (2022) Forward, 10 stories from 10 years, (pp. 2), (Reprinted from 10 stories from 10 years, By Infrastructure Sustainability Council, 2022).

It's a complex and nuanced story, and I'm proud to have been associated with its first chapter. In 2012, as the Federal Infrastructure Minister responsible for providing seed funding to the Scheme, I welcomed it as a practical and important vehicle for carrying us towards

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IS	C Infrastructure Sustainability Council (preparers of this report)	

Unless otherwise stated, dollar values (\$) are Australian currency and data relates to FY22 (1 July 2021 - 30 June 2022).

prosperity

Greenhouse gas

Outcomes

Impacts

SDG

GHG

Direct, immediate effects of business practices, measured through environmental, social, economic and governance metrics; also known as the quadruple bottom line

Indirect, long lasting, slow to emerge effects of business practices as experienced by recipients, evaluated through assessments and stories about the planet, people and their

Sustainable Development Goal of the United Nations Agenda 2030

Foreword

This year marks a significant milestone for the Infrastructure Sustainability Council, 10 years since the launch of the IS Rating Scheme. Recognising this milestone allowed us time to reflect on the impact the Scheme has had on the infrastructure sector, and how far we have collectively come. Embedding sustainability in infrastructure today for a resilient, thriving tomorrow.

What has been ever present is change; the opportunity to challenge the status quo, to progress and to grow. FY22 followed a year of great uncertainty and delivered its own unique set of challenges and opportunities. We continue to experience disruptions due to COVID-19; the challenges to the workforce, supply chain and our social system have been felt far and wide, with the Council being no exception.

A year that has seen a second summer of La Niña reaped havoc on our region. The South Island of Aotearoa and the east coast of Australia saw months of near continuous rain, and severe storms lashed Australia's west coast. As the frequency and intensity of these severe weather events increases, the impact on the environment, our infrastructure assets and the communities they serve resounds. High global inflation and geopolitical tensions fuelled further uncertainty, and bracing for more change. Being better prepared for future scenarios with both cumulative and simultaneous shocks and stressors, will be critical for enabling resilience from our network of infrastructure systems and the resilience of our infrastructure in and of itself. Preparing to withstand for systemic risk, and preparing to advance the opportunities which accompany change, far outweighs the cost of unscoped recovery.

During this time, the federal election in Australia set about a new order of national change. Tensions have emerged in infrastructure investment priorities though these concerns are not new. The shift does however, support and shine a positive light on the work the Council and our membership do, maximising social, cultural, environmental and economic benefit through infrastructure. Australia announced an additional \$17.9 billion for infrastructure projects for the 22/23 budget. During the same period New Zealand delivered a \$4.6billion increase to its infrastructure budget – showing investment in the future of our sector. The continued investment in world-class infrastructure which delivers intergenerational outcomes will enable thriving nations.

The challenges have been balanced well with positive progress and opportunities for great optimism. Aotearoa published its first Emissions Reduction Plan. Cabinet also agreed to three binding emissions budgets, which set out the total emissions New Zealand must cut over the next 14 years through domestic action alone. In Australia, the Climate Change Bill, which includes the national targets of cutting emissions by at least 43% by 2030 (compared with 2005) and reaching net zero by 2050, passed the Senate and will now become law. Brisbane was awarded Host of the 2032 Olympic and Paralympic games – an event that will boost productivity and business in the area in the years before and after the games. All eyes are on Brisbane as it is the first games obligated to deliver on a 'climate positive' event.

Rising by lifting others

FY22 saw the number of registrations and certifications once again on the rise. There was an increased focus on ESG and sustainable outcomes and the economy recognised a transforming market and an acceleration in the pace of delivery. There were 61 registered projects in FY22, with the majority in the transport sector and 15% in water. The strongest level of uptake once again, was in NSW and Victoria, and with great excitement we welcomed our first ever project registered in the Northern Territory. We also registered an additional 16 pioneer partners to pilot IS Essentials; the modified product for infrastructure projects with capital values less than \$100m, backing in our commitment to ensure our tools are accessible, scalable and cost-effective.

Across the year we also celebrated the certification of 48 projects, the largest number of projects to be certified in one year, clocking 75 innovations.

The assured sustainability outcomes from assets IS certified across the year are highlighted in more detail throughout this report. A quick snapshot of some quantitative benefits include over 6 tonnes of waste was diverted from landfill equating to 96% of total waste, a 37% reduction in operating energy emission, and 27% of lifecycle energy emissions avoided. These outcomes and the many more intangible benefits in this report demonstrate progress toward a resilient, inclusive net zero infrastructure future.

A season of change

Our Sector

As we look toward the largest-ever infrastructure pipeline, it is critical to anchor in purpose. Infrastructure is delivered for people, by people. Infrastructure enables people to thrive. While labour-shortages, contracted delivery programs and supply chain disruption weigh down heavily, the focus needs to remain forward on the important role infrastructure plays in the economy, in our community, and in our nations. Our obligation as a sector, is to ensure that all infrastructure delivers social, cultural, environmental, and economic benefits. Being a good ancestor is now more important than ever.

Our Strategic Plan

As the infrastructure sector continues to evolve, so does the IS Rating Scheme. Celebrating its 10th anniversary in March 2022, the Scheme continues to deliver impact each year. Since its release, the IS Rating Scheme has 330 projects representing \$219 billion in capital value. In FY2022, we released the evolved IS v2.1 Design and As Built rating tool enabling credible, repeatable sustainability performance assessment. IS v2.1 recognises industry's progress in recent years, with new benchmarks, rewards for top performance, and increasingly ambitious targets. Incorporating feedback from over 700 individuals and members across the sector the Scheme remains designed by industry for industry.

With immediate skills shortage across both infrastructure and sustainability, new capability building functions were developed. The IS for Professionals Course evolved into a pathway. A series of courses now allows learners the opportunity to pursue accreditation for the rating tool most relevant for them. The IS Foundations course has been well supported by the market. This short course aids learners to shift the focus of infrastructure from asset creation, to one which also includes asset impact.

RISE, our mentoring program launched in March, elevates emerging leadership talent and strengthens an inclusive workforce. The program connects aspirational sustainability professionals with experienced business leaders to build a strong infrastructure workforce by investing in leadership capability essential for a positive future. The inaugural intake was oversubscribed.

As Covid-restrictions lifted, face-to-face events returned. We held our ISC annual conference RECONNECT in March 2022 in Sydney and in June 2022 in Auckland. The conference gave us an invaluable opportunity to recharge, reinforce and reconnect with purpose and with people.

Collaboration is at the core of advocating for change that supports our sector to rapidly transition. Intentional engagement with our industry partners and members has led to the launch of several seminal co-authored reports:

- Thriving Nations delivered with Urbis, is a pathway for progress against the foundational dimensions of resilience of responsibility, and the emerging attributes of resourcefulness. With barriers identified, and case studies demonstrating how these have been overcome, it recommends a model for the future which accelerates change in levels of trust, co-ordination, investment and return.
- Journey to Net-Zero, Inspiring Climate Action in the Australian Transport Sector with Roads Australia, Australasian Railways Association, RA, KPMG and ARUP, provides detailed recommendations to decarbonise the transport sector.
- Place-based approached to Net-Zero with Mott MacDonald, encourages local

approaches which shift from assets to regions to optimised integrated systemic decarbonisation.

• A Net Zero Future: Delivered through our Infrastructure Pipeline with Australian Constructors Association, Consult Australia and Autodesk, explored practical steps to reduce emissions during delivery.

Our Team

Our Board leadership transitioned on 1 January 2022 from the formidable Alison Rowe to Deborah Spring, CEO of the Rail Industry Safety and Standards Board. At the Annual General Meeting, Matthew Brennan retired with Amelia Linzey and Amanda Yeates being elected.

Our Future

As we look to celebrate all assets and the outcomes they have achieved, our Impact Report documents the power of progress; through projects, products and people – committed to best practice though continuous improvement and innovation. The outcomes cover planet, people, prosperity, and industry transformation. As we all compete against the ticking clock of climate change and rising inequality, competitive advantage will be defined by the speed at which you share; and the extent to which you collaborate. These challenges are urgent, are our shared responsibility and require our collective effort.

To improve is to change, to progress is to change often. We know that impact doesn't happen overnight (usually) but change is about being a little better than before and is compounding through enduring. Thank you for rising up and playing your part. Whether you are in the starting blocks, or making great strides; better never stops. In any journey, if you want to go fast, go along; if you want to go far, go together. It is always those you travel with that make for the most extraordinary adventures. Thank you to our members and industry partners, new and long-standing for a remarkable decade of determination. Together we stride stronger into a decade of action.

Debuch and Spring

Deborah Spring Chair

Ainsley Simpson Chief Executive Officer

Infrastructure Sustainability Council Impact Model

We make a difference through our focus on:

Our purpose

- 4 strategic goals
- 12 strategic objectives
- 5 member benefits
- 4 impact themes
- 17 SDGs



Infrastructure Sustainability Council 2022 Impact Report



Highlights

Infrastructure Sustainability Council Strategic Highlights FY22



IS Ratings Scheme Highlights FY22

Lifecycle material emissions avoided 16%	Operating emissions a 37 %
Projects that used materials with sustainability credentials 70%	Resources of from lan 6.4M to
Reduction in asphalt	Reduction in o
from base case	from base
8%	140,27
Innovation:	Certificat
41 Regional First	1 Lead
30 National First	27 Des
4 World First	19 As E

avoided **%**

Lifecycle energy emissions avoided 27%

diverted ndfill

tonnes

Waste diverted from landfill **96%**

e case

Operating water use avoided



ations: ding sign Built

Social Credits:

88% certified projects completed stakeholder engagement strategies

80% certified projects undertook heritage assessment and management

The Infrastructure Sustainability Council



Executive Summary

Creating pathways for sustainable development and reduced emissions.

Structure of this Document

This document will review the Infrastructure Sustainability Council's organisational structure, reflect on our collective actions towards our strategic goals through our activities over the past financial year, then explore sustainability in action – with a range of case-studies demonstrating innovation and outcomes in infrastructure.

Driving Change

Our Purpose

In this report, the Council outlines our four Strategic Goals: Leadership, Thriving Industry, Market Transformation and Organisational Health, supporting an industry to deliver best practice, long-term outcomes that support all beneficiaries, and deliver on the quadruple bottom line.

Our four main goals are all designed to drive our purpose – *To ensure all infrastructure delivers social, cultural, environmental and economic benefits:*

- LEADERSHIP drive global best practice through sustainability.
- **THRIVING INDUSTRY** enable connection, collaboration and ambition.
- **MARKET TRANSFORMATION** advocate for change that supports rapid transition.
- **HEALTHY ORGANISATION** ensure that we are purpose led, inclusive, and high-performing.

Our Areas of Influence

Working across Australia and Aotearoa New Zealand we are a member-based, purpose-led peak body. We measure what matters.

Every day we strive to achieve a positive future for people, planet, prosperity and industry. These four key areas direct our focus to build on our vision.

Planet – Working to drive climate action, regenerate our ecosystems and transition to a circular economy

People – Enabling communities to thrive as they go through structural change and transition, ensuring wellbeing for current and future generations

Prosperity – Measuring infrastructure's socioeconomic value so that we can 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 sustainable and aligned investment and governance.

How we work

We strive to achieve our purpose through our everyday actions. We achieve this through the delivery of the Infrastructure Sustainability (IS) Rating Scheme, and by overseeing, maintaining and developing the scheme to ensure it reflects industry changes. We engage with industry to incorporate feedback ensuring the scheme features continuous improvement. The scheme covers all stages of the asset lifecycle; planning, design, construction and operation – across all asset types, across all states and territories of Australia and Aotearoa New Zealand. Through the IS Rating Scheme we drive outcomes through procurement value chains, measure impact and assure performance against the quadruple bottom line.

Through our industry engagement we build a connected, collaborative and capable sector. We deliver training and education and build a connected and collaborative network and support industry with the Infrastructure Sustainability Council's ISupply directory. The directory connects suppliers of sustainable products and services.

We bring together experts to share knowledge through our events and advocacy. Supporting collaboration, knowledge sharing and capability building, we reward and recognise best practice across the industry. We drive systemic change, mobilising industry leaders to advance policy, standards and specifications, and transition to a low carbon, inclusive and more resilient infrastructure industry.

We work with a wide variety of infrastructure stakeholders throughout Australia and Aotearoa New Zealand, bringing them together to take action on the emerging and ongoing sustainability issues in our community.

These stakeholders include:

- 1. Asset owners and proponents
- 2. Financial providers and insurers
- 3. Suppliers, contractors and consultants
- 4. Delivery agencies and operators
- 5. Policy makers, regulators and local governments
- 6. Industry bodies, not-for-profit organisations and academics
- 7. Sustainability professionals

Our strategic goals set our path for delivering on our purpose and vision. These goals shape the work we do and direct our actions. Three of our goals shape our work outwardly toward industry, while organisational health turns our focus inwards.



Our network

Infrastructure is a network of systems which enables people to thrive. This network includes connective, supportive, natural and social systems. Collectively, these systems create a thriving nation by supporting resilience and productivity, and by improving quality of life and liveability. This network of systems relies on the breadth of knowledge, expertise and experience of stakeholders to continuously embed sustainability in a viable, scalable and synergetic way.

At the heart of this system of systems is the Infrastructure Sustainability Council's ambitious connected membership.

Thriving Nations are enabled by infrastructure



The Infrastructure Sustainability Council is Australia and Aotearoa New Zealand's authority on sustainable infrastructure systems, projects and assets. Infrastructure can be defined by an interconnected system of systems including:

- **Transport:** road, rail and cycle networks, ports, harbours and airports.
- Communications: digital and communication networks that support the transmission of voice and data.
- Utilities: the plants and pipes associated with water and sewage, power and waste disposal assets.

- Blue infrastructure: beaches, waterways and the infrastructure that supports their use.
- **Green Infrastructure:** natural and man-made landscape assets and vegetation.
- Social infrastructure and built environment: homes, workplaces and institutions (education, health, sports and cultural) that safeguard quality of life and support productivity.
- Human ecosystems: thriving cities and communities where people are enabled to live their best lives and do their best work, irrespective of their age, ability, background or identity.

Our Strategic Plan 2020 – 2025

Our strategy outlines a clear pathway for the realisation of our purpose and vision through detailing four strategic goals. Our strategic plan is reviewed annually, including an assessment of feedback and an appraisal of trends, risks and opportunities. Our annual performance is measured between 1 July and 30 June, and KPI's are tracked regularly by the Board.





Our Board

Board Structure

The Infrastructure Sustainability Council Board plays a critical role in the strategy, governance and accountability of the Infrastructure Sustainability Council. Representatives of the board are both member directors (elected by the membership) and non-member directors (recruited and appointed independently by the board). This structure gives us broad representation and perspective to ensure that we continue to focus on our members and on the sector more broadly.

We welcomed 3 new directors in FY22 - Deborah Spring, Amelia Linzey and Amanda Yeates joined the Board at the 2021 AGM. Matthew Brennan was thanked deeply for his service as he retired at the same time. Alison Rowe completed an extraordinary term as Chair of the Board stepping down on 31 December 2021. Deborah Spring commenced her four-year term as Chair on 1 January 2022.

There are three Board Committees:

- The Finance, Audit and Risk Committee assists the board in fulfilling its overall responsibilities in relation to finance, audit and risk management matters arising out of current activities and future opportunities undertaken by the Infrastructure Sustainability Council.
- The Market Development Committee supports the executive and team members, overseeing market development, new products and services, and digitalisation.
- The Governance and Nomination Committee oversees the governance of the Infrastructure Sustainability Council.



Alison Rowe - Chair to December 2021

Alison is Managing Director Australia of The Nature Conservancy and is fully committed to environmental sustainability, including global responsibility for strategy development, delivering transformational programs, commercialising new business models, and community development and advocacy.

Prior to this role, Alison was the Global Executive Director Sustainability at Fujitsu. Alison's non-executive director experience includes the Future Business Council (chair for 2 years), Climate Alliance, Australian Energy Foundation, Bioregional Australia, Environment Victoria and One in Five.

Alison uses her experience in the energy, transport, infrastructure and technology industries in the private, public and not-for-profit sectors to lead with a strong focus on values, relationships and collaboration.

Sarah is G She has 2 at Lendlea environme

environmental, community and sustainability remits. Sarah spearheads positive social change in the industry - including improving awareness of mental health as a Corporate Ambassador for beyondblue. She has received numerous industry accolades for increasing Indigenous engagement and improving diversity, including Winner WME Corporate Sustainability Leader 2014.

Sarah is on the board of the Australian Constructors Association and was previously on the NSW Architects Registration Board.



Our Board Members

Deborah Spring – Chair from 1 January 2022

Deborah's extensive governance experience extends to unlisted companies, government businesses and start-ups. She has gained expertise in a variety of sectors, including infrastructure, transport, logistics and e-commerce. She has held senior executive positions with TasRail, National Rail and Australia Post.

As Chair of the Rail Industry Safety and Standards Board, Deborah elevated the organisation's brand recognition and industry profile. She was chair of the prestigious Banksia Foundation for three years – a period of double-digit growth.

As director and chair of the governance committee of the largest tertiary education provider in northern Victoria – the Goulburn Ovens Institute of TAFE – Deborah understands the importance of strategic investment in capacity and capability to deliver sectoral advancement.



Matthew Brennan - Director to 17 November, 2021

Matthew is Head of Sustainability at Transurban, where he has worked since 2015. Prior to this role, he worked in sustainability and environmental management roles in Australia and the United Arab Emirates, including for Stockland and Sydney Water.

Matthew has nearly 30 years' experience in the infrastructure sector, covering transport, water and power in both the public and private sectors, and has firsthand knowledge of unlocking the benefits of a strong sustainability agenda through leveraging sustainability performance on projects.

He combines sustainability and infrastructure knowledge to understand key sustainability risks and opportunities and champions the Sustainable Development Goals.

Sarah Marshall - Deputy Chair

Sarah is General Manager – People, Safety and Sustainability at Fulton Hogan. She has 25 years' experience in the construction sector, having also worked at Lendlease and CPB Contractors in management roles that combined environmental, community and sustainability remits.

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Leo Coci

Leo is Executive Director of the Office of Major Transport Infrastructure Delivery at Main Roads Western Australia, part of Western Australia's Department of Transport, where he has worked for more than 40 years.

Leo is an engineer, with expertise in bridge design, road planning, project management and contract management of major projects, and is now responsible for the procurement and delivery of AU\$8 billion of priority infrastructure, including Metronet rail projects such as Thornlie-Cockburn Link, Yanchep Rail Extensions, Morley-Ellenbrook Line, Bayswater Station, Byford Rail Extension and Level Crossings Removal.

In his leadership role in major projects and the implementation of innovative contract procurement models, Leo champions sustainability and is a member of the Aboriginal Advisory Group.



Dorte Ekelund

Dorte is the Strategic Advisor – Office of CEO with SMEC. She is an urban and regional planner with 30 years' experience in land use and infrastructure planning across all levels of government in various jurisdictions. Her previous positions include Head of the Australian Government Major Cities Unit, ACT Director-General of Environment, Planning and Sustainable Development, and WA Deputy Director-General of Planning and Infrastructure.

Dorte's experience includes water, energy, renewable energy and climate change mitigation and adaptation. She is a director of ICON Water and Committee for Sydney, a Commissioner with the Northern Territory Planning Commission and Adjunct Professor at the University of Canberra. She is a member of the GBCA Green Star Advisory Committee, the University of Wollongong Smart Infrastructure Advisory Council and the Australian Institute of Company Directors.



Glenn Hedges

Glenn is the Sustainability Manager on the Cross River Rail program of works, including the Tunnel, Stations and Development public-private partnership and the Rail, Integration and Systems Alliance. Glenn has 25 years' environmental and sustainability experience in infrastructure and building delivery across the UK, New Zealand and Australia, including 15 years within the CIMIC Group.

Glenn was a founding non-executive director and company secretary (to 2011) of the Australian Green Infrastructure Council, which has become the Infrastructure Sustainability Council, and has directly assisted more than 20 projects in achieving IS Ratings. His experience across a range of assets, his inhouse knowledge and his subject matter expertise combine to provide the Infrastructure Sustainability Council with insights into the practical change drivers influencing sustainability across planning, procurement, delivery and operations on major projects.



Julie Morgan

Julie is the Executive Director of Environment and Sustainability at Transport for NSW, which has a portfolio of major infrastructure delivery throughout the State, and uses the IS Rating Tool to drive innovation and sustainable outcomes across projects and assets. Julie holds a key sustainability leadership role and is a strong advocate, ensuring that early project decisions translate into sustainable outcomes.

Julie is a lawyer by profession, with 25 years' experience in the public sector developing and implementing strategy, managing and delivering large and complex projects, and establishing centres of excellence to support operations.

After a decade in legal practice with the NSW Director of Public Prosecutions and Legal Aid NSW, Julie spent 11 years at NSW Ambulance, leading strategy and change programs prior to joining Transport for NSW in 2017.



Finton is a Director of Sustainable Asset Strategies, a private consultancy that has been a member of the Infrastructure Sustainability Council for more than five years. He has 20 years of public and private sector experience in all phases of road, rail, water, ports, commercial, defence, health and energy capital works projects, from business case to handover.

Finton's roles have included Sustainability Lead on the Victorian Government's Level Crossing Removal Project, and he has been involved in some of the highest IS Rating scoring Design and As Built projects to date. As well as his involvement in the development of iterations of the IS Rating Tool, he has been involved in the development and piloting of numerous other rating schemes, including BREEAM (UK), LEED (US), Vic Roads INVEST and SMREP (for rail projects).

Bethia Gibson

Bethia is the General Manager Operations at Mana Arotake Aotearoa Audit New Zealand, a leading provider of audit and assurance services to the public sector. Bethia has been in this role since 2007.

Bethia's previous role was Deputy Commissioner, Corporate Services in the State Services Commission. Early in her career, she was a registered valuer at Valuation New Zealand and was involved in establishing Quotable Value New Zealand, where she worked as a General Manager. Bethia is a lay member on the New Zealand Institute of Chartered Accountants' Disciplinary Tribunal and a member of the Code Disciplinary Committee of the Financial Services Council New Zealand.



Jeremy Stone

Jeremy is the CEO of advisory and investment company Vaysh, which focuses on technology, smart infrastructure, energy transition and the circular economy. An engineer, Jeremy has 30 years of local, Asia and UK experience in the public, private and not-for-profit sectors, with an emphasis on innovation and creativity. Previously, he was the Regional Director Asia and Global Head of Innovation and Digital at GHD.

Jeremy has 15 years of board experience, including serving currently as a nonexecutive director at J-Power Latrobe Valley, a consortium of private organisations and the Japanese, Australian and Victorian governments that is implementing a AU\$500 million pilot of the world's first liquid hydrogen supply chain.



Amanda Yeates – Director to 30 June 2022

Amanda is a skilled and professional leader in the delivery of public infrastructure. Over many years in the delivery of infrastructure, she has identified poor and sub-standard environmental sustainability practices, and addressed these by mandating IS Ratings on major projects at her organisation. Amanda has seen improved environmental sustainability outcomes with these changes. She has also seen the 'better than standard' culture grow and strengthen in major project delivery and Amanda has witnessed direct tangible economic and social benefits from this change.

Whilst we are seeing a change in major projects across the country, more than fifty percent of the investment in public infrastructure nationally has value below the major project threshold. Amanda has a strong interest in expanding the reach of sustainability ratings beyond major projects and into a 'whole of program approach', including consideration of how sustainability ratings could be included in planning and business cases.

As part of this drive, Amanda also has championed other innovations with sustainability benefits, such as a National Asset Centre of Excellence research partnership with ARRB.



Jody Williams – Company Secretary

Jody is a Special Counsel at MolinoCahill Lawyers, where she practices construction, infrastructure and insurance law, primarily in the management of project claims and resolution. In this position, she applies her extensive experience and knowledge of insurance law and professional indemnity. Jody is a member of the Victorian Bar and a member of the Law Institute of Victoria Environmental Issues Committee.

Her publications include Sustainable Construction: Developments and Opportunities, 2016, which was a Commended Entry in the Brooking Prize. Jody also lectures at the University of Melbourne in construction law and sustainable infrastructure systems, teaching on the Master of Construction Law, Planning and Building Sustainable Cities course.

Our Co-opted Board Committee Members

Brett Joyce

Rekha Kharbanda

Anne Hellstedt

Brad Sherringham

Adam Roberts

Our Senior Leadership Team



Ainsley Simpson Chief Executive Officer Gadigal and Darug Country



Patrick Hastings Chief Delivery Officer Turrbal and Jagera Country



Owen Buckley General Manager Ratings and Technical Turrbal and Jagera Country



Laura Harkin-Small General Manager Advocacy Kabi Kabi/Gubbi Gubbi



Adrienne Miller General Manager New Zealand Tāmaki Makaurau, Aotearoa



Jane Nicholls Lutruwita land



Liesel Wightwick General Manager HR and Finance Gadigal and Cammeraygal Country



General Manager Member Engagement



02 Setting our Ambition



Our Strategy

Our purpose is to ensure that all infrastructure across Australia and Aotearoa New Zealand delivers social, cultural, environmental and economic benefits. Our 5-year Strategic Plan was set following two years of focus groups, culminating in an intensive two days of planning with the board of directors. We have four strategic goals to be delivered through twelve strategic objectives - with a very clear idea of what success will look like.

Our Strategic Goa



LEADERSHIP

Drive global best practice in infrastructure

THRIVING INDUSTRY

Enable the industry to be connected, collaborative and ambitious



MARKET **TRANSFORMATION**

Advocate for change that supports industry to rapidly transition

ORGANISATIONAL HEALTH

Be purpose-led, inclusive and high performing organisation

•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
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IS Rating Scheme Outcomes by Region

													_		
						Northern Territory	,			Queensland					
						To Date	FY22 IS Certifications	FY22 Innovations		To Date		FY22 IS Certifications		FY22 Innovations	,
						Total Certifications	0	World First	0	Total Certifications	20	v1.2 Leading Design	4	World First	0
						Total Registrations	1	Nation First	0	Total Registrations	28	v1.2 Leading As Built	1	Nation First	6
								Regional First	0			v1.2 Excellent Design	2	Regional First	6
Western Australia	а						Not the	1				v1.2 Excellent As Built	1		
To Date		FY22 IS Certifications		FY22 Innovations											
Total Certifications	11	v2.0 Bronze	1	World First	0		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			New South Wa	les				
Total Registrations	29	v1.2 Commended As Built	3	Nation First	0					To Date		FY22 IS Certifications		FY22 Innovations	
				Regional First	7					Total Certifications	29	v1.2 Leading Design	7	World First	2
										Total Registrations	67	v1.2 Leading As Built	3	Nation First	10
												v1.2 Excellent Design	3	Regional First	10
												v1.2 Excellent As Built	3		
										Australian Cap	ital 1	erritory			
										To Date		FY22 IS Certifications		FY22 Innovations	;
										Total Certifications	4	v1.2 Excellent As Built	1	World First	0
										Total Registrations	2			Nation First	0
														Regional First	0
											I				
South Australia															
To Date		FY22 IS Certifications		FY22 Innovations											
Total Certifications	5	v2.0 Gold As Built	1	World First	0			1 1							
Total Registrations	4			Nation First	1				<u> </u>						
				Regional First	4										

Tasmania				
To Date		FY22 IS Certifications	FY22 Innovations	
Total Certifications	0		World First	0
Total Registrations	1		Nation First	0
			Regional First	0

Victoria					
To Date		FY22 IS Certifications		FY22 Innovations	
Total Certifications	41	v1.2 Leading Design	8	World First	2
Total Registrations	56	v1.2 Leading As Built	3	Nation First	15
		v1.2 Excellent Design	1	Regional First	14
		v1.2 Excellent As Built	2		
		v1.2 Commended Design	1		
		v1.2 Commended As Built	1		

	FY22 IS Certifications		FY22 Innovations	
4	v1.2 Leading As Built	1	World First	0
11			Nation First	1
			Regional First	2

Driving global best practice in infrastructure

LEADERSHIP OBJECTIVE 1: RATINGS

Objective	What Success Will Look Like				
Provide industry with a valued Rating Scheme that promotes continuous improvement and innovation	People who work People who work in the infrastructure industry in Australia and Aotearoa New Zealand stand proudly behind their position as global leaders in sustainable infrastructure. They understand the importance of continuous improvement and out compete their own performance in every project and asset they work on or manage. The IS Rating Scheme is the standard widely embraced by all sectors and people working at all levels of the industry. It is an accessible, digital and cost-effective tool that is globally acclaimed. It is widely praised for its genuine approach to intergenerational wellbeing. It fosters partnership and rewards inclusion of Indigenous, mana whenua and First Nations perspectives across the Scheme, enabling broader long-term outcomes.				

The IS Ratings Scheme

The Infrastructure Sustainability (IS) Rating Scheme is the industry standard in evaluating the social, environmental, governance and economic performance of infrastructure.

By using the Scheme as a strategic asset in the infrastructure sector, the Infrastructure Sustainability Council fulfills its ambition to provide sustainability leadership.

The scheme has received widespread acceptance due to its many advantages, which include:

- It provides standardised benchmarks across jurisdictions to measure and report on sustainable infrastructure.
- It provides independent third party assured data of infrastructure assets.
- It rewards the sustainability performance of infrastructure assets.
- It measures all aspects of infrastructure planning, design, procurement, construction, operations and maintenance.

- It supports all stakeholders, including owners, designers, constructors and operators.
- It drives best practice.
- It is open to continuous improvement and additional development, and encourages innovation.

ISv2.1 Design and As Built

The FY22 has been a milestone year for the IS Rating Scheme. In September, the Infrastructure Sustainability Council launched the IS v2.1 Design and As Built Rating Tool. The updated benchmarks in this tool reflect the improved performance of the sector and best practice within the range of topics covered in the IS Rating Scheme. Over 700 stakeholders were involved in the development of these benchmarks. IS v2.1 Design and As Built has delivered clearer performance requirements, a greater focus on outcomes and reduces the administrative burden.

The IS v2.1 consists of 4 themes and 16 categories, aligning to 15 of the 17 SDGs. See the table below.

IS v2.1 Themes and Categories									
Governance	Economic	Environment	Social						
Place	Options assessment	Energy and carbon	Stakeholder engagement						
Leadership and management	Benefits	Environmental impacts	Legacy						
Sustainable procurement		Resource efficiency and management	Heritage						
Resilience		Water	Workforce sustainability						
Innovation		Ecology							

Changes to the ratings scale

The IS Rating Scheme measures performance and is adjusted to fit the profile of each asset and its context. The previous version of the scheme – IS v1.2 had three levels of performance: Commended, Excellent, and Leading. IS v2.1 better recognises projects that truly standout due to its expanded ratings scale that recognises five levels: Bronze, Silver, Gold, Diamond, and Platinum.

IS Ratings FY18-FY22 – A snapshot

- 199 projects registered from FY18 to FY22
- 61 new projects registered for a rating in FY22
- An additional 16 projects registered as pilot partners for IS Essentials in FY22
- Total value of assets under rating in FY22 was \$95 billion
- 41% of all projects ever certified achieved their certification in FY22

- Certifications more than doubled between FY21 (19) and FY22 (47)
- Average performance over time has incrementally improved
- Transport was the most common asset class that utilised the IS Rating Scheme
- There was an expansion of use in multiple asset classes including airports, cycleways/ footpaths, energy, ports and water services.

FY22 – Ratings Snapshot

- 61 registrations.
- Rail (19) and Road (24) continue to be the main users of the IS Rating Scheme, but there has been expansion in other asset classes.
- The Western Australian market has seen significant growth in FY22, tripling registrations from 4 to 12.
- Growth in the New Zealand Market continues to rise as the Waka Kotahi mandating policy is implemented.

These outcomes reflect the growth of the sustainability agenda, the importance of credible reporting and increasing commitment to demonstrating tangible outcomes.

	FY18	FY19	FY20	FY21	FY22	TOTAL
Registered projects	25	23	41	49	61	199
Certified Projects	9	17	22	19	47	114
Capex registered projects	16,581	9,060	12,367	20,490	36,688	95,186
Average capex	0.66	0.39	0.30	0.42	0.60	0.48

Certifications

With the largest year ever for the IS Rating Scheme, FY22 saw a total of 47 projects achieve certification. This a significant outcome, as it is double any previous or year, and 41% of all certifications ever completed by the Infrastructure Sustainability Council were amassed. New South Wales and Victoria saw the highest number of certifications for the year (16 each), with Queensland's certifications doubling from 4 in FY21 to 8 in FY22.

Performance improved on average year-on-year, with more than half of certifications achieving a Leading IS v1.2 rating. This outcome suggets that the benchmarks have shifted upward and signals the need to accelerate IS v2.1 adoption in the market.







LEADERSHIP OBJECTIVE 2: DATA-DRIVEN PERFORMANCE

Objective	What Succ
Enable the accurate comparison of sustainability performance of infrastructure	The Infrastruc standardised performance and drive pos

What Success Will Look Like

The Infrastructure Sustainability Council works closely with industry to create a standardised way to accurately quantify and consistently compare the sustainability performance of infrastructure. Performance data and insights drive better decision-making and drive positive change and healthy competition in the market. The IS Rating Scheme continues to develop in collaboration with local and international peers and has become a cornerstone of the Infrastructure Sustainability Council's ever-increasing global reputation.

Infrastructure projects are driven by data

The Infrastructure Sustainability Council understands that modern infrastructure projects are driven by data. Nearly all aspects of asset design, build and operations are measurable, giving stakeholders insights to make informed decisions. This data allows stakeholders to deal with inefficiencies, manage and improve resource efficiency, realise new material opportunities, and support the quadruple bottom line.

The IS Rating Scheme is designed to recognise and reward the sustainability performance of infrastructure assets across their lifecycle. Data analytics and extensive consultation with our membership base allows the scheme to accurately benchmark industry performance against performance thresholds. The rapid development of industry performance over recent years has been recognised by the Infrastructure Sustainability Council. In response, the latest Design and As Built v2.1 Rating Tool was released.

To ensure we continue to adapt to industry growth, the Infrastructure Sustainability Council is transitioning to a digital platform, to facilitate iterative change of the IS Rating Scheme, incorporate tools, and meet performance thresholds to reflect market changes.

The first in this evolution occurred in FY22. The Infrastructure Sustainability Council partnered with the NSW Government through the Low Emission Building Material program to digitalise the IS Materials Calculator, to harmonise how embodied carbon is accounted for, and to accelerate this credible performance assessment.

Circular Economy Outcomes

Each year, circular economy and resource use outcomes are measured, monitored and reported for IS certified As Built certified projects. In FY22, there were 21 As Built certified projects (listed in the appendix). Of these, there were 10 rail, 7 road, 3 water and 1 port projects, with an average IS score of 67.8.

		Tonnes	%
Sourcing / Use	Materials with sustainability credentials		70% of projects; range from <1% to 42% of material spend
	Recycled asphalt (RAP) content		7%
	SCM content in concrete		21%
	Recycled aggregate content		30%
Efficiency	Reduction in asphalt from base case	106,344	8%
	Reduction in concrete from base case	140,272	6%
	Reduction in steel from base case	402	<1%
Resource	Resources (waste) diverted from landfill	6,492,289	96%
Outputs	Spoil re-used on or off site	6,081,477	96%
	Material (inert & non-hazardous) reused or sent for further treatment	410,183	93%
	Office waste further processed	630	44%



Materials can include aluminium, asphalt, bitumen, concrete, crushed rock, sand, wood products, glass, steel, timber and metals. 70% of the FY22 As Built certified projects used materials with a sustainability credential - ranging from <1% to 42% of overall materials cost. The average materials expenditure on credentialled products was 17.3%.

Sydney Metro City and Southwest Tunnel and Station Excavation (Rail,

NSW): 42% of their materials expenditure on products or materials with sustainability credentials. This included 89,559m³ of Holcim Virodecs ready-mix concrete and all reinforced steel used on the project. They achieved a Leading IS v1.2 rating with a 96.4 score.

Recycled asphalt product (RAP) is old asphalt crushed to aggregate sizes and reintroduced to hot mix asphalt. RAP was used on 7 projects in FY22, at rates of 5 - 53%, which resulted in a 7% average across the projects. M1 North - Sports Drive to Gateway Motorway: 20% RAP (37,804 tonnes) used on their project. This \$60 million project was awarded a Leading IS v1.2 rating with a score of 81.5.

Parramatta Light Rail Stage 1: 53% recycled asphalt used in this rail project. This \$320 million project achieved an Excellent IS v1.2 rating with a score of 60.5.

Supplementary cementitious materials (SCMs) include fly ash, slag cement and silica fume, which can be substituted for Portland cement. Across seventeen As Built projects, the range of SCM content in binder material ranged from 0% to 88%, with an average of 21%.

Ipswich Motorway Upgrade (Rocklea to Darra) 20 - 45% SCM content in 117,232 tonnes of concrete. This \$176 million project was awarded an Excellent IS v1.2 rating.

GOAL 1: Leadership | Kaitiakitanga

Recycled aggregate includes crushed blast furnace slag, crushed concrete and masonry, crushed glass, recycled asphalt used as fill and general fill or spoil. Recycled aggregate content varied from 2% to 97% across the As Built projects, with an average of 30%.

The Parkes to Narromine section of the Inland Rail Project: 52% (2,580,586 tonnes) recycled aggregate used during construction. This \$300 million rail project in NSW attained an Excellent IS v1.2 rating with a score of 72.2.

Rooty Hill Station Upgrade: 97% use of recylced aggregate. This NSW Rail project acheived a leading IS v1.2 rating with a score of 87.5.

Reduction in asphalt from the base case was 8% overall; however, this ranged widely across the projects. One project reduced asphalt use by more than 99%; two further projects used between 65% and 70% less asphalt.

Parkes Water Treatment Plant: 99% (12,330 tonnes) reduction in asphalt requirements. This \$72 million water infrastructure project achieved a Leading IS v1.2 rating with a score of 83.

Regency to Pym Project: 66,486 tonnes reduction in asphalt. This \$354 million road project in South Australia attained a Gold IS v2.0 rating with a score of 66.7.

Reduction in concrete from the base case was 6% overall, with the top performer achieving 71% reduction and the next two at 47% and 34% respectively.

Ipswich Motorway Upgrade (Rocklea to Darra): 34% (61,063 tonnes) reduction of concrete against projected base case.

ACT Healthy Waterways: 47% (12,442 tonnes) reduction in concrete use. This \$60million water infrastructure asset achieved an Excellent IS V1.2 rating. This project achieved an Excellent IS v1.2 rating.

Reduction in steel from the base case was less than 1% across all projects, with the top performer achieving a 31% reduction and only a third of projects recording reductions.

LXRP NWPA - Bell to Moreland: 31% reduction in steel (4.053 tonnes). This \$542 million rail project achieved a Leading IS v1.2 rating with a score of 97.7.

Resource outputs (waste) diverted from landfill was extremely high, at 96% of total waste, amounting to 6,492,289 tonnes. 11 projects diverted virtually all resource outputs.

Five projects each diverted over 150,000 tonnes of resource outputs from landfill: Sydney Metro City and Southwest Tunnel and Station Excavation diverted 5,245,915 tonnes, Ipswich Motorway Upgrade (Rocklea to Darra) diverted 268,359 tonnes, M1 North - Sports Drive to Gateway Motorway diverted 202,373 tonnes, Melbourne Metro Tunnel Project - Early Works diverted 177,981 tonnes, and LXRP SPA Initial Works Frankston Line diverted 176,561 tonnes.

Office waste, such as paper and cardboard, was reprocessed at between 25% and 100% of total office waste, with an average of 44%.

Lower South Creek: Over 40 tonnes of office waste was diverted for reprocessing. This \$300 million water infrastructure project in NSW achieved an Excellent IS v1.2 rating with a score of 67.

Spoil re-use rates were high, ranging from 85% to 100% across the projects, for an average of 96%. relating to over 6 million tonnes of spoil.

Nine projects certified in FY22 achieved 100% spoil reuse.



Resource Efficiencies

Resource Efficiencies across IS Certified As Built certified projects FY18-FY22 (60 projects)¹

	FY18	FY19	FY20	FY21	FY22	ALL	ALL
Lifecycle materials emissions avoided (tCO2e)	29%	7%	5%	10%	16%	12%	1,004,131
Construction energy emissions avoided (tCO2e) ²	-3%	-1%	-46%	24%	8%	-5%	-129,958
Operating energy emissions avoided (tCO2e)	23%	9%	89%	5%	37%	60%	21,563,429
Lifecycle energy emissions avoided (tCO2e) ²	22%	7%	85%	6%	27%	55%	21,433,472
Construction energy use avoided (MJ)	6%	-7%	37%	40%	16%	28%	3,970,228,064
Operating energy use avoided (MJ)	79%	8%	23%	4%	29%	28%	70,543,066,377
Lifecycle energy use avoided (MJ)	74%	3%	23%	12%	28%	28%	74,513,294,441
Construction water use avoided (ML)	0%	10%	47%	55%	18%	36%	6,361
Operating water use avoided (ML)	47%	73%	49%	41%	25%	37%	13,205
Lifecycle water use avoided (ML)	36%	52%	49%	49%	24%	37%	19,566

¹ Changes in our data collation methodology have resulted in some differences between resource use totals and percentages compared with last year's report ² Includes additional sources such as land use change and fugitive emissions

GOAL 1: Leadership | Kaitiakitanga

Lifecycle Materials Emissions (tCO2e)

Lifecycle materials for As Built projects are used for construction, maintenance and operation of the asset for their entire service life. Most materials-related GHG emissions occur through use of aggregates, concrete and steel and the transportation of materials. Most of these relate to the construction phase, rather than the use phase. Opportunities for materials emissions reductions are found through the initial choice of infrastructure type to address the identified social need, the design solution selected, innovations in construction processes and materials manufacturing processes and use of recycled materials.

Parkes Water Treatment Plant: 16% reduction in lifecycle material emissions equating to 160,999 tCO2e.

Sydney Metro City and Southwest Tunnel and Station Excavation: 35% reduction in lifecycle material emissions (153,537 tCO2e)

Melbourne Metro Tunnel Project - Early Works: 28% reduction in lifecycle material emissions (6,328 tCO2e). Contributing to their Leading IS v1.2 rating on the \$324 million rail project.

Lifecycle Energy Emissions (tCO2e)

While lifecycle materials GHG emissions are incurred mostly during construction, the opposite is true for energy GHG emissions, with just 4% incurred during construction and 96% incurred during asset use. in the case of road, by vehicles and operating systems, such as ventilation and lighting, and in the case of rail, by trains and rail and station supporting systems, during the service life of the asset, which may be 50 years or more. Our data show that construction energy choices, while important, have a limited effect on lifecycle energy GHG emissions compared with the choice of asset and the design of the solution.

Lower South Creek: 43% reduction in lifecycle energy emissions (mainly operational energy) against the base case equating to 604,928 tCO2e.

High Capacity Metro Trains: 18% reduction in operational energy emissions (60,234 tCO2e). This \$300 million metro project in Victoria achieved a Commended IS v1.2 rating.

Sydney Metro City and Southwest Tunnel and Station Excavation: 39% reduction of construction energy emissions (55,291 tCO2e).

Lifecycle Energy Use (MJ)

While on average most energy use occurs during infrastructure asset operations and use, for some projects the opportunity to reduce constructionrelated energy can still be significant. Operating emissions and energy use profiles diverge with the electrification of transport, as GHG emissions will substantially reduce through use of electric vehicles.

The Great Northern Highway: 48,193,476 MJ construction energy reduction against the base case. This \$320 million road project in Western Australia achieved a Commended IS v1.2 rating.

LXRP SEPA Toorak Road: 15,692,964,069 MJ lifecycle energy use avoided in the \$89 million rail project in Victoria.

Lifecycle water use (ML)

Water use on As Built projects demonstrates an approximately 40:60 ratio between construction and operational phases. Water is used by contractors to compact road layers, for dust suppression, to washdown plant and equipment, for landscape watering and for site amenities. Operational water use includes landscape watering, HVAC and deluge systems and bathroom facilities. Additional water footprint aspects e.g. in materials and energy production, are not yet measured in the IS Rating credits, but may emerge in the future.

City Rail Link Enabling Works (Contract 1) achieved 59% reduction in lifecycle (mainly operational) water use equating to 1,244 ML. This \$350 million metro project in Aotearoa New Zealand achieved a Leading IS v1.1 rating.

LXRP NWPA – Bell to Moreland: 59% lifecycle water use avoided (846 ML). This \$542 million rail project in Victoria achieved a Leading IS v1.2.





LEADERSHIP OBJECTIVE 3: GLOBAL REACH

Objective	What Success Will Look Like
Develop enduring relationships with global governments, investor and private sector partners	The Infrastructure Sustainability Council focused its activity locally by anchoring the IS Rating Scheme and more comprehensively comparing sustainability performance in Australia and Aotearoa New Zealand, for all assets. The Infrastructure Sustainability Council has been able to expand its view to connect more with its global peers and deliver sustainability outcomes through international partnerships. All infrastructure - urban and regional, large and small, new and aging - is delivering more for communities.

While the Infrastructure Sustainability Council is focused on sustainability performance in Australia and Aotearoa New Zealand, it continues to invest in enduring relationships with global partners. Activities over FY22 included:

- Released Thriving Nations in partnership with Urbis. Urbis calls for the need to address global infrastructure barriers. These barriers include industry fragmentation, subjective decision-making, risk aversion and sectoral capacity.
- Collaborated to form the World Sustainable Infrastructure Forum; a collective of infrastructure sustainability standards, united to advance the sustainable infrastructure movement globally. Partners include the Institute for Sustainable Infrastructure, BRE Group, Global Infrastructure Basel and GRESB.

- Engaged in intentional dialogue on climate risk with other global partners and stakeholders, including the World Green Building Council.
- Welcomed a growing number of IS Accredited Professionals across the Indo-Pacific region.
- Completed rating diagnostic in South East Asia to deploy the IS International Tool, including governance, capability and commercial needs.
- Contributed to international webinars, blogs and publications.
- Attended briefings with international delegations, associations and other peak bodies.











Enable the industry to be connected, collaborative and ambitious

THRIVING INDUSTRY OBJECTIVE 1: COLLABORATION

Objective	What Success Will Look Like			
Encourage industry to collaborate and act by showcasing leadership, sharing knowledge and building relationships	As a result of the Infrastructure Sustainability Council's membership program, members connect and collaborate by sharing deeply valuable, granular knowledge about how they have delivered better outcomes. The Infrastructure Sustainability Council's ISupply database is a well-utilised online directory that accelerates mutually beneficial supplier relationships.			
	The Infrastructure Sustainability Council provides a range of flexible training offerings to its members that deliver the desired learning outcomes for its multi-disciplinary audience.			

The Council provides a collaborative environment for industry stakeholders to foster knowledge sharing, learning and support. The sector includes highly skilled and experienced individuals, with considerable levels of expertise across diverse areas. It is important for people to feel connected and share information so that everyone has access to all available knowledge, learnings, successes, challenges and innovation.

Successful collaboration during FY22 included:

- Facilitated engagement at every opportunity.
- Attended local, regional and national events to listen and contribute.
- Shared content amongst members, ISuppliers, project managers, business and organisational leaders.
- Celebrated success stories.
- Monitored learning and development programs with regular improvements based on results, feedback and observation.
- Identified better and more diverse ways of collaborating across multiple channels.

ISupply Directory

To facilitate greater levels of collaboration the Council maintains and actively builds the ISupply Directory. This directory connects sustainable suppliers with projects and assets involved with the IS Rating Scheme. At the end of June 2022, there were 59 ISupply members listed on the directory - a number that continues to grow.

Creating the best possible experience for people accessing the directory, and user experience redesign navigation on the ISupply website, ensures it is more intuitive and user friendly. Additional ISupply support and training has been put in place to improve onboarding and more effective collaboration with asset owners, contractors and procurement departments.

The Lifeblood of Collaboration

The lifeblood of industry collaboration is face-to-face events, where people from across the sector can connect in person. Recently, annual conferences have been held across Australia and New Zealand, with record market support, attendance and speaker diversity.

	Attend
ReConnect Conference – March 2022	507 in-
ReConnect NZ Conference – June 2022	227 in-
Webinars FY22	1196
Other Events	785

For example, we held an in person symposium in Western Australia and certification events held in Perth and Melbourne. We celebrated International Women's Day across Australia and New Zealand and hosted two panel discussions and a workshop during the inaugural Auckland Climate Festival. The event showcased 8 member 'ambassadors' and linkages between the IS Scheme and Treasuries Living Standards Framework.

ISC Event Testimonials

'Absolutely superb event, well m			
hugely valuable event for our su			
from the team and			
flave to quite a work of a			
I go to quite a number of e			
enjoyable and li			
'Really enjoyed the day - lots of			
broad cross-sect			

lees
-person and virtual
person and virtual

nanaged, incredible speakers, and a stainability community. Super effort can't wait to attend the next event.'

events – this was amongst the most nteresting I have attended in years.'

good opportunity to network with a ion of people across infrastructure.'

GOAL 2: Thriving Industry | Kotahitanga

THRIVING INDUSTRY OBJECTIVE 2: CAPABILITY

Objective	What Success Will Look Like		
Build a stronger infrastructure workforce by developing skills and capabilities, and providing tools and resources	Our industry is more skilled, capable and empowered to serve the current and future societal needs of infrastructure. Building a stronger infrastructure workforce through deep technical capability and cross discipline competencies which establish sustainability as a career with guided and supported professional development.		

The Infrastructure Sustainability Council aims to leverage knowledge to create a more skilled, capable and empowered workforce that can achieve better outcomes. Unfortunatley, substantive capability is not met by the current skill set. We strive to expand workforce skills by demonstrating greater expertise in areas such as technical insight and cross discipline competency.

The best way to acquire greater expertise is through learning, whether it be formal, informal or experiential. The Infrastructure Sustainability Council works with individuals and organisations to strengthen their skills and capabilities through training courses, programs, internships, mentoring and professional development.

	Attendees	Growth
Total Training FY22	1,059	138%
ISAP Training	609	96%
Rise Mentoring	38 (19 mentors and 19 mentees)	Not offered previously
Rise Mentoring	38 (19 mentors and 19 mentees)	Not offered previously

ISAP - Infrastructure Sustainability Accredited Professional IST4P - Infrastructure Sustainability Training for Professionals





Our Training Portfolio

IS for Professionals Pathway

In April 2022, the IS for Professionals course was replaced by a series of courses to create a pathway to ISAP accreditation. The ISAP accreditation is a flexible learning pathway that provides learners with the opportunity to gain accreditation in three rating tools (IS v1.2 Design and As Built, IS v2.1 Design and As Built, and IS for Operations).

Since release, participant numbers have been steadily increasing.

IS Foundations

IS Foundations is a short and on-demand course that allows participants to independently complete the 3 modules online without a facilitator. It introduces the mindset required for societal change in the context of infrastructure, as we move away from asset creation and into asset impact.

The course provides examples of sustainability outcomes achieved through the application of the IS Rating Scheme. The course also outlines the high level processes required to undertake and ultimately administer a rating.

IS Foundations was undertaken by 247 individuals, with 36% of those individuals completing accreditation as an ISAP in FY22.

Leading Culture Change

Leading Culture Change is more than a typical 'change management style' course. Change is directed towards a shift in organisational and project culture, and the course is designed to empower individuals to lead without authority.

The course involves case studies of Industry leaders and exposes participants to common and not-so common barriers routinely encountered when driving change. The course explores the behaviours and attributes required to overcome barriers.

> 'Hearing examples from other participants reassures us that we are on a similar journey, and we can bounce ideas off each other. The case study was a good example of how things went wrong.'

Project Manager, course participant, Leading Culture Change



The Public Works Training Partnership

The Infrastructure Sustainability Council is at the forefront of training and learning about infrastructure sustainability. A recent example is the training package that the Infrastructure Sustainability Council was engaged to design and deliver for Public Works NSW as part of their preparation to commence a project under the IS Essentials rating tool.

This training package helped develop multidisciplinary infrastructure sustainability capabilities for employees across several areas and levels of the organisation. The result - employees were upskilled in sustainability principles and processes, and adopteda pro-sustainability mindset to achieve positive and outcomes.

Training Package Objectives

- 1. To strengthen commitment to sustainable infrastructure.
- 2. To use real-world examples of outcomes driven by sustainability to inform procedures and processes.
- 3. To align Public Works strategy and targets within a sustainability construct.
- 4. To apply change management principles to sustainability initiatives.
- 5. To explore, using case study examples, how to drive and lead culture change, with change being the shift from asset creation to asset impact.

Training Package Executive Team Workshop

The Infrastructure Sustainability Council's Chief Delivery Officer, Patrick Hastings, led an in-person *IS for Executives* workshop as part of the Public Works training package. The workshop examined what sustainability means for an organisation and how it relates to projects.

Workshop topics included:

- Exploring sustainability drivers across industry and at project level
- Examining how to embed sustainability practices into contracts
- Investigating long and short term direct and indirect returns on investment that include sustainability practices.

Public Works' have demonstrated a commitment to development and implementing internal infrastructure sustainability capabilities. They have invested in employees to complete an IS for Professionals pathway and ISAP accreditation. The Infrastructure Sustainability Council supports Public Works' demonstrated leadership in learning and recognises their significant contribution to the building of a thriving industry.

Training Testimonials

"Fantastic and great information. I am uplifted by this inspirational course."

An IS for Manager's participant

"You have done a great job pairing me with my mentor. We have already had a handful of meetings and her knowledge and experience is extremely relevant to my current role and professional skill set. I am looking forward to the rest of the program and learning from my mentor."

A RISE Mentoring participant

"I definitely felt comfortable to ask questions no matter how simple they may have seemed. I also liked how the course was structured, with 4 hours of online learning over two weeks." "The trainer was a great facilitator, and this definitely contributed to my overall 10/10 scoring for the course. He regularly asked if we had any questions or comments and he was able to relate course content to real examples through his own experiences, as well as ask if anyone else had examples they wanted to share."

"Being online has its challenges, but this was a good amount of time to learn, absorb and progress through the training without it seeming rushed."

A Leading Culture Change participant

THRIVING INDUSTRY OBJECTIVE 3: MEMBERSHIP

Objective	What Success Will L
Evolve the membership model to amplify value for all	The Infrastructure Sustain provides different member tailored to their needs. As the entire infrastructure va

Infrastructure Sustainability Council members are at the cutting edge of change. In recognising this, the Council strives to provide all members with industry leading tools and resources, which are specifically designed to be incorporated into organisational processes and systems and to improve performance.

In FY22, 70% of members opted for the premium offering, valuePLUS. Such high uptake is indicates the commitment of industry to improved sustainability performance as supported by training, engagement, advocacy working groups and round table events.

Attendance in the annual engagement program has never been higher and participant satisfaction is well-above the industry average. Similarly, member participation in the learning and development program has grown substantially.



Look Like

inability Council has a tiered membership model in place that bers with benefits, tools, knowledge and opportunities that are As a result, the membership is strong, valued and representative of value chain.









Advocate for change that supports industry to rapidly transition

MARKET TRANSFORMATION OBJECTIVE 1: ORGANISATIONAL CHANGE

Objective	What Success Will Look Like		
Support members to integrate change through organisational strategy and operating procedures	The Infrastructure Sustainability Council members have become highly successful change agents. They have improved performance by integrating sustainability throughout their organisations by using the tools and resources developed by, and with, the Infrastructure Sustainability Council into the processes and systems used.		

FY22 saw a 147% growth from FY21 in certifications under the IS Rating Scheme, with a total of 47 ratings delivered. The scheme creates benchmarks for industry to drive performance and deliver sustainable outcomes. Each project is rated against the potential 100 points available, with a further 10 points for the optional innovation credits.

There was significant improvement in IS v1.2 project certification scores in FY22. Leading certifications tripled from 8 in FY21 to 26 in FY22 and Excellent certifications increased from 9 in FY21 to 16 in FY22.

Certifications by award level	FY18	FY19	FY20	FY21	FY22	TOTAL
Gold IS v2.0	0	0	0	1	1	2
Silver IS v2.0	0	0	0	1	0	1
Bronze IS v2.0	0	0	0	0	1	1
Leading IS v1.2	4	3	9	8	26	50
Excellent IS v1.2	5	13	12	9	16	55
Commended IS v1.2	0	1	1	0	2	4
Leading IS v1.1	0	0	0	0	1	1
TOTAL	9	17	22	19	47	114

INNOVATIONS

10 additional points are available in the IS Rating Scheme for innovation. This credit rewards innovation in technologies, processes or methods, as well as evidence of market transformation related to sustainability outcomes and defined innovation challenges. The Infrastructure Sustainability Council rewards first innovations in technologies, processes or methods, which deliver significant sustainability benefits, at the regional, national or world level.

FY22 Innovations Snapshot

- 41 Regional First.
- 30 National First.
- Four World First.

This demonstrates a significant increase from FY21, with almost double the number of 'First' innovations awarded in each category.

Level of Innovations	Number FY22	Total FY18-22	% Growth on FY21
Regional First	41	87	242%
National First	30	76	88%
World First	4	7	100%

Innovation Examples

The M1 Pacific Motorway Upgrade Palm Beach to Tugun achieved an Australian first for their Invertebrate sensitive road design. While holistic fauna sensitive road design strategies and enhancements are another key outcome of the project (including structures such as culverts with fish passage and an extensive fauna underpass and fauna furniture), the additional focus on enhancing vulnerable invertebrate species and their habitat demonstrates the project's significant commitment to sustainability and leaving a lasting legacy.

Monash Freeway Upgrade (Stage 2)

achieved an Australian first for their use of Hydro Demolition Water Recycling, an innovative technology that enabled them to greatly reduce the potable water used during construction. The process recirculates and reuses 100% of the water used for hydro demolitions. This process requires the water cart to be filled up only once instead of everyday during construction. LXRP SPA – Additional Works Package 1 achieved an Australian first for the use of a new storm water inlet filter mat. The product is a drain filter mat that uses magnets to attach to metal grate lids on drainage pits. This product is known as "Blackhawk" and improves economic, social and environmental aspects of maintaining and protecting water quality during construction works. The product eliminates the need to install under grate filters of aggregate-filled silt socks to protect pit drains.

LXRP SEPA Toorak Road achieved an Australian first for the use of Emesh. This Fibercon product is made from 100% recycled plastic fibres and replaces the requirement for steel reinforcement in nonstructural concrete application.

MARKET TRANSFORMATION OBJECTIVE 2: SYSTEMIC CHANGE

Objective	What Success Will Look Like	
Mobilise industry leaders to advance policy, standards and specifications for low carbon, resilient, inclusive infrastructure	The Infrastructure Sustainability Council has effectively partnered with others to advance policy, standards and specifications. This promotes and advances planning, procurement and practices that enable low carbon, resilient and inclusive infrastructure. It has successfully established a sound delivery model that has enabled this important work.	

To address causes rather than symptoms of environmental and sustainability issues, the Infrastructure Sustainability Council advocates adjustments, modifications or transformations in the social norms, power dynamics, policies and procedures, and mindsets that underlie the issues at stake.

The Council has a three-pronged approach to accelerate change in industry ambition, alignment and action. The aim of the approach is to deliver low carbon, resilient and inclusive infrastructure. It includes:

- 1. Research and policy
- 2. Engagement
- 3. Partnerships

Partnerships

Advancing Use of Recycled Content

Department of Climate Change, Energy, the Environment, and Water.

The Council partnered with DCCEEW to explore how infrastructure can support the transition to a circular economy, particularly through its use of recycled content in products and materials. One of the most significant outcomes of this partnership was the development of an *Innovation Challenge*, which incentivises increased use of recycled materials in projects.

In addition to launching the *Innovation Challenge* and recruiting 7 pilot partners, the Council also undertook research of the barriers and opportunities for recycled content in infrastructure. The report investigated current business-as-usual practices and the perceived barriers and enablers to increasing uptake of recycled content.

The strategic partnership will continue to facilitate ways to mobilise industry leaders and to find and develop new ways to recycle more content. Through feedback, the partnership will also review and improve processes to identify potential opportunities and barriers.

Net-Zero Through Our Pipeline

In collaboration with Australian Constructors Association and Consult Australia, the Infrastructure Sustainability Council, with support from Autodesk, launched the *A net-zero future: Delivered through our Infrastructure Pipeline*. This initiative calls for a wholeof-business systems approach across asset lifecycles to accelerate the transition to net-zero. Real-world case studies are shared, with the aim to inspire and guide project teams as they undertake the journey to utilise, adapt, scale and accelerate innovation further.

"Strong leadership and collaboration across the industry is going to be required to achieve accelerated net-zero and keep our sector globally competitive," Nicola Grayson, CEO of Consult Australia

Place Based Approaches to Net Zero

In March 2022, the Infrastructure Sustainability Council, in partnership with Mott MacDonald, released *Place-based approaches to net-zero*. This report calls for a shift in our approach towards infrastructure and net-zero. It focuses on towns, cities and regions, rather than assets, sectors and materials as a way to accelerate decarbonisation as a network, rather than individually. By identifying the unique challenges and opportunities each region faces, when looking for solutions, the report is a callto-action for the industry to lead by example.

Journey to Net Zero

The Journey to Net-Zero – Inspiring Climate Action in the Australian Transport Sector report was delivered as part of an industry first partnership between Australasian Railway Association, Roads Australia and the Infrastructure Sustainability Council. The report showcased a series of actions for the transport sector in their journey to net-zero.

There is consensus between the authors that the goal cannot be achieved alone and that collaboration is needed. Co-authored with KPMG and with support from ARUP, the report identified key action areas, including a national approach to transport, collaboration, and efficient, sustainable, resilient policies.

World-class infrastructure for thriving nations

Delivered in partnership with Urbis, the Advance our Nations, Fair – World-class infrastructure for thriving nations calls for the industry to examine the relationship between world-class infrastructure and thriving nations. The report identified the infrastructure sector as a major player in addressing some of the significant challenges of our time and having the ability to deliver investment returns to thriving nations. Industry fragmentation, subjective decision-making, risk aversion and sectoral capacity were all identified as key barriers, with the need for a new order of leadership and technology to address these challenges.

Common accessible embodied emission accounting

NSW Department of Planning and the Environment

Through a partnership with DPE, the Infrastructure Sustainability Council delivered the first of our digital tools in FY22. The IS Materials Calculator is the first step in digitalising all IS Rating Scheme processes – allowing for increased efficiency. The partnership ensures we continue to scale best practice measurement and uptake of low emissions construction materials.

Reimaging Infrastructure: Breaking the Bias

In February, The Council launched a co-branded thought-leadership paper authored by Tonkin & Taylor titled 'Breaking the Bias'. The purpose of this paper was to highlight gender biases in urban design and transport infrastructure in Aotearoa New Zealand and Australia and issues specific to our Pacific neighbours. The paper also looked at the wideranging impacts breaking biases could have and how to address them.

Coalitions

Modern Slavery Coalition

In 2017, the Australian Human Rights Commission announced the release of a *Statement of Support*.

This Statement was signed by industry organisations, including the Infrastructure Sustainability Council, and it called for the development of legislation to put a stop to modern slavery. In response, the Infrastructure Sustainability Council formed the Modern Slavery Coalition to address implementation and legislation across the industry.

FY22 has seen the Modern Slavery Coalition move its focus. Previously, the coalition was focused on responding to disclosure requirements. Now, the direction has shifted to a proactive problem-solving, with the coalition looking to eradicate modern slavery in the infrastructure industry.

Over the course of this year, the coalition has held webinars, hosted expert presentations, and drafted a statement of commitment and a supplier risk tool. The group also sponsored and participated in a panel discussion at the *Infrastructure Sustainability Council Reconnect Conference* in March.

New Coalitions

Three new member coalitions have been established. The potential benefits to be gained from these coalitions is limitless, as they bring together the brightest minds from industry to address the biggest and most important issues. No one can solve complex issues on their own – but through collaboration of co-design and co-investment, any problem can be realised and addressed.

The Council went to market with the following coalitions in FY2022:

- Climate Action Coalition Climate action needs to be accelerated everywhere – in every town, city, region, state and country.
- Resilience Coalition

Systemic resilience in infrastructure needs to become the status quo to enable thriving lifestyles, communities and nations.

• **Circular Economy Coalition** Championing the transition from a linear economy to a circular economy business model in infrastructure.

During FY23, the Infrastructure Sustainability Council anticipates each coalition to expand in size and impact. Expressions of interest from potential member candidates are being collected, with a view to increasing the effectiveness of the coalitions to drive change and achieve goals.



GOAL 3: Market Transformation | Hurihanga

Engagement

Active engagement with government and industry saw the adoption of the sustainability and resilience agenda in the Infrastructure Australia Plan and Assessment Framework. Through ongoing sunmissions and consultations, conversations and reviews, the Infrastructure Sustainability Council has progressed our purpose through engagement over FY22.

FY22 Advocacy Snapshot

- Government consultation for Infrastructure Australia Plan.
- National Climate Adaptation and Resilience Strategy.
- Inquiry for procurement practices.
- Federal, QLD, NT, WA and NSW Infrastructure strategies.

- Victoria Sustainable Investment Guidelines.
- 17 working groups including MECLA and ACE Hub.
- Engagement with a range of reform and policy agendas in Aotearoa New Zealand, including climate change, consenting and three waters reform.
- Te Waihangas 30-year strategy.
- NZCCC Draft Advice.
- Natural and Built Environments Act (NBA) exposure draft.
- Draft National Adaptation Plan.
- NZ Modern Slavery and work exploration proposals.
- Taking responsibility for Our Waste.

Climate Action Position

In March, the Infrastructure Sustainability Council released an updated Climate Action Position. Confirming our focus is on more than just decarbonisation, this document also includes resilience, economic opportunity, sustainable investment, regenerative approaches to our landscape, and a just transition for people and partners.

The Position outlines a commitment from the Infrastructure Sustainability Council to work with our community and industry to set a trajectory to reach at least a 50% reduction in real emissions by 2030.

	ADVOCATE	ACCE
Outcomes	 Mutually beneficial partnerships to achieve alignment, efficiencies and leveraged outcomes. Harmonised planning and policy for systemic and incentivised change Consistent measurement and investment in resilient and adaptive measures. Principles for a just and responsible transition 	 Wider upt. solutions f user- relat Growth in capability infrastruct Increased and uptak technolog
Priority Actions	 Research to demonstrate the role of infrastructure in ensuring just and sustainable decarbonisation of lifestyles, communities and economies. Build organisational capability and commitment to accelerate net-zero. Resilient and adaptive 	 Recognise sustainab and mana enables a no carbor (e.q. inclu public, sh transport change). Establish measuren to track en reduction

planning, measurement

regenerative outcomes.

and investment,

with preference for

Develop a ereduction hit the sector, was an option resort while develops.

carbon bu

LERATE		SCALE
ke of known or enabled/ ed emissions. ndustry hroughout the ire workforce. nvestment e of net-zero v & innovation.	•	Design, construction ar operational delivery of real zero emissions by a infrastructure. Resilience & adaptive capacity planning by all infrastructure. Consistent carbon management embedde in whole of life asset management
e & reward e delivery gement that ternative low/ transport use ding vehicles, ared and active and behavior	7.	Reward uptake of renewables to achieve real zero energy emissions during construction and operational phases wit the aim that infrastruct becomes a net positive contributor in the long term.
ent approach nission progress (e.a. dget or SBTD. emission hierarchy for with offsets on of last	8.	Increase demand for no and low emission construction for a circular economy and encouraging certainty of demand to support investment in technolo and innovation.
e technology	9.	Democratised approad to climate action which considers interconnect outcomes across the quadruple bottom line

NET ZERO

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MARKET TRANSFORMATION OBJECTIVE 3: SOCIETAL AWARENESS

Objective	What Success Will Look Like
Showcase the social benefits of rated infrastructure to create greater public awareness and support	Across the infrastructure industry, the Infrastructure Sustainability Council communicates effectively through a clear plan and focused use of all its communication channels. The Infrastructure Sustainability Council consistently produces credible, understandable and engaging stories about successful sustainable infrastructure projects that are shared widely by those who campaign to raise broader societal awareness.

Public perceptions have a great deal of influence on how quickly and to what extent society and indeed our sector embraces change. The Infrastructure Sustainability Council shares and promotes authentic and engaging stories about successful sustainable infrastructure projects to create a greater public awareness about the social benefits that occur as a result of change, and emphasises the opportunities change offers.

Visibility – The Pathway to Success

The Council maintains a high degree of visibility by creating multiple contact points with stakeholders:

- Attending meetings with members and industry leaders; contributing to webinars; speaking at events as key note speakers, panellists or facilitators; and presenting at certification events.
- Using social media channels to engage in a number of World Days endorsed by the United Nations.
- Launching a co-branded thought leadership paper authored by Tonkin & Taylor titled 'Reimagining Infrastructure: Breaking the Bias. The purpose of this paper was to highlight gender biases in urban design and transport infrastructure in Aotearoa New Zealand and Australia and issues specific to our Pacific neighbours. The paper alsoconsidered the wide-ranging impact of breaking bias and how to address positive change.
- Running social media campaigns focusing on:
 - o International Women's Day
 - o Financing Sustainable and Impactful Infrastructure
 - o The launch of the Infrastructure Sustainability Council RISE mentoring program

- o 18 Days of Christmaso 13 Days of Cop26
- Profiling Council members and IS projects across social media and marketing channels.
- Bringing awareness to public holidays by targeting campaigns, hosting programs and events, and celebrating FIRST NATIONS and Indigenous peoples:
 - o Māori Language week
- o Matariki
- o Reconciliation Week
- o NAIDOC Week
- o The launch of the Infrastructure Sustainability Council Inaugural Reconciliation Action Plan
- A content partnership with digital magazine and website *Infrastructure News* and *Roads and Infrastructure Magazine*.

We continue to build our online presence. Largely engaging with our audience through LinkedIn. During FY22 our online audience increased 31%.

	LinkedIn	Twitter	Instagram
Social media engagement Increase FY22	2,971	57	55
	Reactions	Comments	Shares
Engagement	9,285	352	381

• • • •

Senior Leadership Engagement

The Infrastructure Sustainability Council's senior leadership team engaged in events, conferences, panels, discussions and more in FY22. Some of these events included:

- The Sydney Morning He Infrastructure Summit joining the panel to disc planning for and achiev sustainable outcomes f new, redeveloped, and reutilised infrastructure.
- The Australian Financia Review Infrastructure Summit panel on Creat resilient infrastructure
- Infrastructure and Projection
 Financial Authority to discuss Sustainability, Transportation
- The American Chambe Commerce - – Explorin Road from Oil to Energ
- The Australian Circular Economy Forum

 Presentation on Infrastructure Sustainal Council and the IS Rati Scheme.
- Local Government Professionals Australia Leadership Summit.

erald • cuss /ing from	 The Age Infrastructure Summit – Panel discussion on embedding ESG best practice into the infrastructure industry.
•	Future of Construction Summit.
al .ing	Engineering, Innovation and Technologies Forum.
ect Tech	Civil Contractors New Zealand Sustainability Survey Panel, regional and national conferences.
rs in r of ig the v.	 The Infrastructure Sustainability Council "Levers for Change" Sustainable Finance Webinar.
	Inaugural Auckland Climate Festival "Aspirations to Action" event.
bility a	Queensland Smart Energy Summit.
-The	 Roads Australia Transport Summit – Panel discussion "Spotlight on Sustainability"

Organisational Health | Manaakitanga

ALC: N

T







Be a purpose-led inclusive and high performing organisation

ORGANISATIONAL HEALTH OBJECTIVE 1: OPERATIONS

Objective	What Success Will Look Like
Enhance operational efficiency, practice good governance and make sound financial decisions	The Infrastructure Sustainability Council's operations are sound and sophisticated as they are built upon robust and straightforward technology solutions. Everyone is committed to professional learning and personal growth, which matches their aspirations and supports the organisation's ongoing success

As part of our ongoing brand evolution we became the Infrastructure Sustainability Council in August 2021. This decision was made to promote our growth and development and to better encapsulate our vision, identity and purpose. Importantly it respectfully acknowledges the commitments and contributions from our members and stakeholders in Aotearoa New Zealand. The change also recognises that we intend to operate in countries beyond our current geographies.

A significant part of this evolution occurred in December 2021, with the refreshing of our Strategic Plan. The plan has been designed to successfully address short-term challenges, as well as promote long-term resilience.

Changes to the Board

In 2020, we adopted a modern constitution to promote transparent internal governance and to protect our strong and evolving management framework. In particular, we ratified a provision for dedicated Aotearoa-based Board directors.

To deepen the skills base and focus on strategic areas of growth, the Board Market Development Committee appointed four new co-opted members: Adam Roberts, Anne Hellstedt, Brett Joyce and Rekha Kharbanda

Digital Evolution

Our digital transition continues with investment across the business designed to maximise the value delivered by the ISC. We have undertaken major IT transformation to establish a learning management platform, rebuilding the website and ISupply directory, digitising tools within the Rating Scheme, making advancements in member interface and optimising operational workflows including an HRIS.

ORGANISATIONAL HEALTH OBJECTIVE 2: PEOPLE AND CULTURE

Objective	What Success Will Lo
Celebrate diversity, value well-being and together create change towards the United Nations Sustainable Development Goals	The Infrastructure Sustainab its purpose. It has an inclusive environment by always collal The Infrastructure Sustainab highly selective in choosing p is a culture of listening to div a genuine appreciation and n outcomes. Infrastructure Sus and happy team, as measure

Our organisational culture lives and breathes through the people who invest in it. At the Infrastructure Sustainability Council, we are proudly driven by a strong sense of purpose where we support each other and play to our strengths. FY22 was a year of growth, where we continued to build our capability to support the sector.

We offer our people an inclusive and flexible working environment.

- Our commitment to equal opportunity is reflected in our annual employee engagement surveys, with high performing and improving scores in almost every category.
- Our highly engaged team shares their feedback through monthly pulses.
- 23% of our team choose to work part-time.

We celebrate our cultural and geographic diversity as we collaborate to provide exceptional service.

- Our team herald from 13 different nations.
- Our organisation spans 11 cities throughout Australia and Aotearoa New Zealand.
- We are committed to building the capability and capacity of our team to ensure that we can provide the highest level of support and leadership to industry.

	Number	% Growth
Employees	39	34%
Employee satisfaction	4.04 out of 5	2%

.ook Like

ability Council continues to be deeply and proudly driven by usive, high performing team who thrive in an ever-changing llaborating and supporting each other to perform at their best. ability Council team enjoys the challenge of their work, by being g priorities, being accountable and supporting one another. There diverse views, encouraging robust open discussions, and there is d respect for the organisation's decision making processes and Sustainability Council sets the standard for industry with a healthy ured by a dedicated key performance indicator.

In acknowledging the importance of people and culture and the impact they have on the Council and the sector; this year marked the inaugural CEO Values Award Initiative. This initiative recognises the exemplary efforts of our people to demonstrate our values of Responsible | Dynamic | Collaborative in all interactions, on a day-to-day basis.







Responsible

Tyrel Momberg Technical Manager

Dynamic

Hayley Grieves Head of Learning & Capability

Collaborative Carolyn Gibbs Partnership Manager



ORGANISATIONAL HEALTH OBJECTIVE 3: OUR IMPACT

Objective	What Success Will Look Like
Plan, implement and measure our impact and well-being as an organisation	The Infrastructure Sustainability Council tracks its impact towards the United Nations Sustainable Development Goals that its members have identified as critical to success. It has aligned its work output to these goals significantly, which increases its ability to deliver on these goals and to lead by example

Sustainability Strategy

The Infrastructure Sustainability Council has prioritised aligning work output to the United Nations Sustainable Development Goals (SDGs). Our threeyear *Sustainability Strategy*, with the first phase due for completion in FY23, gives us direction in embedding SDGs in our operational delivery – in particular, through the IS Rating Scheme.

We continue toward our target of a net-zero organisation by proactivley reducing our operational emissions to the greatest extent possible and offsetting the remainder. We are in the process of establishing new baselines to measure our operational performance and solidify sustainable practicies within our organisational culture.

In choosing speakers and panellists at Infrastructure Sustainability Council events, we couple diversity and inclusivity. We provide a platform for guest speakers and exhibitors and we support event sustainability and recycling practices, such as waste reduction policies.

Reconciliation Action Plan

We delivered our inaugural Reconciliation Action Plan (RAP) in FY22. We began our reconciliation journey with a REFLECT RAP, which is about scoping capacity for reconciliation and preparing for reconciliation initiatives in future RAPs.

The Council embraced the opportunity to explore our sphere of influence and develop stronger relationships with our existing Aboriginal and Torres Strait Islander stakeholders.

Over the next six years, we aspire to set a course that will lead to us being invited to partner with Reconciliation Australia to advance national reconciliation through an ELEVATE RAP – which is for organisations that have a proven track record and are ready for a leadership role.

We have an engaged and enthusiastic RAP Working Group, with participants drawn from across business units. This will ensure that our reconciliation commitments are embedded in our practice and inspire the work we deliver.

International Women's Day

Our IWD campaign for 2022 called on the sector to break bias together, to embrace differences, to build capability and to support a more connected, collaborative and inclusive industry. We asked the sector to imagine:

- a world where infrastructure is designed with all in mind;
- a world where more inclusive views are sought when delivering infrastructure;
- a world where the demographics of those delivering the infrastructure better represent the communities the infrastructure serves;
- a world where infrastructure is thought of not as just an asset, but also as a conduit that connects people and delivers on their aspirations.

We presented a launch video using these themes and in a social media campaign we showcased women across the sector leading up to the day. We partnered with Tonkin & Taylor to launch a thought leadership paper *Reimaging Infrastructure: Breaking the bias* and co-hosted facilitated panel discussions on each side of the Tasman that involved leaders from different sectors. These discussions were broadcast free of charge to registered people and videos of the discussions were subsequently published and shared on social media to engage a wider audience.





Pathways to Impact





Industry and Impact

The challenges facing our industry are not going to be solved overnight. Nor can those challenges be resolved alone. We must work collaboratively to overcome the barriers and explore the lessons learnt from others to drive capability and capacity in the industry. Knowledge sharing allows us the opportunity to empower others – reducing the learning curve and directing us all towards common goals. This Impact Report shares a number of outcomes and innovations delivered over the past 12 months.

The following section is inspired by the achievement of our members over the past year. We have collated a selection of case-studies showing innovation, outcomes and success across the industry. These stories share just a small snapshot of the work being undertaken by the infrastructure industry in Australia and New Zealand. We introduce these stories under four impact themes – Planet, People, Prosperity and Industry – examining how business outcomes could effectively contribute to the UN SDGs. _

These stories are collated from IS Rated assets, ISuppliers, ISC Members and our stakeholders in the industry. They represent a snapshot of activity and outcomes being delivered in the industry and are designed to inspire and motivate readers on their sustainability journey.

While we have organised the case stories around these four impact themes, each story shares multiple outcomes and covers all areas. Similar to how the infrastructure industry operates across all areas each and every day.

Impact Themes		Impact Pathways
		Low Carbon, Low Energy
PLANET	Taking climate action and protecting and regenerating our natural environment	Economy Conserved
		Ecosystems
		Regenerated Landscape
		Circular Economy
PEOPLE	Contributing to liveable communities with culture at their heart	Liveable Communities
		Culture and Sense of Place
		Engaged People and Communities
DDOODEDITY	Creating inclusive, thriving communities	Adaptive Capacity
PROSPERITY	and resilient economies	Measures of Socioeconomic Value
	Taking climate action and protecting and regenerating our natural environment	Sustainability-aligned Governance
INDUSTRY		Innovation and Knowledge Sharing
		Healthy, Inclusive Workforce
		Responsible, Agile Supply Chain

PLANET	Transport for NSW: Transition to electric to a emissions - Future Energy Strategy
	Losee Consulting Pty Ltd: Fauna connectivi Koala infrastructure
	Main Roads Western Australia: Tonkin Gap Prioritising responsible use and reuse of mater
	North East Link Project (NELP) (MTIA Grou climate targets to address emissions - ISC Ene Carbon Guidelines
	Boral: Exploring and implementing circular ecosolutions
	Link Alliance: Auckland City Rail Link - Susta demolition
PEOPLE	John Holland Group: Social Impact through employment and indigenous community engage
	Department of Transport and Main Roads ARUP: Linkfield Road overpass upgrade creat liveable community
DDOSDEDITY	Cirtex Industries Ltd: Kowai River Flood Rep
PROSPERIT	GHD: Incorporating sustainability in the conce Early planning to increase sustainability outcon
INDUSTRY	Bluescope Steel: Responsible Steel Certifica Standards - Kembla Steelworks
	Laing O'Rouke: Digital calculator
	Laing O'Rouke: Off-grid solar powered const
	Main Roads Western Australia: The Manuw Red Dog Highway - Implementation of a susta management system
	Urbis: Thriving Nations
	ecologiQ: Optimising recylced waste material
	Major Roads Victoria: Program delivery appr

Infrabuild: Sustainability Report

North Western Program Alliance: Powe

Case Study Impact Pathways

ic to address	#Low carbon, low energy use future
ectivity elements -	#Biodiversity conservation
n Gap Alliance - materials	#Shift to circular economy
Group): Using C Energy and	#Low carbon, low energy use future
ar economy	#Shift to circular economy
Sustainable	#Shift to circular economy
ough refugee engagement	#Liveable communities
oads with creating a	#Liveable communities #Creating a relevant sense of place #Place-based structural change
d Repair	#Transformational Structures and Process
oncept phase- utcomes	#Transformational Structures and Process #Sustainability-aligned governance
rtification	#Systemic change in industry sustainability #Sustainability-aligned governance #Workforce capability or inclusivity #Responsible supply chain #Innovation and knowledge sharing
	#Systemic Change in industry sustainability #Responsible supply chain #Innovation and knowledge sharing
construction site	#Systemic Change in industry sustainability #Responsible supply chain #Innovation and knowledge sharing
lanuwarra sustainability	#Sustainability-aligned governance #Innovation and knowledge sharing
	#Systemic Change in industry sustainability
aterials	#Systemic change in industry sustainability #Sustainability-aligned governance # Responsible supply chain # Innovation and knowledge sharing
/ approach	#Systemic change in industry sustainability #Sustainability-aligned governance #Workforce capability or inclusivity #Responsible supply chain #Innovation and knowledge sharing
	#Systemic change in industry sustainability #Sustainability-aligned governance #Workforce capability or inclusivity #Responsible supply chain #Innovation and knowledge sharing
er to the Program	#Sustainability-aligned governance

PLANET

ISSUES

Climate change and nature loss are twin crises for humanity; they are linked, occur simultaneously and accelerating towards tipping points beyond which system changes will be irreversible. A key driver of both these crises is land use change. The UN estimates a US\$4.1 trillion financing gap to meet targets on climate change, nature loss and land degradation¹. The finance sector must work to shift trillions towards ventures that are aligned to these goals, while key sectors, including infrastructure, must devise portfolios, programs and projects to address human needs in ways that reverse negative climate, biodiversity and land-use impacts. The circular economy is a key transition pathway and Net Zero is a key threshold.

CLIMATE CHANGE

PLANET

COP26 highlighted the need to urgently address emissions in high emitting sectors and take action to decarbonise the infrastructure sector – across the board. The IPCC's sixth climate assessment report released in February 2022 underlines this urgency. Hoesung Lee, Chair of the IPCC, states "This report is a dire warning about the consequences of inaction." Lee goes on to state: "It shows that climate change is a grave and mounting threat to our wellbeing and a healthy planet.³²"

Our climate is 1.4°C warmer in Australia and 1.1°C warmer in Aotearoa New Zealand than in 1910. Our sea levels are rising, causing coastal flooding and sandy shoreline retreat. Snow cover is decreasing, the fire season is longer and more intense, and the intensity, frequency and duration of extreme weather events are increasing. We must adapt.

The infrastructure sector is highly impactful on climate. Construction, operations and activities enabled by transport, energy, water, waste and communications infrastructures are significant. For example, in Australia, infrastructure contributes 15% directly and 55% indirectly to the country's annual greenhouse gas emissions, and many of these assets are likely to remain in use in 2050³.

While the sector is responding in a variety of ways smart design, net zero targets, carbon budgets, low carbon materials, renewable energy, alternative fuels, resource efficiency, alternative urban forms, green pricing and funding, carbon capture and storage, and nature-based solutions - more ambitious action is needed. We must reduce our negative impacts and become climate positive.

NATURE LOSS

When ecosystems diminish, effects are local and systemic. Australia has the world's highest rate of mammalian extinction, with more than 1,700 species known to be threatened or at risk⁶. In Aotearoa New Zealand, wetlands have declined 90% since people arrived; 22% of terrestrial species, 17% of freshwater species and 32% of marine species are at risk7.

A new global agreement to safeguard nature is expected to be adopted at the Convention on Biological Diversity COP 15 – to be concluded in Montreal, Canada in December 2022.³⁴ More than half of global GDP is nature-dependent, relying on ecosystem services, such as pollination, water purification and carbon sequestration. Science-based business targets that account for natural environment tolerances are increasingly important. We cannot just reduce impacts. We need to take restorative action and continuously drive towards nature positive.

LAND USE CHANGE

By 2050, 68% of the world's population will live in urban areas; in both Australia & New Zealand, more than 86% of the population already does³³.

Around 59% of Australia's landmass is used for agriculture, but this is slowly declining as climate change contracts food producing areas. Around 50% of the total land area in Aotearoa New Zealand is used for agriculture, forestry and housing. While urban land covers just 1%, urban expansion is outwards onto productive land, and areas of highly productive land swallowed by development have increased 54% since 2002¹⁰.

Supporting ecosystems services, quality of life and productivity to ensure 'good growth' is an imperative that requires a collective and planned approach.

RESOURCE EXTRACTION AND WASTE

Global materials systems are 90% linear, leading to continued extraction, mounting waste and land use change¹¹. The infrastructure sector must become more circular. The current approaches include life cycle analysis; efficient inventory management; lean construction: preventative maintenance: better sorting of waste streams; 3D printing; demolition and salvage strategies; and investment in new waste recycling facilities. We must move urgently to nextgeneration circular design and waste elimination strategies.

PATHWAYS TO POSITIVE IMPACTS ON THE PLANET

Pathways to Impact	Example Outcomes	SDG Tar
Low carbon, low energy use economy	 Use or generate renewable energy Minimise use of energy Reduce emissions to the full extent possible across the asset lifecycle Offset un-abatable emissions in ways that bundle positive climate, nature and social impacts Set and achieve science- based climate targets 	 7.1 Ensure in modern energy 7.2 Increase the global e 7.3 Double efficiency 12.c Rations encourage of distortions 13.3 Improviand institution adaptation,
Conserved ecosystems	 Reduce water use to the full extent possible across the asset lifecycle Improve downstream water bodies Protect and enhance ecosystems Avoid disturbing acid sulfate soils Set and achieve nature positive targets 	 6.3 Improve dumping an 6.6 Protect at 8.4 Improve decouple ec 14.1 Preven kinds, in par 14.3 Minimiz acidification 15.4 Ensure including the to provide bid development 15.5 Take undegradation and protect
Regenerated landscapes	 Reuse previously developed land Remediate contaminated land and manage contaminated material to eliminate risks to people Undertake ecological restoration projects that significantly improve ecological values 	3.9 Substar hazardous of contaminati12.4 Achiev chemicals a15.3 Comba soil, includir floods
Circular economy	 Create a resource strategy that targets zero waste and commits to sustainably certified products and supply chains Use products with strong materiality credentials Design-in adaptability and end-of-life disassembly Reduce lifecycle environmental and social impacts 	9.4 Upgrade them sustain and greater technologie 12.2 Achiev natural reso 12.5 Substa prevention,

gets



Transport for NSW: Transition to electric to address emissions -Future Energy Strategy

#Low carbon, low energy use future

Sydney Trains and NSW TrainLink services will become two of the first Australian public transport systems to transition to net zero emissions. A deal was struck to purchase renewable energy certificates in order to offset the use of electricity. The deal covers metro, intercity and regional services.

NSW transport minister, Rob Stokes, said a target of zero net emissions was achievable before 2025. which was the original deadline.

"Our rail operators have smashed the net zero target of 2025 by becoming the first heavy rail network in Australia to transition to completely green energy. Transport is one of the largest consumers of energy, and we are investing in renewables for a greener future for our customers and our state. With over 3,200 timetabled train services every weekday, our rail network is not only the vital lifeblood of NSW, but is now leading Australia's transition to a decarbonised public transport network." Rob Stokes, NSW Transport Minister

Transitioning to renewable electricity

Sydney Trains and NSW TrainLink are transitioning to renewable electricity for the electrified network, via the establishment of an offtake arrangement for Large Scale Generation Certificates (LGCs). This project has offset all scope 2 electricity emissions associated with these agencies' operations from 1 July 2021 to 31 December 2030.

The transport sector accounts for approximately 20 per cent of NSW's GHG emissions. Transport for NSW contributes around 6 per cent of total transport emissions, with approximately 90 per cent of emissions from rail and buses in 2019 (pre Covid). Sydney Trains and NSW TrainLink together use approximately 874GWh of electricity per annum, which equates to around 1.3% of the state's total electricity consumption. This puts Transport for NSW among the top 10 electricity consumers in the state.

Transport for NSW recognises the opportunity to lead, influence and support the movement of the entire transport sector through actions such as the adoption of new technologies, implementation of operational efficiencies, and a shift to renewable energy sources.

TfNSW Future Energy Strategy

Through the TfNSW Future Energy Strategy, they set themselves a target to transition to net zero emissions from electricity for heavy rail by 2025, but they adopted an ambitious accelerated net zero pathway to offset all electricity emissions going forward from 1 July 2021 - four years ahead of schedule.

Following the implementation of a new LGC offtake agreement to cover Sydney Trains and NSW TrainLink's electricity requirements until 2030, their electrified rail network is the first heavy rail passenger transport system in Australia to transition to net zero emissions from electricity. This has provided greater Sydney with a carbon neutral public transport option and makes passenger rail an even more sustainable transport choice.

Avoiding Emissions

This initiative has resulted in Sydney Trains and NSW TrainLink's operations being powered by renewable energy and reduced Sydney Trains' overall carbon footprint by approximately 98% and NSW TrainLink's by approximately 66%. The result has avoided emissions of around 700,000 tonnes of CO2 emissions annually.

The process toward emissions reduction was managed entirely by a dedicated internal project team which has resulted in enhanced skills and knowledge of renewables procurement and enabled an internal centre of excellence. Learnings from this project will be the platform for a Transport wide approach to Net Zero electricity in the years to come. In acknowledgement of the significant impact of this achievement, their project team were recognised as a Finalist in the NSW Banksia Awards, Net Zero Action Award.

Losee Consulting Pty Ltd: Fauna connectivity elements - Koala infrastructure

#Biodiversity conservation

Losee Consulting is a specialist consulting practice of sustainability specialists. They help Australia's largest infrastructure organisations and projects effectively address sustainability, environmental challenges and climate change. This support is in the form of help given to stakeholders to discover, develop and evaluate innovations that make a real impact.

Cause for concern

Koalas are now listed as endangered in Queensland, NSW and ACT (DCCEEW, 2022). Australia's five-yearly State of the Environment (SoE) Report found that the number of listed threatened species under the EPBC Act has risen for almost all taxa, including 105 extinctions (DAWE, 2021).

"We can expect further extinctions of Australian species over the next two decades unless current management effort and investment are substantially increased." - SoE Report



Figure 1 Number of species listed in the EPBC from 2011 to 2020

A solution

Among other pressures on fauna, linear infrastructure developments can fragment ecosystems, isolate populations and increase roadkill. Fortunately, ecologists and engineers are collaborating to adapt infrastructure to improve wildlife connectivity-and this is given impetus by the adoption of Infrastructure Sustainability (IS) ratings.

State and federal authorities have begun to require basic fauna connectivity elements as part of the mitigation of adverse impacts, such as faunal access through culverts.

Further innovative features can be incorporated into projects to maintain and enhance fauna connectivity.



With innovations including:

- Fauna overpasses, underpasses and rope bridges
- Refuge poles and fauna-safe fencing
- Planting to encourage fauna movement

As infrastructure projects are typically scoped and delivered within tight contractual bounds - often to ensure value for taxpayer investment – the encouragement of restorative action by the IS rating scheme is one of the few mechanisms bolstering ecological co-investment.

Taking the opportunities provided by infrastructure projects to restore landscapes and ecosystems can provide a positive impact. Going forward, we can enhance design and project elements to improve their efficacy and broaden their benefits, helping a wider range of species.



Main Roads Western Australia: **Tonkin Gap Alliance - Prioritising** responsible use and reuse of materials

#Shift to circular economy

The Tonkin Gap Project and Associated Works combines road and rail design, bringing together all Alliance partners including owner participants Main Roads WA and Public Transport Authority, with designers GHD and BG&E. and constructors Georgiou. BMD and WA Limestone. A collaborative Alliance model ensures opportunities for innovative and sustainable outcomes are discussed at management level with input from all parties.

One of the core values for the Tonkin Gap Alliance (TGA), throughout procurement, design and construction of the Tonkin Gap Project and Associated Works, is social and environmental sustainability. During every step they take, the team is committed to implementing the core values, which includes maximising outcomes through the responsible use and reuse of materials.

Circular Economic Model

A circular economy is a model designed to minimise resource input, as well as emission and waste production. It involves the refurbishing, recycling, leasing, reusing, sharing and repairing of existing materials and products as long as possible.

The principles of designing out waste and maximising the retention and use of recycled products and materials are integrated within TGA's way of working to maximise circular economy outcomes on the project locally and in line with regional resource strategies.

This transition to a circular economic model represents a return to common-sense principles, aiming to change the way they plan, design, construct and operate their assets and industries. This primarily involves the recognition of the value of resources and retaining them within their system to create environmental and social benefits from economic activity.

Sustainability from the beginning

For TGA, the focus on sustainability started at the beginning of the Alliance formation during the Expression of Interest phase and has been a priority ever since. As each new phase of the project commences, new types of opportunities become apparent.

It has been critical at each phase to have these opportunities identified and investigated to allow for implementation without re-work. In the early stages, this enabled project wide changes, leading to larger footprint outcomes, whereas in the latter phases of construction, opportunities are more focused on location specific initiatives, and in many cases, looking at small trials of untested technologies.

The TGA approach has been to consistently look to integrate circular economy principles, not only as part of design and construction, but by facilitating improved outcomes during tender and the procurement of sub-contractors. Key outcomes are shown in Table 1.



Initiative	Phase identified	Summary of implem
Crushed recycled concrete	Prior to tender	With trials completed in rec product was included withi expectations, and TGA has sub-base under all full dep environmentally sensitive a
Selby Park footprint	Tender	Reconfiguration of the ped between an interchange an to reduce the project footp
Temporary pier removal	Design	Through collaboration betw industry, the launch of the i Derbarl Yerrigan (Swan Riv without the originally plann One of the key component of an extended launching g longest used in Australia.
Recycled content retaining blocks	Construction planning	Alternative blocks for retair investigated in consultatior partners and adopted as p trial. The blocks contain red various sources, some white previously. Others are looki
Alternative mechanically stabilised earth wall options	Construction planning	Upon design review by the team, tilt up panel walls at were swapped out with lim where it did not detract from objectives.
Lower carbon concrete	Procurement	Concrete supply was split of for several reasons, includi a broader range of product for innovation. One of these provided a new, lower carb new footpath.

Table 1 Circular economy initiatives implemented or planned for the Tonkin Gap project

ntation

Benefits

ent years, this Main Roads adopted its use for h pavement outside

strian route d pedestrian bridge

een TGA and ew bridge over the r) was complete d temporary pier. s in this was the use irder, possibly the

ng walls were with industry rt of an innovative cled content from h have been used ng to be trialled.

construction one interchange stone blocks n the urban design

ver two suppliers g having access to and opportunities suppliers, Holcim, n mix as a trial in a ~30,000t used to date (June 2022) Local supplier Retaining materials in system Reduction in energy use **15 tCO**₂-e Virtually removed the need to encroach on local parkland Reduction in materials – 25t steel Reduction in energy - 16 tCO,-e Minimised disruption to users of the river Minimised environmental impacts in river 0-85% recycled content Diversion from landfill of various materials Innovation through industry engagement Reduction energy use 250 tCO,-e Reduction in material use 330 tCO,-e Cost and time savings in construction Reduction embodied energy 30-60%

Uses quarry overburden as aggregate replacement

Reduction in cement volume in mix



North East Link Project (NELP) (MTIA Group): Using climate targets to address emissions - ISC Energy and Carbon Guidelines

#Low carbon, low energy use future

The North East Link Program is Victoria's biggest ever road project – changing the way people move around Melbourne. As a result of more than four years of community consultation, designs for North East Link now include a longer tunnel, simpler underground interchanges, a tree-lined boulevard for Greensborough Road and more than 50 MCGs of open space including new, revived and reconnected parklands and wetlands.

Victoria's longest road tunnels will fix the missing link in our city's freeway network, take 15,000 trucks off local roads a day and slash travel times by up to 35 minutes.

The North East Link Program will also overhaul the Eastern Freeway with six express lanes for trips between Chandler Highway and Middleborough Road and new technology to keep traffic moving, complete the Ring Road and build a North East Trail with more than 34 kilometres of walking and cycling paths – nine more than originally planned.

Melbourne's first dedicated busway will make it quicker and easier to get to and from the city with an upgraded park and ride in Doncaster and a fasttracked park and ride in Bulleen.

Net Zero Emissions

In 2019, the North East Link Program published its Sustainability Objectives and Targets. The climate targets made it the first major infrastructure project in Australia to commit to being net zero emissions in operations and maintenance from day one of asset operations in 2028. High ambitions have been set in the construction phase too, with a commitment to 100% renewable electricity on the North East Link Tunnels package and a minimum of 50% on other packages of work.

The ISC Energy and Carbon Guideline was selected as the technical standard for guiding the net zero approach. As per the guideline, North East Link's approach goes above and beyond current industry practices by including the full range of scope 1, 2 and 3 emissions and applying the emissions reduction hierarchy approach which sees carbon offsets only being used as a last resort.

Setting targets early

Not only were ambitious climate targets set for the program – they were set early, before procurement of the program's delivery partners, to give the market early notice and certainty.

North East Link Program recognised that it was important to realise sustainability opportunities early in the project life cycle, which is why the program embedded sustainability outcomes into the procurement process. This included requiring tenderers to identify initiatives to meet the climate targets across the whole life of the project. On the North East Link Tunnels package of work, this has resulted in great outcomes including designs involving dimmable tunnel lighting and onsite solar generation, and a commitment to use electric vehicles for the tunnel maintenance fleet.

Supporting healthier and happier communities

To deliver North East Link we need to use some existing sporting grounds during major construction. Knowing that the significant effect this would have for many sports clubs, players and communities, we committed an initial \$68 million to upgrade sports and recreation facilities to relocate during construction.

North East Link worked closely with local councils, sports clubs, state sporting associations and schools to deliver game-changing sports facilities and keep local sports thriving while we build North East Link to provide communities with better facilities that can be enjoyed for many years to come.

Boral: Exploring and implementing circular economy solutions

#Shift to circular economy

Boral is well known as one of Australia's largest producers and suppliers of Cement supplying the building and construction industry across Australia. Boral also operates quarries, produces asphalt and concrete.

Recently Boral has expanded its services into Circular Materials solutions. Leveraging Boral's recycling assets and construction materials products. Seeking to enable circular economy outcomes for its customer base.

Boral's new Circular Materials solution leverages Boral's recycling assets and construction materials. Enabling circular economy outcomes for its customer base.

Boral has recycling operations at 12 sites across NSW and VIC. Receiving, sorting, processing, and developing new recycled products at more than 2.2mt pa; focused on Construction and Demolition materials streams such as concrete, brick and soils.

Early engagement with developers and builders during the design phase of the project is important to implement Boral's Circular Materials solution. Helping to change mindset away from the traditional way of doing business such as developers looking into materials generated through pre-construction (demolition and excavation) and construction phases (concrete washing). Seeing these products as resource that they own and therefore should look to the highest value solution, as opposed to seeing them as waste.

Boral is pleased to share that over the past 12 months, this change of mindset is increasingly taking place in the construction industry. Driven largely by regulatory incentives and society expectation translating into major developers and builders strengthening their sustainability targets. Opening new ways of doing business in order to achieve their targets.



BORAL WASTE AND BY-PRODUCTS INPUT TO BORAL RECYCLING

In Melbourne Boral has managed over 100kT of excavation stone for its civil contractor customers in the last financial year. The excavation stone is

Boral are also working on direct management of

Emu Plains recycling site where it is washed and

lower cost solution to customers.

excavation sand. Having managed over 200kT from

one of their major customers' pre-construction project

phases. The excavated sand is then brought to Boral's

upcycled for re-use into concrete mixes. This preserves

scarce fine sand resources in Sydney and delivers a

then accepted to quarry sites for reprocessing and preservation of scarce high-quality aggregates from virgin resources.

Boral believes this is just the beginning of the new norm for doing business. Aiming to maximise recycled content into Boral product range, as well as ensure they are offering the best circular management solution to its customers. Boral continues to invest in growing its recycling business nationally.



PLANET

Circular Materials solution (Pre & During construction)

Boral is currently implementing this solution on 3 projects with major developers and builders in Sydney. Across the projects, 50km³ of concrete have been supplied, pumped and placed, generating over 900 tonnes of concrete waste which have been directly managed by Boral. These 900 tonnes were recycled at Boral's Widemere recycling site achieving over 98%+ recycling rates, developing products that were then sold back into the construction industry and contributing to close to 20 tonnes of CO offsets. Case studies with customers have identified that the solution with Boral mitigates close to 50% of the traditional costs of managing such concrete waste volumes. Resulting in the solution not only being best for the environment but also more affordable for the project.





Link Alliance: Auckland City Rail Link -Sustainable demolition

#Shift to circular economy

Link Alliance is comprised of seven companies with a wealth of design and construction expertise - Vinci Construction Grands Projects, Soletanche Bachy, Downer NZ, AECOM, Tonkin & Taylor, WSPNZ and City Rail Link Limited. Link Alliance is constructing New Zealand's largest transport project, the City Rail Link (CRL).

CRL will transform Auckland's public transport network, unlocking the city centre with 3.45 km of underground twin rail tunnels, three stations, and major civil works that will more than double the city's rail capacity. The CRL will open in 2024.

Over 40 buildings in Auckland's CBD have been sustainably demolished to make way for new tunnels and stations. Link Alliance salvaged and redistributed 52 tonnes of usable materials and recovered/recycled 18,000 tonnes of materials, sending a mere 410 tonnes of waste to landfill, amounting to a 98% diversion of waste from landfill.

The Challenge

PLANET

Through a sustainable approach to demolition, Link Alliance sought to address two key problems:

1. The construction and demolition industry in New Zealand and the rest of the world generates large volumes of waste that is frequently disposed of in landfill, rather than being reused or recycled. In Auckland, construction waste makes up approximately 50% of all waste sent to landfill.

Environment Sustainability Manager, Sarah Sutherland, says Link Alliance is striving to challenge that norm and meet Link Alliance's aspirational goal of sending zero waste to landfill. "As a project we have committed to divert more than 90% of all construction and demolition waste from landfill. So, the demolition works needed to be approached in a novel way."

2. In New Zealand, businesses owned by Māori and Pasifika people are underrepresented in the construction industry. During the planning stages of the project, Link Alliance decided that demolition works would provide opportunities for Māori and Pasifika businesses and contribute to improving outcomes in this area.

Overall, these initiatives cost NZ\$100,000. but generated multiple benefits, including contributing to two Key Results Areas and ultimately saving the project almost \$500,000.

The Solution

The solution was to first survey all of the buildings that were to be demolished to identify what could be salvaged, preparing an inventory of salvageable materials. We then partnered with TROW Group, a Pasifika-owned business specialising in the deconstruction and soft strip of buildings who had real connections to redistribute these materials. Their deconstruction method sees buildings taken down bit by bit to recover materials so they can be reused elsewhere.

TROW salvaged more than 48 tonnes of usable materials from the buildings. Over 13,000 tonnes of concrete recovered from demolition was crushed onsite and reused for haul roads and piling platforms. 500 tonnes of steel were recovered and recycled, and other materials were salvaged for reuse.

TROW undertook a soft strip of the materials from buildings, recovering any reusable resources including cupboards, desks, insulation, shelving, lights, doors, air conditioning units and toilets. These materials were then shipped to Tonga to assist with the rebuild of churches and schools following Cyclone Gita. In addition, some materials were provided to New Zealand church groups.



Outcomes

The use of crushed concrete on-site was an integral part of the team's sustainable demolition approach and resulted in a number of positive environmental outcomes. These outcomes included reducing the need to source virgin aggregate, reducing transport costs and emissions, and eliminating the need for disposal of any concrete to waste.

This initiative also reduced the need to import over 9,400 m3 of aggregate (enough to fill almost four Olympic swimming pools), reducing the project carbon footprint by 190 t (equivalent to taking approximately 40 passenger vehicles off the road for a year) and saving the project almost \$500,000. There were several other positive flow-on effects for surrounding residents and businesses, including less heavy traffic on surrounding roads.

In addition, two historic and iconic buildings were saved from demolition and moved to new locations, with zero cost to the project and zero waste.

- At Karangahape, a well-known building had to be removed to enable the entrance to the new Karangahape Station to be built. Instead of being demolished, Link Alliance contacted the original designer/builder who was keen to deconstruct the building and ship it to Niue where it is being reassembled as a café to help to promote tourism on the island.
- the cottage, where it will be part of an accommodation complex with other period cottages.

• In Mt Eden, a timber-constructed heritage building from the late 1800s was transported by road overnight and relocated 75 km away in the historic Waikato community of Rangiriri. The new owners plan to restore



PEOPLE

ISSUES

We want to enable wellbeing for current and future generations and ensure that cultural values and the richness of worldviews are placed and maintained at the heart of decision making.

POPULATION GROWTH

Australia could grow from nearly 25 million today to between 37 million and 49 million by 2066,¹⁴ while Aotearoa New Zealand's population could reach 6 million by 2050. Some regions and urban centres will expand, while other, mostly rural regions, may diminish.¹⁵ The fastest growing age group in Australia and Aotearoa New Zealand is the 85-plus, potentially changing demand for travel-related, health and community-based infrastructure³³.

INDIGENOUS WORLDVIEWS

Indigenous cultures and worldviews can provide unique insights to societal and environmental context and outcomes. Yet these worldviews are often poorly understood and undervalued. Threats to culture, ways of life and sense of place can lead to anxiety and opposition to infrastructure projects.

Aboriginal and Torres Strait Islander people continue to face challenges to their identity as Indigenous Australians, despite a connection to the land that stretches back at least 65,000 years. Places of meaning and significance to Indigenous Australian people include places associated with Dreaming stories, places associated with their spirituality, places where other cultures came into contact with Indigenous Australian people and other places with contemporary significance.

Te Tiriti o Waitangi, the Treaty of Waitangi, is a founding document in Aotearoa New Zealand, written in two languages, with much potential for misunderstanding. The Waitangi Tribunal was founded in 1976 as a permanent commission of inquiry to make recommendations on Māori claims relating to Crown actions that breach Te Tiriti.

Forced neglect of Māori culture for several decades has led to intergenerational cultural dispossession. Today's generations – old and young – are leading Māori communities and individuals in reclaiming and recovering suppressed knowledge and understanding of te ao Māori (the Māori world view), mātauranga Māori (the body of ancestral knowledge of the living environment) and te reo Māori (the Māori language).

Te ao Māori is gaining importance in governmental and business activities, including infrastructure development, where meaningful engagement and

tangible outcomes - cultural, environmental, social and economic - are emerging.

Incorporating Indigenous leadership and cultural history into infrastructure planning acknowledge the deep knowledge and understanding that Aboriginal, Torres Strait Islander and Māori people have with the land, and create an environment where all species thrive together.

JUST AND INCLUSIVE TRANSITION

Taking action on climate change is essential and will create many new job opportunities, but we need to acknowledge that there will be an impact on jobs associated with high emitting industries. These jobs are often centred in regional areas and create regional economic activity. To combat inequity, we must commit to a just and inclusive transition in which there is investment in training and economic diversification to secure jobs with a sustainable future.

Lower income communities may be less able to afford the economic, lifestyle and technological changes needed to reduce carbon emissions. We must ensure that our decarbonisation efforts are equitable and contribute to the wellbeing of all communities.

LIVEABLE CITIES

Cities are places where people live, work and play. We advocate for cities to be designed with people in mind, and the spaces to be beautiful, safe, vibrant, with considered designs to promote the health of and access for all those who live there. Well designed, people-friendly places can promote active lifestyles by encouraging walking, cycling and public transport use, with the potential to improve human health and lower transport-based emissions.

Cities must no longer be passive, unnatural areas. A strong connection to nature can increase happiness, cognitive function, productivity and focus. The connection can also reduce the heat island effect, improve air quality, lower energy use in buildings and improve the resilience of infrastructure³⁵.

City-level action can and must play a crucial role in the quest for net zero. It can also create a much more beautiful and liveable space that improves the lives and health of all the city's inhabitants.

PATHWAYS TO POSITIVE IMPACTS ON PEOPLE

Pathways to Impact	Example Outcomes	SDG
Liveable communities	 Manage impacts, such as air quality, light pollution, noise and vibration, and improve amenity 	3.6 Hatta
	 Use water sources of suitable quality for the project's water end uses, minimising demand on 	3.9 Si hazari conta
	potable water supply, protecting the environment and supporting the use of alternative water sources	6.1 Ac afford
	 Provide safe, affordable, accessible and sustainable transport systems 	of fres reduc
	 Provide universal access to safe, inclusive and accessible, green and public spaces 	6.5 Im all leve
		11.1 E housir
		11.2 F sustai notab to the childre
		11.6 F cities, munic
		11.7 F acces and c
Engaged people and communities	 Design and implement a stakeholder engagement strategy that recognises key stakeholder and community values, interests and concerns, and promotes inclusive, participatory approaches 	11.3 E capac settler 12.8 E inform
	 Create infrastructure that has been influenced by the local context, fits its setting, and meets the needs of the people who will use it, while preserving and enhancing scenic, aesthetic, cultural, community and environmental resources and values 	inesty
	 Deliver initiatives that contribute pronounced and long-lasting societal and environmental outcomes 	
Culture and sense of place	 Maintain or enhance local heritage values across all infrastructure phases and raise awareness of these values 	11.4 s world
-	with project stakeholders and the community	17.17 privat exper
	 Partner with Traditional Owners and mana whenua to identify opportunities for relationship building, co-design and prioritising sustainable outcomes 	·

Creating thriving nations & valuing our cultures

a Targets

alve the number of global deaths and injuries from road accidents

ubstantially reduce deaths and illnesses from dous chemicals and air, water and soil pollution and mination

chieve universal and equitable access to safe and lable drinking water for all

ubstantially increase water-use efficiency across all rs and ensure sustainable withdrawals and supply shwater to address water scarcity and substantially ce the number of people suffering from water scarcity

plement integrated water resources management at els, including through transboundary cooperation

Ensure access for all to adequate, safe and affordable ng and basic services

Provide access to safe, affordable, accessible and nable transport systems for all, improving road safety, bly by expanding public transport, with special attention needs of those in vulnerable situations, women, en, persons with disabilities and older persons

Reduce the adverse per capita environmental impact of including by paying special attention to air quality and cipal and other waste management

Provide universal access to safe, inclusive and sible, green and public spaces, in particular for women hildren, older persons and persons with disabilities

Enhance inclusive and sustainable urbanization and city for participatory, integrated and sustainable human ment planning and management

Ensure that people everywhere have the relevant nation and awareness for sustainable development and les in harmony with nature

Strengthen efforts to protect and safeguard the 's cultural and natural heritage

Encourage and promote effective public, publicte and civil society partnerships, building on the ience and resourcing strategies of partnerships







John Holland Group: Social Impact through refugee employment and indigenous community engagement

#Liveable communities

John Holland takes seriously its responsibility to leave a positive legacy beyond the life of its projects. The business does this by leveraging its construction and infrastructure spend to address disadvantage in the community.

John Holland's approach is to embed social procurement and inclusion into the work that it does every day. The beneficiaries of this social procurement and inclusion investment are some of the most vulnerable and under-represented in the community, so the company's approach is focused on creating meaningful opportunities for participation and employment that truly change lives.

Social impact priorities

John Holland's social impact priorities include:

- providing opportunities for First Nations people and businesses in employment, training and procurement;
- procuring goods and services from social and disability enterprises;
- employing priority job seekers such as culturally and linguistically diverse people, women in non-traditional roles, long-term unemployed, ex-offenders and disengaged young people;
- job readiness programs, traineeships, apprenticeships, internships, graduate pathways and skills development; and
- investing in community partnerships and causes that align with the company's purpose of 'transforming lives' and enhancing its customer and employee experience in addition to generating social value that builds community.

Social procurement and inclusion in action

John Holland has built a strong relationship with CareerSeekers.

CareerSeekers is a not-for-profit organisation that provides support to refugees and people seeking asylum to enter the Australian workforce. Over the last four years, John Holland has provided paid internships to humanitarian entrants looking to enter or re-start a professional career.

Through this partnership, the company breaks down barriers by employing people who might otherwise find it difficult to get a job in the construction industry. This, in turn, generates social value and leaves a lasting legacy of skills uplift, employment and confidence for the next generation.

Over the 2021-22 summer, John Holland hosted 25 CareerSeeker interns across its Queensland, NSW and Victorian infrastructure and rail projects. In 2021, three mid-career CareerSeekers also commenced with the company. One of the most positive and pleasing aspects of this partnership is that some 83 per cent of interns continue working with John Holland once they complete their formal internships. **Regional and Indigenous Communities**

John Holland also strives to make a lasting social impact in Australian regional and Indigenous communities. An example is the Trans4M Rail joint venture (JV) involving John Holland to deliver the Narrabri to North Star section of the Inland Rail in Moree, north-west NSW.

From the outset, the Trans4M Rail team recognised that through genuine community engagement, it had a unique opportunity to provide sustainable employment pathways for members of the local and Indigenous communities where unemployment is at 6.3% – higher than the national average. The team's successful tender submission incorporated local procurement, employment and skill development initiatives across the project.



"Refugees have so much to give. We are hard-working people. Our pathways in life haven't been our choice, but we are so grateful for the opportunities CareerSeekers and John Holland give us. Personally, I want to give back to the community that saved my life. For many, they're chasing the lottery. But for me, this opportunity has been my jackpot."

Azizeh Astaneh, intern on the Rail Infrastructure Alliance (RIA) project

The project's training and employment programs have been game-changers. In particular, the traineeship program (offering Cert IV project management) has set a new standard in delivering transferable skills mixed with a unique on-the-job experience for local people.

The Trans4M Rail team also created a dedicated newsletter, Message Stick, to update the community on construction progress and provide information on community assistance funding, literacy programs and NAIDOC Week activities.

The aim of these programs and social initiatives is to provide not just short-term jobs but long-term career opportunities.

Department of Transport and Main Roads with ARUP: Linkfield Road overpass upgrade creating a liveable community

#Liveable communities #Creating a relevant sense of place **#Place-based structural change**

We need more from roads - an outcome-led framework for designing and managing roads and streets.

The Linkfield Road Overpass Upgrade project has taken a new approach, aligning project targets, Sustainable Development Goals (SDGs) and the considerations of impacted users to enhance community liveability surrounding the project. While the project aims to address congestion, queue lengths, ramp geometry and active transport, the team identified that more can be done.

The location has been the site of numerous traffic crashes making safety a key driver of the project. Looking beyond the functional needs, the project team incorporated SDGs to deliver improved outcomes driving a place-based approach to address the unique challenges and opportunities.

The Project

The Linkfield Road Overpass Upgrade (LROU) delivered by The Department of Transport and Main Roads (TMR), is a \$125m co-funded upgrade addressing traffic issues at the Linkfield Road overpass bridge at Gympie Arterial Road Interchange. The project has three main aims

- a. Reduce congestion and traffic queue lengths because of to a current pinch point
- b. Improve interchange ramp geometry and uncontrolled intersections
- c. Provide for active transport through the interchange

As well as high traffic demand, a key driver for the project is safety, with 71 crashes recorded from 2011 to 2020.

Against the background of these pressures, the wider project team set out from the outset to elevate their approach to sustainability by taking strong human health and wellbeing, and social value lenses to the project and focusing on:

- 1. the way the project would collaborate
- 2. seeking input from all
- 3. framing what positive impacts would look like from both community and environmental perspectives.

The Challenge

The Linkfield Road Overpass Upgrade site is closely surrounded by a diverse community of land uses:

- Aged care facility on the north side of Linkfield Road
- Commercial precinct (Homemaker centre) including Bunnings and JB-HiFi on the south side of Linkfield Road
- Guide Dogs Australia on the north side of Linkfield Road
- Church on the south side of Linkfield Road
- Community developments along the north and south side of Linkfield Road

These land uses include a significant representation of vulnerable users.

The collective project team, comprising of state government (Transport and Main Roads), local government authority (Brisbane City Council) and consultant (Arup) looked beyond the functional specification to identify sustainable drivers to inform project decisions and improve project outcomes.

The LROU project is a typical road improvement

project where the key aim is to improve vehicle movement and safety, however by carrying out a sustainability drivers' workshop, it sparked a conversation to look beyond vehicles, and highlight an opportunity to improve access and safety for all kinds of road users.

Figure 1 shows the outcome-led design framework, applied to drive the focus of the project as being on more than road improvement.



Figure 1

The Approach

During initial planning stages, the project team, with from a range of perspectives. The team collectively

SDGs were mapped against the project strategic objectives and outcomes so a deeper understanding and analysis of users and impacts could be gleaned. The relationship to SDGs on particular spheres of impact could then be identified (Figure 2) to drive consideration of project influence and impact. The main spheres of influence and impact identified were the:

- Local economy
- Society

Within each identified sphere, deeper analysis was completed through the development of representative



PEOPLE

representative stakeholders, looked at the project identified the variety of users in the project area to understand their needs and wants, as well as the social value that delivering on the United Nations SDGs could have for them.

- Biosphere



Figure 2

personas with associated user needs and user dimensions to understand their priorities, wants, and concerns. For the local economy sphere, the key personas identified were drivers, elderly residents and local shoppers. Typical behaviours and journeys for each of the personas were then mapped out to understand how LROU would be used and where impacts could be minimised.

From each of the relevant SDGs, related SDG targets were extracted, with specific benefits from the LROU project mapped back to the SDG targets for each persona. This method ensured that the needs of each of these personas could be accommodated.

The aim of drawing out these potential benefits for users of the LROU during the early stages of the project, and using a wider lens than traditional project development, is to circle back to these during delivery to use as a clear measure of success for the project.

If the SDG goals, targets, spheres of impact and LROU benefits are all aligned, these will be important contributions to a liveable community and placebased wellbeing.

PROSPERITY

ISSUES

In Australia and Aotearoa New Zealand, income inequality is around the OECD average. The highest 20% income group has more than twice the average disposable income of the middle 20% income group and six times as much as the lowest 20% income group. In both nations, however, the wealth gap is of greater and growing concern. In Australia, the richest 20% own assets 90 times greater than the poorest 20%, while the poorest 5% of Australians are in debt. In Aotearoa New Zealand, the richest 10% own 59% of assets and the poorest 50% of people own 2% of assets. Rising housing prices have widened the gap between owners and renters and older households are accumulating wealth through property and savings.

INCOME AND WEALTH INEQUALITY

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CULTURAL POVERTY AND HEALTH DISPARITY

Indigenous Australians are disproportionally represented below the poverty line; a trend exacerbated for those living in very remote areas. ^{23,24} Indigenous Australians carry a burden of disease 2.3 times that of other Australians and life expectancies are at least one decade shorter. They are deemed to be at high risk of violation of their human rights and are among the most incarcerated people in the world²⁵.

In Aotearoa New Zealand, 13% of children live in a household that is experiencing material hardship,

which means missing out on fresh fruit and vegetables, putting off visiting the doctor, and being unable to pay utility bills on time.²⁶ Child poverty combines with inadequate basic healthcare and unhealthy housing to exacerbate negative health outcomes, and it also affects cognitive and social-behavioural outcomes. Regular school attendance is 65% for all New Zealand students, but is lower for Māori and Pacific children at 48% and 51% respectively²⁷.

WIDENING OPPORTUNITY GAP

Large and growing inequality leads to gaps in access to opportunity and poor development outcomes. entrenching disadvantage. Inequality is linked to obesity, violence, mental illness and suicide.

Around 20% of Aboriginal communities live in overcrowded homes, which leads to a faster spread of illness. They frequently experience water scarcity and are more likely to endure poor housing solutions that are not resilient to a changing climate. The Indigenous youth suicide rate is four times that of other Australian youth²⁹.

Economic activity is concentrated in cities, creating a widening gap between regional and city experiences and outcomes. People living outside State capital cities are more likely to be in the lowest income quartile. Rural Australians face barriers such as unemployment, underemployment and youth unemployment, poor access to healthcare, and inadequate access to the Internet.

VULNERABILITY TO CHANGE

The people most vulnerable to climate change are those who are most exposed to change, most sensitive to its effects or have reduced capacity to adapt. The result is that they are more likely to be left behind and more severely impacted by change. Measures towards improving adaptive capacity must prioritise vulnerable groups, including the very young and the elderly; those who work in primary industries; those exposed to extreme weather events, such as riverine floods, tidal surges and bushfires; and the poorest, who lack access to insurance.

The Queensland Government through its Business Case Development Framework seeks to integrate sustainability and resilience considerations from the outset in new infrastructure proposals. With a focus on ensuring the enduring value of our investments, we ask our infrastructure delivery agencies, and sustainability practitioners, to ensure sustainability is a proactive front-of-mind activity throughout the proposal development. Viewing each investment from a whole-of-life and whole-of-system perspective early in the proposal development can best support long-term sustainability outcomes."

Graeme Garrett, Executive Director, Infrastructure Planning and Advisory, Department of State Development, Infrastructure, Local Government and Planning, Queensland Government

PATHWAYS TO POSITIVE IMPACTS ON PROSPERITY

Pathways to Impact	Example Outcomes	SDG Tar
Adaptive capacity	 Develop resilient infrastructure that contributes to broader community resilience and responds to potential shocks and chronic stresses Identify, assess and treat direct and indirect risks to assets from climate change and natural hazards; in particular, those assets associated with vulnerable communities Identify, assess and treat risks to assets associated with nature loss and nature change, in terms of ecosystem stocks and flows 	 1.5 Build the situations all climate-related related is a vulnerable situation of people af losses relating related disa vulnerable situated and implem 11.5 Substate settlements plans toware adaptation that and implem 13.1 Strengthat and strategies and strategies
Measures of socioeconomic value	 Map project benefits to identified socioeconomic needs Partner with the community to implement initiatives that contribute positively to pronounced and long- lasting societal outcomes Set targets for the inclusion of disadvantaged groups in recruitment, training and retention and development programs Incorporate social outcome requirements in sustainable procurement policies and practices 	 1.3 Impleme measures for of the poor a 8.2 Achieve diversification through a for 17.19 Build progress on domestic production

'State significant projects can affect people in many ways, both positively and negatively. Identifying and understanding social impacts helps to inform responses that aim to avoid, mitigate or reduce negative impacts and enhance positive impacts. 'Social impacts' generally refer to the consequences that people experience when a new project brings change. 'People' can be individuals, households, groups, communities, or organisations.

The Social Impact Assessment can be used to identify, predict and evaluate likely social impacts arising from a project and propose responses to the predicted impacts. Social Impact Assessment assesses projects from the perspectives of people, which means developments are more likely to be socially sustainable. This allows proponents to respond to likely impacts and understand what the proposed change will mean for people. It allows people to be considered early, so project refinements can occur, and people can be part of the project development.

The Social Impact Assessment aims to ensure projects are effectively integrated into the context and communities where they are located, providing maximum benefits whilst also supporting timely project assessment and delivery.'

Lisa Honan and Jennifer Richardson, Department of Planning and Environment, NSW Government

gets

e resilience of the poor and those in vulnerable ind reduce their exposure and vulnerability to ted extreme events and other economic, social and tal shocks and disasters

cantly reduce the number of deaths and the number ffected and substantially decrease the direct economic ive to global GDP caused by disasters, including waterasters, with a focus on protecting the poor and people in situations

antially increase the number of cities and human adopting and implementing integrated policies and rds inclusion, resource efficiency, mitigation and to climate change, resilience to disasters, and develop nent holistic disaster risk management at all levels

then resilience and adaptive capacity to climate- related d natural disasters in all countries

ate climate change measures into national policies, and planning

ve education, awareness-raising and human and capacity on climate change mitigation, adaptation. uction and early warning

ent nationally appropriate social protection systems and or all, including floors, and achieve substantial coverage and the vulnerable

higher levels of economic productivity through on, technological upgrading and innovation, including ocus on high-value added and labour- intensive sectors

on existing initiatives to develop measurements of n sustainable development that complement gross roduct







Cirtex Industries Ltd: Kowai River Flood Repair

#Transformational Structures and Process

Cirtex oversaw the design and installation of an environmentally friendly retaining wall to repair a section of State Highway 73 in New Zealand after a recent large storm event. This highway is a key arterial route in Canterbury, New Zealand. It follows the Kowai River through the foothills of the Southern Alps.

Due to the storm event, the highway suffered a significant underslip in a section of the road which has a steep toe slope down to the river. Traffic management was required immediately on site due to the road being cut back to one lane. The road needed to be urgently and safely reinstated to its full operational level with both lanes.

Flood repair design

The initial design consisted of a wire mesh reinforced soil mass with gabion facing. A significant concern was raised as to the time and cost to source, transport and place the considerable quantity of rock needed within the gabion facing, due to the remote location.

MagnumStone precast concrete blocks with StrataGrid positive connection was then considered as an option and offered significant benefits in speed of construction, availability of materials and long-term durability. From a design perspective, the changes were relatively simple. The facing and reinforcement components were enhanced – however, the overall design methodology remained the same, being a Mechanically Stabilised Earth system.

This meant that the facing and reinforced soil components of the design assessment could be undertaken quickly. The other primary benefit of the MagnumStone system was the ease with which the top of wall detailing, and traffic barrier integration could be achieved.

Cirtex worked very closely with the design engineers at WSP to complete a concept design, which WSP took on and integrated into their overall design.

Installation

Speed and efficiency of installation were critical to the project due the limited workable time available in the winter months and the cost of traffic control. Adding to the complexity of the installation was that the main fibre optic cable for the West Coast, running under the roadway, was exposed. The construction team had to cautiously work around the suspended cable.

MagnumStone significantly reduced the risk of damaging the cable, as the blocks were easily craned into place. Installation of the MagnumStone facing also removed the need to place the gabion rock, which minimised the labour component of this work and substantially lowered the associated site risk.

What is Magnumstone?

Magnumstone is a hollow core, wet-cast, concrete block that can be used to build an interlocking retaining wall system. It is manufactured locally, with production sites in Waikato, Canterbury, Queensland and New South Wales.

With Magnumstone, you can build 40% larger retaining walls with 40% less concrete. The blocks are 40% more permeable, 40% more eco-friendly and can be installed in 40% less time.

The MagnumStone system allows for design options to meet many different conditions and finished facing requirements. It is an aesthetically pleasing, fast, easy and cost-effective retaining solution, with a robust design.

MagnumStone provided the following benefits to the project:

- Speed of construction
- Stock availability
- Strong and durable

Magnumstone sustainability advantages

Because Magnumstone blocks have less concrete than other wall blocks that are solid, they offer more sustainable options in construction. Less CO2 is created during the process of production and delivery.

Magnumstone's unique hollow core and internal drainage system means that production facilities are able to minimise their carbon footprint, making it the optimal choice for environmentally friendly wall solutions.

Because less cement is required per block and they are lighter to handle, using Magnumstone translates into nearly a 40% reduction in harmful greenhouse gas emissions, compared with using blocks made of solid concrete. The number of transport trucks required is reduced, as is the amount of time and labour required on a job site.

GHD: Incorporating sustainability in the concept phase - Early Planning to increase sustainability outcomes

#Transformational Structures and Process #Sustainability-aligned governance

Early planning is the key to maximising sustainable outcomes

Is it too late to plan for sustainable outcomes for a project when it enters the construction phase? Typically, by the time a project's detailed design phase begins, some of the most significant decisions impacting sustainable outcomes for the environment, community and local economy have already been made.

Further, the responsibility for incorporating sustainability within projects usually falls to those designing and constructing the asset, rather than asset owners who have the ultimate responsibility for delivery and operation. So, it makes sense to consider sustainability at the earliest possible opportunity in the asset and project lifecycle.

The Demand Need Phase

At the demand need phase, it can be tempting to quickly choose a solution before fully understanding both the problem at hand and the wide range of available options. There may be solutions which alter user behaviour to help reduce impacts. We can also forget what a particular solution means outside of the context of the problem.

Some important questions to consider are:

- Will this result in significant vegetation clearing or create unnecessary barriers that sever communities?
- Will this solution be purposeful and evolve with the community's needs over time?
- How do we prioritise the need for one project over another, given constraints on funding?

Robust assessment of the various challenges and potential realistic solutions are critical when initially contemplating these questions. Decisions made at this point have the greatest ability to maximise sustainable outcomes throughout the whole project, and for the least amount of effort or cost.

The Concept Phase

The concept phase usually considers high-levels decisions such as options for project location and alignment. This stage presents a significant opportunity to minimise impacts when the decision-making process on options is well informed. Careful, informed consideration can promote sustainability opportunities such as stronger community connections. It can also minimise material use in the construction stage whilst minimising environmental risks such as an impact on threatened species habitat.

The Specification Stage

At the specification stage, sufficient detail is required to adequately cost the project and to enable external approvals to be sought. This also involves detailing sustainability opportunities and initiatives to achieve the required sustainable outcomes, particularly those which do not have a financial payoff during the construction phase. This means not only considering the triple bottom line when making design decisions, but also identifying and investigating sustainable opportunities for the operations and maintenance phase and beyond to end of asset life. These outcomes can then assist in determining whether an opportunity should be specified for inclusion within the project scope, or further investigated during the design phase.

This was one of the key successes of Western Australia's Bunbury Outer Ring Road project planning phase, where thorough investigations enabled decision makers to have the confidence to incorporate high value opportunities within the project scope ahead of procurement.

The Procurement Stage

The process for the selection of the delivery partners for design and construction can make or break the sustainability success of a project. This is particularly a risk where price is one of the key considerations in tender evaluation. This can be mitigated through two methods:

- 1. Inclusion of specific sustainability expectations to be delivered during construction which may have a capital cost.
- 2. Have a sustainability shopping list developed both by tenderers and by the proponent. Tenderers then price the initiatives, and the proponent can then choose to include them in the final scope.

Using a 'sustainability lens' throughout every stage of project planning until construction commences, is critical to achieving the best sustainable outcomes for an infrastructure project. If sustainability inputs occur as a 'once off', or as an 'add-on', opportunities to minimise environmental risks and maximise social and economic benefits will not be optimised.



ISSUES

We want the impact of our work to be the development of a world-class industry in Australia and New Zealand.

PRODUCTIVITY AND DIGITAL DISRUPTION

The world economy has grown 2.6% in the last two decades, yet construction labour productivity growth has sat at 1%, attributed to dependence on public sector spending, industry fragmentation and mismatches in risk allocation and rewards³¹. The Construction Sector Accord is a joint commitment from the New Zealand government and industry to work together to create a high performing construction sector. The fourth industrial revolution has the potential to revolutionise sector productivity, through the uptake of new technologies such as data analytics, BIM, IoT, digital twins, drones, real time data, remote monitoring, smart sensors, smart meters and 3D printing. Cybersecurity of hyperconnected networks is a growing concern.

AN INFRASTRUCTURE LED RECOVERY

Australia is experiencing unprecedented levels of infrastructure investment from the private and public sector, turbo-charged by COVID 19 recovery policy drivers, with an annual growth rate of expenditure of 33%. The industry has a high-level of confidence of delivering on annual growth between 10 and 15 percent, but is less confident to deliver at 18 percent³⁶.

This is leading to a significant shortage in both skills and products and materials, and in turn increasing costs, particularly for construction. In the Market Capacity Report released in 2022, Infrastructure Australia called for pipeline management; improved up-front engineering and design to avoid waste; increased collaboration for capacity building; and embedding of digital practices and increased public sector capacity to act as a model client as key pathways for improvement and reform³⁶.

BETTER BUSINESS CASE

To reduce the infrastructure deficit, planners need to present a compelling business case that finds funding. In a volatile, uncertain, complex and ambiguous (VUCA) context, however, asset owners must continuously replan, and only projects aligned to long term objectives or with inherent flexibility (eg modularity) can be signalled as 'no regret'.

The industry must move from binary go/no go costbenefit analysis towards adaptive solutions and real options assessment. What really counts is durable,

large scale social impact through coordinated transport, water, energy and communications networks. In Aotearoa New Zealand, the proposed Strategic Planning Act (SPA) will provide a legislative framework for mandatory regional spatial planning. In Australia, the Infrastructure Australia Framework (2021) has signalled a fresh approach to business case development and assessment, and also signalled a greater inclusion of social, environmental, resilience and economic criteria in the assessment of major business cases³⁷.

PARALLEL PUBLIC AND PRIVATE INVESTMENT **IMPETUS**

Through competition for assets and shifting investor motivations, commercial sector investment criteria are increasingly aligned with public sector initiatives to better integrate social outcomes, such as the Living Standards Framework in New Zealand. Post COVID-19, investors are likely to be more diligent around risk assessment, contingency planning, insurance, and contractor liquidity. Integrating sustainability outcomes and impacts into design, delivery and operation of assets is paramount to lowering the industry's risk profile. Potentially material ESG risks increasingly being considered by investors include climate change, nature loss, land use change, modern slavery and human rights abuses in the supply chain, worker health, safety and mental wellbeing, and damage to cultural property and taonga (treasures).

ASSET RESILIENCE TO CLIMATE AND NATURE CHANGE

The financial markets are shifting out of climate-risked assets towards those aligned with a low carbon. climate resilient future. Actearoa New Zealand has introduced legislation to mandate climate-related financial risk reporting from FY23, aligned with the recommendations of the Taskforce on Climaterelated Financial Disclosures (TCFD). The Australian prudential regulator has also issued TCFD-aligned guidance. A new Taskforce on Nature-related Financial Disclosures (TNFD) is currently building on the work of the TCFD to deliver a framework for organisations to report and act on evolving naturerelated risks, to support a shift in global financial flows towards nature-positive outcomes. Over time, the TCFD and TNFD frameworks will become complementary.

PATHWAYS TO POSITIVE IMPACTS ON THE INDUSTRY

Pathways to Impact	Example Outcomes	SDG Targe
Sustainability- aligned governance	 Embed project's sustainability commitment, objectives and targets into governance and continuous improvement processes and to publicly commit to and report on progress Identify, assess and manage key sustainability risks and opportunities relevant to the project context and meaningful to affected stakeholders and project partners Report publicly on sustainability performance. 	12.6 Encourag sustainability in 16.5 Substantia 16.6 Develop e 16.7 Ensure rea making at all lea 17.11 Significa view to doublin 17.17 Encoura partnerships, b
Healthy, inclusive workforce	 Increase industry capacity and capability through identifying skill needs and gaps, leveraging employment opportunities, and improving outcomes for people (eg IS training) Support a positive workplace culture and employee health and well-being Support a diverse and inclusive working environment and monitor and publicly report on diversity metrics for identified groups e.g. pay-gap data, turnover rates Implement sustainable site accommodation facilities that reduce environment and support site worker wellbeing with a focus on internal environment quality, energy use, water use and resource efficiency 	 3.5 Strengther 3.6 Halve the r 4.4 Substantia skills, including and entreprene 4.6 Ensure all women, achie 5.1 End all forr 5.5 Ensure wo leadership at a 8.5 Achieve fu and men, inclu pay for work o 8.6 Substantia or training 9.2 Promote ir industry's shar 10.2 Empower a of age, sex, disa
Innovation & knowledge sharing	 Reward innovative initiatives and outcomes in delivering sustainable infrastructure Share new or updated knowledge on issues and outcomes important to infrastructure sustainability (eg the Infrastructure Sustainability Council conferences and webinars) between projects and more widely within industry 	9.5 Enhance s of industrial se encouraging i research and
Responsible, agile supply chain	 Select suppliers, goods or services that contribute to achieving the project's sustainability objectives and engage with the market to drive innovation Manage and reward supply chain performance against the project's sustainability objectives and targets Establish a procurement framework that enables achievement of the project's sustainability objectives through managing the material supply chain sustainability risks and opportunities Use sustainability certified products and supply chain to address supply chain risks and opportunities 	 8.7 Take imme end modern s elimination of 1 of child soldier 8.8 Protect lat environments migrants, and 10.1 Progress the population 10.3 Ensure e by eliminating appropriate left 12.7 Promote

ets

- ge companies to adopt sustainable practices and integrate formation into their reporting
- ially reduce corruption and bribery
- effective, accountable and transparent institutions at all levels
- esponsive, inclusive, participatory and representative decisionvels
- ntly increase the exports of developing countries, in particular with a ng the least developed countries' share of global exports
- age and promote effective public, public-private and civil society building on the experience and resourcing strategies of partnerships
- en prevention and treatment of substance abuse
- number of global deaths and injuries from road traffic accidents ally increase the number of youth and adults who have relevant
- g technical and vocational skills, for employment, decent jobs neurship
- youth and a substantial proportion of adults, both men and eve literacy and numeracy
- ms of discrimination against all women and girls everywhere
- omen's full and effective participation and equal opportunities for all levels of decision-making
- Ill and productive employment and decent work for all women uding for young people and persons with disabilities, and equal of equal value
- ally reduce the proportion of youth not in employment, education
- nclusive and sustainable industrialization and significantly raise re of employment and GDP
- and promote the social, economic and political inclusion of all, irrespective ability, race, ethnicity, origin, religion or economic or other status
- scientific research, upgrade the technological capabilities ectors in all countries, in particular developing countries, innovation and substantially increasing the number of development workers
- ediate and effective measures to eradicate forced labour, slavery and human trafficking and secure the prohibition and the worst forms of child labour, including recruitment and use ers, and end child labour in all its forms
- bour rights and promote safe and secure working for all workers, including migrant workers, in particular women those in precarious employment
- sively achieve and sustain income growth of the bottom 40% of at a rate higher than the national average
- equal opportunity and reduce inequalities of outcome, including discriminatory laws, policies and practices and promoting gislation, policies and action in this regard
- public procurement practices that are sustainable









Bluescope Steel: Responsible Steel Certification Standards -Kembla Steelworks

#Systemic change in industry sustainability #Sustainability-aligned governance #Workforce capability or inclusivity #Responsible supply chain #Innovation and knowledge sharing

BlueScope's Port Kembla Steelworks manufactures flat steel products, including slab, hot rolled coil, cold rolled coil, plate and metallic coated and pre-painted steel solutions.

In February 2022, Port Kembla Steelworks was awarded Site Certification to the ResponsibleSteel[™] Standard.

The site certification was not just a milestone in BlueScope's drive to deliver sustainable outcomes it was also significant on a global scale. BlueScope was the fourth steelmaker in the world to obtain certification under the ResponsibleSteel[™] Standard, and the Port Kembla Steelworks was the first site in the Asia-Pacific region to be certified.

What is ResponsibleSteel[™]?

ResponsibleSteel[™] is the first global standard and certification program for the steel industry. A not-forprofit organisation, ResponsibleSteel is dedicated to defining and promoting responsible practices. It worked with multiple stakeholders to develop an assessment process that was designed to align with the ISEAL codes of Good Practice.

ResponsibleSteel's vision is to maximise steel's contribution to a sustainable society. Its mission is to strengthen the responsible production, sourcing, use and recycling of steel.

ResponsibleSteel's site certification program is designed to ensure that consumers and businesses can be assured that the sites at which steel is being produced are operated responsibly.

The auditing process

The site certification process involves an independent, third-party site audit and rigorous assessment against the 12 principles of the ResponsibleSteel[™] Standard. These principles include occupational health and safety, climate change and greenhouse gas (GHG) emissions, water stewardship, biodiversity, human rights and labour rights.

The audit findings are reviewed by an independent Assurance Panel ahead of certification being awarded. Key stakeholder groups, including employees and community groups, are interviewed as part of the audit process.

ResponsibleSteel's reaction to the Port Kembla Steelworks Site Certification

ResponsibleSteel's acting CEO, Ali Lucas, said:

"Having the first ResponsibleSteel™ certified site in Australia is critically important. The successful assessment of a steel making site against the very exacting criteria within the ResponsibleSteel™ Standard highlights the importance of a steel sector not only focused on decarbonisation but also on ensuring that health and safety remains of paramount importance. We applaud BlueScope on this momentous achievement."

Looking ahead

ResponsibleSteel[™] Site Certification of the Port Kembla Steelworks aligns with BlueScope's broader sustainability outcomes, including climate action.

BlueScope has a goal of net zero GHG emissions (scope 1 and 2) across all operations by 2050. This goal is underpinned by two GHG intensity reduction targets by 2030 - across steelmaking and nonsteelmaking operations.

Achieving the 2050 net zero goal is dependent on several key enablers that include the development of breakthrough technologies to commercial scale, the availability of affordable renewable energy and hydrogen, the availability of suitable raw materials and supportive policies.

BlueScope acknowledges the importance of collaboration to achieving its climate goals, and so will continue to work across the value chain, partnering with customers and a broad range of stakeholders. Port Kembla Steelworks is front and centre in exploring breakthrough technologies which will be required to deliver a wholesale shift to low or zero emissions steelmaking, and there are some exciting projects underway. BlueScope is working with a range of partners across the steel value chain to explore low-emissions processes and technologies, which in particular inlcudes the continued investigation of the development of a pilot scale hydrogen-based direct reduced iron melter in conjunction with Rio Tinto and a hydrogen electrolyser.

These projects, and others, will help BlueScope to progress to lower emissions steelmaking.

Laing O'Rouke: **Digital calculator**

#Systemic Change in industry sustainability #Responsible supply chain #Innovation and knowledge sharing

Laing O'Rourke has developed a new, industry leading carbon calculator which analyses the levels of embodied carbon for building and infrastructure asset elements using a digital model and allows our technical, sustainability and delivery teams to reduce the carbon intensity of our projects.

The calculator is used to complete carbon calculations of the asset in the early design phases to help identify changes to the design and material types to optimise carbon reductions. This industry leading solution has been utilised on a number of Laing O'Rourke projects both in Australia and the United Kingdom.

First development

This innovative approach was first developed by our forward-thinking team on the Sydney Central Station Metro (CSM) Project. This solution links Digital Design models to lifecycle carbon analysis data to measure the lifecycle carbon footprint for a project. The approach implements Navisworks and BimSens to generate different footprint scenarios based off the project's design and material scenarios.

Reducing the size of the carbon footprint

Once an established baseline model has been developed in the digital model, the team has the capability to seek and achieve reductions in the size of the project's carbon footprint by altering the design, material types, and/or locations and methods for transporting materials to site.

The output of the different scenarios is then analysed in a PowerBI dashboard, allowing for rapid analysis of carbon impacts. The data is also displayed in a real time carbon heat map, clearly identifying the embodied carbon of each element across the project and indicating the key elements that pose the greatest opportunity for carbon reduction.

A 20% reduction in embodied carbon

The application of this tool during the design and construction phases of CSM resulted in approximately a 20% reduction in embodied carbon from the base case scenario and allowed for greater transparency and understanding of how design solutions and material choices can influence and reduce carbon intensity on a project.

"Applying this digital approach to measuring carbon impacts makes it simple for the user to identify some

big impact decisions that can be made to optimise environmental, cost and performance outcomes." Shaun Webster, Digital Engineering Lead

Sharing the carbon calculator globally

With Laing O'Rourke's commitment to knowledge sharing, the local digital and sustainability teams have ensured the tool has been shared widely across projects in Australia, as well as globally. Accordingly, this innovation has gone on to help measure carbon intensity and influence decision making to reduce carbon impacts on a global scale.

As an example, on the Timber Square Building in London, the carbon calculator (utilising the Inventory of Carbon and Energy Database) was utilised to measure various embodied carbon scenarios and enabled the project team to select a scenario that was approximately 30% less carbon intensive than the base case solution.

Reducing and mitigating carbon intensity

Excitingly, the tool has been implemented by Laing O'Rourke's in-house technical leaders for use during many bids and work winning efforts in Australia and the UK, helping to identify carbon hot spots and opportunities that could be implemented to reduce and mitigate associated carbon intensity.

To date the results have been impressive and have enabled Laing O'Rourke's project teams to develop carbon reduction strategies with clients, designers, and supply chain partners. The Carbon Calculator tool is continually evolving and growing in usability across our operations. To ensure its continued development and optimisation, a Global Digital Engineering Taskforce has been established within Laing O'Rourke to take the tool onto further applications of use to support sustainable outcomes across our global operations.



Laing O'Rouke: Off-grid solar powered construction site

#Systemic Change in industry sustainability #Responsible supply chain #Innovation and knowledge sharing

Victoria's Big Build awarded Laing O'Rourke the contract to construct the Kilmany section of the Princes Highway East upgrade. On this section of highway, which is approximately 5.1 km long, Laing O'Rourke's contract includes:

- building a highway with two lanes, going in both directions
- demolishing the current road-over-rail structure and building a new rail bridge
- repurposing the current highway by making it a new service road
- upgrading three intersections at Velore Road, Sale-Toongabbie Road Road, and Settlement Road

Laing O'Rourke's construction site compound for this build is solar powered – an Australian first – and major sustainability outcomes are occurring as a result. The solar power compound has reduced diesel consumption for power generation by 94%.

Largest direct emitter of carbon dioxide

The single largest direct emitter of carbon dioxide on a construction site is local power generation for remote, off-grid compounds due to the requirement for round the clock operation. A site compound with a workforce population between 50 and 100 people will consume over 50,000L of diesel fuel, emitting the equivalent of 135 tonnes of CO2 annually.

Power requirements of a construction site compound

The power requirements of construction site compounds vary significantly throughout the day and over the course of the construction project. Research has shown that over 93% of the operational time, the compound power requirements are less than 25% of the load capacity of the site diesel generator. This inefficient loading results in higher levels of diesel consumption as well as carbon and particulate emissions while causing incremental engine damage through cylinder glazing.

Make power transportable and reusable

Project Leader Doug Talbott set the team on Laing O'Rourke's Kilmany project a challenge – make power transportable from 'site to site, to be reused again and again'. Select Plant Australia met this challenge and addressed the environmental challenges associated with diesel fuelled power generation, including the indirect emissions and cost associated with the transport of fuel to a remote location, by delivering a compound that is predominantly solar powered.

Innovative modular energy product

Recognising the technological maturity of solar panels and lithium batteries for energy generation and storage, the Select Site Solutions team partnered with Victorian electrical contractor BREC Energy to design, manufacture and install an innovative modular energy product that suits the short-term nature of the construction market.

Solar Power Generation

The renewable power solution has been designed for plug and play installation; is scalable to meet the energy consumption of most site compounds; and is readily transportable. For Kilmany, total solar power generation is 87.7kW with 216kWh of battery energy storage capacity.

The system was designed to minimise the need for back up diesel power generation during the low yield winter period, while ensuring the financial viability of the system in the absence of the opportunity to grid export excess production during the summer months.

The solar panels are arranged facing east and west alternatively on the roof of the 16 building modules, with a central 80-panel pergola, and connected to a containerised battery stack with inverters.

Due to the remote off-grid nature of the site, the time criticality of construction activities, and the modelled risk of periodic low light conditions, a 150kVA diesel generator with a B5 fuel source is on site as a standby power source. Over 2,150 hours of operation, the generator has consumed 675 litres of B5 fuel, an efficiency of 0.06L/kWh.



Cost-effective environmentally sustainable construction

As the system owner, Select has enabled construction projects to achieve a cost-effective route towards environmentally sustainable construction. The modular and scalable design of the renewable energy solution allows the plant and equipment hire business to recover the significant capital outlay of the system over multiple construction projects, ensuring the most effective use over the life of the components.

Aim to standardise integrated solar panels

Following this successful pilot, Select aims to standardise integrated solar panels across the fleet of modular buildings to generate supplemental power to both mains-connected and off-grid sites. Select is also investing in a fleet of battery energy-storage systems to complement both the solar powered buildings and diesel generator fleet. A 39% reduction in fuel burn and a 73% reduction in generator running time can be achieved when a diesel generator is coupled to a battery.

Main Roads Western Australia: The Manuwarra Red Dog Highway - implementation of a sustainability management system

#Sustainability-aligned governance #Innovation and knowledge sharing

The Manuwarra Red Dog Highway Stage 4 project is located in the Pilbara region of Western Australia and will provide a sealed road linking Karratha with Tom Price, reducing travel times and increasing safety. Stages 1 to 3 are already complete. Stage 4 is a proposed new road currently in the planning phase. The Stage 4 planning is being undertaken by Main Roads Western Australia (Main Roads), in conjunction with Jacobs, Cardno (KBR) Arup, and WSP.

The project is registered with Infrastructure Sustainability Council for a v2.0 Planning Rating, and Main Roads Western Australia's (WA) commitment is to achieve a 'Bronze' score. The project's context – a remote location, serving both isolated aboriginal communities and providing significant economic productivity for the various mine sites – presented the opportunity for the project to be a catalyst for broader sustainability outcomes.

Project direction

The direction was set from the start – to focus on realising good sustainable outcomes whilst still achieving a minimum 'Bronze' score. Achieving these outcomes required integrating sustainability into all aspects of the project, and a strong strategic direction.

Project team

Jacobs facilitated early team alignment sessions, external stakeholder consultation and the collaborative development of the project's strategic direction, which was integral to developing a strong team culture and understanding of what good sustainable outcomes would be.

The work was documented in a Project Charter, which contained the team's vision – a reliable, sustainable and resilient transport corridor, delivered in an engaging way, that builds connectivity, relationships and prosperity in the region – as well as the team's ethos, sustainability priorities and commitments to leave a positive environmental, social and economic legacy.

Sustainability Management System

A Sustainability Management System was built to support achievement of the project outcomes and business processes were tailored to the project, particularly to suit the Pilbara region. The business processes that comprised the management system were documented in a Sustainability Management Plan. The IS v2.0 Planning Technical Manual was used as a reference document to check which components of the IS rating process would add value to the management system.

Because the project focused on outcomes, not credits, the management system was designed for 'whole of life' rather than for a Planning rating. Once the Sustainability Management System was established, the credits that aligned with the project charter and management system were selected.

Sustainability Roadmap

Vital to integrating sustainability was the 'Sustainability Roadmap'. The Roadmap distils the key engineering milestones, sustainability management system processes and IS credits into a 'one-page plan' supported by a linked excel-based system. The Roadmap includes interdependencies between IS credits, and the timing intricacies of some of the requirements. The Roadmap was developed to cover 26 IS credits; however, a conscious decision was made not to refer to the IS rating scheme in the Roadmap, keeping with the project's ethos of focusing on good sustainable outcomes.

This is the first time an IS Planning submission has been scheduled and managed in this way for Main Roads WA, and for Australian infrastructure projects in general. The Roadmap was used as a 'live' document by the Sustainability Lead to track progress, communicate upcoming activities, report to senior management and check credit interdependencies were met along the way.



MCA Tool

To integrate sustainability into the options assessment process, discipline leads from Cardno, Arup and Jacobs developed a multi-criteria assessment (MCA) tool that used the project objectives as the criteria:

- Maximise 'on alignment' materials/resources
- Enhance biodiversity and maximise positive environmental outcomes
- Maximise local employment and skills legacy
- Maximise shared land use and infrastructure
- Maximise network resilience
- Maximise social and cultural capital
- Maximise usability and serviceability
- Maximise innovation and challenge beyond business as usual

This allowed for balanced criteria addressing social, environmental, governance and economic factors. It also enabled the project team to include assessment of resource efficiency, climate change, network resilience, potential impacts to vulnerable communities and interdependent assets when considering project options.

Multidisciplinary MCA workshops were held, and the criteria facilitated conversations where elements of design could be discussed freely and solutions identified that were not necessarily in the best interest of one discipline or another, but in keeping with the project's focus on best sustainable outcomes.

The above processes resulted in a strong team culture, and true integration and buy-in of sustainability at all levels of the project. As the project moves towards delivery, it is anticipated this approach will help to realise strong tangible outcomes for sustainability for the Pilbara community, as well as be verified in the results under IS.

Urbis: Thriving Nations

#Systemic Change in industry sustainability

Industry fragmentation, subjective decision-making, risk aversion and sectoral capacity are all key barriers to realising world-class infrastructure performance in a report joint launched by the Infrastructure Sustainability council and Urbis.

Advance Our Nations, Fair – World-Class Infrastructure for Thriving Nations explores the relationship between world-class infrastructure and thriving nations, with new opportunities identified that deliver investment returns for all beneficiaries, ecosystems and economies.

What does the report explore?

This report explores the relationship between Thriving Nations and world-class infrastructure. It considers how we can maximise the long-term benefits enabled by infrastructure investment, and establishes what might hold us back. It is not an academic research paper, although it draws on a literature review, and neither is it the report of an industry engagement activity – albeit powerful industry voices participated. It is intended to inspire the infrastructure sectors to self-disrupt and work collaboratively towards a common purpose – that of delivering high performance, future-leaning infrastructure that supports national resilience and enables communities to thrive.

A series of stimuli have been considered in framing this provocateur, drawing on industry, government and academic sources as well as practical examples from real-world experience. Its starting point is the United Nations Sustainable Development Goals (SDGs), together with the global commitments enshrined in the Paris Agreement and more recently at the 26th UN Climate Change Conference of the Parties (COP 26). Together, these provide the bookends that help us to understand what it will take to support transition to a resilient and equitable society - a Thriving Nation.

Thriving nations are built by people, for people

Thriving nations are built by people, for people. They are the progressive, purposeful, egalitarian, entrepreneurial countries in which the life opportunities of all citizens are enabled and the natural systems are respected. They are the countries whose present-day communities are making the conscious choice to be 'good ancestors' for future generations.

We know that infrastructure enables what we do and how we do it. As we enter a new decade of opportunity, we need to ensure that infrastructure is planned, built and operated to support generations to come. Infrastructure for people, by people. Building resilience and delivering positive change through our communities. To start, we must first define what is thriving for our cities, regions, communities, and economy. It will take foresight and increased interconnection, and a sectoral culture that is underpinned by action that is resourceful, resilient and responsible.

Losing sight of infrastructure's purpose

Urbis Future State Director Kate Meyrick says we've lost sight of infrastructure's purpose – to rightfully serve the people it exists for.

'Infrastructure is all about hope - it's about solving problems and enabling opportunities. If we want to be a better ancestor for future generations then we need to take a more restorative approach and make far bolder decisions today.

A critical factor in making progress and achieving any success will be working together. We need to start joining the dots and engage a place-based collaborative approach.

First, we must understand that infrastructure is the essential platform for realising long-term accomplishment. With collective input, we will make real progress by sharing local and global learnings, systems, and achievements. Only then will we truly achieve infrastructure's purpose of driving social progress, quality of life, resilience and productivity in our communities, cities, regions and nations.'

Call for collaborative reform

The report calls for collaborative reform across eight key areas including:

- An industry united by its declared purpose

 Driving change from within underpinned by a cultural shift from monopolistic to a commongood approach.
- 2. Knowledge and capacity building To build the expertise of the sector, accelerate the sharing of new ideas that drive service level innovation.
- 3. Codifying excellence Setting out the standards of world-class infrastructure to clarify expectations; ensuring alignment with relevant international rating systems.
- A robust data platform combining the longitudinal and real-time information required to drive evidence-based decision-making. Underpinning transparent prioritisation and business case development.



- 5. A fully integrated infrastructure model Driving change from within underpinned by a cultural shift from a monopolistic to a common good approach.
- Place-based, creating intergenerational value

 Clearly solving for a defined problem and generating new opportunity through more enlightened delivery models grounded in conversations with the end user.
- Procurement based on multi-dimensional value - Capturing all positive externalities and addressing negative impacts. Embedding resilience and demonstrating the highest and best use of funds.
- 8. Funding security Depoliticising funding and increasing certainty, connecting funding to outcomes over time. Leveraging new forms of finance instrument to meet the burgeoning cost of transformational infrastructure.

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INDUSTRY

Infrastructure Sustainability Council 2022 Impact Report

ecologiQ: Optimising recylced waste materials

#Systemic change in industry sustainability #Sustainability-aligned governance #Responsible supply chain #Innovation and knowledge sharing

ecologiQ is a Victorian Government initiative designed to optimise the use of recycled waste materials in road and rail infrastructure across Victoria, constructed as a part of Victoria's \$90 billion Big Build.

This initiative comes at an important time, as The Council of Australian Governments (COAG) banned the export of waste plastic, glass, tyres and paper in 2020. This program was initiated to find a new home for these waste materials – to be used for transport projects as construction materials.

Major Road Projects Victoria started the ecologiQ initiative in 2019, laying the foundations for making a connection between reforming Victoria's recycling system and Victoria's transport projects.

ecologiQ Vision

ecologiQ is utilising the unprecedented investment in infrastructure to be recognised as the world leader in the sustainable use of recycled and reused materials by 2025.'

ecologiQ Key Action Areas

- For major transport projects in Victoria to optimise the use of reused and recycled materials.
- For the approach to technical specifications and standards to be changed.
- For market development opportunities to be sought for emerging materials.

Dealing with 15 million tonnes of waste

About 15 million tonnes of waste is generated a year in Victoria alone. By 2040, this figure is expected to grow by more than a third. Communities, governments and businesses have grappled with this complex problem for some time. In the last few years, several countries have started rejecting the importation of some Australian recyclables and COAG banned the export of waste plastic, paper, tyres and glass.

ecologiQ began in 2019

This rejection highlighted the need to grow Australia's domestic recycling capabilities and create local markets for recycled content. Victoria rose to the challenge, and in 2019, ecologiQ began as a state government initiative.

ecologiQ is making the use of recycled and reused materials business-as-usual across the state's \$90 billion Big Build. Leveraging this unprecedented investment in transport infrastructure, it aims to have Victoria recognised as a world leader in the sustainable use of greener materials by 2025.

The Recycled First Policy – a key driver

The Recycled First Policy is a key driver of this initiative. The first of its kind in Australian history, Recycled First mandates contractors delivering major Victorian transport projects to optimise their use of recycled and reused materials.





ecologiQ is already seeing impressive results from the first projects procured under Recycled First. More than 1.7 million tonnes of recycled and reused content have been committed to for the state's transport infrastructure projects so far.

Close to 750,000 tonnes of this content is already in the ground and includes recycled plastic, recycled glass, crumb rubber from old tyres, reclaimed asphalt, and crushed concrete and brick. This will grow rapidly as many more Recycled First projects come online.

A sample of early Recycled First arterial road projects have committed to an average of 3.4 times the total amount of recycled material, 2.7 times more reclaimed asphalt pavement and 2.4 times more recycled glass compared to projects that predate Recycled First. These projects are also using an average of 60 tonnes of recycled plastic, up from almost no use on equivalent projects prior to Recycled First.

Fitzsimons Lane Upgrade

This increase in the uptake of opportunities is exemplified by the Fitzsimons Lane Upgrade in Melbourne's north east, among the first projects to implement Recycled First. The project adopted 70% of identified opportunities to use recycled products (excluding fill material). This marks a dramatic improvement from pre-Recycled First projects, which incorporated a third of such opportunities. At its completion, Fitzsimons Lane will have used 106 tonnes of recycled plastic in concrete reinforcement, roadside drainage and geosynthetics.

Collaborating for the greater – and greener – good

ecologiQ is the only program of its kind that connects government policy with major project delivery, collaborating directly with all the Big Build project teams and contractors.

To ensure the effective implementation of Recycled First, ecologiQ provides consistent technical guidance and industry outreach to demonstrate the value of using waste material in transport infrastructure and encourage behaviour change.

The uptake of recycled and reused materials signals a huge shift in Victoria's construction industry. All future transport infrastructure projects will be including Recycled First, including mega projects like the Suburban Rail Loop, North-East Link packages and Melbourne Airport Rail.

Conservative modelling shows that over the next five years, 6.5 million tonnes of waste will be diverted from landfill due to the Recycled First Policy. There is much more to come, as Recycled First continues to fuel circular economy innovation and investment.



Major Roads Victoria: Program delivery approach

#Systemic change in industry sustainability #Sustainability-aligned governance #Workforce capability or inclusivity #Responsible supply chain #Innovation and knowledge sharing

In 2020, Major Roads Project Victoria (MRPV) launched the Program Delivery Approach (PDA). The PDA is a contract procurement, cost reimbursable, incentivised design and construct contract model, which provides improved financial certainty for delivery partners while rewarding a range of project delivery outcomes, including sustainability performance.

All MRPV projects under the PDA model are required to deliver sustainability outcomes, with larger projects utilising the IS Rating tool. To date, 26 contracts have been awarded totalling \$2.7B. Importantly, the model does not favour larger contractors over smaller ones, and has allowed the State of Victoria to award contracts across all market levels, including tier 4, tier 3 and tier 2 contractors. This has resulted in a significant increase in exposure to sustainability performance requirements, IS Ratings and the associated benefits.

Changes to major road project delivery

According to MRPV, the Program Delivery Approach is changing the way they deliver major road projects. Changes include:

- the creation of a more sustainable contractor and design market
- a reduction in procurement time and costs
- a better integrated project planning and project delivery
- an improvement in collaboration and the provision of financial and future project opportunities.

Construction and Design Panels

Construction and design companies were invited to join the MRPV Construction and Design Panels to fast-track procurement and get projects ready sooner. There is an ongoing opportunity for new contractors and designers to join these panels.

Incentivised Target Cost

Contractors and designers are paid through an Incentivised Target Cost (ITC) payment mechanism, which reimburses direct costs and includes cost and non-cost incentives.

MRPV Contracts

The PDA approach features elements of the Alliance and Design and Construct (D&C) contracts and will help MRPV to get the best outcomes for our projects. Similar to Alliance models, the contracts include Key Result Areas (KRA) and associated Key Performance Indicators (KPI). A number of these have commercial rewards, including the Sustainability KRA. To date, 26 contracts have been awarded totalling \$2.7B, including 11 assessed via IS Ratings, utilising version 1.2 of the IS Rating tool and 2 IS Essentials pilots.

The Sustainability KRA

Central to the Sustainability KRA was the development of MRPV's Sustainability Performance Framework (SPF). The SPF comprises a range of minimum performance requirements that are written into contracts (General and Project Specific Specifications), including requirements around governance, management plans as well as specific targets across selected areas such as climate change adaptation, energy and carbon, material lifecycle impacts and circular economy.

The Sustainability KRA also includes incentivisation for performance against the Recycled First Policy, implementation of project Recycled First Plans and tracking against commitments to optimise recycled and reused content in road design and delivery.

MRPV Support Services

MRPV provides a range of support services, including the development of individualised strategies and roadmaps to success, technical procedures and document templates. A significant achievement of the PDA model and MRPV's SPF has been the capability and capacity building across the road construction market as a whole. This includes a number of contractors undertaking IS Ratings for the first time as well as contractors seeking to upskill their workforce in order to meet the challenge that has been set.

Childs Road Upgrade Project

Victoria's Big Build has presented a unique opportunity. By and large, contractors and designers have risen to the challenge and are achieving tangible and real outcomes. Projects such as the Childs Road Upgrade, a road duplication project valued at less than \$40M with delivery partner Ace Contractors, has successfully implemented lower carbon concrete targets, achieving an average Portland Cement replacement of 33%

um Performanc

Included in PDA

Project Specific Specification

oral Specificatio

Ace Contractors adopted biodiesel in their plant, not just for the project, but organisation wide. They incorporated design improvements, such as reduced globe wattage, and also recruited their first Sustainability Manager.

compared to BAU across all mixes.





The project has also successfully implemented the Recycled First Policy, with initiatives such as the incorporation of waste coffee grounds in topsoil, pavement layers with up to 40% reclaimed asphalt pavement, recycled glass sands, crushed brick, crushed concrete, recycled plastic steel mesh replacement, recycled plastic drainage pipe and recycled plastic geotextiles.

INDUSTRY



Infrabuild: Sustainability Report

#Systemic change in industry sustainability #Sustainability-aligned governance #Workforce capability or inclusivity #Responsible supply chain #Innovation and knowledge sharing

InfraBuild published its first Sustainability Report in March 2022. Within this document, InfraBuild outlined its sustainability and decarbonisation plans as it moves towards achieving its CN30 objective to be a low emission, carbon neutral steel maker by 2030.

Steel's contribution to the annual global greenhouse gas emissions is around 8% and InfraBuild's position is that it is imperative for the steel industry to reduce this significantly.

2021 Sustainability Report

In 2021, the range of challenges brought about an increased awareness at InfraBuild about climate change and the importance of embracing sustainability as an integral part of its business strategy.

As part of this awareness, InfraBuild reflected on its role as a company for all stakeholders, including built and natural environments and the communities in which they operate. They published their 2021 Sustainability Report, which outlined the revision of their strategic direction – 'to continue finding ways to be better, work smarter and offer a superior customer experience.'

"Our stakeholders expect that we have a clear plan and a journey to be carbon neutral. InfraBuild is redefining steel as a green building material and is helping companies everywhere improve the sustainability credentials of their projects. We are committed to the role played by steel in the circular economy, including the promotion of the recovery, reuse, and recycling of steel and other products." **Vik Bansal, CEO and Managing Director**

This time of reflection provided clarity on why InfraBuild exists, how they are going to create a clear competitive advantage in line with why they exist and what they need to do on a daily basis to ensure it actually happens. In doing so, InfraBuild refreshed their vision and clarified their values expectations, their operating model, and their organisational structure. The goal is for everyone at InfraBuild to be empowered to be the best they can be through their craft.

Key report findings

• The InfraBuild Sustainability Report shared the organisation's Scope 1 and Scope 2 emissions across the various manufacturing campuses and showed the downwards trend in emission intensity that has been achieved between FY17 and FY21.



- InfraBuild's electricity usage contributes 76% of their combined Scope 1 and 2 emissions. As such, InfraBuild is considering alternative renewable energy sources that can deliver significant emission reductions.
- InfraBuild recognises and acknowledges that their imperative is to deliver real and tangible reductions in their embodied carbon emissions. This is critical in becoming a lowcarbon emission steel maker. Carbon offsetting will only be utilised to achieve carbon neutrality by addressing any remaining emissions that cannot be commercially, technologically or economically eliminated.
- InfraBuild also shared within the Sustainability Report that lowering Scope 1 and 2 emissions (without carbon offsetting) will deliver reductions in the GWP (Global Warming Potential) indicators in their EPDs (Environmental Product Declarations). They are used by sustainability professionals, the design fraternity, procurement specialists and construction teams to inform their decision making about delivering lower embodied carbon solutions to their projects and clients.
- Broadly speaking, the InfraBuild Sustainability Report also showcased many other sustainability focussed aspirations, opportunities and achievements from CY21 across their People, Markets, Assets and Financial areas.

InfraBuild is Australia's only fully vertically integrated steel manufacturer. Their operations include scrap metal recycling, steel manufacturing and downstream distribution.

North Western Program Alliance: Power to the Program

#Sustainability-aligned governance

The North Western Program Alliance (NWPA), comprising John Holland, Kellogg Brown and Root (KBR), Metro Trains Melbourne (MTM) and Level Crossing Removal Project (LXRP) is one of five Alliances delivering the LXRP program of works across metropolitan Melbourne. The overall aim is to remove 85 level crossings by 2025 to help reduce congestion, improve safety and deliver great new places for the community.

NWPA uses a 'Power of the Program' governance framework to set new sustainability benchmarks on every level crossing removal project they deliver. This has culminated in the Alliance's Bell to Moreland Level Crossing Removal Project achieving the highest As Built IS rating to date.

Significant sustainability outcomes

Over the past five years, NWPA has delivered significant sustainability outcomes, removing 13 level crossings and building five new rail stations. Fundamental to these achievements is the use of the ISC's award-winning governance method, the 'Power of the Program', which leverages the rolling program of works to adopt step-change innovations to continually improve and build long term partnerships with internal and external stakeholders.

The NWPA team does not limit its thinking to what is possible on a single project, but how they can improve generations of projects and peoples' lives. NWPA's approach is to embed what was previously viewed as leading practice into standard 'business as usual' practices on upcoming projects. Most importantly, the LXRP program of work encourages NWPA to continuously improve its performance by applying lessons learnt from past projects to the next projects almost immediately.

IS As Built rating of 98 points

During 2021-2022, the 'Power of the Program' culminated in NWPA accomplishing amazing sustainability outcomes for its client, stakeholders and the industry. The pinnacle of these achievements was certification of the highest ever IS As Built rating (of 98 points) for the Bell to Moreland Level Crossing Removal Project. NWPA could have simply delivered basic infrastructure, built to standard and compliant with specification. However, it instead used everything it had learnt over the previous five years to deliver more - an innovative and vibrant community precinct that pushed the boundaries from sustainable to regenerative.

"I'm so proud that all the efforts made by the team to prioritise sustainability in the project design have been recognised. It has literally set a new standard for sustainability in major transport infrastructure projects." Matt Thorpe, LXRP Program Director with NWPA

Leading initiatives are now business as usual

Following NWPA's success with Bell to Moreland, leading initiatives employed on the Project such as Indigenous Co-design, eMesh and Woody Meadows climate resilient planting palette have now been adopted at even greater scale or refined to achieve greater impact on additional NWPA projects and across LXRP to the extent that they are now successfully considered business as usual approaches. This allows NWPA to focus on the next leading initiatives.

With additional projects in the development phase, NWPA welcomes the prospect of continuing to transfer lessons learnt and new initiatives to upcoming projects to continually raise industry benchmarks and deliver great sustainability outcomes.



Industry Outlook

The Industry Outlook from leading industry experts reflects key trends, challenges, opportunities and barriers, giving us valuable insight into change in the short and long term.

"We are here to build communities for a long time and we are committed to developing sustainable infrastructure for future generations. The current record investment in infrastructure creates exciting opportunities for the construction industry to step up and deliver quadruple bottom line outcomes. Technology and innovation will have a key role to play in the transition, along with clear government policy that is supportive of sustainability considerations and forward-thinking planning. We have our sights firmly set on making an impact together." Australian Construction Association - Jon Davies, CEO

"The Materials and Embodied Carbon Leaders' Alliance or MECLA as it is more commonly known is pleased to be working closely with the Infrastructure Sustainability Council to accelerate the availability and uptake of low carbon construction materials. Meeting the climate change challenges requires considerable collaboration across industry sectors and having the ISC on board to supply insights and advice into the complex challenges of the construction ecosystem enables MECLA and its 140 members to better understand and address the many barriers. The appetite of government procurement agencies for advanced materials uses and gaining star rating for their infrastructure projects is heartening as we collectively strive towards achieving the aims of the Paris Agreement and align with the principles of the circular economy." MECLA - Monica Richter, Project Director

"The typical long lives of infrastructure assets means that we should be considering zero emissions targets in our designs right now. Let's seize the opportunity and work together to ensure our communities are the healthy, liveable, sustainable places that everyone deserves."

Australian Sustainable Built Environment Council - Alison Scotland, Executive Director

"The continued growth of the GRESB Infrastructure Benchmark across Oceania, alongside the continuing uptake of the IS Rating Scheme, underscores the ever-growing commitment of infrastructure investors, managers, and asset operators to ESG and sustainability. With infrastructure associated with 70% of Australia's greenhouse gas emissions, it is essential that sustainability becomes truly embedded in all decision-making and investment processes to steward the region's transition to net zero. ESG reporting and benchmarking is a key contributor to addressing the challenges of decarbonizing infrastructure, mitigating climate change, and ensuring infrastructure is resilient into the future. We hope that our partnership with the ISC can accelerate these efforts and even set an example for other regions around the globe." GRESB -Sebastian Roussotte, CEO

"We need the entire built environment, across buildings and infrastructure on a trajectory to work together to deliver net zero. We need to be delivering projects that are highly efficient, powered by renewables that are fossil fuel free, whilst focussing on low-embodied carbon materials and offsetting the residual with naturebased solutions. There has never been a more critical time to collaborate." **GBCA - Davina Rooney, CEO**

"Infrastructure has a profound impact on our economy, society, and environment. Good infrastructure is able to balance the interests of all three. The consulting industry is an advocate for the upfront identification and measurement of social and environmental value to guide investment and project decisions. In the future we expect to see an integrated and collaborative approach to infrastructure from problem identification through to end-of-life. We expect climate goals, sustainability, and resilience to stand on equal footing with economic outcomes." **Consult Australia - Nicola Grayson, CEO**

"Sustainability in infrastructure spans beyond the construction thereof – it extends to the whole lifecycle during which it serves its target community. As such, infrastructure projects present immense opportunities to influence the sustainability of the communities that they serve. It is simply not sufficient to limit the social response of infrastructure to the provision of employment opportunities during the construction phase. Rather, it is critical that communities are involved in the design phase in order to ensure that projects address the structural barriers that disadvantaged groups face in attempting to realise their aspirations." **Diversity Works NZ - Maretha Smit, Chief Executive**







Infrastructure Sustainability Council 2022 Impact Report



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RATING TOOL	AWARD	PHASE	ASSET	REGION	PROJECT	SIGNIFICANT INNOVATIONS
V2.0	Bronze	Design	Road	WA	Armadale Road to North Lake Road Bridge Project	
	Gold	As Built	Road	SA	North-South Corridor - Regency Road to Pym St	1 Nation First
V1.2	Leading	As Built	Rail	NSW	Rooty Hill Station Upgrade	
				VIC	Rail Project Victoria - Metro Tunnel Project Early Works	1 Nation First
				VIC	Level Crossing Removal Project - South Program Alliance - Initial Works Package (IWP) Frankston Line Melbourne	1 Nation First
				NSW	Sydney Metro City and Southwest - Tunnel & Station Excavation Works	1 Nation First
				VIC	Level Crossing Removal Project - North Western Program Alliance - Bell to Moreland	1 Nation First
			Road	QLD	M1 North- Sports Drive to Gateway Motorway	
			Water	NSW	Parkes Water Treatment Plant	1 Nation First
		Design	Rail	NSW	Sydney Metro City & Southwest Sydenham Station and Junction Works	
				VIC	Level Crossing Removal Projects - South Program Alliance - Additional Works Package 1 (AWP1)	1 Nation First
				NSW	Parramatta Light Rail Stage 1 - Infrastructure Works	1 Nation First
				VIC	Level Crossing Removal Project - South East Program Alliance - Toorak Road	3 Nation First
				NSW	TfNSW Hawkesbury River and Warrawee Station Access Upgrades (Transport Access Program - Third Tranche)	
				NSW	Faulconbridge & Lapstone Station	
				VIC	Level Crossing Removal Project - Metropolitan Road Program Alliance - Clyde Road, Berwick	
				VIC	Level Crossing Removal Project - South Program Alliance - Additional Works Package 2 (AWP2)	1 World First
				NSW	Transport Access Program - Third Tranche Bexley North and Petersham	1 Nation First
			Road	VIC	Major Roads Projects Victoria - Echuca Moama Bridge Project	
				NSW	WestConnex Stage 3A - M4-M5 Link	
				VIC	Major Roads Project Victoria - Monash Freeway Upgrade Stage 2	3 nation First
				NSW	WestConnex Stage 3B	1 World First 3 Nation First
				VIC	Level Crossing Removal Project - Metropolitan Road Program Alliance - Evans Rd and Cardinia Rd	
				QLD	M1 North- Sports Drive to Gateway Motorway	SS by As Built
				QLD	M1 Pacific Motorway Upgrade Palm Beach to Tugun	3 Nation First
				QLD	M1 Pacific Motorway Upgrade Burleigh to Palm Beach	3 Nation First

VIC	Level Crossing Removal Project - Metropolitan Road Program
	Alliance - South Gippsland Hwy, Dandenong

RATING TOOL	AWARD	PHASE	ASSET	REGION	PROJECT
V1.2	Excellent	As Built	Rail	NSW	Parramatta Lig
			Rail	VIC	Level Crossing - Toorak Road
			Rail	NSW	Parkes to Narro
			Road	WA	Metropolitan R
			Road	WA	Northlink WA N
			Road	QLD	lpswich Motory Package 1 AB
			Water	ACT	ACT Healthy W
			Water	NSW	Lower South C
		Design	Airport	NSW	Western Sydne
			Rail	NSW	Transport Acce Stations
			Rail	NSW	Leppington & E
			Road	VIC	Major Road Pro
			Road	QLD	Smithfield Bypa
			Road	QLD	Watland Street
	Commended	As Built	Rail	VIC	High Capacity
			Road	VIC	Major Road Pro
		_	Road	WA	Great Northern
		Design	Road	VIC	Major Roads P
V1.1	Leading	As Built	Rail	NZ	Contract 1 - Er (City Rail Link)

SIGNIFICANT INNOVATIONS

a Light Rail Stage 1 - Enabling Works			
sing Removal Project - South East Program Alliance oad	4 Nation First		
Varromine	1 Nation First		
an Road Improvement Alliance			
VA Northern Section - Ellenbrook to Muchea			
otorway Upgrade (Rocklea to Darra) Stage 1, AB			
ny Waterways Project (AB)			
th Creek	2 Nation First		
ydney Airport Bulk Earthworks	1 World First		
Access Program 3 – Mittagong and Fairy Meadow			
۱ & Edmondson Park South Commuter Car Parks			
d Projects Victoria - Mordialloc Bypass			
Bypass			
reet to Sports Drive			
city Metro Trains (HCMT)	1 World First		
d Projects Victoria - Western Roads Upgrade			
hern Highway As Built			
ds Projects Victoria - Western Roads Upgrade	SS by As Built		
- Enabling Works ink)	1 Nation First		



Infrastructure Sustainability Council Members

A W Edwards **CDI** Lawyers Acciona Geotech ACT Government Alstom Australia CIMIC Arcadis Australia Pacific Arenco (NSW) Pty Ltd Arup Australia Services Pty Ltd Ash Development Association of **ASI** Solutions Auckland Council Aurecon Group Aussie Industries Ltd Australasian (Iron & Steel) Slag Australasian Certification Authority for Reinforcing and Structural Degnan Australasian Railways Association Australia and New Zealand Banking Group Limited Australian Antarctic Division Water (Department of Agriculture, Water and the Environment) Australian Flexible Pavement Australian Rail Track Corporation Beca Group Ltd **BESIX Watpac Bielby Holdings Pty Ltd** BlueScope Steel Limited Diona BMD Constructions & Urban **Boral Construction** DLPA Broad Construction Pty Ltd Bureau van Diik Electronic Publishing Pty Limited (Moodys) Cairns Regional Council

CE Construction Solutions Cement Concrete and Aggregates Australia Christchurch City Council Circulr Pty Ltd Cirtex Industries Ltd City Rail Link Civil Contractors New Zealand Clayton Utz CmdrKat Consulting Colas Group Australia Copperleaf Technologies **Covalent Lithium** Cowie Environmental Services Ptv **CPB** Contractors Cress Consulting Dassault Systemes Dempsey Wood Civil Department of Climate Change, Energy, the Environment and Department of Defence Department of Environment, Land, Water and Planning Department of Infrastructure and Transport - S.A Department of Planning & Environment (DPIE) Department of State Development, Infrastructure, Local Government and Planning Department of Transport & Main Roads QLD **Diversity Works** Downer EDI Limited Dubbo Landscaping Dumpit Bins Pty Ltd

Earthing Solutions Pty Ltd Echo Barrier Australia Edge Environment **EIC** Activities Emesh by Fibercon Energetics Pty Ltd Energy Estate Enosi Australia Enveng Group Enviropacific Envirosuite Operations Pty Ltd EPD Australasia Ltd Etool FCC Construction Fencepac Barriers Pty Ltd Ferrovial Ferrycarrig Construction Fletcher Construction Company Fresh Start Australia Frontier Economics FSC Group Fulton Hogan Australia G.P.P.Recycling Galvanizers Association of Australia Gamuda GartnerRose Pty Ltd Gateways2talent Geofabrics GHD Ghella New Zealand Global Green Tag Pty Ltd GM Road & Civil Group Good Environmental Choice Australia (GECA) GRAF Australia Pty Ltd Grasshopper Environmental Green Business HQ Green Power Solutions Pty Ltd Hanson Australia Ptv Ltd Harrison Grierson

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Parkes Shire Cour Patriot Environmer Management Pendolev Perspektiv Pillar Two Plastics Industry Pi Ports of Auckland Public Works Advi **Qube Logistics Hol** Queanbeyan-Paler Council Rail Projects Victor Rare Environmenta Red Sand Ecology Red Tree Environm Ltd Repurpose It ResourceCo Mate Pty Ltd **RMIT University RPS** Group SciDev Ltd Seed Engineering Seymour Whyte C Sitehive SMEC Social Traders Soilcyclers Pty Ltd South Australian W Corporation Stabilised Paveme Stantec Start2See State Asphalts NS Sunshine Coast C Sustainability Victo Sustainable Asset Sustainable Built Environment National Research Centre Sydney Metro Syrinx Environmental PL Tetra Tech Coffey Pty Ltd

Pacific Partnership

In FY23, the Infrastructure Sustainability Council is launching three new member coalitions: Climate Action, Resilience, and Circular Economy. We look forward to progressing these agendas and providing an update in the next Impact Report.

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	Upthink
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	Victory Flags
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	WBHO Infrastructure
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Strategies	John Holland
nvironment	McConnell Dowell

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The Infrastructure Sustainability Council Technical Working Groups

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	Rebekah Pokura-Ward	Waka Kotahi New Zealand Transport Authority
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	Amy Elkington	GHD
	Dana Jump	Norman Disney and Young
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	Adrien Bouzonville	Auckla
	Rob Turk	Nation
	Jon Panic	Malo S
	Louis Bettini	Main R
	Felice Wong	Metro

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er Group

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Trains Sydney

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	Andrew Wheeler	Australasian Cerification Authority for Reinforcing and Structural Steels	





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