



Ten stories

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TO CELEBRATE

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*10 years*



# Foreword



PRIME MINISTER

## Infrastructure Sustainability Rating Scheme 10th Anniversary Volume

**T**he first piece of infrastructure that Elizabeth Taylor AO ever designed was a small timber jetty in Sydney's Rozelle Bay. While she would go on to much bigger things and become one of Australia's great engineers in the process, that jetty has always held a special place in her heart. It was infrastructure built for the community, especially the local dockworkers. As well as being of practical benefit, it also meshed with her belief that 'we are humans living in concert with a fragile ecosystem'.

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.

But wonder evolves. With a focus on sustainability, *Ten Stories for Ten Years* invites us to reflect on infrastructure of enduring benefit to all.

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.

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 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.

The infrastructure sector is an important partner on our path to net zero emissions by 2050. We recognise the value of integrated climate, industry and infrastructure policy to support our commitment to building a modern economy. We see collaboration between the public and private sectors, government and industry as the most direct path to achieving that goal.

I commend the Infrastructure Sustainability Council for its decade of tremendous work in establishing and advancing the IS Rating Scheme. May the builders of the tomorrow find in these stories a blueprint for the future.

**The Hon Anthony Albanese MP**  
Prime Minister of Australia  
October 2022





# Acknowledgement of Country

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.

# Respect for Te Ao Māori

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.

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*“Strong leaders are brave, bold and dare to step out first despite the risks. They have long-sighted vision but can also meet others where they stand today. They stride out in front without leaving anyone behind. The leaders who have shaped the future of infrastructure investment on both sides of the Tasman are from diverse backgrounds and bring different perspectives. But they share one common purpose: to do better.”*

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**O**n Wednesday 29 February 2012, then Federal Infrastructure Minister Anthony Albanese stood before a packed crowd at Parliament House in Canberra to unveil Australia’s first national rating scheme for sustainable infrastructure.

Wishing the Infrastructure Sustainability Rating Scheme, or IS for short, a “busy life”, Mr Albanese noted that project teams working on everything

from roads to railways, drains to dams, sewers to cycleways now had the tools to do better.

In the decade since, IS has influenced the outcomes on \$219.8 billion in infrastructure projects. Behind each of these infrastructure assets is a group of passionate people working collectively with one aim: to build better infrastructure and better cities. To celebrate the IS Rating Scheme’s tenth anniversary, here are ten of their stories.



# 1 One big idea, many brilliant brains

Memory is an imperfect record, and all histories, even those of recent times, are a little hazy around the edges. But in late 2006 or early 2007, David Hood AM and Glenn Hedges began a conversation that changed the course of Australia's infrastructure industry.

Glenn had spent several years in the United Kingdom, bagging a swag of engineering awards and working on pilot projects influenced by the UK's new rating system for sustainable engineering projects, CEEQUAL.

On his return to Australia, Glenn was thinking about how to "switch the conversation from lowest cost compliance to doing better". The Green Building Council of Australia had launched the Green Star rating system for buildings in 2003, but there was nothing for large-scale infrastructure projects.

David, meanwhile, was Adjunct Professor in the Science and Engineering faculty at the Queensland University of Technology and had spent many years with Engineers Australia. David was focused on fostering a culture that could deliver sustainability outcomes across all engineering disciplines.

The two came together at a meeting of the Queensland division of Engineers Australia's Sustainable Engineering Society, at which David was presenting a talk on green buildings. "Glenn and I were chatting about sustainability afterwards and

two attendees came up to us from the audience," remembers David. "They said: 'Why are buildings having all the fun? What about infrastructure?' Glenn and I looked at each other and something sparked."

In parallel, David Singleton AM was independently championing an idea of a sustainability rating tool for infrastructure. David, then Arup's Chairman of Global Infrastructure, had looked on with undeniable interest at the GBCA's activities. "Sustainable infrastructure is a prerequisite for sustainable buildings. I wondered: 'How do we develop a mechanism to measure sustainable infrastructure?'," David says.

By February 2007, David Hood and Glenn Hedges were guest panellists at an Engineers Australia conference in Perth. The discussion topic? *Does Australia Need an Environmental Rating Scheme for Non-building Projects?*

The question generated a diversity of views – scepticism in some quarters, optimism in others. "We talked about the merits of setting benchmarks beyond business as usual, of rewarding projects and entities with a points-based system that engineers are all familiar with, and of having an independent, non-government organisation overseeing the ratings," Glenn says.

"There were lots of people saying: 'This is an interesting idea, but I don't think you'll make it



happen'. But we were energised by the collective passion of many people who thought we could achieve better outcomes."

David Singleton secured Arup's early support, which lent the idea credibility. Queensland's Department of Transport and Main Roads and Thiess provided financial and in-kind contributions. Several of the major consulting firms followed. "They came on board and they could see the commercial advantage of a rating system," David Singleton notes. This group of early supporters, by becoming foundation members of the infant association, gave it impetus.

From little things, big things grow. By March 2007, the idea had garnered such support that a volunteer steering committee was formed. Its first task was to find a similar tool or system – but none was uncovered anywhere in the world. The UK had CEEQUAL, launched in 2003, but this was limited to civil infrastructure and didn't cover the full scope

of sustainability. In the United States, the Institute for Sustainable Infrastructure was busy developing a rating tool, but Envision was still years away from release.

A year after that panel discussion in Perth, on 28 February 2008, the Australian Green Infrastructure Council, or AGIC, was launched at Queensland's Parliament House. David Hood was appointed chairman of the initial steering committee, and then became inaugural board chair; Glenn Hedges was company secretary.

But engineers like to make decisions based on evidence. "It was what I like to call 'I don't want to be first' syndrome," David Hood says. "Everyone would say, 'This is a fantastic idea, but it's a big risk. Come back to me when you've got 25 members. Few would take that leap and we started to descend into the valley of death well known to innovative start-ups.'"

# 2 Today's innovation, tomorrow's tradition

In August 2008, Doug Harland swung past the office of his daughter, Lara, to drop off a parcel. One small encounter would change the direction of AGIC for the next four years.

It was after hours and Lara Harland, then Chair of Engineers Australia's Sustainable Engineering Society, was chatting to David Hood and other colleagues over a bottle of red wine. A CEO to take the start-up association into its next phase was central to the conversation. But where would they find someone who would take on an ambitious to-do list on a part-time salary?

Doug was a trained mechanical engineer with an entrepreneurial spirit. He had worked his way up from the shop floor to general manager of a metals foundry, turning a derelict business into a profitable exporter of quality products. Doug also understood associations; he had been the chairman of the National Cast Metals Council and the Australian Foundry Institute, and Queensland president and national vice president of Ai Group.

"I wasn't interested in working for government. But the fact that it was an industry initiative and would be a 'world-first' caught my attention."

Doug became "hooked" on the idea and despite his family trying to convince him otherwise, he started work with AGIC on 7 October 2008. With enough funds in the kitty to pay his part-time salary until

March 2009, and with time ticking, Doug got to work.

"We had almost no money, and the board wanted \$1.3 million to have the scheme up and running within four years."

From his home base in Toowoomba, Doug began to build up a loyal band of members, selling them on the idea that "today's innovation is tomorrow's tradition".

"Coffee shops in capital cities were my offices as I trailed my wheelie suitcase behind me. I wore out a set of wheels chasing membership," he notes.

Doug "lost a lot of weekends" working on proposals and pitches. GHD and Thiess offered the time and talents of future CEO Antony Sprigg, and Glenn Hedges for a few days each week. Clayton Utz and Freehills, both foundation members, provided legal and constitutional advice at no charge.

David Hood had been knocking on the doors of several federal ministers when a chance encounter with Penny Wong, then federal Minister for Climate Change, shifted the dial. "Penny was presenting a talk at QUT and I was in the audience. At the end of her talk, I grabbed her on her way out of the room. I presented her with all our pamphlets... And then at 11 o'clock that night I got a phone call from her chief of staff. 'The minister thinks this idea is fantastic' he said and by the next day we had secured seed funding." Federal Infrastructure Minister Anthony



Albanese tipped in further investment and, with \$500,000 in the bank, "we were off and running to develop the world's first full sustainability rating scheme," David recalls.

Federal funding was a lifeline. But volunteers formed the bulk of the operations across four very busy working groups: Product Design and Development; Client Needs & Marketing; Governance Administration & Finance; Education & Training.

After a few months, temporary offices were secured at the Queensland University of Technology before Arup's Frank Vromans – a member of the AGIC board – offered up an empty but prestigious office at Arup's headquarters in Adelaide Street. It was modest rent, and the space was shared with City Smart and Green Cross.

Liz Conway made it a team of two a few months later, when she joined AGIC as office manager.

Liz developed a monthly newsletter – ably assisted by AECOM's Penny Townley's – and coordinated board and steering committee meetings, and organised conferences.

Doug, meanwhile, visited every civil engineering company in the country. Each had its own "sustainability package", Doug says, "and each had a different slant on what sustainability meant. But I would win people over with the idea of a common national language backed by a credible scheme."

AGIC grew quickly to 85 members by the end of 2010. More than \$800,000 had been raised – including the \$500,000 from the Gillard Government – for a rating tool.

But how to distil discussion, debate and a desire to do better into detailed technical documents? How to turn the lexicon of sustainability into a robust and reliable system that everyone would trust?

*"Before we launched our own scheme, I saw that CEEQUAL was rating £10 billion and I couldn't imagine that happening in Australia. To have influenced \$219 billion of infrastructure projects is amazing."*

**Doug Harland AOM, inaugural CEO,  
Infrastructure Sustainability Council**







## *NS Rating Scheme sponsors*

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**Australian Government**  
**Department of Climate Change and Energy Efficiency**  
**Department of Infrastructure and Transport**

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**New South Wales Government**  
**Department of Environment, Climate Change and Water**

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**Queensland Government**  
**Department of Transport and Main Roads**  
**Department of Environment and Resource Management**

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**BlueScope Steel**

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**Civil Contractors Federation**

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**GHD**

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**Plastics Industry Pipe Association**

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## *In-kind support*

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**AECOM**

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**Arup**

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**Clayton Utz**

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**CRC for Infrastructure and  
Engineering Asset Management**

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**Freehills**

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**GHD**

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**Manidis Roberts**

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**MWH**

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**Parsons Brinckerhoff**

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**Queensland Government**  
**Department of Environment and  
Resource Management**

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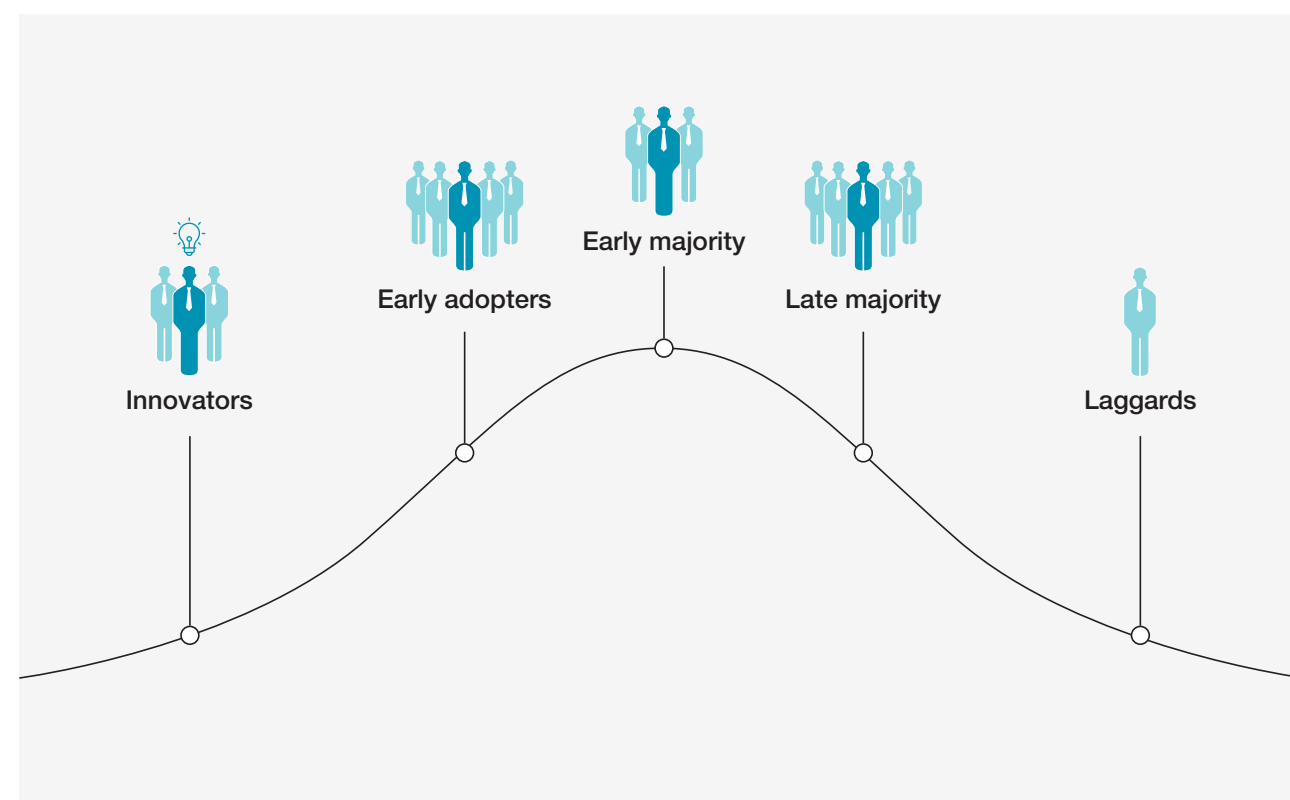
**Thiess**

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# 3 Holding true to the histogram of innovation

**W**hen you're trying to move markets, the 'histogram of innovation' is your best friend. This bell curve depicts how new ideas evolve from innovation to tradition. First, a tiny percentage of daring doers strike out in front, followed closely by the early adopters or 'first followers'. The early majority soon take their cues and step towards best practice. The late majority take their time, moving slowly but surely, while the laggards are eventually dragged along by regulation.

AGIC's champions hoped this histogram would hold true.



"Before IS, the only lever we had was regulation, really, and a company's desire to do better," says Rick Walters, AGIC's first Technical Director. Most infrastructure was built to "the lowest common denominator" and any improvements happened "at the margins".

"When we talked to people, we would show them how we were trying to shift the whole curve instead of pushing from the bottom. We needed new levers – and this just made sense to people."

A foundation board director and consultant with engineering firm Worley, Rick took on the enormous task of overseeing authorship of each section of the rating tool. With the help of project manager Antony Sprigg and around 100 volunteers, Rick worked with 16 authors across nine organisations to "crunch" the timeline into one short year.

"What is a camel? A horse designed by committee. The rating tool looked something like a camel, with each part designed by a different consultant," Rick laughs.

Leading such an ambitious undertaking proved impossible on a part-time basis. In February 2011,

Rick became AGIC's third full-time employee, and by June 2011, had all draft categories complete and ready for peer review.

But creating a new common language didn't need to be dry and dull. Rick quickly understood that the rating tool process was like a game. "We were creating a game for people to play. By winning points, they would know that they were heading in the right direction. That's what a rating scheme does – it incentivises people to set targets and move forward in the right direction."

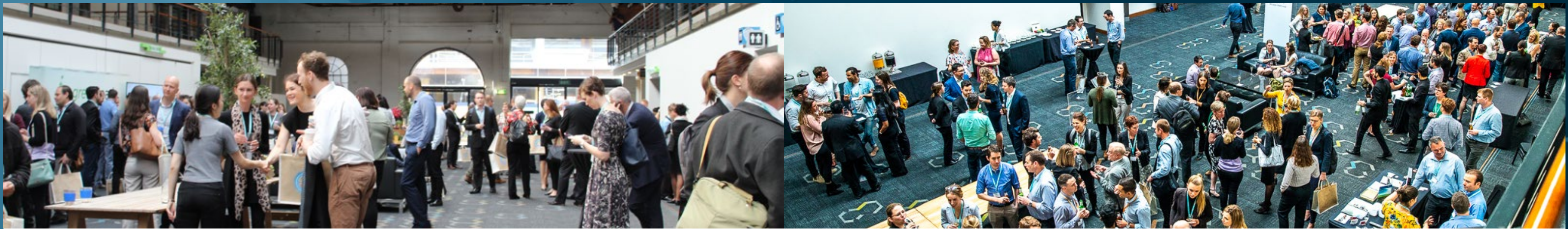
Three levels of achievement were established for each 'credit', which encouraged achievement in sustainability as "a journey" towards best practice and beyond, Rick notes.

No technical document is perfect, but to condense the aspirations of an industry into one transformational rating tool was an extraordinary collaborative effort. That collaborative process laid the foundations for an industry-wide esprit de corp. In the hyper-competitive infrastructure industry, sustainability became a non-compete space.

*"It's really heartening now to see the industry talking about how to do better – whether that's saving carbon or heritage or biodiversity. That certainty wasn't the conversation when the IS Rating Scheme was launched in 2012."*

**Rick Walters,**  
Chief of Standards and Innovation, GRESB





Category authors

Aurecon

Net Balance

AECOM

University of Technology Sydney  
Institute for Sustainable Futures

Edge Environment

EnviroPartners

Worley

Envisage Consulting

WSP Parsons Brinckerhoff

Global review panel

David Bentley

Kelly O'Halloran

Russell Cutler

Tony Stapledon

Denis Else

Rob Turk

Rick Walters

Peer reviewers

Mark Carden

Julian Hill

Michael Nolan

Brett Donaldson

Brett Lane

Robert Power

Brian Garsden

Mark Latham

Jane Scanlon

Michael Gerner

Steve Lee

Ed Smith

Rebecca Hendy

Bill Morris

Penny Townley

Tool scorecard design

Scott Losee



# 4 Going beyond the green scene

In October 2011, Professor Kate Auty delivered the opening address at AGIC's annual conference. The long-time Commissioner for Environmental Sustainability in Victoria noted the impact of extreme weather events on infrastructure. Sustainability standards for infrastructure would drive better social, as well as environmental outcomes, Professor Auty said.

Global sustainability strategist Professor Martin Blake, also addressing the crowd, emphasised the important role of sustainability measurement tools in reducing project risk and cost.

The audience was buzzing with energy and enthusiasm. AGIC had been testing the tool on pilot projects. Around 100 volunteers were working on various committees. And the industry was ready to begin translating ambition into action.

*The Fifth Estate*, reporting on the conference, noted that sustainability was entering the infrastructure tender process – a move CEO Doug Harland heralded as “a landmark”.

“Three years ago, the word sustainability was not in a tender document for infrastructure,” Doug told *The Fifth Estate*. “When we speak to people in government they are dealing with projects of \$30 or \$40 million. The AGIC framework gives them a structure and a standard to be able to compare tenders.”

With the rating tool launch slated for the following February, Doug foreshadowed a shift in AGIC's direction. The association would be rebranded, with the word ‘green’ removed from its title. “We want to push the idea that sustainability as ‘green’ has become too linked to the environment. Sustainability goes beyond that.”

The membership approved the move at the annual general meeting in December 2012. On 4 April 2012, Australia's champion for sustainable infrastructure would start a new chapter of its story.



*“I recall when the Australian Green Infrastructure Council started as a twinkle in the eyes of some engineers who were committed to infrastructure delivering greater sustainability outcomes for the environment and communities. I was working in the federal Department of Transport and Infrastructure at the time, and I was very proud that our government supported the establishment of the organisation and rating system.”*

*“The IS Council is now making a significant contribution to Australian and New Zealand efforts to address the UN Sustainable Development Goals, to meet our collective net zero goals and to building resilience to extreme weather events which are becoming increasingly intense due to climate change. Without IS there would be a gaping hole in our ability to tackle these enormous global challenges.”*

*“It has been my honour to be a Director for over five years, seeing the organisation evolve, and its membership and relevance continually grow. Now, with ESG reporting critical for corporate Australia and beyond, and delivering sustainability a ‘must’ to secure social license to build infrastructure, I can only imagine the Council’s future growth trajectory.”*

**Dorte Ekelund, Independent Director, Infrastructure Sustainability Council**

# 5 Everyone needs good neighbours

When he addressed the crowd at Canberra's Parliament House on Wednesday 29 February 2012, then Infrastructure Minister Anthony Albanese evoked the words of late American architect Paul Thiry, who designed the 1962 Seattle World's Fair: "Buildings should be good neighbours".

"It's reasonable to say infrastructure projects should also be good neighbours," Mr Albanese added. "Good neighbours to the environment in which they are built and good neighbours to the communities that they are there to serve."

The Infrastructure Sustainability Rating Scheme – IS for short – would be, Mr Albanese noted, "for infrastructure what the Green Star rating tool is for the building industry".

"It will help us assess the quality of management systems, the process of procurement and purchasing, how a piece of infrastructure can adapt to climate change and what it will discharge into land, air and water. It will even help us rate its contribution to urban and landscape design, and our wellbeing and safety."

IS had already been "embraced by industry," added newly minted Chairman, and sustainability stalwart, David Singleton AM. David Hood had stepped down the previous November to take up the position of national president of Engineers Australia.

When David Singleton stepped into the role of chair, his reputation as an industry statesman was enough to help the association turn aspiration into action.

David was determined to reframe the industry's understanding of sustainability. "Rather than settling for doing 'less bad', such as less environmental destruction or social disruption, we must aim from the outset to do 'more good'," he urged.

David was a vocal champion of sustainability. But he was also willing to work quietly behind the scenes to strengthen the association's governance structures and steward it into the next era.

As CEO and chairman of Arup Australasia for eight years and a director on countless boards, including Standards Australia, David understood the importance of good governance. In his role as chairman, David helped to align the board with the association's purpose and steer the organisation in the right direction.

Good governance, David believed, was not only an essential ingredient in an effective non-profit. It would also help to attract the right board members, partners, volunteers and employees to make the organisation stronger over time.

David established new processes to oversee finance, risk and audit. He also appreciated the value of diversity in decision-making. By casting a wide net, David attracted investment managers,

Location	Date	Launched by
National	29 February 2012	Hon Anthony Albanese MP, Minister for Infrastructure and Transport and Leader of the House of Representatives
New South Wales	8 March 2012	Hon Brad Hazzard MP, Minister for Planning and Infrastructure Minister Assisting the Premier on Infrastructure
Northern Territory	30 April 2012	Hon Gerry McCarthy MLA, Minister for Transport, Correctional Services, Construction, Arts & Museums, and Lands & Planning
Western Australia	19 June 2012	Menno Henneveld, Managing Director, Main Roads Western Australia
Victoria	8 August 2012	Elana Rubin, Chair, Australian Super
South Australia	5 September 2012	Hon Patrick Conlon MP, Minister for Transport and Infrastructure, Minister for Housing and Urban Development
Queensland	18 April 2013	Hon Andrew Cripps MP, Minister for Natural Resources and Mining

legal specialists, policy makers, developers and government leaders to the board, and increased the representation of women leaders. By enlarging the board's skillset, David was able to expand the association's influence and reach.

In that first year, David reset existing relationships and forged new partnerships with organisations as diverse as the Australian Water Association, the Green Buildings Council of Australia, Infrastructure Partnerships Australia, Roads Australia and the Sustainable Built Environment National Research Centre.

David put the wheels in motion for an awards program to celebrate leadership in sustainability. And with adept trouble-shooting skills, David worked patiently and methodologically to accelerate the pace of tool development – culminating in the launch at Parliament House.

The chairmanship wasn't the only change to the association. Doug Harland had retired and Antony Sprigg was about to take on the CEO role. Glenn Hedges – who handed over one baby just as he was welcoming another flesh and blood baby into the world – left the board. But by then the seeds they had planted had sprouted and big changes were ahead.

As David Singleton told the media at the launch: "With billions of dollars planned to be invested in Australian infrastructure, the IS Rating Scheme will contribute to more efficient, resilient and robust infrastructure."

*"It is always challenging to get people pointing in the same direction. But the success of IS proves that good ideas can move an entire industry forward."*

**David Singleton AM**



Credit Swinburne



# 6 From zero to hero

**W**hen Antony Sprigg took the reins of Infrastructure Sustainability Council of Australia in March 2012, he was handed a rating tool that was green in every sense of the word – except its name. He was also handed a “non-existent” operating budget and a titanic challenge.

An engineer and management consultant, Antony had been deeply involved with the Council for many years.. As a volunteer and part-time project manager, Antony was instrumental in the development of the first version of IS. A sustainability and climate change advisor with GHD, he had spent several years in Canberra, and had cut his advocacy teeth helping the Council to secure industry funding when IS was still a big dream in a boardroom.

Taking the tool from “literally zero” to world-leading would take a heroic effort. So Antony made a very smart, strategic decision. “Infrastructure is largely publicly funded. I decided to put 90 per cent of my energy into securing IS mandates from governments and to get the tool built into procurement. We wanted it locked in.”

Luring governments over the line was no mean feat. Every meeting required a bespoke business case. “Every pitch had to be tailored, otherwise I’d be told: ‘I can’t sell this to my minister’. It took a lot of effort to win everyone’s trust.”

*“In infrastructure, incremental change can still add up to billions of dollars. But IS’s steady growth shows that government mandates have built momentum. That’s exciting for the future of the rating scheme.”*

**Antony Sprigg, Strategic Advisor – Sustainable Finance, NSW Treasury**



A handful of game-changing projects like Transport for NSW’s Sydney Metro and Auckland Airport moved the goalposts. But even more influential were the government champions. One of those was Menno Henneveld, the then commissioner and managing director of Main Roads Western Australia, responsible for delivering more than \$6 billion of road infrastructure projects while managing the state’s 18,000-kilometre road network.

“Menno was an absolute legend and an advocate of IS from the start. He was instrumental in the WA Government mandating IS. He gave IS a leg-up and if it wasn’t for his exceptional leadership, I don’t think IS would be as successful today,” Antony says.

Aptly, a 4.2-kilometre stretch of Western Australia’s Great Eastern Highway secured IS’s first ‘Commended’ rating in 2013. The \$350 million upgrade offered an important proof point for sustainable infrastructure. With IS as a framework for

collaboration, the entire project team was enlisted to generate ideas and drive innovation throughout the project’s lifecycle.

While governments were his primary target market, Antony influenced IS’s direction by engaging with an eye-wateringly broad range of stakeholders. Think contractors and asset operators to material supply chain players, local councils to government policy makers, Austrade, G20 and the World Bank.

It was during a World Bank meeting in 2018 that Australia’s IS scheme was heralded as “world-leading”.

“That was a seminal moment, because representatives from the G20 and all the global rating tools were there, plus all the major multilateral development banks,” Antony notes. “We got profiled as leading the world. To me, that gave the infrastructure sector confidence to do even more.”



# 7 Sustainability at scale

It was an encounter with one of Sydney Metro's 90-tonne, 120-metre-long tunnel borers that put the work of the Council's first case manager into perspective.

Jessica Cairns was on a site tour of Australia's largest infrastructure project.

"I'll never forget the scale. Standing side-by-side with this enormous tunnel infrastructure gave us a full appreciation of the impact IS was making."

The multi-stage project was first awarded a 'Leading' IS Rating in 2016. More than 500 sustainability requirements were integrated into the mega project, which will eventually feature 31 stations and more than 65 kilometres of new rail.

"Transport for NSW set the wheels in motion for a lot of government mandates," Jessica notes.

"It's quite incredible to think that transformation of our industry occurred over a five-to-seven-year period – about the same time it takes to design and build infrastructure assets." These assets may be in

use for 100 or 200 years, or as Jessica notes, "will be around forever because you can't ever take a tunnel out of the ground".

When Jessica joined in 2013, she was team member number four and the first dedicated case manager. Her first project assigned was the \$45 million Whitsunday Sewage Treatment Plant Upgrades – a modest name for another market-moving project.

The upgrade of two treatment plants at Proserpine and Cannonvale "moved the theory of the rating tool to an actual real live application, and uncovered benefits that could be quantified and understood by a range of stakeholders," reflects Matt Brennan.

Then the Group Sustainability Manager for Tenix (now Downer Group) and now Head of Sustainability for Transurban, Matt led the project team that took a leap of faith and achieved the first ever IS rating in May 2013.

"An IS rating wasn't specified in the tender and civil contractors weren't using sustainability as a proof point to attract business. But our CEO and leadership

*"To see transformation unfold has been so rewarding. Sustainability was first embedded into tender contracts, then even earlier into concept design, and then even earlier into planning considerations and ministers' conditions of approval."*

**Jessica Cairns, Head of ESG & Sustainability, Alphinity Investment Management**





team understood there was a real opportunity for us to create a point of difference in the market,” he says.

With a “bare bones budget” for consultants, Matt’s team rallied around the rating opportunity. “Our only constraints were cost and time. Everything else was up for grabs.”

The results remain impressive to this day. A massive 1,500 tonnes of carbon emissions were saved simply by optimising the design. This included 4,189 tonnes less concrete than a base case design, thanks to a partnership with Boral that “sent a strong signal to the sector”. Another 21,000 tonnes of emissions will be eliminated over the lifetime of the asset, due to clever carbon and energy reduction strategies.

The Whitsunday Sewage Treatment Plant Upgrades project delivered a 43 per cent total life cycle water saving – representing around three gigalitres – due to more efficient use of recycled effluent. And a strong commitment to sustainable procurement was evidenced in the 61 per cent of total budget spent in the Whitsunday region.

The rating process helped the project team uncover otherwise hidden sustainability risks, Matt notes. “We identified the need for backup energy generation in the event of a cyclone to prevent potentially millions of litres of sewage from flowing into an area immediately adjacent to the Great Barrier Reef. Without the IS methodology, we would not have identified this risk or put in place measures to address it.”

The Tenix team invented new processes along the way – like the credit summary form that remains in use today. “There was no track record of the quantum of evidence required, the verification process or the interpretation of individual

*“The whole thinking process changes when you make a commitment to a sustainability rating. This thinking wasn’t always embedded into processes, systems, organisations or supply chains. But today it’s BAU. Sustainability is more a question of degree, rather than a ‘yes or no’ question. It’s just expected.”*

**Matt Brennan, Head of Sustainability, Transurban**

benchmarks and credits. I remember being anxious about whether we had hit the mark,” Matt reflects.

What was the secret sauce? “A lot of creative thinking and a compressed time frame. We were really keen to achieve that first rating and we knew other organisations were pursuing the same goal. That gave us an extra push.”

That push paid off and the Council got the proof point it needed to show the industry what an ‘Excellent’ rating looked like, Jessica adds.

“In a few short years, we transformed the industry’s resource base. It was no longer the sustainability manager’s problem. It became a problem for the design manager too; and for the construction manager and the project director. Today, everyone is engaged in delivering sustainability.”

*“IS has gained strong traction in the transport sector and is now expanding into other infrastructure sectors, like energy and water. The scheme is also influencing sustainability across the whole lifecycle of projects. A large infrastructure project may take 10 years to complete, but it could be operating for 100 years. Infrastructure assets are here for the long term. IS helps us look beyond the here-and-now to get it right for future generations.”*

**Deb Spring, Chair, Infrastructure Sustainability Council**





# 8 Sustainability aspirations soar in Aotearoa New Zealand

**A**otearoa New Zealand's sustainability champions had been connecting and collaborating for several years when word spread that a new rating scheme for infrastructure was being developed on the other side of the Tasman.

Dr Kerry Griffiths had been a technical director of Sustainability at AECOM (and before that URS Corporation) for many years. She had pieced together her own framework to influence sustainability on a state highway project north of Auckland. "I knew that infrastructure development was the real opportunity to drive sustainability at scale," she reflects.

New Zealand's sustainable infrastructure movement "started with a small group of people talking to one another," Kerry notes. "There weren't sustainability managers on projects, but people were taking on ideas and were determined to drive different outcomes."

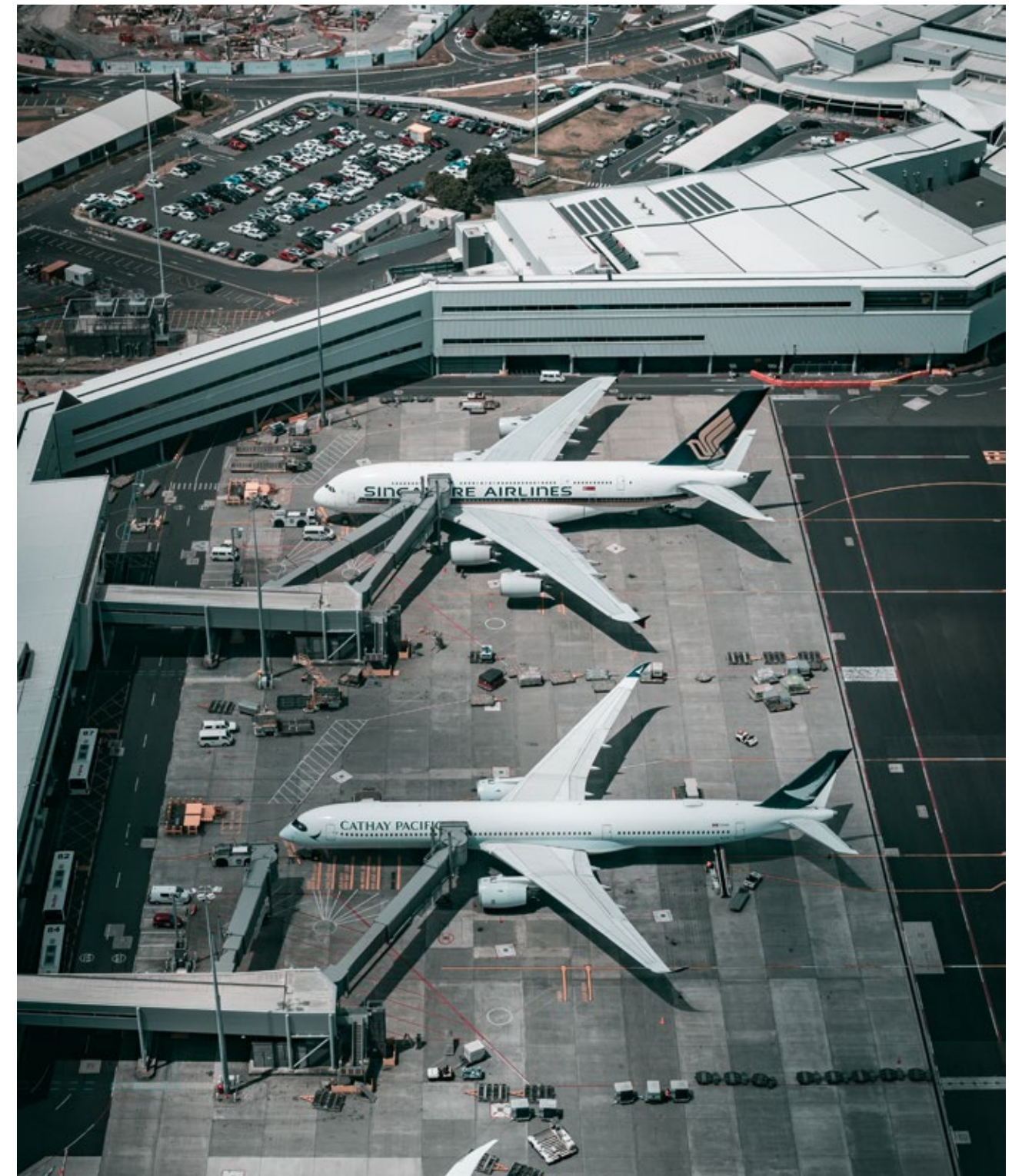
In 2018, Kerry and Aurecon's Liz Root, who was Principal Sustainability Advisor on City Rail Link were appointed co-chairs of the evolving New Zealand Working Group. With a PhD in infrastructure sustainable rating tools, Kerry later

became the Council's first employee in Aotearoa New Zealand, when she took on the role of Technical Director in 2020.

"Before IS, people were looking for a common framework and a community of practice. They also wanted a third-party verifier to add weight to their sustainability commitments."

Auckland Airport is the gateway to Aotearoa New Zealand, so it is only fitting that it was the nation's first infrastructure asset to achieve an IS Operations Pilot rating in October 2015. Together with Panuku Development Auckland (Design) and McDougal's Alpine Chondola (As Built), the airport helped to set the benchmarks for IS in Aotearoa New Zealand.

Championing the airport's rating was Martin Fryer. When he joined Auckland Airport as Sustainability Manager in 2007, the organisation had a visionary leadership team that was determined to embed sustainable business practice into its operations. Some "big ticket" sustainability initiatives around energy efficiency were underway. But Martin and the airport's leadership team were ambitious.



*"The IS framework really drove a mindset of 'doing more with less' and deepened our team's awareness of the impacts of construction waste. This focus on reuse has continually grown over the course of the project, to the point where City Rail Link is now on track to achieve 99% diversion of waste to landfill."*

**Liz Root, Director, Environment and Planning, Aurecon**



“The IS rating helped solidify our thinking around sustainability. It gave me the ability to engage with people about what sustainability meant for an airport. It wasn’t just about being more efficient. It was also about looking outside the boundary of the airport to deliver real social impact.”

This led to several standout sustainability initiatives. Take the innovative waste reduction program. When Martin joined Auckland Airport, all cabin waste was classified as “quarantine waste” and therefore compulsorily steam sterilised and sent to landfill. Auckland Airport worked closely with waste contractors, airlines and the Ministry of Primary Industry to develop a transitional waste recovery facility that segregates and sorts cabin waste. Other airports are now looking to adopt similar practices.

“Seeking an IS rating helped us build momentum from the ministry down. The IS rating was an additional way to showcase value to government.” Once the new practice was initiated “our recycling rate went from zero to around 40% overnight”.

The IS rating process also uncovered opportunities for Auckland Airport to elevate its efforts in the social sustainability space. “We were already very committed to local communities, but IS encouraged us to consider social impact in new ways.” For instance, Ara – Maori for pathway – is jobs and employment hub established to create economic opportunity for people in South Auckland. “We realised, after speaking to people in the community, that there were many Pasifika people willing and able to work, but we needed to help them overcome language barriers so they could sit their driver’s license.” A Samoan driving instructor was hired and one small move helped hundreds of people find employment.

Achieving the IS rating allowed Auckland Airport to “look more broadly at sustainability from many angles,”

Martin adds, and proved a launching pad to other ‘firsts’. Auckland Airport was the first NZX-listed company to set a science-based target for carbon emissions reduction in 2017.

“We spent several years turning our asset into an efficient piece of infrastructure. We wanted to carry that philosophy into future designs – and one of the advantages of an IS Operations rating was that it verified that we were operating to a recognised

benchmark and that we could move into the next stage of development with confidence that this standard would be maintained.”

The next game-changing project was City Rail Link – a NZ\$4.4 billion project that is the country’s single largest transport infrastructure scheme. This achieved Aotearoa New Zealand’s first Leading IS Design rating.

The multi-stage project – which will double Auckland’s rail capacity and double the number of Aucklanders within 30 minutes of the central city – has slashed waste and emissions.

In 2022, Liz Root was honoured with the Council’s Outstanding Contribution to the Sector Award for her work to enhance infrastructure sustainability and social outcomes, largely in her role as Sustainability Manager on City Rail Link.

“When I first joined the project, sustainability was well embedded in the vertical construction industry, but the infrastructure sector hadn’t yet landed on what sustainability meant for them and how it could be practically applied,” Liz reflects.

Among Liz’s many achievements was to improve supplier diversity and to enhance training and employment opportunities for those traditionally disadvantaged in the labour market.

City Rail Link’s leadership led to a world-first initiative, partnering with mana whenua – the people who exercise authority over land or territory – to embed Te Aō Māori values into the Infrastructure Sustainability framework.

“Our approach opened other sustainability practitioners’ eyes to what could be done when engaging with mana whenua in New Zealand and Indigenous communities in Australia.”

“Using the IS Rating Scheme at City Rail Link helped accelerate that adoption of more sustainable practices and created a common language for the industry.”



*“Our intentional focus on female participation and diversity in the leadership of the organisation has been impressive. We have had women hold the positions of CEO, chair and deputy chair and women represent 63% of directors on the board overall. I do not think it will be too long before we have participation from Australia’s First Nations and New Zealand Māori people also on the board. This is an important addition that will enhance the leadership of the organisation into the future.”*

**Sarah Marshall, Deputy Chair, Infrastructure Sustainability Council**



# 9 The world's great problem solvers

**E**ngineers are among the world's great problem solvers. Trained to think in terms of theoretical frameworks, engineers are skilled at defining a problem and then using structured methods to solve it.

This made a national rating scheme an obvious solution to the problem of sustainability in infrastructure, says Romilly Madew AO.

Romilly has seen this problem-solving ability in action from multiple angles. As the long-time CEO of the Green Building Council of Australia, Romilly cheered IS from the sidelines and watched "an idea from a bunch of engineers bloom into an industry-shaping organisation".

The GBCA was a powerful early ally for the IS Council, offering its intellectual property, governance structure and the processes established for Green Star – another rating tool developed by engineers – as a template, she says.

"We welcomed the work of the IS Council. Infrastructure wasn't in the GBCA's strategic plan, but we knew the central role it would play in sustainable cities," Romilly reflects.

This early partnership laid a foundation for a decade of collaboration between the two associations, characterised by the development of guides and reports to elevate sustainability and the use of both IS and Green Star in all city-shaping activity.

By late 2012, ISCA was an active member of the Australian Sustainable Built Environment Council (ASBEC). Romilly, ASBEC's Deputy President at the time, says this was a pivotal moment for both organisations. "I think ASBEC helped ISCA to grow. But ISCA also helped ASBEC. ISCA strengthened the coalition for the built environment and helped ASBEC broaden its remit beyond cities and buildings."

Later, as CEO of Infrastructure Australia, Romilly saw that collaborative spirit at work as the Infrastructure Sustainability Council established industry-first partnerships, such as that with Roads Australia and the Australasian Railway Association. These partnerships recognised that "no single organisation can effectively address the challenge of climate change and that we must work together," Romilly adds.

Today, as CEO of Engineers Australia, Romilly is looking at the challenge of sustainability through yet another lens.

"Engineers can be fierce rivals in their day jobs. But their desire to develop something to set the nation on the right path was stronger than that competitive spirit. This commitment to collaboration built a rating system to solve one of the world's wicked problems. The founders of IS didn't just talk about doing something. They did it."



*It's inspiring to see the Council growing strategically, with shared responsibility at the board table, an empowered executive and an ambitious membership. With an enduring Strategic Plan, the Council is navigating a period of transformation with its sights firmly set on purpose and positive impact - ensuring social, cultural, environmental and economic returns for society through considered planning, investment and commitment.*

**Alison Rowe, Managing Director, The Nature Conservancy**

*"Over the last 10 years we have seen the Council transform from what was once a 'green' rating tool into a highly respected industry peak body that is delivering broader social, cultural, environmental and economic benefits across all forms of our horizontal infrastructure. We now have a strong presence across Australia and Aotearoa New Zealand.*

*The IS Council's relationships with its members, partners and key stakeholders remains authentic and always true to its purpose and values. The respect and support by the industry was evident during COVID.*

*The success of the Council today is a testament to all the hard work, dedication and passion of all past and present employees, management teams, directors and founders."*

**Sarah Marshall, Deputy Chair, Infrastructure Sustainability Council**







# 10 *A decade of* determination

In December 2019, the IS Rating Scheme was recognised with top honour at the world's longest running sustainability awards – the Banksia Awards.

Accepting the Banksia Gold Award on behalf of the hundreds – if not thousands – of people who supported IS's progress, CEO Ainsley Simpson hailed an industry success story that “underscores the power of collaboration and cross-sector commitment to do things differently”.

Ainsley, who had taken over the role from Antony Sprigg the previous March, noted that each iteration of IS from its earliest beginnings “had been developed collaboratively, and we could not have had the same impact without this approach”.

Ainsley says this collaborative approach was a characteristic of long-time chairman David Singleton. “David’s wisdom, experience and passion were a great contribution to me and the board. His extensive experience and expertise in smart cities, infrastructure and the built environment gave us a broad base of support and a launching pad to spring to greater success.”

Collaboration, like infrastructure, is a “great enabler,” Ainsley reflects. IS has now been deployed in every Australian state and territory and in Aotearoa New Zealand. The scheme has evolved to span all stages of the asset lifecycle from planning to asset management. Aligned to the UN Sustainable Development Goals, it is a tool to demonstrate the quadruple bottom line of environmental, social, governance and economic sustainability.



Work undertaken to unpack the rating tool's return on investment in 2020 uncovered a minimum of AU\$1.60 in benefit for every dollar spent – and this figure could be as high as \$2.40. This is over and above the productivity dividend. “We now have a credible evidence base that makes it clear that investing in sustainability isn’t just good practice but makes good economic sense,” Ainsley says.

Armed with that information, the progressive governments are well and truly on board. Nation-building infrastructure is being rated by IS. The Westpac NZ Government Innovation Fund is backing IS Essentials to rate assets of less than \$100 million in capital expenditure. And the NSW Government has directed investment to digitise the IS Materials Calculator to improve harmonisation and enhance data collection for embodied energy. These are just three illustrations of government leadership in action.

*“As sustainability has evolved, so has the IS Rating Scheme.*

*The board looks to the horizon to identify new trends reshaping infrastructure and the world around us, and to find opportunities to expand the tool’s impact and influence. In addition to looking forward, we ensure due process is followed.*

*As we digitise IS and roll out new versions, we oversee proper scoping and testing to ensure IS continues to meet market expectations.”*

**Deb Spring, Chair,  
Infrastructure Sustainability Council**



*“IS established a level playing field... and to keep our competitive edge, we strived to outperform each other. That resulted in more and more positive outcomes for the environment and communities in which we work.”*

**Rebecca Hendy, Senior Sustainability Advisor, McConnell Dowell Constructors (Aust.) Pty Ltd**

*“Over the last 10 years the IS Rating Scheme has coalesced infrastructure stakeholders to take a step change in sustainability. It has debunked the myth that being sustainable costs money and has firmly established the benefits – commercially, environmentally and socially.”*

**Jayne Whitney, Chief Strategy Officer, John Holland**

*“It is inspiring to see the Council growing strategically, with shared responsibility at the board table, an empowered executive and an ambitious membership. With an enduring strategic plan, the Council is navigating a period of transformation with its sights firmly set on purpose and positive impact, ensuring social, cultural, environmental and economic returns for society through considered planning, investment and commitment.”*

**Alison Rowe, Managing Director, The Nature Conservancy**



*“IS has created a new profession. A unique set of skills is needed to engage construction and procurement teams, designers and proponents to instigate change. Seeing a new generation of engineers, environmental scientists and economists wanting to get into the sustainable infrastructure space is really satisfying.”*

**Glenn Hedges, Sustainability Manager, CPB Contractors**



# Seasons of change

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*The transition to the Infrastructure Sustainability Council in 2021 recognised that the IS Rating Scheme was influencing infrastructure in countries other than Australia.*

*“Our brand honours the past, looks to the future, respects the commitment from our whanau (community) and to our mahi (work) in Aotearoa New Zealand, and lays the foundations to extend our impact beyond our shores,” Ainsley notes.*

*“The IS Rating Scheme will continue to drive global best practice in infrastructure. Our roots will always be proudly Australian; however, we accept that there is more to do, and that our near neighbours also deserve to reap the long-term benefits of sustainable infrastructure for their intergenerational livelihoods.”*

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**M**embership has grown “both incrementally and exponentially” and the Council’s diverse team – “in every possible way except when it comes to purpose” – is spread across both nations, from Hobart to Christchurch, Townsville to Perth. “There has been tremendous growth, plenty of change, but every handprint has made our culture stronger,” Ainsley adds.

“Every person who has had a hand in establishing the Council as the authority on infrastructure sustainability is part of our story. From those formative development days, we have navigated significant challenges to build the foundations for a cohesive infrastructure sustainability community.”

Creating a new language for sustainability that now influences infrastructure in two countries was never an easy proposition. But as Ainsley says: “From adversity comes opportunity, from adversity comes strength because adversity demands choice. It is moving

through hardship, making a choice not to surrender, that we develop the deepest form of strength.”

A decade after its release, the IS Rating Scheme has 330 projects, representing \$219 billion in capital value. Over the past five years 21 tonnes of carbon emissions have been saved across the lifecycle of the certified assets – the equivalent to removing 4.5 million cars from the roads or powering 2.6 million homes for a year.

Now, the infrastructure sector has a far more ambitious sustainability agenda and the door is open for people to think about the challenges from multiple different angles – whether that’s the circular economy or carbon emissions, gender equality on work sites or zero waste, recycling rates or reconciliation action plans. The Infrastructure Sustainability Council is set to continue its ‘busy life’.





## *Contributors*

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