



## Benchmarking, facilitating and recognising sustainability performance

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Advancing sustainability in infrastructure  
planning, procurement, delivery and operation.

## ISCA Overview

- Infrastructure Sustainability Council of Australia
- Member based, not-for-profit, industry council
- The IS rating tool
- First and only national sustainability rating tool for infrastructure (considered world leading)
- Measures sustainability performance across the quadruple bottom line (environmental, social, economic and governance)
- Voluntary but can be mandated

## ISCA NZ

- Advisory Group
- Founding Membership
- Change name
- Infrastructure Sustainability Community of Practice
- 4 pilots
- Local resources and funding for local framework and rating tool

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## Australia Founding Members

			 <i>Dedicated to a better Brisbane</i>
 CIVIL CONTRACTORS FEDERATION	CLAYTON UTZ		 HERBERT SMITH FREEHILLS
		 LOCAL GOVERNMENT INFRASTRUCTURE SERVICES	
			
			

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## Australia Members

<b>AECOM</b>	<b>arrium</b> MINING AND MATERIALS	<b>ARUP</b>	<b>ASA</b> Sustainable Built Environment	<b>aurecon</b>	<b>asa</b> Sustainable Built & Shaping Infrastructure	<b>AAPA</b> AUSTRALIAN AIRPORT AUTHORITY	<b>ASCP</b> ASSET MANAGEMENT
<b>BLUESCOPE</b>	<b>CLAYTON UTZ</b>	<b>Colonial First State</b> Global Asset Management	<b>DownerTenix</b>	<b>edge</b> environment	<b>eTool</b> Available software for sustainable design	<b>SAFARI PORTS</b>	
<b>Fulton Hogan</b>	<b>GHD</b>	<b>GREATER SHEPPARTON</b>	<b>Hames Sharley</b>	<b>Holcim</b>	<b>HOLDING REDLICH</b>	<b>Hyder</b>	<b>icon</b> WATER
<b>JACOBS</b>	<b>John Holland</b>	<b>KMH</b> ENVIRONMENTAL	<b>LAND O'ROUSE</b>	<b>Lease</b>	<b>Lend Lease</b>	<b>LINKING MELBOURNE</b> ALBERTA	<b>McCONNELL DOWELL</b> CREATIVE CONSTRUCTION
<b>OPUS</b>	<b>PIPA</b>	<b>Port of Melbourne</b>	<b>Queanbeyan City Council</b>	<b>RPS</b>	<b>salini impregilo</b>	<b>START2SEE</b> SUSTAINABLE CONSTRUCTION	
<b>Sustainable Built Environment</b> Brisbane, Queensland, Sydney	<b>THIASS</b>	<b>transurban</b>	<b>UrbanGrowth NSW</b>	<b>utilibiz</b>	<b>ValueAdviser</b> Infrastructure enabling infrastructure development	<b>Urban International</b> Creative Process	
<b>WSP</b> <b>PARSONS BRINCKERHOFF</b>	<b>WWF</b>	<b>XYPEX</b> Sustainable & Creative Network	<b>Office of Environment &amp; Heritage</b>	<b>Transport</b> Roads & Maritime Services	<b>Transport</b> for NSW	<b>Transport</b> for NSW	<b>Public Works</b>
<b>Capital Metro</b>	<b>ACT</b> Government of Australian Capital Territory	<b>ACT</b> Government of Australian Capital Territory	<b>mainroads</b>	<b>MRA</b> Main Roads Authority	<b>Queensland Government</b>		

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## Members

### Current Founding Members

<b>AECOM</b>	<b>ARUP</b>	<b>CLAYTON UTZ</b>	<b>GHD</b>	<b>icon</b> WATER	<b>lendlease</b>	<b>Office of Environment &amp; Heritage</b>	<b>Queensland Government</b>
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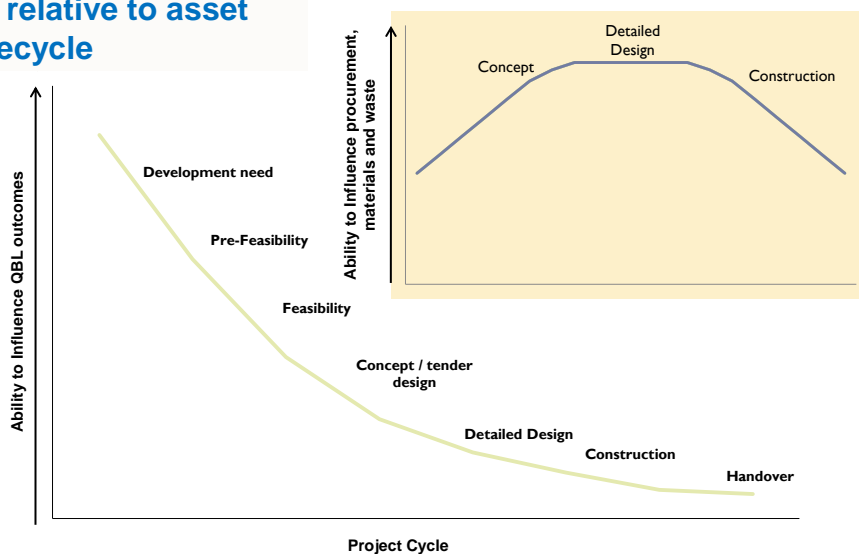
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## Role of ISCA in the Industry



## IS relative to asset lifecycle



## IS Benefits and business case

- Common national language for sustainability in infrastructure
- Consistent application and evaluation of sustainability in **tendering** processes
- Scoping whole-of-life sustainability **risks** for projects and assets, enabling **smarter solutions** that reduce risks and costs
- Fosters **resource efficiency** and **waste reduction, reducing costs**
- Fosters **innovation** and continuous improvement
- Builds an organisations credentials and **reputation** in its approach to sustainability in infrastructure

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## Practical benefits - Gold Coast Light Rail – As-built rating (QLD)

- \$15 million saved through implementation of sustainability initiatives.
- 55% improvement in embodied carbon based on a reference design.
- No major exceedances of water quality, noise, vibration or air quality monitoring goals.
- The project footprint is primarily within an existing road corridor, and as such 87% of the project land has been assessed as previously disturbed.
- All spoil from the project is either reused on site or is trucked offsite to a recycling site for reuse or reprocessing. 100% recycling rate.
- The project achieved a recycling rate of 89.7% across the board for inert and non-hazardous wastes.

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## Practical benefits - Whitsundays STP Upgrades Design and As Built ratings (QLD)

- \$1 million saved through implementation of sustainability initiatives.
- 50% of total spend in Whitsunday region
- 30% of total spend in greater Queensland
- 305 MWh electricity saved over operational life – thus a 14% reduction equating to \$75,000 saving/year
- Use of B20 Biodiesel avoiding 272 tCO<sub>2</sub>-e (cost neutral)
- Ecological value enhanced through >5,000 m<sup>2</sup> of regenerated native habitat and 1000 m<sup>2</sup> of wetland

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## IS for assets – how it can be used and/or useful to you ...

Industry standard which you can use to:

- Benchmark SLtO performance
- Benchmark and identify resource productivity opportunities
- Inform annual reporting metrics and targets
- Benchmark current performance to inform future plans
- Inform design decision making
- Investor due diligence and value creation

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## OS IS Traction and trends

- NZ pilots. NZ IS.
- SE Asia interest
- Global feedback

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## Show me the money \$\$\$

The following slides show examples of the financial or broader economic benefits or losses associated with social, economic, environmental and governance attributes.

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## Project Productivity

Deloitte Access Economics, 2015

- There are big opportunities for more efficient procurement:
- Reduce the costs of projects by 5.4%, comprised of:
  - direct price increases of 3.6%
  - indirect price increases of 1.5% from reduced competition
  - inefficient costs of bidding worth 0.3% of project prices
- Reduce delays to projects by 7%
- Improve the quality of projects by 7%

Governance sustainability issue primarily associated with poor decision making, lack of transparency misaligned roles and responsibilities resulting in reduced productivity. An opportunity to integrate project excellence.

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## Social Licence

Level of industry and community acceptance

Types of costs from lost social licence:

- Security, Project modification, Risk management, Material damage, Lost productivity, Capital, Personnel, Reputation, Redress

MELBOURNE'S East West Link project has been declared dead for a price of **\$339 million**, but the true cost for Victorian taxpayers may be up to \$900 million. Apr 15, 2015

A fundamental social and economic issue, where stakeholders often leverage environmental impacts (real or perceived) for personal/political gain.

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## Risk of Climate Change

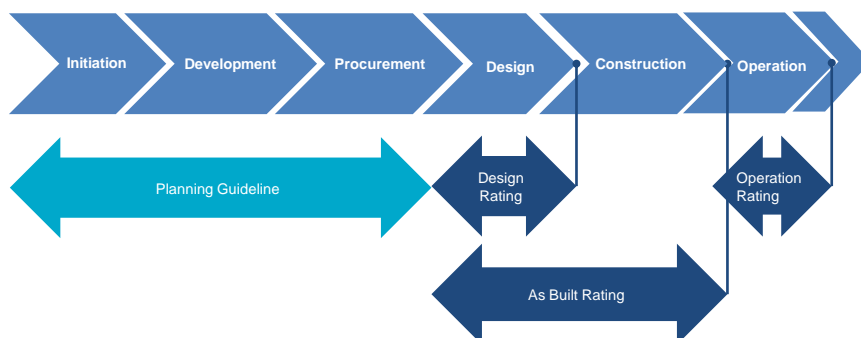
- Australia's infrastructure has been built for the climate of the 20th century and is unprepared for rising sea level.
- A sea-level rise of only 0.5 m would, on average, mean that a 1-in-a-100 year flood—a very rare event today—would occur every few months.
- Sea level rise of 1.1m would put **\$67B of road and rail assets at risk**.

The Climate Council, 2014

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## Whole of Life

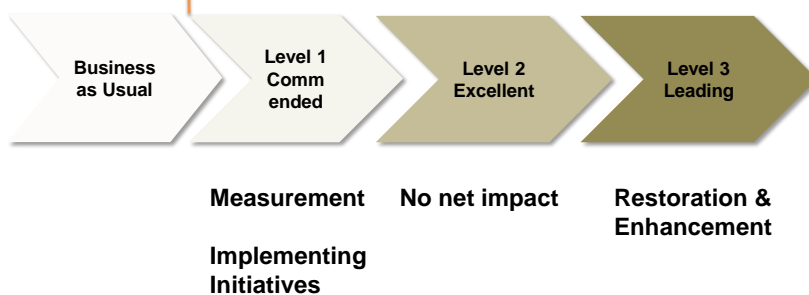


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## Benchmarking

### Compliance

### Beyond Compliance



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## Rating Levels

Score	Rating Level
< 25	Not eligible to apply for a certified rating
25 - 49	Commended
50 - 74	Excellent
75 - 100	Leading

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## IS Rating Scheme



- IS rating tool comprises
  - Rating Tool Scorecard
  - Materials Calculator
  - Technical Manual
- Assessment process involves
  - Registration
  - Assessment support
  - Independent Verification
  - Certification and rating award
- Education and training programmes
  - IS Accredited Professional (ISAP)

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## IS Themes and Categories

Themes	Categories
Management and Governance	Management Systems
	Procurement and Purchasing
	Climate Change Adaptation
Using Resources	Energy and Carbon
	Water
	Materials
Emissions, Pollution and Waste	Discharges to Air, Land and Water
	Land
	Waste
Ecology	Ecology
People and Place	Community Health, Well-being and Safety
	Heritage
	Stakeholder Participation
Innovation	Urban and Landscape Design
	Innovation

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## Industry want a genuine triple bottom line approach to infrastructure sustainability

- The industry recognises the importance of having **beyond compliance** thinking
- The industry wants leading practice and innovation to be **benchmarked and shared**
- ISCA is developing Workforce and Economic themes for the IS tool V2 to facilitate a **triple bottom line** approach to infrastructure planning, procurement, delivery and operation

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Total Registrations



Capital Value >\$45 billion

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## IS certified or complete ratings

### Certified IS Design



Capital Value  
\$1.1 billion

### Certified IS As Built



Capital Value  
\$1.2 billion

### Completed Planning



Capital Value  
\$6.3 billion

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## Update Certified



Googong Water Treatment Plant  
Chemical Facility Upgrade (ACT)



Whitsundays STP Upgrades (QLD)  
Gateway WA Perth Airport & Freight  
Access (WA)



Great Eastern Hwy Upgrade  
(WA)  
Enlarged Cotter Dam (ACT)  
North West Rail Link Early Works  
(NSW)



Gold Coast Light Rail (QLD)  
Whitsundays STP Upgrades (QLD)

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## IS rating registrations

### IS Design



Capital Value  
\$12.7 billion

### IS As Built



Capital Value  
\$1.5 billion

### Planning



Capital Value  
\$20.8 billion

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## IS rating registrations

### IS Operations PILOT



Capital Value  
\$0.7 billion

### New Zealand IS Design PILOT



Capital Value  
\$13 million

### Confidential



Capital Value  
\$5.5 billion

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## Some common and related assumptions to shake things up a bit ...

- Design life – why for 100 yrs – should plan for deconstruction/adaptation – Seoul highways ...
- Community engagement should not be considered a compliance and regulatory gateway (burden) ... it should be continual, valued and leveraged to inform decisions
- Resilience is common sense, it is not a replacement for considering climate change risk and other natural hazards, but is a critical test of our infrastructures ability to deal with long tail (black swan) risks, flexibility and adaptability, inter and intra infra/non infra relationships ....
- The environment can be valued, it just isn't being valued ....
- Social license is potentially your most significant material risk to your project ... \$\$\$\$\$\$

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## Thank you

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