

Thursday, 28 November 2019

Climate Change Consultation

Department of Water and Environmental Regulation

Locked Bag 10,

Joondalup DC WA 6919

RE: ISCA submission to the Department of Water and Environmental Regulation (DWER) re Western Australia's Response to Climate Change

The Infrastructure Sustainability Council of Australia (ISCA) welcomes the opportunity to assist DWER in formulating an effective response to climate change in Western Australia.

ISCA is a member-based, not-for-profit peak body operating in all Australian states (including Western Australia) and in New Zealand with the purpose of enabling and rewarding sustainability best practice and climate change responsiveness in infrastructure. ISCA operates the industry-led Infrastructure Sustainability (IS) Rating Scheme, which has influenced the design, delivery and operation of \$165 billion worth of infrastructure in Australia since 2012.

In the space of just seven years, IS-rated projects have collectively avoided 20 million tonnes of emissions, sending 150 million tonnes of waste to landfill and consuming 170 million megalitres of potable water. These include 13 significant infrastructure projects in Western Australia that have achieved an IS rating, and additional projects in Western Australia that are currently applying for a rating, or in the process of being rated, by ISCA.

How ISCA can assist DWER with its climate change response

ISCA operates across the full range of infrastructure, including in the transport, telecommunications, energy, water, and social spaces, to deliver and operate assets that are sustainable and resilient to climate change. Hence ISCA's overall climate change approach is to address both the human-related contributors to climate change (i.e. emissions) as well as its effects on future infrastructure.

Sustainable and resilient infrastructure requires the careful consideration of social, environmental and economic impacts, including regional relevance, local community inclusiveness and well-being, climate change adaptability, materials and waste reduction, social and economic uplift, and step-change efficiencies in the use of energy and water. It also needs a holistic approach that embraces the core principles of the circular economy. These concepts are applicable to large and small infrastructure, be it federal, state or local government, public or privately owned and operated, in both urban and rural environments.

In relation to the topics in the 2019 Issues paper released by DWER, ISCA offers the following inputs:

Transforming energy generation

ISCA can assist the transformation of energy generation in Western Australia as its rating scheme includes all forms of energy infrastructure. The IS Rating Scheme already covers more than \$165 billion worth of infrastructure in Australia and New Zealand, so its capacity to support transition in the sector is significant. For example, Auckland airport achieved a 79% reduction in energy and water per passenger flown once it attained an IS Operations Rating.

ISCA recently commissioned an independent study to evaluate the economic return on investment that the IS Rating Scheme delivers to the infrastructure industry, and the results indicate a significant return on every dollar invested in the scheme (up to \$4.1 return for each \$1 invested).

IS Ratings are now being mandated by many state government agencies around Australia for assets they develop or own to help ensure they are planned, designed and operated in line with industry developed sustainability criteria.

Industry innovation

ISCA places significant emphasis on innovation in developing infrastructure assets, as this drives necessary step change in the sector. Industry is responding positively to this approach and has developed and implemented a significant number of innovative practices in design and construction that are Australian firsts and, in some cases, world firsts. These include innovations developed in Western Australia through projects related to roads and port facilities. A good example is Main Roads WA, that have implemented IS Ratings across their road projects and achieved many design and construction 'firsts' in relation to lighting, asphalt, solar energy, road design, local procurement and climate change resilience.

ISCA also provides capacity-building to industry in relation adopting new and more sustainable practices. A large component of ISCA's training activities, knowledge-sharing and thought leadership focuses on fostering sustainable management, monitoring and reporting practices that will enhance infrastructure in relation to corporate social and environmental responsibility and governance best practice. For example, ISCA is delivering a new training course for procurement personnel targeting sustainable supply chain practices. ISCA is also launching a new course in sustainability culture change that specifically targets those working in the infrastructure sector.

With more than 120 industry and government partners, and 2,000-plus professionals trained through ISCA's courses, ISCA is ideally positioned to influence the Western Australian infrastructure sector and drive innovation in practices.

Future mobility

The next twenty years are critical for the development of Australia's cities and infrastructure development will have far-reaching social consequences.

A recent study by Monash University has highlighted the growth of 'forced' car ownership which can lead to both excessive financial and time constraints on people. Infrastructure planners need to recognise the effects of "locking in" car ownership and use and the resulting socio-economic and traffic network impacts; this can also exacerbate inequality, which would be amplified by further shifts towards user-pays road usage models.

The IS Rating scheme covers a wide range of infrastructure related to public and freight transport – including heavy and light rail networks; roads, bridges and tunnels; plus marine ports and airports. The sustainable planning and development of these rail assets encourages use of sustainable public transport.

The IS Planning rating encourages decision-makers to consider a project's strategic, urban and landscape design context, undertake an options assessment and business case, as well as benefits-mapping to ensure alignment between planning decisions and user needs.

The IS Rating also supports and rewards innovation in infrastructure planning, including in areas such as active transportation and its integration with new and existing transportation networks.

Hence ISCA can help ensure that Western Australia isn't left behind in the transition to cleaner transportation.

Waste reduction

All stages of infrastructure lifecycle – from planning, design and construction through to operations – require good governance, stakeholder inclusivity, the application of best industry practice, demonstrable performance, innovative approaches and a ‘whole of life’ consideration of impacts. This is ideally encouraged and evidenced by an industry-led benchmarking framework, with both clear performance criteria and transparent third-party verification.

The IS Rating Scheme covers the whole project lifecycle, encouraging IS-rated and applicant projects to:

- Incorporate lifecycle thinking into design, from construction to dismantling
- Use less materials in design and construction
- Use recycled or recyclable materials in construction and operation
- Use materials that incorporate waste products
- Eliminate or minimise the use of non-biodegradable materials
- Use reclaimed or naturally harvested water in construction or operations
- Innovate in areas that support sustainability and resilience.

IS-rated projects frequently divert over 90% of inert waste from landfill and find beneficial reuse for over 80% of spoil. For example, Rous Head Industrial Park in WA achieved a 90% reduction in inert waste and an 85% reduction in office waste once it attained an IS Design and Construction Rating. Infrastructure projects are also key enablers of secondary materials markets with most IS-rated projects using significant quantities of waste material in concrete (coal fly ash and furnace slag), asphalt and aggregate. Restrictive specifications remain one of the biggest barriers to uptake, and collaboration to test new materials and share risk is required to accelerate this process.

Water security

The IS Rating Scheme tackles urban water conservation, usage and reduction by requiring infrastructure projects and assets to consider and adopt water strategies and practices such as smart irrigation, integrated water monitoring and management systems, rainwater and stormwater capture and reuse, water-efficient design and fit-outs, and rewarding innovation in water use. As a result, IS projects have saved, to date, 167 million megalitres of potable water.

In addition, the IS Rating Scheme can also be directly applied to planning, design, construction and operation of a wide range of water infrastructure. Ratings drive better environmental, social and economic performance of water assets across of broad range of categories. The IS Rating also encourages and rewards innovative solutions that support water security.

Resilient infrastructure and businesses

In relation to enhancing the resilience of public and private infrastructure, the IS Rating requires the thorough consideration of resilience risks during planning, design and construction of infrastructure. This includes better understanding the sector’s climate change risks, followed by a structured, informed and inclusive approach to identifying, evaluating and mitigating such risks. These risks go beyond climate change to include other natural disasters as well as social, political and economic shocks.

Protecting biodiversity

Infrastructure development and operation can have significant long-term impacts on local biodiversity. The IS tool encourages and rewards the assessment, management and preservation of flora and fauna surrounding an asset during its life cycle. It also rewards improvements to the asset’s surrounding environment that enhances biodiversity outcomes.

Many IS rated projects have achieved high scores for innovative solutions that involve biodiversity enhancements during construction.

Strengthening adaptive capacity

Infrastructure is a significant contributor to Australia's emissions both directly, through construction and operation, and through the human activities and patterns of behaviour it embeds over long timespans. Up to 70% of our total emissions can be traced to the construction and operation of the infrastructure itself, or to the patterns of economic and social activity that the infrastructure supports.

ISCA is actively assisting the infrastructure sector to both anticipate and mitigate the looming reality of climate change, from which we are already experiencing unmistakable impacts in this country, and which scientific evidence indicates will only increase in the decades ahead.

ISCA in partnership with ClimateWorks Australia and the Australian Sustainable Built Environment Council (ASBEC) is currently delivering a milestone project to help the infrastructure sector lay the foundations for a 'net zero Australia'. Through research, modelling, engagement and knowledge-sharing, this project will chart a course that can help shape government policy and industry practices to support such an outcome. The phase one deliverable from this project, an issues paper, will be released in early 2020 and form the basis for further engagement with state and federal government and industry in phase two.

The importance of the circular economy to climate change

ISCA believes that a key factor to WA addressing the threat of climate change is to implement the principles of circular economy. A circular economy aims to keep resources 'in the air' for as long as possible, so as to gain the most out of them while they are in circulation, after which they are recovered or regenerated for future use. The concept is applicable to large and small businesses, to both companies and individuals, and can be implemented at both a local and global scale.

ISCA rates projects in Australia and NZ from a whole of life perspective including their planning, design, construction and operations phases. Because it covers the whole project lifecycle in our ratings, ISCA can influence key pillars of the circular economy such as long-lasting design, maintenance, repair, reuse, remanufacturing, refurbishing, recycling, and upcycling.

ISCA supports circular economy principles in the infrastructure sector at a number of levels:

- ISCA's ratings tool aligns with circular economy principles and practices
- ISCA encourages both the awareness and the capability to participate in a circular economy through industry knowledge-sharing and capacity-building
- ISCA helps with identifying opportunities to enhance circular economy outcomes through collaboration with other industry bodies in the construction and sustainability sectors, working together to encourage and enable recycling, re-use and other sustainable business practices.

ISCA is a firm believer that the circular economy approach does not require drastic compromises in how we construct infrastructure or in the quality of the finished product, nor does it necessitate loss of revenue or extra costs to asset owners, operators, contractors and suppliers. Quite the opposite, in fact, as sustainability and economic outcomes are so often inextricably bound together so that they are as financially viable and profitable as linear economic models and often more so.

Looking ahead

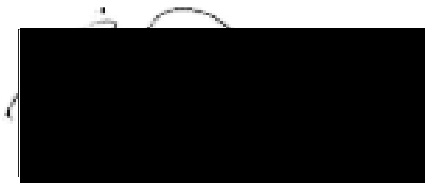
With the launch of the IS rating scheme, infrastructure has sought more sustainable outcomes through innovation and commitment to best practice. But a massive challenge remains as cities continue to expand and place more pressure on existing infrastructure. In response, ISCA has linked its newest IS Rating tool

to the United Nations' Sustainable Development Goals to reinforce the alignment between construction best practices and our international sustainability obligations.

Beyond the infrastructure sector, ISCA's work influences Australian industry more broadly. Its many partnerships with other key industry players, academic institutions, professional associations and sustainability bodies enables learnings and practices to better penetrate the value chain.

Should you wish to engage ISCA further on supporting the Department's efforts to shape its climate change response, please contact me via the details below.

Sincerely



Paul Davies, Head of Market Capability | Infrastructure Sustainability Council of Australia (ISCA)
Suite 13.03, 6 O'Connell Street, Sydney NSW 2000 | PO Box R655 Royal Exchange NSW 1225
P +61 2 9252 9733 | **M** +61 417 863 959 | **E** pdavies@isca.org.au | **W** www.isca.org.au