Innovation Challenges

Appendix

22/02/2019

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DOCUMENT HISTORY

Version	Date of Approval	Author	Summary of Change
1.0	1.07.2017	A. Blackmore	Appendix developed
2.0	08.05.2017	A. Blackmore	Innovation procedure updated
3.0	06.12.2017	A. Blackmore	Sustainable Site Facilities Innovation Challenge added
3.1	12.02.2018	N. Boyd	Fees added
4.0	20.02.2017	N. Boyd	High Clinker Replacement Innovation Challenge added
4.1	23.03.2018	N. Boyd	Fees updated
4.2	04.04.2018	N. Boyd	Included a requirement to pay the verification fees one month prior to verification.
4.3	20.04.2018	N. Boyd	Supply Chain Education and Restore and Renew Innovation Challenges included.
4.4	30.05.2018	N. Boyd	Updated costs for IC-6 and IC-7, updated availability of ISv2.0 credits in IC-1.
4.5	04.09.2018	N. Boyd	Updated costings for FY19. Various minor edits.
4.6	11.12.2018	N. Boyd	Updated IC-1 and IC-2 to reflect ISv2.0 has been released and no longer in draft.
4.7	03.01.2019	M. Austria	Include IC-2 Workforce Sustainability Category- Design and As Built in the fee table. Update IC-1 scoring table and IC-1 criteria table. Update IC-2 scoring for Design and As Built.
4.8	17.01.2019	M. Austria	Update IC-2 scoring for Design and As Built and add a scoring table.
4.9	23.01.2019	S. Valeri	Minor changes. Reformat credit layout. Split IC-2 to two sub challenges.
4.10	22.02.2019	M. Austria	Minor changes. Further reformat. Clarify process and specify appropriate forms to be used.

1. INNOVATION CHALLENGES

Innovation Challenges have been developed to encourage projects, assets and organisations to pursue sustainability initiatives beyond the current IS rating scheme criteria and contribute to beyond business-as-usual sustainability outcomes.

Innovation Challenges also form part of a continual improvement process for IS rating tools, in particular, the piloting of new themes, categories and credits for ISv2.0 and subsequent future versions. ISCA will use Innovation Challenges as a feedback mechanism on the proposed approach, benchmarks, evidence requirements and verification processes of these categories or credits.

Projects that meet the requirements outlined in Innovation Challenges will be rewarded through the Innovation category of the IS rating scheme.

The Innovation Challenges available at any time will be published in this appendix. These are available for projects and assets across all ratings.

This Appendix explains the innovation challenge process at ISCA, how projects can claim them, including the types of innovation challenges available to undertake.

Table 1 summarises the Innovation Challenges and the IS rating types which they relate to.

Table 1 – Innovation Challenges and their relevant phases

Challenge/Rating	Planning	Design	As Built	Operations
IC-1: Piloting an updated category	x			
		x	x	x
IC-2: Piloting the Economic Theme (IC2.1) or Workforce Sustainability Category (IC2.2)	x	x	x	x
IC-3: Carbon Neutrality		x	x	x
IC-4 Sustainable Site Facilities		x	x	
IC-5 High clinker substitution		x	x	x
IC-6 Supply Chain Education		x	x	x
IC-7 Restore and Renew		x	x	x

2. INNOVATION CHALLENGE PROCESS

This section describes the types of Innovation Challenges that can be undertaken as part of the IS Rating Scheme and the process for projects to claim and propose new Innovation Challenges.

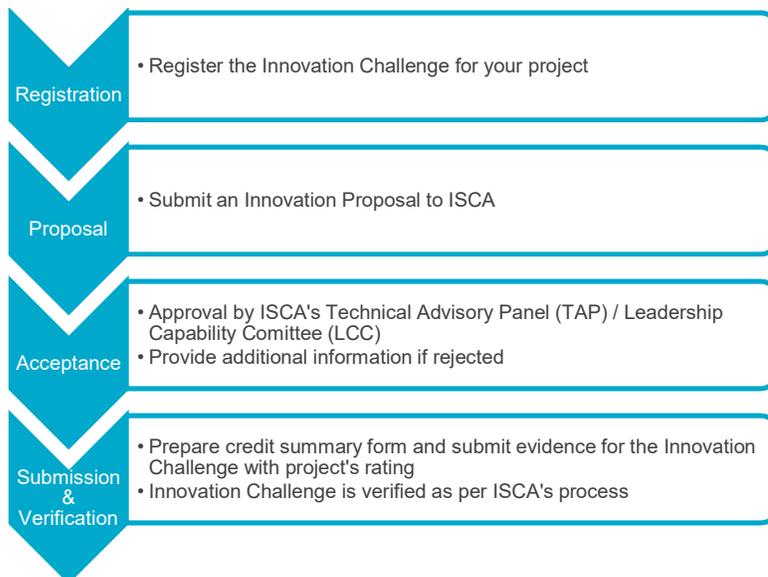### 1.1. Types of Innovation Challenges

There are three types of Innovation Challenges available to projects:

1. Piloting an updated Category (IC-1 and IC-2)
2. Completing an Innovation Challenge identified in this document (IC-3 to IC-7)
3. Nominating a new Innovation Challenge

Each one of these are described throughout this Appendix.

1.2. Claiming Innovation Challenges

An overview of the process is provided in the below diagram and further detail follows.

Registration
- Register the Innovation Challenge for your project

Proposal
- Submit an Innovation Proposal to ISCA

Acceptance
- Approval by ISCA's Technical Advisory Panel (TAP) / Leadership Capability Comittee (LCC)
- Provide additional information if rejected

Submission & Verification
- Prepare credit summary form and submit evidence for the Innovation Challenge with project's rating
- Innovation Challenge is verified as per ISCA's process

A project can register interest in an Innovation Challenge with their Case Manager using the Innovation Challenge Registration Form (available online). Your Case Manager will respond and outline the requirements of the challenge.

Once a project decides to progress with an innovation challenge, they must provide an outline of the Challenge that is being attempted and the proposed timeframes for its completions. In addition, they must provide a brief explanation of how they will seek to achieve the benchmark(s). This outline must be provided to the Case Manager in writing at least 30 days before the project's 1st round verification.

The current verification fees for each challenge is outlined in Table 2. The Case Manager will then confirm acceptance and provide a credit summary form for the challenge.

Each Innovation Challenge has suggested evidence requirements for its benchmarks. Evidence to demonstrate achievement of Innovation Challenge benchmarks are to be provided on the project's rating SharePoint site and listed in the credit summary form as per normal assessment and verification procedures.

Most Challenges will be assessed during verification rounds along with the rest of the submission however, Challenges may also need to be provisionally verified to meet other timeframes. This will be confirmed by your Case Manager.

Fees for verification must be paid one month prior to verification. If the Innovation Challenge is verified with the project verification, the additional fees will be added to the project's verification invoice.

Table 2 – Verification fees (valid until 30 June 2019)

Challenge	Planning Verification fee (excluding GST)	Design Verification fee (excluding GST)	As Built Verification fee (excluding GST)	Operations Verification fee (excluding GST)
IC-1: Piloting an updated category	$2,200	$2,200	$2,200	$2,200
IC-2: Piloting the Economic Theme or Workforce Sustainability Category- Planning and Ops credits	$3,480			$3,480
IC-2: Piloting the Economic Theme or Workforce Sustainability Category - Design and As Built credits		$2,660	$2,660	
IC-3: Carbon neutrality			$2,200	$2,200
IC-4: Sustainable site facilities	$2,200	$2,200		
IC-5: High clinker substitution	$2,200	$2,200	$2,200	
IC-6 Supply Chain Education	$2,200	$2,200	$2,200	
IC-7 Restore and Renew	$2,200	$2,200	$2,200	

1.3. Proposing New Innovation Challenges

Any ISCA stakeholder or IS project/asset team may propose Innovation Challenges to seek recognition for their innovative practices that are not recognised by the current rating scheme. These proposed Innovation Challenges will then be reviewed against the scheme intent by ISCA and its Technical Advisory Panel. The Innovation Challenges may be endorsed, updated or combined with other proposed Innovation Challenges prior to being published by ISCA.

Stakeholders or projects will also have an opportunity to provide feedback on their proposed challenges before they are published in this document. Proposed Challenges should be widely applicable to industry and deliver meaningful advances of sustainability outcomes. These Challenges should not be project specific, though these could be sector specific (e.g. application of an innovative material in tunnelling projects).

To propose an Innovation Challenge, contact your Case Manager and provide the following information:

- Description of the issue that would be addressed by your proposed innovation challenge.
- The benchmarks (specific criteria and supporting evidence) by which to measure the sustainability outcomes from the challenge.
- The proposed number of points for the challenge with justification.
- Relevant references and background information.

- The rating phases the challenge is relevant to.

Please note: innovations that go beyond level 3 of a credit, or are a world, national or state first are currently rewarded under the innovation credit, however where a particular known innovation is currently being underutilised, it may form part of an innovation challenge to encourage uptake.

IC-1 PILOTING AN UPDATED CATEGORY

Piloting aspects of the IS rating scheme helps to provide direct and practical feedback from a diverse group of users and projects. This feedback, and any case studies and/or guides generated will be extremely useful in the continuous development of the IS rating scheme.

Piloting an updated category refers to applying updated credits from a newer version of the IS rating scheme on your project. Individual credits or entire categories can be piloted. The credits available for piloting as part of this Innovation Challenge include those with minor updates (general review or update to the credit with a similar aim and requirements) or major updates (significant changes to credit benchmarks, requirements and/or aim) to the IS rating scheme (refer to Table 2).

Where the Innovation Challenge is to pilot an updated ISv2.0 category, your Case Manager will provide you a copy of the category on request.

This section outlines the types of project phases a new category can be piloted, purpose of piloting, the piloting criteria, and additional guidance.

Phase

Design, As Built, Operations (some but not all available for Operations)

Aim

To reward participants for contributing feedback to ensure new content is fit for purpose.

Criteria

	Up to 2 innovation points available
Benchmark	• Pilot a category or credit with a minor update as outlined in the 'IC-1 category list' (1pt) • Pilot a new category or credit or with a major update as outlined in the 'IC-1 category list' (2pts) • Feedback must be provided on the category prior to the submission of the credits for verification.
Suggested Evidence	• Evidence as required by the credit/category. • Feedback report/feedback meeting minutes between the project and ISCA.

Table 2 – IC-1 category list

Number of points available	Category	Relevant Phases
Up to 2 innovation points (Major updates)	Sustainable Procurement	All
	Context	Planning
	Resilience	Planning, Design & As Built
	Green infrastructure	Planning, Design & As Built
	Leadership and Management	All
Up to 1 innovation point (Minor updates)	Stakeholder Engagement	All
	Resource Efficiency	Planning, Design & As Built
	Legacy	All

Number of points available	Category	Relevant Phases
	Ecology	Planning, Design & As Built
	Energy & Carbon	Planning, Design & As Built
	Heritage	All
	Context	Design & As Built
	Water	Planning, Design & As Built

Additional Guidance

Registration Process

Ratings will need to follow the Innovation Challenge registration process as described in Section 2 of this appendix.

Ratings **must** complete the feedback component prior to the credits being submitted for verification.

The innovation credit has a maximum of 10 innovation points available, more than 10 points worth of innovation challenges can be submitted, but no more than 10 innovation points will be awarded.

Categories worth up to 2 innovation points (major updates)

The categories worth 2 innovation points are described below:

The Sustainable Procurement category is a major update of the ISv1.2 Procurement and Purchasing category to align it with ISO20400. It includes the assessment of supply chain risks and opportunities such as human rights, modern slavery, engaging social enterprises and Indigenous-owned businesses.

The Context category in the planning phase rewards infrastructure projects that are the result of a broader strategic planning process. These planning credits can be retrospectively applied to projects and the points allocated to the Design or As Built rating.

The Resilience category focuses on assessing the impact of the infrastructure asset/s on broader city, regional and community resilience using the 100 Resilient Cities framework as a basis. In addition, Res-2 replaces the ISv1.2 Climate Change Adaptation credit.

The Green Infrastructure category rewards projects that have replaced engineered solutions with living solutions (replacing grey infrastructure with green infrastructure). Examples includes water sensitive urban design features, green walls and roofs, vegetation to reduce urban heat-island effects.

Categories worth up to 1 innovation point (minor updates)

The categories worth 1 innovation points are described below:

The Stakeholder Engagement category is an update of the ISv1.2 Stakeholder Participation category to introduce a framework agnostic approach to stakeholder engagement.

The Resources category is a combination of ISv1.2's Waste, Materials and Land categories aiming to reward whole-of-life and circular economy thinking in resource use and disposal.

The Legacy category has broadened the focus of the ISv1.2 Community Health and Wellbeing category to reward projects and assets that leave a lasting economic, environmental or social legacy beyond the project or asset itself.

The Ecology category is an update of the ISv1.2 Ecology category and focuses on identifying ecological risk and opportunities and developing a management plan to manage them.

The Energy and Carbon category is an update of the ISv1.2 Energy and Carbon category.

The Heritage category is an update of the ISv1.2 Heritage category.

The Context Category for Design and As Built is an update of the ISv1.2 Urban and Landscape Design category.

Feedback

Feedback **must** be provided to ISCA on the application of the piloted category or credit. This feedback **must** be in the form of a completed copy of the feedback template provided. Ratings **must** also hold a minuted workshop with ISCA to discuss the feedback for the category. Innovation points will not be awarded without feedback provided to ISCA.

Scoring

When piloting an updated credit/category, the updated credit/category will replace the existing category/credit, however, scoring for the credit/category remains the same. In addition to the points allocated to the credit/category, the allocated innovation points are awarded and are not dependant on the level achieved. Please see the table below for an outline of points available for piloting major and minor updates under IC-1.

Table 3 – Points available for piloting major and minor updates for IC-1

	ISv2.0 category	ISv2.0 credits	Replaceable ISv1.2 Credit	Remarks	Default weighting base points available (points may vary due to weightings assessment)	Innovation points available	Total points possible
Major Updates (Up to 2 innovation points)	Sustainable procurement	Spr-1	Pro-1	Direct credit substitution	1.25	1.00	2.25
		Spr-2	Pro-2 Pro-3	Pursue ISv2.0 Spr-2 to replace these credits	2.50	0.50	3.00
		Spr-3	Pro-4	Direct credit substitution	1.25	0.50	1.75
	Leadership and Management	Lea-1	Man-1 Man-3 Man-4 Man-5	Pursue ISv2.0 Lea-1 to replace these credits	4.00	1.00	5.00
		Lea-2	Man-2	Direct credit substitution	1.00	0.50	1.50
		Lea-3	Man-6	Direct credit substitution	2.25	0.50	2.75
	Resilience	Res-1	Cli-2	Direct credit substitution	2.50	1.00	3.50
		Res-2	Cli-1	Direct credit substitution	2.50	1.00	3.50
	Green Infrastructure	Gre-1	Not applicable	Pursue ISv2.0 Gre-1	N/A	2.00	2.00

	ISv2.0 category	ISv2.0 credits	Replaceable ISv1.2 Credit	Remarks	Default weighting Base points available (points may vary due to weightings assessment)	Innovation Points Available	Total points possible
Minor Update (Up to 1 innovation point)	Stakeholder Engagement	Sta-1	Sta-1 Sta-2	Pursue ISv2.0 Sta-1 to replace these credits	2.50	0.50	3.00
		Sta-2	Sta-3 Sta-4	Pursue ISv2.0 Sta-2 to replace these credits	2.50	0.50	3.00
	Resource Efficiency	Rso-1 Rso-4	Was-1 Was-2 Lan-2	Pursue ISv2.0 Rso-1 and Rso-4 to replace these credits	6.50	0.30	6.80
		Rso-2 Rso-3	Lan-3	Pursue ISv2.0 Rso-2 and Rso-3	2.00	0.25	2.25
		Rso-5	Was-3	Direct credit substitution	1.50	0.15	1.65
		Rso-6	Mat-1	Direct credit substitution	6.00	0.15	6.15
		Rso-7	Mat-2	Direct credit substitution	1.00	0.15	1.15
	Legacy	Leg-1	Hea-1 Hea-2	Pursue ISv2.0 Leg-1	5.00	1.00	6.00
	Ecology	Eco-1 Eco-2	Eco-1 Eco-2	Pursue ISv2.0 Ecology category	10.50	1.00	11.50
	Energy and Carbon	Ene-1 Ene-3	Ene-1	Pursue ISv2.0 Ene-1 and Ene-3	9.00	1.00	10.00
		Ene-2 Ene-3	Ene-2	Pursue ISv2.0 Ene-2 and Ene-3	1.50	1.00	2.50
	Heritage	Her-1	Her-1 Her-2	Pursue ISv2.0 Her-1	5.00	1.00	6.00
	Context	Con-2	Urb-1 Urb-2	Pursue ISv2.0 Con-2	5.00	1.00	6.00
	Water	Wat-1 Wat-2	Wat-1 Wat-2	Pursue ISv2.0 Water category	7.00	1.00	8.00

IC-2 PILOTING THE ECONOMIC THEME OR WORKFORCE CATEGORY

Details about this Innovation Challenge is described further below as IC-2.1 Economic Theme and IC-2.2 Workforce Category.

IC-2.1 Economic Theme

Phase

Planning, Design, As Built, Operations

Aim

To reward participants for contributing robust feedback to ensure new content is fit for purpose.

Criteria

	Up to 5 innovation points available
Benchmark	• Pilot the Economic Theme Planning credits (up to 5 innovation points available) • Pilot the Economic Theme Design and As Built and Operations credits (up to 3 innovation points) • Feedback must be provided on the category prior by the due date set by ISCA.
Suggested Evidence	• Evidence as required by the Economic Theme. • Feedback report • Meeting minutes.

Additional Guidance

Why is this Challenge important?

The Economic Theme for ISv2.0 aims to drive a deeper integration of sustainability thinking at critical financial and decision-making milestones.

Additionally, the Economic Theme has planning phase credits which assess the decision-making processes that led to development of the infrastructure project itself.

The Economic theme is made up of two closely related categories:

- The Business Case and Options Assessment category focuses on the incorporation of sustainability and whole of life thinking into infrastructure asset decision making processes and includes valuing and considering material externalities in cost-benefit analysis
- The Benefits category focuses on developing baselines and managing benefits realisation throughout the project lifecycle to understand how the project's costs and benefits compare to the original cost benefit analysis.

Planning Phase

In developing ISv2.0, planning phase credits were developed to identify the actions that should be undertaken in the planning phase, to contribute towards the credit aim. Therefore, piloting the planning

phase credits will contribute to outcomes in the design and as built phases. Most of the time, but not always, planning phase credits will be the responsibility of the project proponent.

Assessment

For planning phase credits, innovation points are awarded in the Design or As Built phase when retrospectively piloting the credits. Piloting of the planning phase credits may also be undertaken by a proponent before procurement of the infrastructure with points awarded during the Design phase.

Scoring

Piloting the planning phase credits can be awarded up to 5 innovation points per category piloted.

For piloting any part of the Economic Theme (from 1 credit to the entire theme), 1 innovation point is awarded. This does not depend on the Level achieved for any credit. A total of 4 points is distributed equally amongst the credit based upon project performance against the benchmark levels. For example, if a project only pursues Ecn-1, the available points will be 1 point for piloting and 4/10 (0.40) for achieving Level 2 (the highest Level for Ecn-1). Please see the table below for an outline of points available.

ISv2.0 credits	Levels available	Innovation points for piloting	Innovation points per Level	Innovation points at highest Level
Ecn-1	2		0.40	0.80
Ecn-2	2		0.40	0.80
Ecn-3	2	1	0.40	0.80
Ecn-4	3		0.27	0.80
Ecn-5	3		0.27	0.80
Total		**1**		**4**

As the whole Economic Theme replaces Man-7, project team must pursue the whole Economic Theme to replace and claim the points available for Man-7. The weighted score for Man-7 will then be distributed equally to Ecn-1, Ecn-1, Ecn-3, Ecn-4 and Ecn-5.

Design, As Built or Operations Ratings

For the pilot of Design, As Built, and Operation credits, there are 3 innovation points available for the Economic Theme credits.

1 innovation point is awarded for piloting either 1 credit in the Economic Theme or for piloting all 5 credits in the Economic theme. This does not depend on the Level achieved for any credit. A total of 2 points is distributed equally amongst the credit based upon project performance against the benchmark levels.

For example, if a project only pursues Ecn-1, the available points will be 1 point for piloting and 2/3 (0.67) for achieving Level 2 (the highest Level for Ecn-1). Please see the table below for an outline of points available.

ISv2.0 credits	Levels available	Innovation points for piloting	Innovation points per Level	Innovation points at highest Level
Ecn-1	2		0.33	0.67
Ecn-4	2	1	0.33	0.67
Ecn-5	3		0.22	0.67
Total		**1**		**2**

As the whole Economic Theme replaces Man-7 in v1.2 of the IS Rating Tool, project teams must pursue the whole Economic Theme to replace and claim the points available for Man-7. The weighted score for Man-7 will then be distributed equally to Ecn-1, Ecn-4 and Ecn-5.

Feedback

In addition to providing evidence for piloting the credit, formal feedback must also be provided to ISCA on the application of the piloted category or credit. This feedback must be in the form of a completed report. Ratings must also hold a minuted workshop with ISCA to discuss the feedback for the category. Innovation points will not be awarded without feedback provided to ISCA.

IC-2.2 Workforce Category

Phase

Planning, Design, As Built, Operations

Aim

To reward participants for contributing robust feedback to ensure new content is fit for purpose.

Criteria

	Up to 5 innovation points available
Benchmark	• Pilot the Workforce Sustainability credits (except Wfs-5) Planning, Design and As Built or Operations credits (up to 5 innovation points available) • Feedback must be provided on the category prior by the due date set by ISCA.
Suggested Evidence	• Evidence as required by the Workforce Sustainability Category. • Feedback report • Meeting minutes.

Additional Guidance

Why is this Challenge important?

The <u>Workforce Sustainability category</u> rewards projects who value the people on their project. The Workforce Sustainability category is made up of five credits, four of which are available for piloting under this challenge:

- Strategic workforce planning
- Jobs and Skills
- Workforce Culture and Wellbeing
- Diversity and Inclusion

The Workforce Category comprises 5 credits Wfs-1-5, however Wfs-5, the Sustainable Site Facilities credit, is not included in this innovation challenge and can be piloted separately in IC-4.

Planning Phase

In developing ISv2.0, planning phase credits were developed to identify the actions that should be undertaken in the planning phase, to contribute towards the credit aim. Therefore, piloting the planning phase credits will contribute to outcomes in the design and as built phases. Most of the time, but not always, planning phase credits will be the responsibility of the project proponent.

Assessment

For planning phase credits, innovation points are awarded in the Design or As Built phase when retrospectively piloting the credits. Piloting of the planning phase credits may also be undertaken by a proponent before procurement of the infrastructure with points awarded during the Design phase.

Scoring

Piloting the planning phase credits can be awarded up to 5 innovation points per category piloted.

For piloting any credits of the Workforce Sustainability Category (Wfs-1 or Wfs-2), 1 innovation point is awarded. This does not depend on the Level achieved for any credit. 2 innovation points is available for each credit based upon project performance against the benchmark levels. Please see the table below for an outline of points available.

ISv2.0 credits	Levels available	Innovation points for piloting	Innovation points per Level	Innovation points at highest Level
Wfs-1	3		0.67	2
Wfs-2	3	1	0.67	2
Total		**1**		**4**

Design, As Built or Operations Ratings

For the pilot of Design, As Built, and Operation credits, there are 5 innovation points available for the Workforce Sustainability credits.

For piloting any part of the Workforce Sustainability Category (from 1 credit to 4 credits, except Wfs-5), 1 innovation point is awarded. This does not depend on the Level achieved for any credit. 1 innovation point is available for each credit based upon project performance against the benchmark levels. Please see the table below for an outline of points available.

ISv2.0 credits	Levels available	Innovation points for piloting	Innovation points per Level	Innovation points at highest Level
Wfs-1	3		0.33	1
Wfs-2	3		0.33	1
Wfs-3	3	1	0.33	1
Wfs-4	3		0.33	1
Total		**1**		**4**

Feedback

In addition to providing evidence for piloting the credit, formal feedback must also be provided to ISCA on the application of the piloted category or credit. This feedback must be in the form of a completed copy of the feedback template provided. Ratings must also hold a minuted workshop with ISCA to discuss the feedback for the category. Innovation points will not be awarded without feedback provided to ISCA.

IC-3 CARBON NEUTRALITY

Phase

As Built, Operations

Aim

To reward projects/assets achieving certified carbon neutrality.

Criteria

3 innovation points available	
Bench mark	• Residual carbon emissions are 100% offset. • Offsets are deemed suitable under the National Carbon Offset Standard.
Suggested Evidence	• Certificate of purchase/currency/purchase agreement/ carbon offset purchase agreement. • Memo confirming cancellation of offsets and percentage of total carbon emissions offset • Energy model

Additional Guidance

Why is this Challenge important?

Global energy use continues to rise as economies grow. Most Australian energy is derived from non-renewable fossil fuel resources (coal, natural gas and oil). The use of fossil fuels releases greenhouse gas (GHG) emissions causing climate change. Climate change will adversely impact critical systems that support our way of life such as ecosystems and climatic systems.

Australia is one of the highest per capita emitters of GHGs. Recognising the threat posed by climate change, the Australian and New Zealand Governments have committed to reduce national GHG emissions. Australia has committed to reduce emissions by 26-28% below 2005 levels by 2030 and New Zealand has committed to reducing emissions by 30% below 2005 levels by 2030. In 2015, New Zealand ratified the Paris Agreement, a global agreement under the United Nations Framework Convention on Climate Change (UNFCCC) to limit global temperature rise to well below 2°C. Australia ratified the agreement in 2016.

If Australia and New Zealand are to achieve their GHG emission targets, all industries and individuals will need to reduce energy consumption and reduce GHG emissions.

As such, the goal of achieving carbon neutrality on infrastructure projects is an important milestone.

The intent of this innovation challenge is to reward projects that achieve carbon neutrality. Reductions should be prioritised over offsetting using the following hierarchy:

1. Reducing energy use and GHGs through design (i.e. designing out the need for activities that use energy or generate GHG emissions) and construction
2. Undertaking any necessary activities as efficiently as possible (e.g. maximising energy efficiency).
3. Where feasible, using renewable energy to replace non-renewable sources.
4. Offsetting (This Innovation Challenge)

ISCA

Guidance

Residual carbon emissions are 100% offset.

Residual emissions are those demonstrated in Ene-1 including any reductions made through the use of on-site renewables. For example, if a project produces 10,000 tCO_2-e over its lifecycle and 1,200 tCO_2-e were reduced through energy efficiencies with an extra 2,300 tCO_2-e reduced through renewables, then the residual emissions would equal 6,500 tCO_2-e.

Certificates of purchase/currency/purchase agreement/carbon offset purchase agreement must be provided to demonstrate offsetting has been completed.

Total monitored carbon emissions for construction and operations and proof of purchase and cancellation of eligible offsets must be provided demonstrating a total construction and operations emissions offset. A memo complete with proof of offset cancellation may be used for evidence.

Offsets must be deemed eligible in the National Carbon Offset Standard- Appendix A.

IC-4 SUSTAINABLE SITE FACILITIES

Phase

Design & As Built

Aim

To encourage the deployment of sustainable site accommodation facilities that reduce environmental impacts and support site workers with a healthy indoor environment.

Criteria

Table 1 IC-4 Design summary criteria

	2 Innovation Points available
Benchmark	• DL1.1 The project specifies site accommodation facilities that meet the RCLG minimum Site Accommodation Requirements (SAR) - **1 Innovation Point** • DL2.1 The project specifies site accommodation facilities that meet the RCLG SAR section 3.2 Optional Extras - **1 Innovation Point**
Suggested Evidence	• Environmental Management plan • Site facilities specifications • Solar PV modelling • Air-conditioning energy specification and star rating

Table 2 IC-3 As Built summary criteria

	2 Innovation Points available
Benchmark	• ABL1.1 The project site accommodation facilities meet the RCLG minimum Site Accommodation Requirements (SAR) - **1 Innovation Point** • ABL2.1 The project site accommodation facilities meet the RCLG SAR section 3.2 Optional - **1 Innovation Point**
Suggested Evidence	• Regular inspection reports confirm that the requirements of the SAR have been implemented on the project for the duration of the construction period • Photos of the facilities in place • Contract documents with site accommodation supplier that confirm installation of facilities that meet Site Accommodation Requirements • Invoice from site accommodation supplier that confirms lease/purchase of compliant facilities • Metering data confirming PV electricity supply to site • Photos of split system air conditioning unit connected to site accommodation facilities

Additional Guidance

Why is this Challenge important?

The site facilities used around Australia today can have major environment impacts upon the sites and projects on which they are used, major health and wellbeing impacts upon their occupants, and major economic impacts on the success of our projects and the way in which companies 'walk the talk'. So how can we do better?

The Responsible Construction Leadership Group (RCLG) Sustainable Site Facility requirements have been developed to help you with a list of best practice sustainability criteria which construction site

facilities should strive to achieve as a minimum, based on industry consensus on what constitutes best practice in the areas of internal environment quality, energy use, water use, and resource efficiency.

Definitions

Accommodation is defined as temporary facilities provided for the occupation and use of site teams during the construction phase of a project. This may include a refurbished building or prefabricated site facilities.

Averaged daily site accommodation electricity demand is the expected yearly electricity demand (in kWh or MWh) divided by 365 days.

Prefabricated Site Facilities are defined as factory manufactured, portable buildings that are transported to site for part or full duration of the project. The buildings are those that are used by people for work and/or recreation and include site offices, meeting rooms, lunch/crib rooms, first aid sheds and toilet blocks as well as sleeping quarters. Some of the requirements will apply to all buildings, and some only to the office components. Storage buildings, containers and buildings only infrequently visited by people are not covered by this credit.

RCLG Site Accommodation Requirements (SAR) are defined as the set of site accommodation scope items developed by the Responsible Construction Leadership Group that shall be adopted within prefabricated and site built accommodation to achieve a minimum level of sustainability performance.

Design Phase

DL1.1 The project specifies site accommodation facilities that meet the RCLG Site Accommodation Requirements (SAR)

SAR must be outlined in either the Environmental Management Plan (or similar) or in the specification for site facilities. Section 3.1 of the SAR must be implemented for prefabricated site facilities, and section 3.4 must be implemented for purpose built site facilities. In addition, section 3.3 must be implemented for all non-site facility related items (such as fridges and TVs).

For facilities such as toilets only relevant specifications must be implemented. Justification must be provided outlining which specifications have been excluded in which facilities and the reasons for their exclusion.

Where the SAR provide for an 'and/or', the project team is only required to demonstrate compliance with one of the items.

Where the SAR nominates 'energy efficient' air conditioning equipment to be used, the project team must justify how the selected equipment is more energy efficient than standard practice via annual energy usage comparisons or ratings. This could be as simple as demonstrating that equipment is within 2 stars of the most efficient available Energy Rating for that category on the market.

DL2.1 The project specifies site accommodation facilities that meet the RCLG SAR section 3.2 Optional Extras.

Requirements of section 3.2 (optional extras) of the SAR must be included in either the Environmental Management Plan (or similar) or in the specifications for site facilities.

For solar PV, panels must be sized to meet averaged daily site accommodation electricity demand.

For facilities such as toilets only relevant specifications must be implemented. Justification must be provided outlining which specifications have been excluded in which facilities and the reasons for their exclusion.

As Built Phase

ABL1.1 The project site accommodation facilities meet the RCLG Site Accommodation Requirements (SAR)

SAR must be implemented on site for the duration of the project construction period. Section 3.1 of the SAR must the implemented for prefabricated site facilities, and section 3.4 must be implemented for purpose built site facilities. In addition, section 3.3 must be implemented for all non-site facility related items (such as fridges and TVs).

For facilities such as toilets only relevant specifications must be implemented. Justification must be provided outlining which specifications have been excluded in which facilities and the reasons for their exclusion.

Where the SAR provide for an 'and/or', the project team is only required to demonstrate compliance with one of the items.

Where the SAR nominates 'energy efficient' air conditioning equipment to be used, the project team must justify how the selected equipment is more energy efficient than standard practice via annual energy usage comparisons or ratings. This could be as simple as demonstrating that equipment is within 2 stars of the most efficient available Energy Rating for that category on the market.

ABL2.1 The project site accommodation facilities meet the RCLG SAR section 3.2 Optional Extras.

Requirements of section 3.2 (optional extras) of the SAR must be implemented for the duration of the project construction period.

For solar PV, panels must be sized to meet averaged daily site accommodation electricity demand.

For facilities such as toilets only relevant specifications must be implemented. Justification must be provided outlining which specifications have been excluded in which facilities and the reasons for their exclusion.

Additional Information

Link to RCLG Site Accommodation Requirements:

http://www.responsibleconstruction.org/sustainable-site-facilities.html

Link to Energy Ratings website:

http://www.energyrating.gov.au/

IC-5 HIGH CLINKER SUBSTITUTION

Phase

Design, As Built, Operations

Aim

To reward the significant substitution of clinker with lower carbon emission alternatives.

Criteria

	3 points available
Benchmark	Concrete (including pre-cast) used on the project has an average of 50% to 100% clinker substitutes (such as supplementary cementitious materials (SCMs) and fillers) by volume (3 innovation points awarded on a sliding scale)
Suggested Evidence	- Materials data - Concrete mix designs - Quality reports - Bill of quantities - Modelling reports - Supplier letters and invoices

Additional Guidance

Why is this Challenge important?

This Innovation Challenge seeks to further incentivise the substitution of Portland cement with lower carbon alternatives across the infrastructure sector.

Portland cement has been used as the industry standard cement type since the 19th century, of which limestone is the raw material. The first stage of cement making is to transform limestone (calcium carbonate - CaCO3) into lime (CaO), thus releasing carbon dioxide (CO_2) as a waste product. This single process accounts for about half of the carbon emissions associated with cement making, and therefore around 4% of the world's total emissions" (Beyond Zero Emissions, 2017). As a proportion of emissions, cement is expected to rise significantly as other sources of emissions such as electricity generation are reduced.

When compared to traditional Portland cement production, the increased use of clinker substitutes (known as supplementary cementitious materials or fillers) is already resulting in a global saving of approximately 500 million tonnes of CO_2 per year (Beyond Zero Emissions, 2017). However, clinker substitution offers far greater potential for emissions reductions.

Average clinker replacement

Ratings will be awarded average percentage of clinker substitute in cement used on the project. This average also includes pre-cast concrete.

Clinker substitution may include fly ash, slag (all metals), metakaolin/clay-based, volcanic rock, silica fume, waste glass, vegetable ashes (e.g. bagasse ash), ground limestone etc.

Three points are available on a sliding scale for clinker substitutes of cement from 50% to 100%. For example, if a project achieves an average of 75% clinker substitution on the project, 1.5 innovation points would be awarded. ((3-1)*0.75)= 1.5.

Design Phase

In the design phase, the average clinker substitution must be demonstrated through modelling and a commitment to implement the design in construction must be evidenced. This commitment can be demonstrated through forward purchasing, management plans, or similar.

As Built Phase

In the As Built phase, the average substitution must be demonstrated through bill of quantities, concrete usage reports, supplier invoices, supplier mix designs, , quality reports showing the percentage of clinker replacement or similar.

Operations

In the Operations phase, the concrete used on the asset would include that used in maintenance and capital/upgrade works. Evidence must be demonstrated through bill of quantities, concrete usage reports, supplier invoices, supplier mix designs, , quality reports showing the percentage of clinker replacement or similar.

IC-6 SUPPLY CHAIN EDUCATION

Phase

Design, As Built, Operations

Aim

To reward increases in the sustainability knowledge of project participants.

Criteria

	2 points available
Benchmark	2 Points can be awarded for training provided for the following groups: • Project employees • Contractor and sub-contractor workforce
Suggested Evidence	• Examples of training material • Attendance at training sessions shown to cover essential elements • Contractor Action Plans from the Supply Chain Sustainability School or similar • Demonstrated increases in sustainability knowledge over time • Reports from the Supply Chain Sustainability School or similar

Additional guidance

Why is this important?

This Innovation Challenge seeks to encourage the sustainability education of project employees so as to achieve continuous improvements in sustainability outcomes.

Every project employee can contribute to the sustainability outcomes of the project, particularly on-site employees who play a vital role in implementing sustainability measures such as waste separation, water conservation, conserving ecological sites and employee well-being.

Training

Sustainability training must be provided to at least 80% of the workforce.

Workforce employees are defined as any person who works more than 5 days on the project site. They can be project employees, contractors or sub-contractors.

The following e-learning modules from the Supply Chain Sustainability School training or equivalent must be completed as a minimum.

All employees must complete:

- Climate change adaptation
- Materials
- Waste
- Biodiversity
- Sustainable Construction

In addition, contractors and sub-contractors must complete:

- Environmental management

Learning resources and training materials are available for free to members of the Supply Chain Sustainability School online at http://www.supplychainschool.org.au/; School membership is free and involves a simple registration process. Training that can be shown to be equivalent to the relevant modules of the Supply Chain Sustainability School will be accepted. Where the Supply Chain Sustainability School has worked with contractors to produce project-specific education, these would be also accepted.

Documentation may include an individual's School Action Plan (downloaded PDF or screenshot) demonstrating the dates that essential elements were completed, or attendance at project-(or site)-specific training shown to cover essential elements.

IC-7 RESTORE AND RENEW

Phases

Design, As Built, Operations

Aim

To reward projects for participating in a landmark ecological regeneration program.

Criteria

	1 innovation points available
Benchmark	• The project implements the outcomes of participating in the Restore and Renew program (1 Innovation Point)
Suggested Evidence	• Proof of RBGS collaboration • Pictures and plans of landscaping

Additional guidance

Why is this important?

This Innovation Challenge is only available to NSW projects. It seeks to encourage the projects to participate in the Royal Botanic Gardens Sydney (RBGS) Restore and Renew program.

Using the latest DNA technologies, scientists at the Royal Botanic Garden Sydney are unlocking the data of our unique native plants to understand how they respond and adapt to different environmental conditions.

This data, available on the Restore and Renew website, will provide the tools to restore healthy ecosystems that are diverse, resilient and adaptable.

They can use this information to understand the relationship between genetic diversity and climatic variation and identify suitable plant material to use in restoration and enhancement projects. This will ensure that the right plants are chosen to deal with future conditions and ensure stability of the new ecosystem.

Participation

At least 3 new plant species that will be planted on the project/asset site must be analysed by Restore and Renew and added to their database.

Ratings must collaborate with the RBGS on the implementation of the Restore and Renew program for their project.

Documentation of this collaboration must be provided as evidence.

The data and plant information from the Restore and Renew program must be referenced and included in final landscape plans.