

Innovation Challenges Appendix

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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.

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. The table below 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 or Workforce Sustainability Category	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

INNOVATION CHALLENGE PROCESS

Claiming Innovation Challenges

A project can register interest in an Innovation Challenge with their Case Manager using the Innovation Challenge Registration Form. 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 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 1A below. The Case Manager will then confirm acceptance and provide a credit summary form for the challenge.

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.

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.

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 1A – Verification fees (valid until 30 June 2018)

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 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

Proposing 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. They 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. 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 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

Phase

Design, As Built, Operations

Aim

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

Criteria

Benchmark	Up to 5 innovation points available
	<ul style="list-style-type: none"> • 2 innovation points can be awarded for piloting a new or major update category/credit as outlined in the 'IC-1 category list' • 1 innovation point can be awarded for piloting a minor update category as outlined in the 'IC-1 category list'. • Feedback must be provided on the piloted category prior on completion of the pilot.
Suggested Evidence	<ul style="list-style-type: none"> • Evidence as required by the draft credit/category. • Feedback report/feedback meeting minutes.

Table 2 – IC-1 category list

Number of points available	Category	Relevant Phases	Indicative Date Available
Up to 2 innovation points (Major updates)	Sustainable Procurement	All	Available now
	Context	Planning	Available now
	Resilience	All	Available now
	Green infrastructure	All	Available now
	Leadership and Management	All	Available now
Up to 1 innovation point (Minor updates)	Stakeholder Engagement	All	Available now
	Resource Efficiency	All	Available now
	Legacy	All	Available now
	Ecology	All	Available now
	Energy & Carbon	All	Available now
	Heritage	All	Available now
	Context	Design & As Built	Available now
	Water	All	Available June

Additional Guidance

Why is this Challenge important?

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 ongoing development of the IS rating scheme.

The draft pilot categories will be made available to rating partners on request to clarify the requirements to complete the pilot.

Registration

Ratings will be able to register to undertake a category pilot when it is made available on the ISCA website. Ratings will need to follow the Innovation Challenge registration process as described in the Innovation Challenge appendix.

Ratings **must** complete the feedback component of the pilot by at an agreed date with their Case Manager.

All piloted categories **must** achieve at least a Level 1 on half of the category credits. This means, if the Context category is being piloted which has two credits available (Con-1 and Con-2), then at least one credit needs to achieve a level 1 to qualify for an innovation challenge.

There is a limit on the number of innovation points that can be received on piloted categories. Five innovation points can be awarded for piloting categories under this challenge.

Categories worth up to 2 innovation points

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 will include 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 will reward 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 resilience using the 100 Resilient Cities framework as a basis. In addition, Res-2 replaced the ISv1.2 Climate Change Adaptation credit.

The Green Infrastructure category will reward 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

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 will broaden 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 will focus 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 report using 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 category, the updated category will replace the existing category/credit, however, scoring for the category remains the same. In addition to the points allocated to the category, the allocated innovation points are awarded and are not dependant on the level achieved. For example, the Sustainable Procurement category would be scored out of 5 (this may vary after weightings adjustment), as per the replaced ISv1.2 Procurement and Purchasing category and piloting would receive a bonus 2 innovation points. Thus, if a rating achieved maximum points for each credit within the category, 7 points would be awarded. Please see the table below for an outline of points available.

ISv2.0 credits	Replaceable ISv1.2 credit	Base points available (note: points may vary due to weightings assessment)	Innovation points available	Total points available.
Spr-1	Pro-1	5	2	7
Spr-2	Pro-2			
Spr-3	Pro-3			
	Pro-4			
Lea-1	Man-1	7.29	2	9.29
Lea-2	Man-2			
Lea-3	Man-3			
	Man-4			
	Man-5			
	Man-6			
Con-1	N/A	N/A	2	2
Res-1	Cli-1	5	2	7
Res-2	Cli-2			
Gre-1	N/A	N/A	2	2
Sta-1	Sta-1	5	1	6
Sta-2	Sta-2			
	Sta-3			
	Sta-4			
Rso-1	Mat-1	21	1	22

Rso-2	Mat-2			
Rso-3	Lan-1			
Rso-4	Lan-2			
Rso-5	Lan-3			
Rso-6	Lan-4			
Res-7	Was-1			
	Was-2			
	Was-3			
Leg-1	Hea-1	5	1	6
	Hea-2			
Eco-1	Eco-1	10.5	1	11.5
Eco-2	Eco-2			
Ene-1	Ene-1	10.5	1	11.5
Ene-2	Ene-2			
Ene-3				
Her-1	Her-1	5	1	6
	Her-2			
Con-2	Urb-1	5	1	6
	Urb-2			
Wat-1	Wat-1	7	1	8
Wat-2	Wat- 2			
	Wat-3			

IC-2 PILOTING THE ECONOMIC THEME OR 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

Benchmark	Up to 5 innovation points available
	<ul style="list-style-type: none"> Up to 5 innovation points available for piloting the Workforce Sustainability Category Planning (available for Design and As Built ratings) or Design and As Built or Operation credits Up to 5 innovation points available for piloting the Economic Theme Planning credits Up to 3 innovation points for piloting the Economic Theme Design and As Built credits (available for Design and As Built Ratings) Up to 3 innovation points for piloting the Economic Theme category Operations credits (available for Operations Ratings) Feedback must be provided on the piloted category prior to the ISv2.0 feedback deadline nominated by ISCA.
Suggested Evidence	<ul style="list-style-type: none"> Evidence as required by the draft Economic Theme or Workforce Sustainability Category. 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.

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

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

The Sustainable Site Facilities credit, which falls under the Workforce Sustainability category, can be piloted separately in IC-4.

Before attempting this Innovation Challenge, ratings will have access to the draft pilot theme.

Planning Phase

As part of ISv2.0 development, planning phase credits have been developed to identify the actions that should be undertaken in the planning phase, to contribute towards the credit aim. These planning phase credits may be developed into a standalone planning rating in the future. 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 5 innovation points.

These points are split between 2 innovation points for piloting the theme and providing feedback, and up to 3 innovation points for achieving the criteria as set out in the theme credits. For example, if a project achieved the equivalent of Level 1 on all credits they would achieve 3 total innovation points (2 for piloting and providing feedback and 1 for achieving a level 1).

Design or As Built Ratings

For the pilot Design and As Built credits, there are 3 innovation points available for the Economic Theme credits and 5 innovation points available for the Workforce Sustainability credits.

Economic Theme

Two points are awarded for piloting the credits, and one is awarded for the level of achievement. As the Economic credits replaces Man-7 there is also the allocated points for Man-7 available for piloting the Economic credits.

Workforce Sustainability Category

Two points are awarded for piloting the credits, and 3 points are awarded for the level of achievement.

Operations Ratings

For the Operations credits, there are 3 innovation points available for the Economic Theme or 5 points for the Workforce Sustainability category.

Economic Theme

Two points are awarded for piloting the credits, and 1 is awarded for the level of achievement. As the Economic credits replaces Man-7 there is also the allocated points for Man-7 available for piloting the Economic credits.

Workforce Sustainability Category

Two points are awarded for piloting the credits, and 3 points are awarded for the level of achievement.

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 report using 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	<ul style="list-style-type: none">Residual carbon emissions are 100% offset.Offsets are deemed suitable under the National Carbon Offset Standard.
Suggested Evidence	<ul style="list-style-type: none">Certificate of purchase/currency/purchase agreement/ carbon offset purchase agreement.Memo confirming cancellation of offsets and percentage of total carbon emissions offsetEnergy 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 creates greenhouse gas (GHG) emissions which causes climate change. Climate change will adversely impact the 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 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 their energy consumption and reduce their 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 challenge)

Guidance

Residual carbon emissions are 100% offset.

Residual emissions are made up of those demonstrated in Ene-1 including any reductions made through the use of on-site renewables. For example, if a project produces 10,000 tCO₂-e over its

lifecycle and 1,200 tCO₂-e were reduced through energy efficiencies with an extra 2,300 tCO₂-e reduced through renewables, then the residual emissions would equal 6,500 tCO₂-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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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're 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 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.

Averaged daily site accommodation electricity demand is the expected yearly electricity demand in kWh 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 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.

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

Benchmark	3 points available
	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	<ul style="list-style-type: none">• Materials data• 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.

“Since the 19th century, the industry standard cement type has been Portland cement, for which the raw material is limestone. The first stage of cement making is to transform limestone (calcium carbonate - CaCO_3) 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 (eg. 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

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, the management plan, or similar.

As Built

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

IC-6 SUPPLY CHAIN EDUCATION

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: <ul style="list-style-type: none">• Project employees• Contractor and sub-contractor workforce
Suggested Evidence	<ul style="list-style-type: none">• 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

Benchmark	1 innovation points available
	<ul style="list-style-type: none">The project implements the outcomes of participating in the Restore and Renew program (1 Innovation Point)
Suggested Evidence	<ul style="list-style-type: none">Proof of RBGS collaborationPictures and plans of landscaping

Additional guidance

Why is this important?

This Innovation Challenge 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 about 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.