



Innovation Challenges Handbook

Celebrating Innovation with Green Star

October 2015

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Change Log

SEP '13

JUN '14

OCT '15

New Innovation Challenges

Contribution to Industry Benchmarking	-	-	Initial release.
Integrating Healthy Environments	-	-	Initial release, developed in association with USGBC.
Reconciliation Action Plan	-	-	Initial release, developed in association with Reconciliation Australia.
Social Enterprise for Housing	-	-	Initial release, developed in association with The Big Issue.

Existing Innovation Challenges

Affordable Housing	Initial release.	General updates to guidance.	
Building Air Tightness	-	Initial release, proposed by Umow Lai.	
Community Benefits	Initial release.	General updates to guidance.	Updated Compliance and Documentation Requirements for all existing Innovation Challenges.
Contractor Education	Initial release.	General updates to guidance.	
Culture, Heritage and Identity	Initial release.	General updates to guidance.	With this update, all relevant guidance is provided in order for project teams to target these Innovation Challenges.
Energy Metering Integrity	-	Initial release, proposed by Carbon Energy Management Technologies.	
Financial Transparency	Initial release.	General updates to guidance.	Project teams are <u>not</u> required to submit a query to the GBCA in order to target these Innovation Challenges.
High Performance Site Offices	-	Initial release, proposed by Brookfield Multiplex.	
Local Procurement	Initial release.	General updates to guidance.	Project teams <u>should</u> submit a query to the GBCA where the Innovation Challenge requires further clarification or amendment.
Marketing Excellence	Initial release.	General updates to guidance.	
Occupant Engagement (previously known as 'Market Intelligence and Research')	Initial release.	Updated to include one additional area where research and information is encouraged, connection to nature.	
Social Return on Investment	Initial release.	General updates to guidance.	

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Introduction

Since Green Star was introduced to the market in 2003, the sustainable building industry has made significant progress in designing and delivering innovative buildings, fitouts and communities that meet and exceed best practice sustainability benchmarks. Innovation has played a large role in our industry's growth and success, and the Green Building Council of Australia (GBCA) has endeavoured to recognise these innovations and achievements as much as possible through the Green Star Innovation category over the past 10 years.

While Green Star has quickly become Australia's trusted mark of quality for the design and construction of buildings, fitouts and communities, we recognise that there are many existing and emerging sustainability issues that are currently not addressed by Green Star rating tools. To address these issues and fuel the innovation cycle, Innovation Challenges have been made available by the GBCA since September 2013 to encourage further innovation in the sustainable development sector.

What are Innovation Challenges?

Innovation Challenges are designed to encourage and direct investment in solutions that address a wide range of social, economic and environmental sustainability issues. Some Innovation Challenges will take the form of typical credits, while others will simply identify sustainability issues that additional research and innovation will help to address.

The aim of Innovation Challenges are to:

- Create new opportunities for your industry-leading ideas, processes and technologies to be recognised and rewarded.
- Help you to identify where your innovation and R&D resources are best invested.
- Make documenting and assessing innovation claims easier for your project team and Green Star Assessors, increasing assessment consistency and reducing your risk.

Innovation Challenges are also a method for testing potential new Green Star credits. The GBCA will use Innovation Challenges to test the proposed language, Credit Criteria, and Compliance and Documentation Requirements of these credits as they are developed. Additionally, Innovation Challenges will provide an avenue for GBCA stakeholders to suggest new Innovation Challenges that can be taken up by industry.

Project teams that are successful in meeting the agreed outcomes or benchmarks of an Innovation Challenge will be rewarded with Innovation points for their Green Star project.

Innovation Challenges broadens the scope of Green Star even further. In line with the GBCA's motto to '*create sustainable places for everyone*', Green Star Innovation Challenges shifts the conversation from environmental to social and economic sustainability issues. The ability for project teams to select those Innovation Challenges relevant to their project allows for maximum flexibility and adaptability in achieving sustainability outcomes.

The current selection of Innovation Challenges available to project teams are contained within this Handbook.

Development of Innovation Challenges

In 2013 the GBCA recognised the need to provide projects with new opportunities for demonstrating sustainability best practice within Green Star. Where the Innovation category in Green Star rating tools previously enabled projects to be rewarded for 'pushing the envelope', there was more to be had.

In **September 2013**, the Innovation category was revamped. Innovation Challenges were introduced in conjunction with an increase in the number of points available within the Innovation category – from 5 to 10 points. Project teams were also encouraged at this time to propose new Innovation Challenges for sustainability issues they believe needed to be addressed.

From its inception, Innovation Challenges have been enthusiastically picked up by project teams in order to demonstrate their initiatives beyond best practice. From their release, to the date of publishing, over 211 points for Innovation Challenges have been awarded across 84 projects, or on average 2.5 points per project.

In **October 2015**, the *Innovation Challenges Handbook* (this document) was produced to develop the Innovation Challenges even further. These developments were informed by project team feedback which is continually encouraged by the GBCA. Key changes in this release include:

- **The introduction of four new Innovation Challenges**, bringing the total number of Innovation Challenges to 16. These four new Innovation Challenges are:
 - Contribution to Industry Benchmarking;
 - Integrating Healthy Environments;
 - Reconciliation Action Plan; and
 - Social Enterprise for Housing.
- **Additional guidance around Compliance and Documentation Requirements** for existing Innovation Challenges, thereby removing the need for project teams to submit queries to the GBCA in order to target them. See the 'How to Claim an Innovation Challenge' section for additional detail.

Retired Innovation Challenges

Since their release, a number of Innovation Challenges have been developed into new credits under the New Generation Green Star rating tools. These credits have been developed based on their application in projects and feedback received from project teams.

Projects registered under any New Generation rating tool aiming to target these initiatives can do so by claiming the relevant credit in that rating tool.

Projects registered under any Legacy rating tool aiming to target these initiatives can do so by claiming the relevant credit from a New Generation rating tool. Given that these initiatives will be considered outside the scope of the rating tool, this claim can be made under the ‘Sustainable Design Initiatives’ credit (Inn-3).

In order for project teams to target a credit from a New Generation rating tool, a CIR must be submitted to the GBCA for approval. The CIR must outline the approach being taken for that credit and the points intending to be claimed.

The following table provides guidance on which credit may be targeted from the New Generation Green Star rating tool in place of the now retired Innovation Challenge.

Retired Innovation Challenge	Relevant New Generation Rating tool and Credit
Adaptation and Resilience	<i>Green Star – Design & As Built</i> ‘Adaptation and Resilience’
Design for Active Living	<i>Green Star – Communities</i> ‘Healthy and Active Living’
Environmental Product Declarations	Depending on the type of project (building or fitout): <i>Green Star – Design & As Built</i> ‘Sustainable Products’; OR <i>Green Star – Interiors</i> ‘Sustainable Products’.
Materials Life Cycle Impacts	Depending on the type of project (building or fitout): <i>Green Star – Design & As Built</i> ‘Life Cycle Impacts’; OR <i>Green Star – Interiors</i> ‘Life Cycle Impacts’.
Reduction of Construction and Demolition Waste	Depending on the type of project (building or fitout): <i>Green Star – Design & As Built</i> ‘Construction and Demolition Waste’; OR <i>Green Star – Interiors</i> ‘Construction and Demolition Waste’.

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Guidance

How to Claim an Innovation Challenge

To claim an Innovation Challenge for your registered Green Star project, follow these three easy steps:

1. **Review this Handbook** to determine which Innovation Challenge(s) your project would like to target.
2. **Understand the Compliance and Documentation Requirements** for that Innovation Challenge and complete one of the following:
 - a. If the Innovation Challenge's requirements are clearly understood with no additional guidance required, proceed to Step 3; or
 - b. If the Innovation Challenge requires further clarification or amendment for application in your project, or there are limited Compliance and Documentation Requirements developed for that specific Innovation Challenge, submit a free-of-charge 'Innovation' query to the GBCA. Once the GBCA response is received, proceed to Step 3.
3. **Prepare and submit the documentation** outlined within the Innovation Challenge with the project's Green Star submission. Please see the 'How to Document an Innovation Challenge Claim' for additional detail.

Please note, each Innovation Challenge has a predetermined number of Innovation points assigned to it. A project can only claim up to the maximum number of 10 points available in the Innovation category.

How to Document an Innovation Challenge Claim

In order to claim an Innovation Challenge, project teams are required to provide relevant information in the project's Green Star submission. This will consist of the following:

- **Submission Template** – outlining how the project team has addressed the Innovation Challenge.
- **Supporting documentation** – to support the claims made in the Submission Template. The supporting documentation will vary depending on the stage of the project's Green Star submission.

Guidance on these two essential components in documenting an Innovation Challenge claim is provided below.

Submission Template

All Innovation Challenges contain a requirement for the 'Innovation Challenges Submission Template' (the Submission Template) to be completed. The Submission Template is to be used to summarise the steps taken to ensure the project meets the intent of the Innovation Challenge. The Submission Template is the principal method by which the project team communicates with the Assessment Panel. The Submission Template will ask project teams to justify their claims with supporting documentation that must be included in their submission.

The Submission Template is one editable Word document which is applicable to all available Innovation Challenges. This Submission Template is available on the Innovation page on the GBCA website. Project teams must use the latest available Submission Template. Project teams must submit the Submission Template as developed by the GBCA and are not permitted to use an alternative document without prior consent from the GBCA.

The Submission Template also enables project teams to provide feedback to the GBCA which will help inform improvements to the content of the Innovation Challenges. Please provide your constructive feedback as best as possible at the time of submission – it is expected that 500 to 1000 words will suffice. The GBCA commits to reviewing this feedback for subsequent improvements.

Link to the Submission Template: <http://www.gbca.org.au/green-star/technical-support/innovation-in-green-star/>

Supporting Documentation

Additional evidence will be required to support the claims made in the Submission Templates. Under the 'Documentation Requirements' section, each Innovation Challenge lists satisfactory documents or information that may be submitted at the time of assessment. The evidence listed in each Innovation Challenge is not mandatory, and project teams are not required to submit all of it, only what is needed to support the project's claims.

The 'Documentation Requirements' section in each Innovation Challenge highlights suggested evidence to be submitted, based on the stage of the project's submission. For all building and fitout ratings, this will either be for a 'Design Review' ('Design' for Legacy projects) or 'As Built' submission.

As the 'Design Review' rating is aimed at projects early in the design development phase, detailed information and documentation may not be available to support claims made in the Submission Template. As such, when information is not known, as detailed work has not occurred yet, the claims made in the Submission Template should be considered as 'brief requirements' or 'client instructions' backed by evidence showing this is the case. It is noted that a simple statement of commitment will not suffice. Rather, information must be provided showing that the broad strategies and processes to deliver a certain outcome have been agreed to.

For an 'As Built' rating, the project team is required to provide evidence of delivery to verify the information and narrative given in the Submission Template.

Guidance for Initial and Recertification Submissions

In the *Green Star – Communities* and *Green Star – Performance* rating tools, there are ‘Initial’ and ‘Recertification’ submissions in place of ‘Design Review’ and ‘As Built’ submissions. Project teams shall use the below guidance for these rating tools when compiling the relevant supporting documentation.



Green Star – Communities



Green Star – Performance

Initial Certification Documentation Requirements

For either type of submission, project teams should use the Documentation Requirements most relevant to that project’s stage of development as guidance.

All relevant information which supports the project team’s claims should be provided, at the project team’s discretion. This can include a combination of both ‘Design Review’ and ‘As Built’ documentation.

For either type of submission, project teams should use the ‘As Built’ Documentation Requirements as guidance.

This is on the basis that the Innovation Challenge will need to be implemented and in operation at the time submission.

Recertification Documentation Requirements

For the project’s final certification (when the project site’s plan for development is fully built out), only the ‘As Built’ Documentation Requirements should be used as guidance.

Questions?

For any questions you might have regarding Innovation Challenges, please don’t hesitate to contact a member of the GBCA’s Sustainability Services team – we’re here to help.

Recommending an Innovation Challenge

You can propose or suggest a new Innovation Challenge via the online form on the GBCA website. The following information is required:

- Your details including your organisation and nominated contact.
- Declaration of any conflict of interest.
- A short description of the issue that is being addressed by the Innovation Challenge.
- Proposed benchmarks for measurement.
- Proposed number of points for the Innovation Challenge and justification (maximum five points per Challenge).
- Background information or any technical references.
- The rating tool(s) this Innovation Challenge is relevant to.

Link to the online form: <http://www.gbca.org.au/forms.asp?formid=10026>

In agreeing to develop the proposed Innovation Challenge, your organisation must also agree to a Confidentiality Agreement. This agreement will ensure that the development process between the GBCA and your organisation is closed and does not warrant public comment.

When detailing your Innovation Challenge, you must describe what the equivalent weighted benefit of your Innovation Challenge would be when compared to other credits within the applicable Green Star rating tool(s). You must also describe the reach of the benefit, the impact and the area coverage.

An example of an issue that would not be accepted as an Innovation Challenge would be a Challenge to address the glare from lighting fixtures in lobbies or hallways. This would not be accepted as the impact is small (glare is unlikely to be a problem in areas where people are constantly moving), and the area coverage is limited (lobbies and hallways would not be a majority of the building space, or cover a majority of users).

An example of an issue which has been accepted as an Innovation Challenge is the 'High Performance Site Offices' Challenge. This was accepted on the basis that the resulting benefit of the initiative is significant (improves indoor conditions for a large number of construction workers), is widely-applicable (to all construction sites, and not project-specific), and addresses a valid sustainability concern currently outside of the scope of Green Star.

The Approval Process for New Innovation Challenges

Once received, your proposal will be reviewed by the GBCA. The Sustainability Services team will need at least three months to review a proposal before it is published (if approved). During this time, we may require additional information from you to clarify and define the issue, method of measurement, benchmarks, or address any other issues.

- 1. Innovation Challenge application** – you submit your Innovation Challenge recommendation with the details listed above.
- 2. The Sustainability Services team conducts an initial review** – our team will consider the initiative, its merit, and applicability to Innovation Challenges. We will then contact you to confirm whether the Innovation Challenge should be pursued or not.
- 3. The Innovation Challenge will be developed with your organisation's input** – at this point, our staff will work with you to ensure we have all the information we need to make a decision. This development process can take up to three months.
- 4. The Innovation Challenge will need to be endorsed by the GBCA** – the GBCA may request an external review of the Challenge by experts in the relevant field. If the GBCA does not agree with the proposal, you will be informed. This decision is final, and no appeal is allowed.
- 5. If the GBCA agrees to the Innovation Challenge** – it will be put forward to the Green Star Technical Steering Committee for approval. The GBCA will then assign a number of points to the Innovation Challenge. Approved Innovation Challenges will be released publicly for all project teams to apply to their project.

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List of Innovation Challenges

These are the 16 Innovation Challenges currently available for project teams to claim. For ease of reference, all 16 Innovation Challenges are contained within this Handbook and also individually on the Innovation page on the GBCA website.

Affordable Housing

Building Air Tightness

Community Benefits

Contractor Education

Contributing to Industry Benchmarking

Culture, Heritage and Identity

Energy Metering Integrity

Financial Transparency

High Performance Site Offices

Integrating Healthy Environments

Local Procurement

Marketing Excellence

Occupant Engagement

Reconciliation Action Plan

Social Enterprise for Affordable Housing

Social Return on Investment

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Affordable Housing

Points Available: 1

Aim

To increase the availability of affordable, sustainable housing and to increase living affordability.

Rating Tool Eligibility



Green Star
Design & As Built



Green Star
Performance



Legacy Green Star
Rating Tools

Note: This Innovation Challenge is only available to projects that contain multi-unit residential apartments.

Why is this Innovation Challenge Important?

Affordability is a key aspect in overcoming the housing stress experienced by lower income households who pay more than 30% of their gross income on housing.

This Innovation Challenge aims to encourage the provision of low-cost, sustainable housing within a broader development. It does so by encouraging either the provision of a percentage of housing stock that is subsidised, or through the provision of affordability strategies to reduce the cost of operating the asset throughout its lifetime.

This Innovation Challenge is only available to projects that contain multi-unit residential apartments within the site boundary. It excludes dedicated student housing (as low cost housing is the aim of student housing), and at least 20% of the project's GFA must be dedicated to multi-unit residential.

Compliance Requirements

To claim this Innovation Challenge your project team must:

- Demonstrate that the project contains a mix and diversity of lot sizes at an affordable purchase price for low to moderate income households. This may include the supply of social housing within the development, or through the provision of worker housing;
- Establish partnerships between the project's owner and organisations dedicated to housing affordability to ensure the stock is allocated as intended; and
- Provide an incentive program through rebates, free sustainability items, or reductions in the recommended retail price (RRP) for appliances to these occupants.

For projects seeking a Design Review / Design rating, a commitment from the owner is required detailing the scope of affordable housing in the project, the partnerships and the incentive program. For an As Built rating, the stock must have been allocated.

The GBCA has not yet determined what the extent of affordable housing should be as a percentage of the project; however it is expected that this percentage will be relevant to the location and size of the project.

Alternative Compliance Methods

A Credit Interpretation Request (CIR) may be submitted to the Green Building Council of Australia (GBCA) when an applicant wishes to advocate for an alternative yet equivalent method of meeting the Compliance or Documentation Requirements. Any CIRs submitted for this Innovation Challenge will be processed as free-of-charge.

Documentation Requirements

Design Review / Design and As Built Submission

Provide the following required documentation:

- **Submission Template** outlining percentage of housing stock within the project development that is subsidised, and compliance with other Innovation Challenge requirements. The Submission Template also enables project teams to provide feedback on the Innovation Challenge to inform future developments.

Provide documentation to support the claims made within the Submission Template. This may include:

- **Supporting documentation** as required supporting the claims made within the Submission Template. Project teams are encouraged to submit a CIR to the GBCA when targeting this Innovation Challenge in order to agree upon the project team's approach and the documentation intended to support the relevant claims.

Building Air Tightness

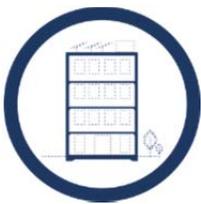
Points Available: 2

Developed in partnership with Umow Lai.

Aim

To improve passive energy performance of building façades by designing well sealed buildings and carrying out whole building air tightness testing.

Rating Tool Eligibility



Green Star
Design & As Built



Green Star
Performance



Legacy Green Star
Rating Tools

Why is this Innovation Challenge Important?

The practice of testing whole building's air tightness (or air permeability) is common in Europe and North America as it is recognised that well sealed buildings perform measurably better for both energy efficiency and thermal comfort.

Australian building's air tightness is comparably very poor and contributes to poor energy efficiency and thermal comfort. There is also no requirement for whole building air tightness testing in Australia and there have only been a handful of relatively small buildings tested in Australia to date.

Compliance Requirements

To test a building’s air tightness the building must be pressurised (to 50 Pascal) using a fan and the resulting air flow rate measured. During the test, the building’s external doors and windows must be closed with internal doors wedged open, and with any mechanical and natural ventilation openings sealed.

The building air tightness test must be carried out in accordance with at least one of the following standards:

- EN 13829:2001
- ISO 9972:2006
- ASTM E779-10
- ATTMA TSL2 Non-Dwellings – October 2010

For testing a large multi-storey building it may be possible and more practical to use the building’s own HVAC system air supply fan(s) to pressurise the building, with the building’s exhaust fans turned off and the external exhaust grille sealed off. The building’s fans should be capable of creating a pressure difference across the building envelope of at least 60 Pascal. Also, there should be a method of controlling the air volume flow rate by a fan speed controller or control dampers in series with the fan(s). Please refer to CIBSE Technical Memorandum 23 and ATTMA for further information relating to the procedural requirements.

Points Allocation

Whole Building Air Tightness Test	1 point is awarded where a whole building air tightness test is carried out in accordance with a recognised industry standard.
Best Practice Air Tightness Results	1 additional point is awarded where the above is achieved and the building air tightness test results demonstrate a ‘best practice’ outcome, as outlined in Table 1.

Whole Building Air Tightness Test

In order for one (1) point to be awarded, a whole building air tightness testing must be carried out in accordance with at least one of the recognised international standards listed above.

The following requirements apply, depending on the stage of the project; for a:

- **Design Review / Design rating**, this requirement must be included in the main building contract. In addition, the building owner must include a commitment to provide the results to the GBCA with the condition that they may be published anonymously to better advance and educate the industry.
- **As Built rating**, the results of the testing must be provided to the GBCA with the condition that they may be published anonymously to better advance and educate the industry.

Best Practice Air Tightness Results

In order for the one (1) additional point to be awarded, the 'Whole Building Air Tightness Test' requirements must be met and the building air tightness test results must achieve best practice targets. The following table outlines best practice targets:

Building Type	Best Practice Outcome (m ³ /hr/m ² @ 50 Pa)
Offices (naturally ventilated)	3.0
Offices (mixed mode)	2.5
Offices (mechanically ventilated)	2.0
Hospitals	5.0
Schools	3.0
Museums and Archival Stores	1.0
Cold Stores	0.2
Retail superstore	1.0
Industrial (i.e. factories and warehouses)	2.0
Dwelling (naturally ventilated)	5.0
Dwelling (mechanically ventilated/mixed mode)	1.0
Other	3.0

Table 1 – Best Practice Air Permeability Targets

The figures in Table 1 have been extracted from a combination of CIBSE Technical Memorandum 23:2000 and ATTMA TSL2.

Best Practice Air Tightness Levels

Testing results may be stated as one of two variables: air leakage index or air permeability. The values are similar, but differ in terms of the building envelope area used for normalisation.

- **Air leakage index** is based on the internal envelope surface area of the walls, roofs and floors, but only where floors are NOT in contact with the ground (i.e. suspended floors).
- **Air permeability** is based on the internal envelope surface area of the walls, roofs and floors, irrespective of whether any floors are in contact with the ground.

The figures outlined in Table 1 are related to air permeability, not air leakage index.

Alternative Compliance Methods

A Credit Interpretation Request (CIR) may be submitted to the Green Building Council of Australia (GBCA) when an applicant wishes to advocate for an alternative yet equivalent method of meeting the Compliance or Documentation Requirements. Any CIRs submitted for this Innovation Challenge will be processed as free-of-charge.

Guidance

Whole Building Air Tightness Testing

The practice of testing building's air permeability is common in Europe and North America as it is recognised that well sealed buildings offer the following benefits:

- Lower energy consumption due to reduced fan power.
- Increased building control.
- Increased building modelling accuracy.
- Improved occupant comfort levels.

Moreover, it is a key requirement for international high performance building standards, such as Passivhaus.

Australian building's air permeability standards are comparably very relaxed and contributes to poor energy efficiency. The National Construction Code (NCC) Section J3 – Building Sealing only requires basic measures such as draught proofing and does not apply a test methodology to ensure the application is effectively designed or correctly installed.

Additionally, the NCC JV3 specification stipulates that energy modelling infiltration rates are defined as one air change per hour (ach) at atmospheric pressure. Based on the methodology outlined in CIBSE TM23 this is approximately equivalent to an air permeability of $20 \text{ m}^3/\text{hr}/\text{m}^2 @ 50 \text{ Pa}$.

Referenced Standards

- CIBSE TM23:2000 – Testing Buildings for Air Leakage
- EN 13829:2001 – Thermal performance of building - Determination of air permeability of buildings - Fan pressurization method
- ISO 9972:2006 – Thermal performance of buildings - Determination of air permeability of buildings - Fan pressurization method
- ASTM E779-10 – Standard Test Method for Determining Air Leakage Rate by Fan Pressurization
- ATTMA TSL2 Issue 1 – Air testing standard for non-dwellings for Part L2 2010

Additional Information

- AIRAH 2012, 'Air Tightness of Australian Office Buildings'
http://www.airah.org.au/imis15_prod/Content_Files/EcoLibrium/2012/March%202012/2012_03_01.pdf
- Passivhaus 2014, <http://www.passivhaus.org.uk/>
- The Air Tightness Testing and Measurement Association, <http://www.attma.org/>

Documentation Requirements

Design Review / Design Submission

Provide the following required documentation:

- **Submission Template** outlining how the project has achieved the Innovation Challenge requirements. The Submission Template also enables project teams to provide feedback on the Innovation Challenge to inform future developments.

Provide documentation to support the claims made within the Submission Template. This may include:

- **Extract from main contract** – describing contractor's requirements to carry out whole building air tightness testing to one of the accepted international standards upon completion of the building. This includes requirements to achieve the 'best practice' target level as outlined in Table 1, also including requirement to carry out remedial works and retesting until the relevant target is achieved.
- **Letter of commitment from the building owner** – confirming commitment to:
 - Carry out whole building air tightness testing to one of the accepted international standards upon completion of the building; and
 - To provide results to the GBCA with the condition that they can be published anonymously to better advance and educate the industry.

As Built Submission

Provide the following required documentation:

- **Submission Template** outlining how the project has achieved the Innovation Challenge requirements. The Submission Template also enables project teams to provide feedback on the Innovation Challenge to inform future developments.

Provide documentation to support the claims made within the Submission Template. This may include:

- **Whole building air tightness testing report** – including details of test methodology, air flow rates and statement of the building air permeability achieved.
- **Letter of confirmation from the building owner** – confirming that the GBCA can publish the results anonymously to better advance and educate the industry.

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Community Benefits

Points Available: 1

Aim

To encourage investment by projects in infrastructure for use by the broader community, such as the incorporation of spaces that are publically accessible.

Rating Tool Eligibility



Green Star
Design & As Built



Green Star
Interiors



Green Star
Performance



Legacy Green Star
Rating Tools

Why is this Innovation Challenge Important?

There are many impacts that a project can have on the broader community. A building that the community can engage and interact with can transform it into a centre of activity for the community, a meeting place, a place of cultural significance, and a source of pride to local residents. Conversely, if the community is not encouraged to engage with a building it reduces that project’s capacity to add value to the community.

This Innovation Challenge aims to encourage the community to become part of the project, or design solutions that provide additional value to the community. It emphasises the importance of performing needs analysis for local residents, and the provision of spaces that promote engagement between the community and the building or fitout. Examples of these spaces or areas include a publicly available community space for hire, a food garden, child care facility or installations for young artists, not-for-profits or start-ups.

This Innovation Challenge aims to encourage project teams to go above and beyond what is commonly provided when designing and developing buildings. Projects in the education, health and public building sector, must show that what is provided delivers benefits above and beyond those provided by their end-use. For example, a large healthcare facility will not be recognised for providing healthcare spaces, or an auditorium for offering classes as these are commonly provided by such types of developments.

Please note that retail spaces or food courts within commercial buildings are not rewarded by this Innovation Challenge.

Compliance Requirements

To claim this Innovation Challenge your project team must:

- Perform a ‘needs analysis’ of the surrounding community. This may include community briefings, meetings or workshops;
- Develop a strategy for how the project will provide social/community benefits and consult with the broader community on the proposed plan; and
- Implement the plan and deliver outcomes as defined by the community benefits strategy.

Please note that while the strategy may include some benefits that are transitory, such as the provision of temporary public spaces during construction, it must also include benefits that will be present and ongoing throughout the lifetime of the project.

While no specific benchmarks have been provided with regards to size or space definitions, these must be developed in accordance with the size of the project, and in line with the community consultation undertaken.

Alternative Compliance Methods

A Credit Interpretation Request (CIR) may be submitted to the Green Building Council of Australia (GBCA) when an applicant wishes to advocate for an alternative yet equivalent method of meeting the Compliance or Documentation Requirements. Any CIRs submitted for this Innovation Challenge will be processed as free-of-charge.

Definitions

Needs analysis – An analysis carried out to determine what requirements are sought by the community, separating “wants” from “needs” and determining the priorities, giving reasons.

Documentation Requirements

Design Review / Design and As Built Submission

Provide the following required documentation:

- **Submission Template** outlining the needs analysis process undertaken by the project team and resulting outcomes implemented in the project. The Submission Template also enables project teams to provide feedback on the Innovation Challenge to inform future developments.

Provide documentation to support the claims made within the Submission Template. This may include:

- **Extracts from the needs analysis report** clearly outlining the needs of the surrounding community in relation to the project.
- **A list of community engagement activities** undertaken to develop a community benefits strategy in response to the findings from the needs analysis.
- **Plans** clearly outlining how the outcomes from the community benefits strategy will be / have been (depending on the stage of the project) implemented in the project.

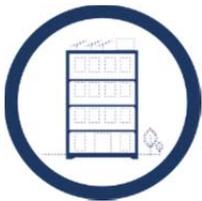
Contractor Education

Points Available: 1

Aim

To increase the knowledge of contractors and subcontractors about the benefits and outcomes of sustainable practices, and develop their skills in delivering such benefits.

Rating Tool Eligibility



Green Star
Design & As Built



Green Star
Interiors



Green Star
Performance



Legacy Green Star
Rating Tools

Why is this Innovation Challenge Important?

Expanding the adoption of sustainable practices relies upon the education of those professionals who are directly involved in implementing sustainable solutions. This is the case for all aspects of a project, from educating those who bring materials into the site, to developing the skills and understanding of those that are responsible for installing the systems within a space. Every element of a building is handled by a contractor or subcontractor who will move on to another job. Where effective education occurs, this person can spread their knowledge of sustainability to others and encourage better outcomes for subsequent jobs.

This Innovation Challenge aims to increase the knowledge of sustainable design practices at the contractor and subcontractor level. It encourages the transfer of holistic sustainable design or operations knowledge to those that are actively implementing sustainable development solutions. This Challenge rewards projects that have on-site sustainability training for all persons and that encourage key contractors to become qualified in sustainable building practices.

Compliance Requirements

To claim this Innovation Challenge your project team must:

- Deliver training on the core concepts of global warming, climate change and the health impacts of minimum building practices.
- Deliver site-specific training that highlights the sustainable solutions of your project.
- Ensure that the training provides information on any certification that is being achieved by the project, and why the concept of certification is important, as well as the role they play in achieving it.
- Ensure that at least 80% of all contractors and subcontractors that were present for at least three days on site have received the training.
- Demonstrate that head personnel hold, or have received at some point during the design, construction or operational phase of the project, a qualification related to holistic sustainable practices.

Alternative Compliance Methods

A Credit Interpretation Request (CIR) may be submitted to the Green Building Council of Australia (GBCA) when an applicant wishes to advocate for an alternative yet equivalent method of meeting the Compliance or Documentation Requirements. Any CIRs submitted for this Innovation Challenge will be processed as free-of-charge.

Guidance

The Green Star Continuing Professional Development (CPD) program is an example of a qualification related to holistic sustainable practices. Head personnel are not required to hold this specific qualification – other qualifications deemed suitable by the project team may comply – however this is an example of a well-recognised industry qualification.

Link to the Green Star CPD program: <http://www.gbca.org.au/education-courses/green-star-qualifications/>

Documentation Requirements

Design Review / Design Submission

Provide the following required documentation:

- **Submission Template** outlining how the project has achieved the Innovation Challenge requirements. The Submission Template also enables project teams to provide feedback on the Innovation Challenge to inform future developments.

Provide documentation to support the claims made within the Submission Template. This may include:

- Evidence that training of the core concepts of global warming, climate change and the health impacts of minimum building practices will be delivered;
- Evidence that site-specific training, which highlights the sustainable solutions of the project, will be delivered;
- Evidence that the training provides information on any certification that is being targeted by the project, and why the concept of certification is important, as well as the role these persons play in achieving it;
- Evidence that at least 80% of all contractors and subcontractors that were present for at least three days on site will receive the training; and
- Evidence demonstrating that head personnel hold, or have received at some point during the design, construction or operational phase of the project, a qualification related to holistic sustainable practices.

As Built Submission

Provide the following required documentation:

- **Submission Template** outlining how the project has achieved the Innovation Challenge requirements. The Submission Template also enables project teams to provide feedback on the Innovation Challenge to inform future developments.

Provide documentation to support the claims made within the Submission Template. This may include:

- Evidence that training of the core concepts of global warming, climate change and the health impacts of minimum building practices has been delivered;
- Evidence that site-specific training, which highlights the sustainable solutions of the project has been delivered;
- Evidence that the training provided information on any certification that is being targeted by the project, and why the concept of certification is important, as well as the role these persons play in achieving it;
- Evidence that at least 80% of all contractors and subcontractors that were present for at least three days on site have received the training; and
- Evidence demonstrating that head personnel held, or had received at some point during the design, construction or operational phase of the project, a qualification related to holistic sustainable practices.

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Contribution to Industry Benchmarking

Points Available: 1

Aim

To develop new Green Star benchmarks based on operational data gained from existing buildings.

Rating Tool Eligibility



Green Star
Performance

Note: this Innovation Challenge is only applicable to projects which can provide operational energy consumption data for at least 10 buildings.

Why is this Innovation Challenge Important?

Benchmarks used in Green Star need to be developed in response to current industry standard practice. Where the industry standard practice is known, benchmarks are set to drive the industry towards 'best practice' using Green Star. Where industry standard practice is not known, the Green Building Council of Australia commits to consulting with industry to understand the sustainability issue which, in turn, can be used to develop 'best practice' benchmarks.

The 'Peak Electricity Demand' credit in the *Green Star – Performance* rating tool requires further industry input. Operational energy consumption data is required to develop the Green Star benchmarks within this credit.

Compliance Requirements

To claim this Innovation Challenge your project team must provide operational energy consumption data for at least 10 unique buildings. The data is required to include the following:

- Building location (postcode);
- Building size;
- Space use;
- Energy consumption data for at least one (1) year; and
- Hourly peak demand data for at least one (1) year.

If a project team is unable to provide hourly peak demand data, the following hierarchy of data collection applies: hourly peak, daily peak and monthly peak.

In providing this information to the GBCA, the project team must acknowledge that the GBCA has the right to publish this data in an anonymised format and include with data from other industry contributors to formulate publicly available benchmarks.

Project teams are required to complete the 'Operational Energy Data' Excel template available on the GBCA website.

This template can be found at the following link:

<http://www.gbca.org.au/green-star/technical-support/innovation-in-green-star/>

Alternative Compliance Methods

A Credit Interpretation Request (CIR) may be submitted to the Green Building Council of Australia (GBCA) when an applicant wishes to advocate for an alternative yet equivalent method of meeting the Compliance or Documentation Requirements. Any CIRs submitted for this Innovation Challenge will be processed as free-of-charge.

Documentation Requirements

Initial Certification and Recertification Submission

Provide the following required documentation:

- **Submission Template** outlining how the project team has addressed this Innovation Challenge. The Submission Template also enables project teams to provide feedback on the Innovation Challenge to inform future developments.
- **Completed 'Operational Energy Data' template** for at least 10 buildings. This should be submitted in Excel format to enable the GBCA to easily extract the data. The rest of the Innovation Challenge submission should be included as a PDF.
- **A confirmation email from the GBCA** that the data required has been received. The data should be sent to a member of the Sustainability Services team well in advance of the project's intended submission date. The GBCA will then check to confirm that the data provided is suitable for use.

No further documentation is required.

Culture, Heritage and Identity

Points Available: 1

Aim

To encourage the use, interpretation and celebration of buildings with cultural heritage.

Rating Tool Eligibility



Green Star
Design & As Built



Green Star
Interiors



Green Star
Performance



Legacy Green Star
Rating Tools

Note: This Innovation Challenge is only applicable to those projects which are recognised as a place of heritage value.

Why is this Innovation Challenge Important?

Cultural heritage is critical to the identity of a community. In the context of the urban fabric, cultural heritage may mean buildings that carry a significant meaning to locals or those that provide a window to the past. While these buildings can present challenges in terms of achieving great environmental outcomes, reusing these assets has far-reaching positive social impacts. The adaptive reuse of these buildings reconnects them with the community, provides an avenue for improving the urban fabric, and can be a key element used to celebrate the history of the local area.

This Innovation Challenge aims to encourage the adaptive re-use and uptake of heritage listed buildings and rewards those that celebrate the heritage value of the asset.

Compliance Requirements

To claim this Innovation Challenge your project team must:

- Demonstrate that the building selected is recognised as a place of heritage value, as defined in the Burra Charter or through a heritage listing within a state or local register.
- Demonstrate how the building is occupied or has been significantly refurbished, in such a manner as to celebrate and makes visible heritage elements.
- Make information on the heritage values of the building available to the public visitors to the site through site displays or a context aware smart phone application.

Alternative Compliance Methods

A Credit Interpretation Request (CIR) may be submitted to the Green Building Council of Australia (GBCA) when an applicant wishes to advocate for an alternative yet equivalent method of meeting the Compliance or Documentation Requirements. Any CIRs submitted for this Innovation Challenge will be processed as free-of-charge.

Documentation Requirements

Design Review / Design and As Built Submission

Provide the following required documentation:

- **Submission Template** outlining the approach taken to celebrate the heritage and cultural value of the asset. The Submission Template also enables project teams to provide feedback on the Innovation Challenge to inform future developments.

Provide documentation to support the claims made within the Submission Template. This may include:

- **Extract from the Burra Charter / State / Local heritage register** to demonstrate that the asset is indeed of heritage and cultural value.
- **Evidence to demonstrate how the site/façade** has been refurbished and celebrated as a feature of the building.
- **Evidence of information on the heritage values** of the building available to public visitors to the site through site displays/context aware smart phone applications/other.

Energy Metering Integrity

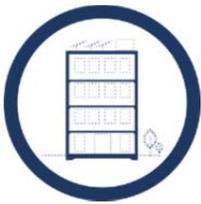
Points Available: 1

Developed in partnership with Carbon Energy Management Technologies.

Aim

To encourage accuracy of metering over the life of the building to inform energy consumption practices and reduce wasted energy.

Rating Tool Eligibility



Green Star
Design & As Built



Green Star
Interiors



Green Star
Performance



Legacy Green Star
Rating Tools

Why is this Innovation Challenge Important?

Within Green Star rating tools, there are provisions and associated requirements for metering to be included in new and existing buildings. While metering can be validated and commissioned at time of installation, there are currently no mechanisms to ensure metering network accuracy is maintained over the life of the building.

Currently, metering accuracy issues are identified in the following ways:

- A significant increase in energy use (adjusted for climate factors such as summer vs. winter);
- Major discrepancies (in excess of 10%) occurring between the total of the private metering and the utility provider's supply meter; and
- An inability to recover energy costs via on-billing to tenants.

Where metering is accurate over time following installation, metering data is trustworthy meaning building tuning can be effective, efficiency improvements can be identified and implemented, problems can be identified almost instantaneously and costs and environmental impacts reduced.

Compliance Requirements

To claim this Innovation Challenge your project team must:

- Demonstrate that the metering network (including sub-meters) has been validated in accordance to a recognised standard or practice, including, but not limited to, NABERS protocol and NMI standards;
- Demonstrate with documentation that all meters on the network have been commissioned to a recognised standard or practice, and that meter functionality is correctly calibrated at time of practical completion;
- Demonstrate that the metering network (including sub-meters) is continually and automatically monitored by a system that is able to produce alerts if any inaccuracies are found. Inaccuracies are defined as in excess of meter tolerances (e.g. 'Class 1' meters shall not have inaccuracies of more than 2% due to metering accuracy class); and
- Demonstrate that where faults have been identified, metering network accuracy has been corrected and validated.

Alternative Compliance Methods

A Credit Interpretation Request (CIR) may be submitted to the Green Building Council of Australia (GBCA) when an applicant wishes to advocate for an alternative yet equivalent method of meeting the Compliance or Documentation Requirements. Any CIRs submitted for this Innovation Challenge will be processed as free-of-charge.

Documentation Requirements

Design Review / Design Submission

Provide the following required documentation:

- **Submission Template** outlining how the project team has addressed the Innovation Challenge. The Submission Template also enables project teams to provide feedback on the Innovation Challenge to inform future developments.

Provide documentation to support the claims made within the Submission Template. This may include:

- **Extract(s) from the contract or specification** requiring that all energy sub-meters be validated in accordance with a recognised standard (e.g. NABERS protocol or NMI);
- **Extract(s) from the contract or specification** requiring the contractor to provide certification that all meters have been commissioned in accordance with a recognised standard and that meter functionality has been correctly calibrated at the time of practical completion;
- **Extract(s) from the contract or specification** requiring that the metering systems are continually and automatically monitored by a system that is able to produce alerts if any inaccuracies are found (inaccuracies being defined as in excess of the meter tolerances); and
- **Extract(s) from the contract or specification** requiring the contractor to correct and re-validate any meters found to be at fault and provide evidence in the form of commissioning logs.

As Built Submission

Provide the following required documentation:

- **Submission Template** outlining how the project team has addressed the Innovation Challenge. The Submission Template also enables project teams to provide feedback on the Innovation Challenge to inform future developments.

Provide documentation to support the claims made within the Submission Template. This may include:

- **Commissioning extracts** demonstrating that all energy sub-meters be validated in accordance with a recognised standard (e.g. NABERS protocol or NMI) and that meter functionality has been correctly calibrated at the time of practical completion.
- **Letter of confirmation from the contractor** demonstrating that the metering systems are continually and automatically monitored by a system that is able to produce alerts if any inaccuracies are found, and that correction and revalidation to any faulty meters are to be carried out.

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Financial Transparency

Points Available: 1

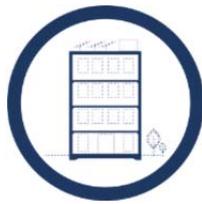
Aim

To increase the amount of information available to industry on the costs and benefits of sustainable building.

Rating Tool Eligibility



Green Star
Communities



Green Star
Design & As Built



Green Star
Interiors



Green Star
Performance



Legacy Green Star
Rating Tools

Why is this Innovation Challenge Important?

The lack of transparent information on the costs and benefits of sustainable building practices has reduced the uptake of these practices by some sectors. Increasing this knowledge will demystify the costs, and, when combined with the benefits of sustainable building practices, provide clear information to the industry on the value proposition of sustainable buildings, fitouts and communities.

This Innovation Challenge aims to encourage owners, developers and operators to disclose the costs of sustainable building practices, and to agree to participate in a yearly report developed by GBCA that will inform the building industry on the true costs of sustainability. All results will be reported in aggregate and no project, owner or consultant will be identifiable.

Compliance Requirements

To claim this Innovation Challenge your project team must:

- Agree to complete the ‘Financial Transparency Disclosure Template’ that comprehensively itemises design, construction, documentation and project costs. In the case of building operations, the information provided will relate to the cost of collecting documentation, building operations and any building upgrades.
- Provide this information in Excel format at the time of the project’s Green Star submission.
- Agree to participate in the yearly GBCA report, using anonymized data provided by project teams.

Guidance

The Disclosure Template must be submitted in Excel format with the project’s Green Star submission, not as a PDF. All supporting documentation, including the Submission Template, should be submitted as a PDF. The Disclosure Template is available on the Innovation page on the GBCA website. Project teams must use the latest available Disclosure Template.

Link to the Disclosure Template: <http://www.gbca.org.au/green-star/technical-support/innovation-in-green-star/>

CATEGORY / CREDIT	AIM OF THE CREDIT / SELECTION	CODE	CREDIT CRITERIA	POINTS AVAILABLE	POINTS TARGETED	DOCUMENTATION COST	IMPLEMENTATION COST	COMMENTS
Indoor Environment Quality				23				
Indoor Air Quality	To recognise projects that provide high air quality to occupants.	8.1	Ventilation System Attributes	1		\$ -	\$ -	
		8.2	Provision of Outdoor Air	2		\$ -	\$ -	
		8.3	Exhaust or Elimination of Pollutants	1		\$ -	\$ -	

Screenshot from the Green Star - Interiors sheet of the Disclosure Template.

The following is guidance surrounding the costs that need to be provided in the Disclosure Template.

Documentation Cost – the cost being charged to the Applicant for of documenting the specific credit. This only includes work that had to be undertaken in addition to what would have been done for the project as a base requirement, had it not been seeking a Green Star rating. As an example, in the Materials category there may be an additional cost for documenting the type of timber used.

Implementation Cost – the cost of being charged to the Applicant for implementing the specific credit. This only includes the additional cost of materials and installation (implementation) that had to be undertaken to comply with the credit beyond what would have been done for the project as a base requirement, had it not been seeking a Green Star rating. As an example, in the Materials category there may be an additional cost for the timber used. If the timber used costs \$25 per metre and the timber that would otherwise have been used costs \$20, the cost recorded would be \$5 x the total number of metres of timber on the project.

Total Design Cost – this is the total cost of designing the project.

Total Construction Cost – this is the total cost of constructing the project (including any Green Star implementation costs).

Total Project Cost = Total Design Cost + Construction Cost.

Green Star Collation Fee: If a separate submission collation fee applies (in addition to the itemised documentation costs for each credit), include it here. For some projects this fee is included in the GSAP credit. Itemising either is fine.

Green Star Certification Fees – The cost to certify the project. If CIRs are included, please specify.

Total Green Star Fees and Costs – This is a calculation in the Disclosure Template:

$$\text{Documentation} + \text{Implementation} + \text{Certification} + \text{Green Star Collation fees}$$

Percentage of overall project costs – This is a calculation in the Disclosure Template:

$$\frac{\text{Total Green Star Fees and Costs}}{\text{Total Project Cost}}$$

Additional Costs	
Total Design Cost	\$ 250,000
Total Construction Cost	\$ 2,000,000
Total Project Cost	\$ 2,250,000

Total Documentation Cost	Total Implementation Cost
\$ 500.00	\$ 1,000.00

Green Star Collation Fees	\$ 500
Green Star Certification Fees	\$ 5,000
Green Star Documentation Cost	\$ 500
Green Star Implementation Cost	\$ 1,000
Cost of Implementing Green Star	\$ 7,000
Percentage of Overall Project Cost	0.31%

Example of the calculations that take place in the Disclosure Template.

Documentation Requirements

Design Review / Design and As Built Submission

Provide the following required documentation:

- **Submission Template** outlining how the team has addressed the Innovation Challenge. The Submission Template also enables project teams to provide feedback on the Innovation Challenge to inform future developments; and
- **Disclosure Template** submitted in Excel format to enable the GBCA to easily extract the data. Specifically, this will capture on a credit-by-credit basis the cost being charged to the project Applicant.
 - Where costs are to be estimated, the project team must provide an explanation and justification of how the estimates are an accurate representation of the costs (for GBCA's information only). This should be provided in the 'Comments' column of the Disclosure Template.
- **Statement or report** from quantity surveyor, project manager or GSAP from the project, supporting the costs outlined in the Disclosure Template.

Provide documentation to support the claims made within the Submission Template. This may include:

- **Other supporting documentation**, where required, to support the claims made, for example, bill of quantities or material schedule.

High Performance Site Offices

Points Available: 1

Developed in partnership with Brookfield Multiplex.

Aim

To improve the sustainability performance of site offices thus increasing health and productivity outcomes of site workers.

Rating Tool Eligibility



Green Star
Communities



Green Star
Design & As Built



Legacy Green Star
Rating Tools

Why is this Innovation Challenge Important?

A significant proportion of construction industry employees work in on-site temporary office accommodation, or 'site sheds'. While they may only work on a particular site shed for an average of two years, they will then move on to another site shed, thus occupying poor quality site offices for a significant proportion of their careers.

The temporary site offices are typically rented modular sheds or short term office fitouts. Often due to their short term nature, sustainable design and fit out of temporary offices is expensive and reactive.

This Innovation Challenge aims to encourage project teams, developers, and site shed manufacturers to consider the impacts of site shed construction and occupation on the environment and occupants. The Challenge also aims to encourage discussion around what best practice site shed construction should be, and what other benchmarks should be measured. A preliminary checklist has been developed to assist the discussion and encourage a minimum level of amenity and compliance.

This Innovation Challenge is only open to demountable site sheds. It is not, however, intended to stop project teams from seeking innovation claims on the areas of improving health of staff, or environmental impacts at construction through the provision of staff offices. Project teams may wish to seek clarification should other solutions other than demountable site sheds be used by submitting a query to the GBCA.

Compliance Requirements

To claim this Innovation Challenge your project team must:

- Review the ‘High Performance Site Office Checklist’ to understand the Innovation Challenge requirements.
- Demonstrate that a site shed(s) that complies with at least 75% of the requirements in the Checklist has been procured and has been used by the majority of construction workers on site.
- Demonstrate that an assessment of the satisfaction of the occupants of the site office was done during its use, and where issues were found, they have been addressed, ideally using BOSSA.

The ‘High Performance Site Office Checklist’ is available for download from the GBCA website. A screenshot is included below for reference.

Link to ‘High Performance Site Office Checklist’:

<http://www.gbca.org.au/green-star/technical-support/innovation-in-green-star/>

Sustainability Issue	Please detail how this issue was addressed
<p>1. Impacts from site shed construction</p> <p><input type="checkbox"/> The site was manufactured in facilities certified to ISO 14001; or</p> <p style="padding-left: 20px;"><input type="checkbox"/> The site shed was manufactured over 5 years ago.</p> <p>Confirmation from the site shed manufacturer must be provided.</p>	
<p>2. Timber</p> <p><input type="checkbox"/> Timber used in the construction of the site shed complies with chain of custody certification by FSC or AFS.</p> <p>Confirmation from the site shed manufacturer must be provided.</p>	
<p>3. Metering</p> <p><input type="checkbox"/> The site shed has been metered separately to ascertain its energy and water use, and in a manner that provides an option for measuring energy waste or leaks.</p> <p>Evidence of installation (such as photographs, diagrams or drawings) of water and energy meters must be provided. At least one monthly reading from each meter type to be provided.</p>	

Excerpt of the Checklist to be completed by the project team.

Alternative Compliance Methods

A Credit Interpretation Request (CIR) may be submitted to the Green Building Council of Australia (GBCA) when an applicant wishes to advocate for an alternative yet equivalent method of meeting the Compliance or Documentation Requirements. Any CIRs submitted for this Innovation Challenge will be processed as free-of-charge.

References

Building Occupants Survey System Australia – BOSSA – <http://www.bossasystem.com/>

Documentation Requirements

Design Review / Design and As Built Submission

Provide the following required documentation:

- **Submission Template** outlining how the project team has addressed the Innovation Challenge. The Submission Template also enables project teams to provide feedback on the Innovation Challenge to inform future developments.

Provide documentation to support the claims made within the Submission Template. This may include:

- Evidence demonstrating that the site shed(s) complies with at least 75% of the requirements in the 'High Performance Site Office Checklist' and has been used by the majority of office workers on site.
 - All relevant supporting documentation, as detailed in the 'High Performance Site Office Checklist' must also be included in the submission.
- Evidence demonstrating that an assessment to the satisfaction of the occupants of the site office was done during its use, and where issues were found, they have been addressed, ideally using the Building Occupants Survey System Australia (BOSSA).

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Integrating Healthy Environments

Points Available: 1

Developed in partnership with the U.S. Green Building Council and Enterprise Community Partners.

Aim

To support high-performance, cost-effective and health-promoting project outcomes through an early analysis of the interrelationships among systems.

Rating Tool Eligibility



Green Star
Communities



Green Star
Design & As Built



Green Star
Interiors



Green Star
Performance



Legacy Green Star
Rating Tools

Note: This Innovation Challenge is applicable to all rating tools, except stand-alone Design ratings (Legacy rating tools).

Why is this Innovation Challenge Important?

Features of our built environment at multiple spatial scales – such as stair design, accessibility of sidewalks, parks, and supermarkets – play a proven role in determining critical health behaviours¹, such as rates of daily physical activity² and dietary choices³. Where we live, work, learn, and play impacts our health. Project teams working on projects within the built environment have the ability to positively influence health through their work.

This Innovation Challenge outlines a process that allows project teams to collaborate with public health professionals to use public health data and community input to characterize how the project may impact (both positively and negatively) social, environmental and economic outcomes for the project’s end users. As a result of this collaborative process, project teams can promote positive (or reduce unintended negative) consequences on health. The process outlined here has been highly influenced by health impact assessment (HIA), a broadly used framework that helps guide systematic and comprehensive consideration of potential public health impacts of proposed policies and other decisions.

¹ Jackson RJ, Dannenberg AI, Frumkin H. Health and the built environment: 10 years after. American Journal of Public Health. september 2013;103(9):1542-1544.

² Adams MA, Hovell MF, Irvin V, Sallis JF, Coleman KJ, Iles S. Promoting stair use by Modeling: An experimental Application of the behavioral ecological Model. American Journal of Health Promotion. 2006.

³ Walker Re, Keane CR, Burke Jg. Disparities and access to healthy food in the United States: A review of food deserts literature. Health and Place. september 2010;16(5):876-884.

Compliance Requirements

To claim this Innovation Challenge your project team must:

- Conduct an analysis of community health needs and outline the distribution of health issues among impacted communities.
- Prioritize strategies to address identified needs. Identify actions that could be taken to enhance health-supportive features of the project and those that could minimize potential risks. Identify actions that can be taken within the project's design, construction or operation that will promote health equity.
- Intentionally implement selected strategies to address identified community and occupant health needs.
- Develop a monitoring plan with performance metrics to evaluate the project's impact on occupant and community health throughout the project life cycle (design, construction and operations).

Alternative Compliance Methods

A Credit Interpretation Request (CIR) may be submitted to the Green Building Council of Australia (GBCA) when an applicant wishes to advocate for an alternative yet equivalent method of meeting the Compliance or Documentation Requirements. Any CIRs submitted for this Innovation Challenge will be processed as free-of-charge.

Documentation Requirements

Design Review / Design and As Built Submissions

Provide the following required documentation:

- **Submission Template** outlining the project's design process in collaborating with public health professionals. The Submission Template also enables project teams to provide feedback on the Innovation Challenge to inform future developments.

Provide documentation to support the claims made within the Submission Template. This may include:

- **Community analysis report;**
- **Monitoring plan;** and
- **Other supporting documentation** – project teams are encouraged to submit a CIR to the GBCA when targeting this Innovation Challenge in order to agree upon the project team's approach and the documentation intended to support the relevant claims.

Guidance

Additional information is available below for the project team's use.

- United States Green Building Council - <http://www.usgbc.org/about>
- Enterprise Community Partners – Green Communities
<http://www.enterprisecommunity.com/solutions-and-innovation/enterprise-green-communities/criteria>
- **Connections between the built environment and health outcomes**
Project teams can learn more about the connections between the built environment and health through resources such as:
 - Healthy Active by Design Tool - <http://www.healthyactivebydesign.com.au/habd-tool>
 - The Robert Wood Johnson Foundation Social Determinants of Health Series (http://www.rwjf.org/en/search-results.html?cs=content_series%3Awhat-shapes-health&s=0) provides issue briefs on connections between neighborhoods and health, housing and health, and social factors and health behaviors - http://www.rwjf.org/content/dam/farm/reports/issue_briefs/2011/rwjf70442
 - The Build Healthy Places Network provides access to research and best practice models in connecting community development and health efforts - http://www.buildhealthyplaces.org/network_resources/
 - The Urban Land Institute's Intersections: Health and the Built Environment report explores the relationships between health and the way buildings and neighborhoods are built - <http://uli.org/report/intersections-health-and-the-built-environment/>
 - The Centers for Disease Control and Prevention, Guide to Community Preventive Services summarizes evidence of community level programs and policies to improve health and prevent disease based on a scientific systematic review process - www.thecommunityguide.org
 - NYC Active Design Guidelines
<http://www.nyc.gov/html/doh/html/environmental/active-design.shtml>
- Guidance and Best Practices in Stakeholder Participation in HIAs
<http://www.healthimpactproject.org/resources/document/Guide-for-Stakeholder-Participation.pdf>
This document provides recommended strategies for collaborating with stakeholders.
- Promoting Equity through the Practice of HIA
http://www.healthimpactproject.org/resources/body/PROMOTING-EQUITY-HIA_FINAL.PDF
This document highlights strategies for and case examples of promoting equity through health impact assessments.
- Human Impact Partners
 - Roles for Collaborators
<http://www.humanimpact.org/downloads/opportunities-for-stakeholder-engagement/>
This document provides examples of different partners that might be involved in a health impact assessment and their roles.

- Rapid HIA Model

<http://www.humanimpact.org/capacity-building/hia-tools-and-resources/#newrapidhia>

This document provides guidance for conducting a health impact assessment within a short timeline, while maintaining a high level of stakeholder engagement.

- Data sources table

<http://www.humanimpact.org/capacity-building/hia-tools-and-resources/>

This table outlines data sources that may be useful in a health impact assessment.

- Mithun Cultural Audit Tool

http://mithun.com/knowledge/knowledge_articles/category/culturalaudit/

The Cultural Audit Tool attempts to collect diverse community input from a broad constituency and helps to form a more inclusive picture of the community.

Local Procurement

Points Available: 2

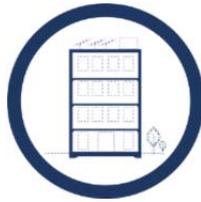
Aim

To encourage projects that use materials, products or services produced or generated within Australia.

Rating Tool Eligibility



Green Star
Communities



Green Star
Design & As Built



Green Star
Interiors



Legacy Green Star
Rating Tools

Why is this Innovation Challenge Important?

The economic resilience of a nation can be achieved through the use of products or materials that are manufactured regionally or nationally. The building industry is a significant user of materials, products and services and has key influence on the supply chain within Australia.

This Innovation Challenge aims to encourage the sourcing of products and materials made in Australia, and to encourage the use of local services and skilled labour.

Compliance Requirements

There are two criteria available for this Innovation Challenge. Each is independent of the other.

Local Products and Materials

1 point is awarded where the project team demonstrates that a percentage of the products and materials used in the project were produced or manufactured in Australia.

Local Services and Skilled Labour

1 point is awarded where the project team demonstrates that a percentage of the services and skilled labour employed by the project come from the local area surrounding the site.

The project team is required to demonstrate that the percentage achievement is significant in comparison to industry standard. Refer to the Guidance section for additional detail.

Alternative Compliance Methods

A Credit Interpretation Request (CIR) may be submitted to the Green Building Council of Australia (GBCA) when an applicant wishes to advocate for an alternative yet equivalent method of meeting the Compliance or Documentation Requirements. Any CIRs submitted for this Innovation Challenge will be processed as free-of-charge.

Guidance

Local Products and Materials

In order to define what “significant in comparison to industry standard” is, the project team is required to:

- Define a percentage benchmark for the ‘products and materials’ used in construction.
- Describe briefly the assumptions behind the benchmark, and any process that was used to establish them. If existing data was used, or a literature review was performed, this must be included. If the assumptions rely on previous experience by the project team, including professional estimates, this must be stated.
- Describe the process being undertaken to ensure the defined benchmarks are being met.
- Demonstrate that the benchmarks were achieved in the project’s As Built submission. For some projects, this may be able to be demonstrated at Tender stage, for the project’s Design submission.

Project teams are encouraged to submit a query to the GBCA when benchmarks are difficult to determine. The GBCA can provide guidance on the assumptions being used to develop the benchmark.

Local Services and Skilled Labour

For the purposes of this Innovation Challenge, the project team will need to apply commonly used definitions to define what “local area surrounding the site” is. The GBCA recommends the use of standard definitions such as that for capital cities provided by the Australian Bureau of Statistics (ABS) e.g. Greater Capital City Statistical Area (GCCSA).

In order to define what “significant in comparison to industry standard” is, the project team is required to:

- Define a percentage benchmark for the ‘services and skilled labour’ employed by the project. As an example, this might be 80% of workers living within the 50km radius of the site based on research developed from similar projects in a similar location.
- Describe briefly the assumptions behind the benchmark, and any process that was used to establish them. If existing data was used, or a literature review was performed, this must be included. If the assumptions rely on previous experience by the project team, including professional estimates, this must be stated.
- Describe the process being undertaken to ensure the defined benchmarks are being met.
- Demonstrate that the benchmarks were achieved in the project’s As Built submission.

Project teams are encouraged to submit a query to the GBCA when benchmarks are difficult to determine. The GBCA can provide guidance on the assumptions being used to develop the benchmark.

The following free web service can assist project teams in understanding the “local area surrounding the site” with the aid of a visual representation: <http://www.freemaptools.com/find-australian-postcodes-inside-radius.htm>

Documentation Requirements

Design Review / Design and As Built Submission

Provide the following required documentation:

- **Submission Template** outlining how the project team has addressed the Innovation Challenge. The Submission Template also enables project teams to provide feedback on the Innovation Challenge to inform future developments.

Provide documentation to support the claims made within the Submission Template. This may include:

- Supporting evidence to demonstrate that a percentage of the **products and materials** used in construction were produced or manufactured in Australia (1 point).
- Supporting evidence to demonstrate that a percentage of the **services and skilled labour** employed by the project come from the local area surrounding the site (1 point).
- Supporting evidence to show that the percentage achievement is significant in comparison to industry standard.

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Marketing Excellence

Points Available: 1

Aim

To engage, educate and sell the benefits of sustainable building practices and Green Star to building occupants and the wider community through marketing information developed on the basis of comprehensive market research.

Rating Tool Eligibility



Green Star Communities



Green Star Design & As Built



Green Star Interiors



Green Star Performance



Legacy Green Star Rating Tools

Why is this Innovation Challenge Important?

A key reason for the lack in uptake of sustainable building practices in some sectors has been the lack of engagement with occupants and the broader community on how such practices can benefit them. As an example, in the case of residential developments, buyers are unlikely to value a sustainable building over a non-sustainable one as there is a lack of understanding of the benefits that a sustainable building can bring, and owners and occupants are often unable to make an accurate determination of the benefits in relation to cost.

This Innovation Challenge aims to encourage owners, developers and operators to perform market research into the investment drivers of occupants, buyers or investors. The Innovation Challenge encourages project teams to address these drivers by detailing and explaining the benefits of sustainable building practices. As part of this work, the benefits of sustainable building practices and Green Star certification must be present and accessible in a public part of the project. Finally, it is a requirement that the project’s marketing team provides a well developed case study to the GBCA for publication.

It is noted that the activities proposed by this Innovation Challenge are intended to begin at the design stage of the project (for new projects). The Challenge is not intended to be a commitment. It must be an actual developed strategy that is at the implementation phase at the time of Green Star submission.

Compliance Requirements

To claim this Innovation Challenge your project team must:

- Develop methodology and perform market research on the investment drivers of end-users of the building, fitout or community e.g. likely investors, occupants or staff. Note that this is not intended to be generic market research based on published reports. Rather, it is market research that involves the project itself and potential likely end users.
- Develop a marketing strategy that addresses these drivers in relation to the sustainability measures implemented.
- Implement this marketing strategy and provide developed samples at the time of the project's Green Star submission.
- Provide information on the benefits of sustainability in a public and prominent way within your building (or sales office).
- Provide the information required to create a case study at the time of the project's Green Star submission.

Alternative Compliance Methods

A Credit Interpretation Request (CIR) may be submitted to the Green Building Council of Australia (GBCA) when an applicant wishes to advocate for an alternative yet equivalent method of meeting the Compliance or Documentation Requirements. Any CIRs submitted for this Innovation Challenge will be processed as free-of-charge.

Documentation Requirements

Design Review / Design and As Built Submission

Provide the following required documentation:

- **Submission Template** outlining how the project team has addressed the Innovation Challenge. The Submission Template also enables project teams to provide feedback on the Innovation Challenge to inform future developments.

Provide documentation to support the claims made within the Submission Template. This may include:

- **Conducted market research documentation** on the investment drivers of likely investors, occupants or staff.
- **Marketing strategy** that addresses the identified drivers in relation to the sustainability measures implemented.
- **Developed samples of the marketing material.**
- **Evidence of the provision of information** on the benefits of sustainability in a public and prominent way.

Occupant Engagement

Points Available: 1

Previously known as 'Market Intelligence and Research'.

Aim

To increase the availability of information on the benefits and outcomes of sustainable design practices and sustainable operation practices across the industry.

Rating Tool Eligibility



Green Star
Design & As Built



Green Star
Interiors



Green Star
Performance*



Legacy Green Star
Rating Tools

*Note: The 'Occupant Survey' pathway cannot be targeted for projects registered under *Green Star – Performance*.

Why is this Innovation Challenge Important?

The actual sustainability performance of assets is poorly understood by the industry and the occupants of those assets. While energy and water are closely monitored during building operation, indicators such as improvements to productivity, reduced sick leave and the costs of running complex systems are not.

This Innovation Challenge aims to encourage owners, developers and operators to perform regular occupancy studies on the operating asset. In the interest of increasing transparency, it also encourages the public disclosure of the data and benefits of achieving the benchmarks through a Green Star rating.

Compliance Requirements

Project teams shall **select one** of two available pathways in order to target this Innovation Challenge. The two available pathways are:

- | | |
|--------------------------------|--|
| A. Occupant Survey | 1 point is awarded where the Applicant carries out a pre and post occupancy survey. |
| B. Connection to Nature | 1 point is awarded where the project commits to providing ongoing feedback to 'Biophilic' research undertaken by Dr. Peter Fisher at RMIT University. |

Proposals for other research focus are welcomed. Such suggestions must correspond to a specific academic research currently undertaken and related to specific benefits of sustainability features of the built environment. These suggestions should be submitted to the GBCA for review as a CIR demonstrating their equivalency to the above two pathways.

A. Occupant Survey

Note for *Green Star – Performance* projects: this Pathway can not be targeted for projects registered under *Green Star – Performance*. This is on the basis that the 'Occupant Satisfaction' credit within this rating tool already addresses this sustainability issue. Please consider the 'Connection to Nature' pathway for your project.

To claim this Innovation Challenge your project team must:

- Demonstrate that a **pre-occupancy survey** on staff or occupants (where known) has been performed. Where the building is speculative, the pre-occupancy survey does not need to be performed until a tenant has been signed up, provided such tenant is occupying another space; and
- Complete a **post-occupancy survey** on a significant proportion of occupants (including tenanted spaces) no earlier than 6 months and no later than 12 months after from practical completion. The Applicant must also commit to providing the results upon completion with the GBCA, for information purposes only. This can be provided at a date later than the project's Green Star submission.

For Design rating projects or As Built rating projects, a commitment from the owner is required. If the asset is intended for sale, the new owner must commit to the survey, or the Innovation Challenge is forfeited and the one point will be removed from the project's final score.

B. Connection to Nature

To claim this Innovation Challenge your project must incorporate connections from your built environment project to the natural environment. These connections can include internal or external views to nature, water or landscaping, green walls, atriums, indoor plants and water features, roof gardens and other natural features (including e-media such as images of wildlife and landscapes). These connections provide an opportunity for projects to further their environmental credentials via elements of the natural world, potentially making their occupants more aware of life forms other than their own, their dependency on them for free ecological services, and their place in the richness of our own lives and that of the planet. There is significant evidence that exposure to elements of Nature is therapeutic¹.

The project team is required to provide ongoing feedback to research led by Dr. Peter Fisher at RMIT. Dr. Fisher can be contacted on +61 3 9925 9927 / 0418 500 396 or peter.fisher2@rmit.edu.au.

This feedback may include reporting of measurable improvements in building occupant productivity and 'wellness' such as: less absenteeism, increased staff retention and decreased need for retraining, improved patient recovery or student achievements and more. Various categories of spaces are acceptable ranging from conventional offices to other places of congregation such as commercial and public venues.

The aim of the research is to establish a connection to nature tool to inform future design and occupant health. The tool will aim to incentivise the incorporation of features emulative of nature to produce improved health and wellbeing outcomes for building occupants. It is anticipated that the research will provide a more exacting valuation of benefits.

Guidance

The *Green Star – Performance* rating tool includes an 'Occupant Satisfaction' credit. The *Green Star – Performance* credit is an example of how this initiative is applied in building operations. The challenge is how your project can apply this initiative to other rating tools.

For your information and reference this credit is attached to this Handbook as an Appendix.

¹ National Wildlife Federation, (1 September 2012) 'Wilderness Therapy Uses Nature to Help People Heal', accessed on 27 September 2015, <http://blog.nwf.org/2012/01/wilderness-therapy-uses-nature-to-help-people-heal/>.

References

Building Occupants Survey System Australia – BOSSA - <http://www.bossasystem.com/>

Additional information on the 'Connection to Nature' pathway is provided below:

Biohabitats, 'Thoughts on Giving Children the Gift of Nature' (2012), <http://www.biohabitats.com/newsletters/giving-children-the-gift-of-nature>

Centre for Urban Greenery and Ecology, 'Naturizing outside-in: Reconnecting buildings with the natural world through a design innovation metric' (2013), <https://www.cuge.com.sg/research/citygreen/cg6-naturising-outside-in.html>.

Los Angeles Natural History Museum, 'Nature Lab', <https://vimeo.com/71040258>

Planet Ark, 'Nature: A Valuable Investment for Homeowners and Businesses' (2014), <http://treeday.planetark.org/documents/doc-1183--planet-ark-release---nature-a-valuable-investment-2014-06-25.pdf>

Scientific American, 'How hospital gardens help patients heal' (2012), <http://www.scientificamerican.com/article/nature-that-nurtures/>

Special Broadcasting Service, 'Is there room for Nature in our cities?' (2013), <http://www.sbs.com.au/news/article/2013/03/04/there-room-nature-our-cities>

Documentation Requirements

A. Occupant Survey

Design Review / Design Submission

Provide the following required documentation:

- **Submission Template** outlining how the project has achieved the Innovation Challenge requirements. The Submission Template also enables project teams to provide feedback on the Innovation Challenge to inform future developments.

Provide documentation to support the claims made within the Submission Template. This may include:

- **Letter of confirmation from the building owner** regarding conducting the surveys and the estimated time-frame. The letter will also clearly confirm the benchmarks that are being targeted (e.g. 10% response rate from the building occupants).

As Built Submission

Provide the following required documentation:

- **Submission Template** outlining how the project has achieved the Innovation Challenge requirements. The Submission Template also enables project teams to provide feedback on the Innovation Challenge to inform future developments.

Provide documentation to support the claims made within the Submission Template. This may include:

- **Sample Post-occupancy Comfort Survey** developed specifically for your project. The survey will be required to address occupant satisfaction, including the assessment of occupant well-being and interaction within their indoor environment; and
- **Copy of Post-occupancy Comfort Survey results** where available. Where Post-occupancy Comfort Survey results are not yet available at the time of submission, the project team must commit to make the results available to the GBCA as soon as they become available.

B. Connection to Nature

Design Review / Design and As Built Submission

Provide the following required documentation:

- **Submission Template** outlining how the project has achieved the Innovation Challenge requirements. The Submission Template also enables project teams to provide feedback on the Innovation Challenge to inform future developments.

Provide documentation to support the claims made within the Submission Template. This may include:

- **Extracts of data collected** from the project and provided to Dr. Peter Fisher for research purposes. This may include first round parameters of research interest, including:
 - Type of space/structure.
 - Floor plans and photos of internal layout and outside site plan.
 - Vegetation/themes.
 - E-media.
 - Demographic for regular project occupants and visitors.
 - Qualitative research including anecdotal responses.
 - Statistics on wellness.
 - Branding responses.
- **Extracts of formal communication** between the project team and Dr. Peter Fisher demonstrating the ongoing commitment to provide research evidence.

Reconciliation Action Plan

Points Available: 1

Developed in partnership with Reconciliation Australia.

Aim

To encourage organisations to take formalised steps to provide opportunities for Aboriginal and Torres Strait Islander peoples.

Rating Tool Eligibility



Green Star
Communities



Green Star
Design & As Built



Green Star
Interiors



Green Star
Performance



Legacy Green Star
Rating Tools

Note: This Innovation Challenge is applicable to all rating tools, except stand-alone Design ratings (Legacy rating tools).

Why is this Innovation Challenge Important?

This Innovation Challenge promotes reconciliation through encouraging organisations to develop Reconciliation Action Plans. Reconciliation Action Plans provide a roadmap and targets for organisations to provide opportunities for Australia’s First People and ensure Aboriginal and Torres Strait Islander culture is treasured as a part of Australia’s everyday life.

Addressing social inequalities is a key contribution to the sustainable development of an organisation. One of the major existing social inequalities within Australia is between Indigenous and non-Indigenous Australians. Through the development of a Reconciliation Action Plan these inequalities can be addressed in a formalised manner.

The Green Star project being rated must play a central role in the delivery of the Reconciliation Action Plan.

Compliance Requirements

To claim this Innovation Challenge your project team must:

1. Develop a Reconciliation Action Plan (RAP), as defined and endorsed by Reconciliation Australia. The RAP must be endorsed by Reconciliation Australia. The Green Star project being rated must play a central role in the delivery of the Reconciliation Action Plan.
2. Demonstrate evidence that relevant Indigenous organisations have been consulted in the development of the RAP.
3. A structure is in place to deliver the plan including a RAP Working Group, with a RAP Coordinator as part of the Working Group, comprising Indigenous and non-Indigenous staff members from all business areas.
4. Public reporting is undertaken to Reconciliation Australia (or equivalent body) and in the organisation's Annual Report, or project website, to report on tangible achievements towards reconciliation goals.
5. At least 80% of the RAP targets have been met in the first reporting cycle.

Alternative Compliance Methods

A Credit Interpretation Request (CIR) may be submitted to the Green Building Council of Australia (GBCA) when an applicant wishes to advocate for an alternative yet equivalent method of meeting the Compliance or Documentation Requirements. Any CIRs submitted for this Innovation Challenge will be processed as free-of-charge.

Documentation Requirements

Design Review / Design and As Built Submissions

Provide the following required documentation:

- **Submission Template** outlining the project's role in the delivery of the Reconciliation Action Plan. The Submission Template also enables project teams to provide feedback on the Innovation Challenge to inform future developments.

Provide documentation to support the claims made within the Submission Template. This may include:

- **Extract from the Reconciliation Australia website** demonstrating that the project's RAP is endorsed by Reconciliation Australia.
- **Extracts from the organisation's Annual Report or website** (or similar) demonstrating that the RAP is publically reported upon.
- **Reconciliation Action Plan Report** (or similar) on the outcomes from the project's RAP demonstrating that at least 80% of the RAP targets have been met in the first reporting cycle.

Guidance

The GBCA endorses project teams to develop a Reconciliation Action Plan directly with Reconciliation Australia. The GBCA is in no way involved in the Reconciliation Action Plan program.

For full details, please visit the Reconciliation Australia website, <https://www.reconciliation.org.au/>

Alternatively, please contact Philip Jerrard, RAP Program Manager, Reconciliation Australia, on (02) 8488 2755 or Philip.Jerrard@Reconciliation.org.au.

Social Enterprise for Affordable Housing

Points Available: 2

Developed in partnership with Homes for Homes.

Aim

To generate new funds to increase the supply of social and affordable housing.

Rating Tool Eligibility



Green Star
Communities



Green Star
Design & As Built



Green Star
Interiors



Green Star
Performance



Legacy Green Star
Rating Tools

Note: This Innovation Challenge is applicable to all rating tools, except stand-alone Design ratings (Legacy rating tools).

Why is this Innovation Challenge Important?

All people have a right to secure and safe accommodation, yet Australia has a critical shortage of social and affordable houses. With the 'gap' predicted to increase significantly and unable to be 'closed' by governments alone, many consider that the flow-on-effects make our shortage of affordable housing 'Australia's biggest social issue'. The biggest impediment to closing the 'gap' is a shortage of suitable funding.

The Green Building Council of Australia has partnered with Homes for Homes (H4H) through which residential and commercial Green Star projects can achieve up to two (2) points by participating in this Innovation Challenge. Developers of residential and commercial properties can participate in H4H as 'wholesale' participants, whereby properties are marketed and sold as 'H4H Participating Properties'.

H4H is a scalable social enterprise that aims to:

1. Raise new funds via voluntary tax deductible donations on property transactions; and
2. Invest funds to build and manage new social and affordable dwellings.

Participating in H4H

Property transactions that can participate in H4H include:

- Sales and leases of commercial (office, retail and industrial) property.
- Sales of residential property in wholesale (developers and urban renewal authorities) or retail (private) markets.

By registering to participate in H4H, a property owner is agreeing to donate to H4H, 0.1% of either the participating property(ies):

- Sale price, payable at the time the property(ies) is / are sold [refer to item 3A below]; or
- Lease income on commercial property during the term & extended term(s), payable at start of each term or extended term.

Registering to participate is simple:

- Residential Wholesale and Commercial participants enter a simple 'H4H Participation Agreement' that (in brief) involves:
 - For residential wholesale sales, agreement for H4H to lodge a Permissive Caveat (PC)¹ on the Title of each property sold ('parent' and/ or sub-divided 'child' title). The wholesaler is not obliged (but may elect) to donate 0.1% of the first sale of sub-divided titles;
 - For commercial property sales, agreement for H4H to lodge a PC¹ on the / each Title(s); or
 - For commercial property leases, the property owner including a clause in the property lease agreement.
- Residential Retail participants (individual property owners) enter an H4H Donation Deed, that:
 - Provides the owner's consent for H4H to lodge a PC¹ on the property title (Title), thereby 'recording' the offer for the vendor to donate to H4H at settlement (a 'Charge'); and
 - Provides H4H's agreement to discharge the Charge at any time. Practically, upon receiving written request from the current owner, H4H will provide the owner with a form of withdrawal of PC signed by H4H (for lodgement by the owner).



Illustration depicting how the H4H program works.
Source: Homes for Homes

¹ Permissive Caveat 'records' the offer to donate to H4H at settlement (a 'Charge'). Permissive Caveat remains on Title, triggering a donation each time the property sells. A participating vendor should disclose the property's participation and include H4H Donation Deed in sale documents (templates supplied by H4H).

Compliance Requirements

To achieve this Innovation Challenge property owners are required to participate in the H4H program in line with the requirements of H4H.

Points Allocation

The allocation of points varies slightly depending on the type of property that participates:

A. Commercial Property(ies):

- **One point** is awarded when the commercial property (or all² commercial properties) that make up the Green Star project is / are registered as an 'H4H Participating Property(ies)', whereby the property owner agrees to donate to H4H 0.1% of the sale price at the time the property(ies) is / are sold (i.e. has a PC registered on Title); or
- **One point** is awarded when the property owner enters an H4H Participation Agreement agreeing to donate to H4H, 0.1% of the / all² participating property(ies)' lease income during the term and extended term(s), payable at the start of each term or extended term.

B. Residential Wholesale Property(ies):

- **One point** is awarded when a wholesaler (developer, or urban renewal authority) sells all² its residential properties that make up a Green Star project as 'H4H Participating Properties' (i.e. PC registered, or agreed to be registered, on Title); and
- **One additional point** is awarded if the wholesaler also makes a donation to H4H of an amount equal to, or exceeding, 0.1% of the total of the sale prices of all² properties that make up the Green Star project.

Alternative Compliance Methods

A Credit Interpretation Request (CIR) may be submitted to the Green Building Council of Australia (GBCA) when an applicant wishes to advocate for an alternative yet equivalent method of meeting the Compliance or Documentation Requirements. Any CIRs submitted for this Innovation Challenge will be processed as free-of-charge.

² Where every property in a Green Star project is practically not able to participate, but the intention of the Innovation Challenge has been fulfilled, the project team should submit a CIR to GBCA with an alternative approach.

Documentation Requirements

Design Review / Design and As Built Submissions

Provide the following required documentation:

- **Submission Template** outlining the model taken in signing the project up for the H4H agreement and the points being claimed. The Submission Template also enables project teams to provide feedback on the Innovation Challenge to inform future developments.
- **Completed H4H Participation Agreement** confirming that the building owner is committed to participate in the H4H program; and
- **Written Confirmation from H4H** demonstrating compliance with the H4H Participation Agreement.

Guidance

The GBCA endorses project teams to enter into the H4H program directly with the Homes for Homes organisation. The GBCA is in no way involved in the H4H program.

For more information on the H4H program, please visit the Homes for Homes website - <http://www.homesforhomes.com.au/>

Alternatively, please contact Steve Persson on (03) 9663 4533 or steven@bigissue.org.au.

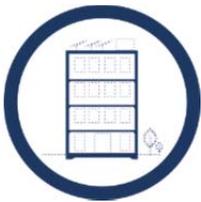
Social Return on Investment

Points Available: 1

Aim

To recognise holistic methods to assess return on investment on the productivity, health and other social benefits provided by a project.

Rating Tool Eligibility



Green Star
Design & As Built



Green Star
Interiors



Green Star
Performance



Legacy Green Star
Rating Tools

Why is this Innovation Challenge Important?

The social benefits that sustainable buildings and fitouts offer are often not considered as part of the regular cost and value analysis. While indirect benefits such as improvements to productivity, health or other social elements may not appear financially viable when considered in isolation, when considered as part of a more holistic cost benefit analysis, their value may begin to outweigh concerns about their upfront costs. This is particularly the case when one considers that the benefits will extend beyond individual building users to the community and economy more broadly.

This Innovation Challenge aims to encourage the holistic assessment of the direct and indirect costs and benefits of sustainable buildings and fitouts. Some examples include upgrades to planned infrastructure, improvements to the productivity, health and skills of building occupants and the immediate community.

This Innovation Challenge also aims to increase industry skills and capacity in the areas of lifecycle costing and cost benefit analysis to a recognised standard. Increasing this knowledge will demystify the costs, and, when combined with the benefits of sustainable building practices, provide clear information to the industry on the value proposition of sustainable buildings and fitouts.

Compliance Requirements

To claim this Innovation Challenge your project team must:

- Complete an analysis of the **direct costs and benefits** provided by elements of the project above and beyond standard practice. This analysis can include those costs and benefits resulting from the sustainability initiatives implemented in targeting credits for your project's Green Star rating (excluding Innovation credits); and
- Complete an analysis of the **indirect costs and benefits** provided by the project in the areas of productivity, health, crime reduction, employment, and skills development or similar.

Alternative Compliance Methods

A Credit Interpretation Request (CIR) may be submitted to the Green Building Council of Australia (GBCA) when an applicant wishes to advocate for an alternative yet equivalent method of meeting the Compliance or Documentation Requirements. Any CIRs submitted for this Innovation Challenge will be processed as free-of-charge.

Guidance

The 'Return on Investment' credit from the *Green Star – Communities* rating tool is an example of how this initiative is applied at a precinct, neighbourhood and/or community scale. The challenge is how your project can apply this initiative at a building or interior fitout scale.

For your information and reference, this credit is attached to this Handbook as an Appendix.

Additional Information

Nicholls et al. (2009) 'A Guide to Social Return on Investment', <http://socialvalueuk.org/what-is-sroi/the-sroi-guide>

Documentation Requirements

Design Review / Design and As Built Submissions

Provide the following required documentation:

- **Submission Template** outlining how the project team has addressed the Innovation Challenge. The Submission Template also enables project teams to provide feedback on the Innovation Challenge to inform future developments.

Provide documentation to support the claims made within the Submission Template. This may include:

- **Completed analysis of the direct costs and benefits** provided by elements of the project above and beyond standard practice, or those already covered within the credits of the rating tool under which your project is registered (excluding Innovation credits); and
- **Completed analysis of the indirect costs and benefits** provided by the project in the areas of productivity, health, crime reduction, employment, and skills development or similar.

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OCCUPANT SATISFACTION

Credit number 14

Points available: 4

AIM OF CREDIT

To encourage the assessment of thermal comfort, acoustics, indoor air quality, lighting and any other comfort issues for building occupants and promote high occupant satisfaction levels.

CREDIT CRITERIA

14.1	Action	Occupant Satisfaction Survey	1 point is available when at least one occupant satisfaction survey is carried out during the <i>performance period</i> .
14.2	Data	Occupant Satisfaction Levels	Up to 3 points are available where survey respondents indicate the level of satisfaction during the <i>performance period</i> .

COMPLIANCE REQUIREMENTS

For purposes of credit criteria 14.1 and 14.2, the Occupant Satisfaction Survey must be delivered to the regular occupants of all *primary spaces* in the building. A space may be excluded from the survey if its use requires specific non-comfort based internal conditions.

14.1 OCCUPANT SATISFACTION SURVEY

One (1) point is awarded when at least one occupant satisfaction survey is carried out in accordance with the following requirements. Two separate compliance pathways are provided for this criterion.

- A. Conduct an occupant satisfaction survey in line with 14.1A; or
- B. Complete a NABERS Indoor Environment rating 14.1B.

14.1A CONDUCT OCCUPANT SATISFACTION SURVEY

14.1A.1 Survey delivery

The Occupant Satisfaction Survey ('the survey') must be delivered to regular occupants during the *performance period*. Applicants must:

- a. Deploy a recognised survey in accordance with 14.1.2;
- b. Achieve at least the response rate for a $\pm 10\%$ precision level, as detailed in 14.1.3; and
- c. Share the responses with the Green Building Council of Australia (GBCA).

14.1A.2 Recognised surveys

Recognised surveys that are suitable for use with this credit include:

- Building Occupant Satisfaction Survey Australia (BOSSA), (**GBCA recommended survey**);
- Occupant Indoor Environment Quality (IEQ) Survey; and
- Building User Survey (BUS).

Note: See Guidance section for further information on recognised surveys and links to their websites.

14.1A.3 Sample size and response rates

Responses must be collected from a representative sample of regular building occupants. The total number of responses must be calculated as a factor of the number of full-time equivalent (FTE) people who work at the premises (this excludes visitors). The minimum required response levels for a given 'population' of full-time-equivalent people in the building, must at least equal the sample specified in Table 1, for a precision level of +/-10% (given a confidence level of 95%).

Table 1: Sample size by population

(For ±5%, ±7% and ±10% Precision Levels where Confidence Level is 95% and P=0.5)

Size of Population	Sample Size (n) for Precision (e) of:		
	±5%	±7%	±10%
100	81	67	51
125	96	78	56
150	110	86	61
175	122	94	64
200	134	101	67
225	144	107	70
250	154	112	72
275	163	117	74
300	172	121	76
325	180	125	77
350	187	129	78
375	194	132	80
400	201	135	81
425	207	138	82
450	212	140	82
500	222	145	83
600	240	152	86
700	255	158	88
800	267	163	89
900	277	166	90
1,000	286	169	91
2,000	333	185	95
3,000	353	191	97
4,000	364	194	98
5,000	370	196	98
6,000	375	197	98
7,000	378	198	99
8,000	381	199	99
9,000	383	200	99
10,000	385	200	99
15,000	390	201	99
20,000	392	204	100
25,000	394	204	100
50,000	397	204	100
100,000	398	204	100
>100,000	400	204	100

Source: Determining Sample Size, <http://edis.ifas.ufl.edu/pd006>

14.1B NABERS INDOOR ENVIRONMENT RATING

For this pathway, one (1) point is awarded where the building has achieved a NABERS Indoor Environment rating after January of 2015 that was conducted during the Performance Period or is valid for at least three months of the performance period.

14.2 OCCUPANT SATISFACTION LEVELS

Up to three (3) points are awarded based on the outcomes of the occupant satisfaction survey. Two separate compliance pathways are provided for this criterion.

- A. Conduct an occupant satisfaction survey in line with 14.1A; or
- B. Complete a NABERS Indoor Environment rating 14.1B.

14.2A OCCUPANT SATISFACTION MARKET POSITION

For this pathway up to three (3) points are awarded based on the average score across the following five occupant survey areas:

- Indoor air quality — outdoor air, stuffiness;
- Thermal comfort — indoor temperature, air speed or drafts, access to controls;
- Acoustic comfort — internal noise, noise levels from HVAC, noise from outside;
- Daylight and artificial lighting — brightness, access to controls; and
- Building cleanliness — cleanliness, odours, maintenance.

Points are awarded in accordance with Table 2 'Occupant satisfaction market position'. A higher the market position percentile value correlates to a higher occupant satisfaction level when compare with other buildings in the market.

Table 2 Occupant satisfaction market position

Market position (Percentile)	Points Awarded
0 th to 50 th percentile	0
50 th to 65 th percentile	1
65 th to 80 th percentile	2
80 th to 100 th percentile	3

14.2B OCCUPANT SATISFACTION LEVELS - NABERS

For this pathway, up to three (3) points are awarded based on the Market Position (score) in the NABERS Indoor Environment report for each of the five survey areas as specified in 14.2A. The market position score is a percentile value and points are awarded based on Table 2. The NABERS Indoor Environment report must be in accordance with 14.1B.

DEFINITIONS

Performance Period – Relates to the continuous time period against which a credit is measured or data is collected. It is the most recent 12-month period of operations preceding the submission for certification. However, there is a 90-day grace period between the end of the *performance period* and the submission date, to allow applicants to gather the required documentation.

Primary space –Is an area where a person is expected to work, or remain for an extended period of time. These spaces include (but are not limited to):

- Offices, either open plan or private;
- Classrooms, staff offices, computer labs;
- Commercial kitchens and preparation areas where food is sold;
- Retail / sales floor, exhibition halls, multi-purpose rooms (as a general setting); and
- Industrial spaces, warehouse areas, shop floors, work stations.

These examples are indicative, and the predominant use of the space determines the space type classification. Where the functional requirements of the space demand specific conditions, (e.g. laboratories, auditoriums, cinemas, or archives), exclusions may be justified in a Credit Interpretation Request (CIR).

Percentile – is a statistical measure that indicates the percentage of occurrences that fall below a given occurrence. For example the 75th percentile indicates that 75% of all occurrences fall below that value. Or conversely a value in the 75th percentile is in the top 25% of all occurrences. The percentile index is used to rank response levels for occupant satisfaction surveys giving the applicant an understanding of where their building performs relative to the rest of the market.

GUIDANCE

RECOGNISED SURVEYS (14.1)

Occupant satisfaction surveys are used to evaluate the degree to which buildings enable their users to fulfil their intended goals. A comprehensive building occupant satisfaction survey method includes assessments of occupant wellbeing, and interactions with their indoor environment. These surveys complete the feedback loop, essential for the successful management and improvement of operational practices in high-performing buildings.

Surveys recognised in this credit include:

- Building Occupants Survey System Australia (BOSSA), University of Sydney, Australia
- Occupant Indoor Environment Quality (IEQ) Survey, Centre for Built Environment, University of California Berkeley, United States
- Building User Survey (BUS), United Kingdom

Building Occupants Survey System Australia (BOSSA)

The Green Building Council of Australia (GBCA) has joined the Management Committee for Building Occupants Survey System Australia (BOSSA), developed by the University of Sydney and other partners. The BOSSA survey is recommended for use with this credit.

BOSSA is a post occupancy evaluation (POE) system for Australia's office buildings. As the BOSSA database grows with each additional building surveyed, it will underpin an ongoing program of architectural science research aimed at improving occupant health, comfort and productivity outcomes from sustainable office buildings. The BOSSA POE questionnaire is comparable to existing international benchmarking systems such as Building User Survey (UK) and Centre of Built Environment Berkeley (USA).

USE OF NON-RECOGNISED SURVEYS (14.1.2)

Where a recognised survey is not used, an alternate third-party peer-reviewed survey may be used subject to GBCA approval. To be recognised in Green Star – Performance any survey must at least cover; indoor air quality, thermal comfort, acoustics comfort, daylight and artificial lighting, and building cleanliness.

The survey must be based on a 7 point scale for responses, with the mid-point response indicating a 'neutral' reaction.

Where applicants wish to use a survey other than a recognised survey listed in the credit they should contact the GBCA for approval through a credit interpretation request (CIR).

SAMPLE SIZE AND RESPONSE RATES (14.1.3)

Survey sample sizes and related response rates can be determined using Table 1 for any population size bigger than 100. A precision rate of at least 10% must be achieved. For population sizes smaller than 100 response rates must be at least 75%.

For all population calculations, the number of regular occupants should be taken as the maximum number of occupants regularly working at the premises during the *performance period*. Where there is no access to more precise figures, population sizes can be estimated by using typical occupancy on a persons per square meter basis.

The sample sizes of Table 1 reflect the number of obtained responses and not necessarily the number of surveys distributed or interviews carried out.

ALTERNATIVE COMPLIANCE METHODS

A Credit Interpretation Request (CIR) may be submitted to the Green Building Council of Australia (GBCA) when an applicant wishes to advocate for an alternative yet equivalent method of meeting Compliance Requirements. It is a formal process, reviewed either by the GBCA, or by independent external assessors, depending on the complexity of the issue.

A Credit Interpretation Request and other queries may be submitted by accessing the Green Star Project Manager page on the GBCA website.

STANDARDS AND GUIDELINES

Referenced documents

The following documents are referenced in this credit:

Building Occupants Survey System Australia (BOSSA), University of Sydney, Australia

<http://www.bossasystem.com/occupant-survey>

Occupant Indoor Environment Quality (IEQ) Survey, Centre for Built Environment, University of California Berkeley, United States

<http://www.cbe.berkeley.edu/research/survey.htm>

Building User Survey (BUS), United Kingdom

<http://www.busmethodology.org.uk/>

DOCUMENTATION REQUIREMENTS

INITIAL CERTIFICATION

Submission Template

Complete the Submission Template 14 *Occupant Satisfaction*.

Supporting documents

Provide supporting documentation as required to demonstrate compliance. This may include:

14.1 Occupant satisfaction survey and 14.2 Occupant satisfaction levels

- A copy of the Occupant Comfort Survey Results. Or
- A valid NABERS IE report for the building

RECERTIFICATION

Submission Template

Complete Submission Template 14 *Occupant Satisfaction*.

Supporting documents

Provide supporting documentation as required to demonstrate compliance. This may include:

14.1 Occupant satisfaction survey and 14.2 Occupant satisfaction levels

- A copy of the Occupant Comfort Survey Results. Or
- A valid NABERS IE report for the building

REVISIONS AND AMENDMENTS

Revision number	Authored by	Reviewed by	Approved by	Date released	Description
R0	JM	RM	JC	03-03-2015	Version 1 initial release.

RETURN ON INVESTMENT

Credit 20

Points available: 2

AIM OF THE CREDIT

To encourage and recognise holistic methods to assess the return on investment in response to the sustainability goals for the project.

The lack of transparent information on the costs and benefits of sustainable building practices has reduced the uptake of these practices by some sectors. Increasing this knowledge will demystify the costs, and, when combined with the benefits of sustainable building practices, provide clear information to the industry on the value proposition of sustainable buildings, fitouts and communities.

CREDIT CRITERIA

Process	20.1	Analysis of Direct Costs and Benefits	1 point is available where projects apply cost and benefit analysis methods in assessing return on investment from optional investment items.
Process	20.2	Analysis of Indirect Costs and Benefits	1 additional point is available where; <ul style="list-style-type: none"> a) Criterion 20.1 is achieved; and b) Where the analysis of costs and benefits includes indirect costs and benefits.

COMPLIANCE REQUIREMENTS

20.0 GENERAL REQUIREMENTS

20.0.1 Qualified Professional

The analysis of costs and benefits should be completed by a suitably qualified professional with a formal economic qualification or similar, or a minimum of 5 years experience in undertaking economic studies of infrastructure investments.

20.0.2 Core Infrastructure and Optional Investment Items

The return on investment assessment method for this credit focuses on optional investment items. Therefore, the analysis should clearly differentiate between core infrastructure and optional investment items.

Core infrastructure includes roads, paths, water, wastewater, electricity, lighting, and communications infrastructure. Optional investment items are considered to be those that are not core infrastructure.

Optional elements of core infrastructure, such as upgrading of planned core facilities to a higher standard, are considered optional and therefore the additional cost of upgrading should be included as an optional investment items.

The non-core infrastructure items that are in the local area (as defined in the 'Community Investment' credit), can be included in the project's calculations.

20.1 ANALYSIS OF DIRECT COSTS AND BENEFITS

One (1) point is awarded where projects apply cost and benefit analysis methods in assessing return on investment from optional investment items in accordance with 20.1.1.

20.1.1 The application of cost and benefit analysis or life cycle costing must be consistent with one of the guides listed below:

- A. Cost Management Manual Vol 3 – *Life Cycle Costing* – Australian Institute of Quantity Surveyors;
- B. Life cycle costing study consistent with the requirements of AS/NZS 4536:1999 *Life Cycle Costing: An Application Guide*; and
- C. The process for cost benefit analysis outlined in the Best Practice requirements set out by Australian Commonwealth Department of Finance and Administration – *Handbook of Cost Benefit Analysis*, January 2006.

20.2 ANALYSIS OF INDIRECT COSTS AND BENEFITS

One point is awarded where the requirements of 20.1 has been achieved and the cost and benefit analysis or life cycle costing has been extended to include indirect costs and benefits in accordance with 20.2.1

20.2.1 The inclusion of indirect costs and benefits must meet the following requirements:

- a. Include indirect costs and benefits for infrastructure that accounts for at least 50% of optional investment item spending;
- b. Address issues such as productivity, health, crime, employment, skills development and education;
- c. Articulate any assumptions used for the calculation(s); and
- d. Include costs and benefits received by entities other than the developer, such as by the local or state government, or society in terms of increased education or reduced crime.

INNOVATION

Project teams are invited to sign up for an Innovation Challenge to develop an approach to recognise the holistic methods to assess social return on investment at a Green Star - Communities project site level. The proposed approach should have regard to the predominant approach as set out in 'A Guide to Social Return on Investment' (Nicholls et al., 2009). The guide identifies seven principles which underpin six stages for the conduct of a social return on Investment analysis.

For further information on Innovation Challenges see the Innovation section of the GBCA's website.

GUIDANCE

ALTERNATIVE COMPLIANCE METHODS

A Credit Interpretation Request (CIR) may be submitted to the Green Building Council of Australia (GBCA) when an applicant wishes to advocate for an alternative yet equivalent method of meeting Compliance Requirements. It is a formal process, reviewed either by the GBCA, or by independent external assessors, depending on the complexity of the issue.

A Credit Interpretation Request and other queries may be submitted through the project manager section of the GBCA website.

STANDARDS AND GUIDELINES

Referenced Documents

The following documents are referenced in this credit:

Australian Institute of Quantity Surveyors, *Cost Management Manual Vol. 3 - Life Cycle Costing*:
<http://members.aiqs.com.au/iMISpublic/Core/Orders/product.aspx?catid=11&prodid=21>

Commonwealth of Australia (2006), *Handbook of Cost Benefit Analysis*

Standards Australia (1999), *AS/NZS 4536:1999 Life Cycle Costing - An Application Guide*:
<http://infostore.saiglobal.com/store/details.aspx?ProductID=384885>

Nicholls et al. (2009) '*A Guide to Social Return on Investment*'
<http://www.thesroinetwork.org/sroi-analysis/the-sroi-guide>

Additional Information

Additional information can be found in the following documents:

Department of Finance and Deregulation, Office of Best Practice Regulation, *Cost Benefit Analysis*:
<http://www.finance.gov.au/obpr/cost-benefit-analysis.html>

Grant, T., Hes, D. (2002), *Life Cycle Assessment - Application in Buildings*, Environment Design Guide, GEN 51

Paranagemage, P., Price, A., Khandokar, F. (2010), *Briefing: Holistic Assessment of Sustainable Urban Development*, Proceedings of the Institute of Civil Engineers - Urban Design and Planning, Vol 163, issue 3

DOCUMENTATION REQUIREMENTS

Submission Template

Complete the Submission Template 20 *Return on Investment*.

Supporting Documents

Provide supporting documentation as required to demonstrate compliance. This may include:

For 20.1 Analysis of Direct Costs and Benefits

- Evidence of the cost and benefit analysis or Life Cycle Costing undertaken; and
- CV of suitably qualified professional.

For 20.2 Analysis of Indirect Costs and Benefits

- Evidence of the cost and benefit analysis or Life Cycle Costing undertaken including indirect costs and benefits; and
- CV of suitably qualified professional.