

Powered by renewables innovation challenge

Points Available: 2 - 4 points

Aim

To recognise buildings that are designed to operate efficiently, eliminate fossil fuel use and operate on net 100% renewable energy.

Rating Tool Eligibility

- Green Star – Design & As Built v1 or later.
- Green Star – Interiors v1 or later.
- Green Star – Performance v1 or later.

The boundary of the innovation challenge is defined in line with the Greenhouse Gas Credit for your Green Star Submission.

This PILOT innovation challenge does not yet apply to Green Star – Communities. If Green Star - Communities projects wish to explore how this framework could be applied to their projects, please contact GBCA to discuss.

Why is this Innovation Challenge Important?

With the release of the Australian Government's National Carbon Offset Standard for Buildings (the standard), industry has agreed and adopted a clear definition of carbon neutrality for buildings in operation. The standard addresses the full scope of emissions; scope 1 (on-site emissions), scope 2 (emissions from electricity consumption) and scope 3 (such as emissions from water, wastewater, waste and transport).

This Innovation Challenge aims to incentivise buildings to commence on a best practice pathway to carbon neutral and beyond. It rewards the key stepping stones in the permanent transition to a carbon neutral built environment:

- the design and operation of highly efficient buildings;
- commitment to be powered by 100% renewable energy¹;
- elimination or transition away from the use of fossil fuels on site; and
- promotion and reward of the use of on-site solar and storage systems where possible and relevant.

This is a PILOT Innovation Challenge, and the requirements will be reviewed after 12 months to incorporate industry feedback. GBCA encourages a range of building types and projects to consider this PILOT Innovation Challenge and provide feedback to GBCA. If you have queries about how this challenge could apply to your project or building type, including industrial and retail, please contact your Technical Coordinator to discuss.

It is noted that full points in the Powered by Renewables Innovation Challenge does not equate to full points in Green Star Energy & Greenhouse credits. The alignment of the Green Star Energy and Greenhouse category and this Innovation Credit will be considered in the next Green Star update.

Compliance Requirements (Building Owner and/or Tenants)

The following points are available in this challenge:

	Green Star – Design & As Built	Green Star – Interiors	Green Star – Performance
Minimum requirement: commitment to performance²	<p>The building owner must:</p> <ul style="list-style-type: none"> register for Green Star - Performance at the time of As Built Submission; commit to submit for Green Star - Performance rating within 18 months of As Built certification; and commit to maintaining a Green Star – Performance rating for two certification cycles or 6 years. 	<p>The fitout owner must:</p> <ul style="list-style-type: none"> register and publicly commit to maintaining a NABERS Energy tenancy rating for the duration of their lease or six years; or if the fitout is not eligible for a NABERS rating, the owner must commit to monitoring and public reporting of energy use at least annually for the duration of their lease or a minimum of six years for longer leases. 	<p>The building manager must:</p> <ul style="list-style-type: none"> publicly commit to maintaining a Green Star – Performance rating for two certification cycles or 6 years from initial certification.
Powered by renewables	One (1) point is awarded where the asset meets the following energy efficiency, fuel switching and 100% renewable electricity requirements:		
<i>Energy efficiency</i>	<ul style="list-style-type: none"> Achieves 15% greenhouse gas emissions improvement on the relevant Green Star rating requirements through energy efficiency or on-site renewables in 'Greenhouse Gas Emissions'³ 		<ul style="list-style-type: none"> Achieves a 4 star NABERS Energy rating or 9 points in 'Greenhouse Gas Emissions' through on-site solutions.
<i>Fuel switching</i>	<ul style="list-style-type: none"> No fossil fuels are used on site. <p>OR</p> <ul style="list-style-type: none"> Where a minor amount of fossil fuel (less than 1%⁴) is used on site for purposes where it can be demonstrated that there are no commercial alternatives (e.g. cooking or emergency generators). Offsets equal to these emissions must be purchased and retired. The offsets purchased must be recognised directly support renewable energy generation in Australia.⁵ 		
			<p>For buildings in operation, where between 1-5%⁴ of their greenhouse emissions come from onsite fossil fuels, this will be accepted if:</p> <ul style="list-style-type: none"> A transition plan has been developed showing how the building will transition away from the use of fossil fuels by 2030; The commitment to this transition by 2030 is public. Offsets equal to the emissions calculated are purchased and retired⁵. <p><i>For recertification purposes, progress against the transition plan must be indicated.</i></p>

	Green Star – Design & As Built	Green Star – Interiors	Green Star – Performance
<i>100% Renewable Electricity¹</i>	<ul style="list-style-type: none"> Publicly commit that 100% renewable electricity to be procured during operation. Show evidence of commitment to procurement of renewable electricity to cover 100% of energy use until the time of the first Green Star – Performance Certification (3 years). 	<ul style="list-style-type: none"> Show evidence of commitment to procurement of renewable to cover 100% of energy use for the fitout for the duration of the lease or a minimum of six years for longer leases. 	<ul style="list-style-type: none"> Demonstrate that renewable electricity is sourced equal to or greater than the electricity consumption for the performance period. <p>If the applicant is applying this challenge to a Portfolio, please contact GBCA to discuss your approach.</p>
Onsite renewables⁵	<ul style="list-style-type: none"> Up to two points are available where a building installs and operates on-site renewable energy⁶ where the energy generated is metered, monitored and validated for accurate reporting. 	Not applicable ⁶	<ul style="list-style-type: none"> Up to two points are available where a building installs and operates on-site renewable energy⁶ where the energy generated is metered, monitored and validated for accurate reporting.
<i>15% onsite generation⁷</i>	<p>One point is awarded where:</p> <ul style="list-style-type: none"> the annual total renewable electricity generation is measured to be equal to or greater than 15% of the annual total building electricity consumption; or If 15% net energy use from on-site renewables is not feasible, renewable energy is installed all available, appropriate and practicable roof space or other building surfaces. 		
<i>30% onsite generation⁷</i>	<p>One additional point is awarded where:</p> <ul style="list-style-type: none"> The annual renewable total electricity generation is measured to be equal to or greater than 30% of the annual total building electricity consumption. 		
Energy Storage^{7,8}	<p>One point is awarded where:</p> <ul style="list-style-type: none"> a project installs and uses electricity storage such that the majority of the renewable energy generated onsite is able to be stored and used by the building. Contracted storage services may be considered to meet this requirement, please contact GBCA to discuss. a renewable energy storage procurement and use strategy has been developed to demonstrate the storage is sized to match the requirements of the building and that value will be provided to the project.⁸ 		

Guidance

GBCA document 'First steps to a carbon positive built environment' ([insert hyperlink](#)) provides the background and context to GBCA's actions towards a carbon positive built environment.

Footnotes from Compliance Requirements:

- 1: 100% Renewable Electricity is defined on a net annual basis (total renewable electricity generated or purchased annually / total electricity used annually is equal to or greater than 100%) and can be achieved by a combination of onsite and procurement of renewable electricity from the grid. Further guidance on definitions of Renewable Energy are detailed in the **Renewable Energy and Offsets in Green Star Guide**.
- 2: The minimum commitment to performance aims to ensure ongoing implementation of renewable energy commitments. GBCA encourages projects to discuss any potential impediments and opportunities to best facilitate this six year performance commitment during this PILOT phase. If the project does not maintain the minimum requirements of the Innovation Challenge during this six years, these points will be removed from the relevant project rating.
- 3: The intent of the energy efficiency minimum requirements are to promote highly efficient buildings that are powered by renewables. If 15% improvement in addition to requirements of the Green Star rating is difficult for your project to achieve or demonstrate, please discuss alternative methods to demonstrate the high rate of efficiency in the building.
- 4: 'Less than 1% or 5%' refers to the percentage of the operational carbon footprint from fossil fuel burning on site, that is, as a percentage of the total carbon emissions included in the emissions boundary. The scope of the carbon footprint is aligned with the Green Star rating (i.e. if base building, tenants or process flows are excluded). GBCA understands that fossil fuel uses on site where there are no commercially viable alternatives will account for less than 1% of a building's emissions. If your project varies from this percentage, please contact GBCA to discuss. The intent of this requirement is to drive commitment to move away from fossil fuel use in buildings. If organisations can demonstrate an alternative process for transitioning away from fossil fuels emissions to the requirements stated, please discuss with GBCA.
- 5: The requirements for specific carbon credits that invest in Australian renewable energy are designed to support the claim of a 100% Powered by Renewables. The purchase and retiring of Renewable Energy Certificates (RECs) generated in Australia will be accepted. For gas use on site, evidence of a contract to purchase biogas through the national gas 'grid' would be accepted. Other credits that contribute to renewable energy generation in Australia will be considered. Please contact GBCA to discuss.
- 6: Onsite renewables are defined as renewables that are connected directly to the building with no grid transfer prior to use (including shared renewable services). The renewable energy generated is metered, validated and monitored for accurate reporting. For queries about embedded networks and apportioning to buildings please contact GBCA to discuss.
- 7: It is assumed that onsite renewable points will only be possible for *Green Star – Design & As Built* and *Green Star – Performance*, and not *Green Star – Interiors*. If there is any *Green Star - Interiors* projects that wish to target these points, please contact GBCA to discuss. Both consumption and onsite generation must be metered, monitored and reported separately.
- 8: This credit is designed to promote energy storage to allow buildings to effectively use generated electricity on site. The project will be required to show that the storage provides value for your project and is being actively used – e.g. for example, to better use generated electricity on site, reduce grid demand or improve resilience. It is noted that the storage will demonstrate a sizing and use strategy tailored to the project's renewable energy onsite generation and use (minimum 15%).

Alternative Compliance Methods

A technical question may be submitted to the Green Building Council of Australia (GBCA) when an applicant wishes to proposed an alternative yet equivalent method of meeting the Compliance or Documentation Requirements. Any technical questions submitted for this Innovation Challenge will be processed as free-of-charge.

Documentation Requirements

Green Star – Design & As Built and Green Star - Interiors

Design Review / As Built Submission

Provide the **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.

In addition to information provided in other credits, provide documentation to support the claims made within the Submission Template. This may include:

	Design Review	As Built Submission
Minimum requirement: ongoing performance	<ul style="list-style-type: none"> Signed commitment of the building owner to Green Star – Performance for 6 years 	<ul style="list-style-type: none"> Confirmation of commitment of the building owner to Green Star Performance for 6 years Registration for Green Star Performance
Powered by renewables	<ul style="list-style-type: none"> Reference to the greenhouse gas calculator where 15% greenhouse gas improvement is demonstrated Signed commitment to no fossil fuels and design drawings or specifications that demonstrate no gas or other fuel use within the project. Signed commitment by the building owner to purchasing the expected volume of renewable energy 	<ul style="list-style-type: none"> As built documentation confirming no fossil fuel use on site. If applicable, justification for any fossil fuel use that is required to be used on site and evidence of credits purchased and retired to match these emissions for three years. Evidence of credits that support Australian Renewable Energy (eg RECs) have been purchased and retired equal to the predicted greenhouse gas emissions from onsite fossil fuel for three years. If applicable, evidence of on-site renewables supply, installation and commissioning If applicable, confirmation of metering and monitoring of renewable electricity installation and commissioning. Evidence through signed contracts or other legal instruments of commitment to procurement of renewable electricity.
Onsite renewables	<ul style="list-style-type: none"> Evidence of design capacity of onsite renewable energy systems Evidence of calculated energy use Calculation of predicted or percentage of energy to be generated on site 	<ul style="list-style-type: none"> As built documentation confirming installed renewable energy system and its capacity Calculation of predicted or percentage of energy to be generated on site
Storage	<ul style="list-style-type: none"> Evidence of design of onsite storage Renewable Energy Storage Strategy showing how proposed use strategy. 	<ul style="list-style-type: none"> Evidence of the strategy being updated to As Built requirements and communicated to Building operations Evidence of installation and commissioning in line with the strategy.

Green Star - Performance

Minimum requirement: ongoing performance	<ul style="list-style-type: none"> Signed commitment of the building owner to Green Star – Performance for 6 years
Powered by renewables	<ul style="list-style-type: none"> Inclusion of the greenhouse calculator where 15% greenhouse gas improvement over the performance period is demonstrated Signed statement that no fossil fuels were used onsite (or less than 5%), including evidence such as a publicly reported greenhouse emissions statement. If more than 1% of fossil fuels are used onsite, provide written commitment to a transition strategy, with evidence of public commitment and leadership endorsement. Evidence of offsets that support Australian Renewable Energy (eg RECs) have been purchased and retired equal to the greenhouse gas emissions from onsite fossil fuel for the performance period.
Onsite renewables	<ul style="list-style-type: none"> Evidence of validated revenue grade meters on onsite renewable energy systems Evidence of reported energy generation Calculation of predicted or percentage of energy to be generated on site
Storage	<ul style="list-style-type: none"> Evidence of design of onsite storage Renewable Energy Storage Strategy showing how proposed use strategy.