

Ene- Conditional Requirement

AIM OF CREDIT

To encourage and recognise designs that minimise greenhouse gas emissions associated with operational energy consumption.

CREDIT CRITERIA

To meet the conditional requirement, the project's predicted greenhouse gas emissions must be equal to, or show an improvement over, the predicted greenhouse gas emissions of the 'Benchmark Building' as determined by the Greenhouse Gas Emissions Calculator.

COMPLIANCE REQUIREMENTS

Projects must use the Greenhouse Gas Emissions Calculator Guide (released for Public Building v1, Office v3, Education v1 and Retail Centre v1) to determine whether their conditional requirement has been met.

The Conditional Requirement will not be met unless:

- The software used for modelling complies with the requirements and verification methods detailed in the Greenhouse Gas Emissions Calculator Guide, current at the time of project registration or more recent;
- Energy modelling for the project was undertaken using the methodology, as detailed in the Greenhouse Gas Emissions Calculator Guide, current at the time of project registration or more recent; and
- Each variable in the Energy Modelling Report (e.g. building form, materials or air-conditioning system) is referenced consistently throughout the rest of the submission (i.e. in related credits such as IEQ-1 'Ventilation Rates' or Ene-3 and Ene-5 'Peak Energy Demand Reduction') and is clearly justified by the documented design or the as-built evidence (dependent on the stage of assessment).

DOCUMENTATION - DESIGN RATING

Submit all the evidence and ensure it readily confirms compliance.

- ☐ Greenhouse Gas Emissions Modelling Report
- ☐ Copy of the completed Greenhouse Gas Emissions Calculator
- ☐ Extracts from the tender drawings, specifications and schedules

Where the project is naturally ventilated as per IEQ-1 'Ventilation Rates':

- ☐ Cover letter

Greenhouse Gas Emissions Modelling Report including at a minimum the information included in the 'Greenhouse Gas Emissions Modelling Report Requirements' chapter of the Greenhouse Gas Emissions Calculator Guide,

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POINTS
AVAILABLE

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downloadable from the GBCA website.

Copy of the Greenhouse Gas Emissions Calculator

Extracts from the tender drawings, specifications and schedules demonstrating that all inputs to the energy simulation and used in any other energy calculations are reflected in the design.

Cover letter stating that the project meets the requirements for 'Naturally Ventilated Spaces' within IEQ-1 'Ventilation Rates'.

DOCUMENTATION - AS BUILT RATING

Submit all the evidence and ensure it readily confirms compliance.

- ☐ Greenhouse Gas Emission Modelling Report
- ☐ Copy of the completed Greenhouse Gas Emissions Calculator
- ☐ Extract(s) from the Commissioning Report
- ☐ As-built drawings and schedules

Where the project is naturally ventilated as per the IEQ-1 'Ventilation Rates':

- ☐ Cover letter

The Greenhouse Gas Emissions Modelling Report must include at a minimum the information included in the 'Greenhouse Gas Emissions Modelling Report Requirements' chapter of the Greenhouse Gas Emissions Calculator Guide, downloadable from the GBCA website.

Copy of the Greenhouse Gas Emissions Calculator

Extracts from the Commissioning Reports demonstrating (through supporting evidence) that the building has been commissioned and operates as intended by the design (i.e. as described in the Greenhouse Gas Emissions Modelling Report) appending relevant test data (for example for HVAC energy efficiency), and referencing the Operations and Maintenance (O&M) Manual.

As-built drawings and schedules demonstrating that all inputs to the energy simulation and used in any other energy calculations are reflected in the building as built.

Cover letter stating that the project meets the requirements for 'Naturally Ventilated Spaces' within IEQ-1 'Ventilation Rates'.

ADDITIONAL GUIDANCE

Please refer to the Greenhouse Gas Emissions Calculator Guide, available at www.gbca.org.au, for information on simulation package, modelling and reporting requirements.

Deemed-to-Satisfy for Green Star As-built rating

Points awarded as part of a Green Star Design rating can be automatically awarded in a Green Star As-Built rating, provided that:

- A letter from the relevant consultant confirming that no modifications from the design submission affecting the outcome (i.e. same shape floor plan, same glazing properties and floor-to-ceiling height) have been done.

OR

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- A letter from the relevant consultant demonstrating that any changes to the building design do not affect the number of points achieved in the Green Star design rating.

AND

- As-built drawings are provided.

Multiple Buildings Single Rating Guidance

The predicted greenhouse gas emissions of the project scope must meet the conditional requirement as set by the Greenhouse Gas Emissions Calculator.

Where a typical building, or buildings with similar systems exist, this typical building can be submitted, provided that it can be justified that all other buildings of its type have equal or better performance.

Table Ene-Conditional Requirement.1: Multiple Buildings Single Rating guidance

Rating	Guidance
Design	No change from existing requirements. The calculation must account for all areas in the project scope.
As Built	No change from existing requirements. The calculation must account for all areas in the project scope.

BACKGROUND

The 2006 Stern Review on the Economics of Climate Change reported that the built environment is a significant emitter of greenhouse gas emissions. If 'upstream' emissions from heat and electricity are included, emissions from buildings total 20% of global greenhouse gas emissions (Stern, 2006). At the same time, the Working Group of the 2007 Interdepartmental Panel on Climate Change (IPCC) noted that the built environment provides a significant amount of cost-effective greenhouse gas mitigation and more than any other industry.

In addition to addressing the reduction in operational greenhouse gas emissions, the overall reduction in a building's contribution to climate change depends on the efficiency and embodied energy of its systems. When effectively designed and operated, centralised energy systems can deliver such a reduction and optimise energy, resource and maintenance efficiency.

REFERENCES & FURTHER INFORMATION

For further information, please refer to the Greenhouse Gas Emissions Calculator Guide for this tool, available at www.gbca.org.au

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POINTS
AVAILABLE

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- Australian Institute of Refrigeration Air-Conditioning and Heating (AIRAH), www.airah.org.au.
- Department of Energy, Utilities and Sustainability (NSW), Work Energy Smart, www.energysmart.com.au.
- Department of Environment and Climate Change, www.environment.nsw.gov.au.
- Queensland Government Department of Mines & Energy, www.energy.qld.gov.au.
- South Australian Department for Transport, Energy and Infrastructure, Energy SA, www.sustainable.energy.sa.gov.au
- Stern, N. (2006), 'Stern Review: the Economics of Climate Change', Annex 7.e Emissions from the Building Sector, HM Treasury, www.hm-treasury.gov.uk/d/annex7e_buildings.pdf
- Sustainable Energy Development Office (WA), www1.sedo.energy.wa.gov.au