



Green Star Design & As Built Consultation Paper Feedback report

By Rachael Lindup

Date issued: 21 January 2014

Consultation Paper Contacts

Robert Milagre
Manager Green Star Development
Phone: (02) 8239 6220
Email: robert.milagre@gbca.org.au

Rachel Lindup
Green Star Development Technical Manager
Phone: (02) 8239 6291
Email: rachael.lindup@gbca.org.au

Version Control

Version	Date	Description of changes
1	January 2014	

Use of Trademarks

All third-party trademarks are the property of their respective owners. All third-party trademarks referenced in this document are used in an editorial fashion and not to the detriment of the trademark holders.

Intellectual Property Rights & Confidentiality

© Copyright Green Building Council of Australia 2014.

This document and the information it contains are confidential to Green Building Council of Australia.

No part of this document or the information contained within it may be (a) used for any purpose other than that stated within this document by the recipient; or (b) reproduced, transmitted or translated in any form or by any means, electronic, mechanical, manual, optical or otherwise, without prior written permission of Green Building Council of Australia.

Thanks to our Green Star 2014 Thought Leaders



List of Contributors

Name	Organisation
Nicki Parker	AECOM
ESD Team (Aurecon)	Aurecon
Paolo Bevilacqua	Australand
Phil Wilkinson	Australian Institute of Refrigeration Air conditioning and Heating (AIRAH)
Tim Edwards	Australian Refrigeration Association
Ross Davies	BlueScope
Michael Kilmartin	Brookfield Multiplex
Owen Grace	Brookfield Multiplex
Haris Moraitis	BSE
Michael Shaw	Connor Pincus Group
Anissa Farrell	Conrad Gargett Riddell Architecture
Oliver Grimaldi	Cundall
Bill Lambie	Department of Planning, Transport and Infrastructure
Paul Davy	dsquared
John Casey	Facility Management Association of Australia
Kevin Moore	Focus Energy Solutions and Airconomix
John Mabb	Gold Coast City Council

Green Star – Design & As Built Consultation Paper Feedback Report

Date issued: 11 June 2013 / Draft – For Review

Mark Tickle	Grocon Group
Darren O'Dea	Inhabit
Samantha Andersom	Inhabitgroup
Jake Hickey	Instant Waste Management
Matt Fitzgerald	Norman Disney & Young
Peta Earley	Norman Disney & Young
Sarah Reid	Norman Disney & Young
Natasha Prasaek	pdt Architects
Sebastian Carr	Sustainability House
Evan Atkinson	The Buchan Group
Douglas Rennie	Vaughan Constructions
Stephen Choi	Viridis
The Sustainability Team (Wood & Grieve Engineers)	Wood & Grieve Engineers

Contents	2
Consultation Paper Contacts	2
Version Control	2
Use of Trademarks.....	2
Intellectual Property Rights & Confidentiality.....	2
Thanks to our Green Star 2014 Thought Leaders.....	3
List of Contributors	4
Contents.....	6
Introduction	7
Green Star Design & As Built	8
Project Objectives and Outcomes	10
Project Drivers.....	11
Delivering on Project Outcomes: Scope and Approach	12
Green Star – Design & As Built will assess the design and construction attributes of buildings of all uses and sizes	12
Green Star – Design & As Built will integrate and align with Green Star – Communities, Green Star – Interiors and Green Star – Performance.....	15
Green Star – Design & As Built will provide a pathway for ensuring design attributes are implemented throughout construction	15
Green Star – Design & As Built will provide a simpler, more user-friendly and cost-effective user experience.....	19
Green Star – Design & As Built will help to ensure that Green Star remains the rating system of choice for the built environment by redefining current best practice and promoting innovation	21
Green Star – Design & As Built will allow issues, features and design solutions to be clearly and accurately compared through the implementation of a revised weighting system.	25
Delivering on project outcomes: development and testing	26
Delivering on project outcomes: other feedback or suggestions	26
Conclusion	27

Introduction

This report is a summary of the submissions received in response to the Green Star – Design & As Built Consultation Paper, between October 2013 and December 2013. The Green Star - Design & As Built Consultation Paper was prepared as part of the development of the Green Star – Design & As Built rating tool, which is a universal rating tool for all building types at the design and as built stage, due to be launched in late 2014.

The aim of the consultation paper was to initiate public discussion about Green Star – Design & As Built and to gain industry feedback on the proposed scope, objectives, major features and proposed development process for the new rating tool.

The Green Building Council of Australia (GBCA) invited all members and stakeholders to complete the consultation paper, which was made available on the GBCA website. Responses were collected using a PDF form or via email.

The GBCA appreciates the feedback received on the consultation paper. Stakeholders will be kept informed of developments relating to Green Star – Design & As Built as the project develops.

This report contains a summary of the responses received and proposals for the way forward, based on the suggestions raised. Comments quoted in this report have not been edited. A full list of the comments received is available in Appendix A.

Green Star Design & As Built

Q: What would a successful Green Star – Design & As Built rating tool look like to you? In other words, on what outcomes does the success of the project rely?

The GBCA received detailed feedback in response to this question, the full text of all responses can be found in Appendix A.

Some common themes were recognised, as listed below:

Cost-effectiveness

Streamlined documentation requirements, easy to understand language and project management features.

Flexibility

Less prescriptive and deemed to satisfy for smaller projects.

Increased uptake of Green Star

More projects registered and certified, uptake of the rating tool by different markets and a greater number of smaller projects.

Updated Benchmarks

Reflect industry best practice and allow for updates.

Certification process

Updates to the certification process were also included in some comments; however a review of the certification process is underway as a separate project at the moment, known as the Certification Process Review project. The comments regarding the certification process will be given to the manager of this project and incorporated as appropriate.

The purpose of the Certification Process Review is to identify improvement opportunities and potentially identify a refined or new process for Green Star certification. The GBCA encourages all Green Star users to let us know you think. If you would like to know more about this review project or provide your ideas and feedback please contact the manager of this project - Rebecca Breuer at rebecca.breuer@gbca.org.au.

Q: What kinds of issues do you think the new Green Star – Design & As Built rating tool should address that are not currently or adequately being addressed by the existing suite of Green Star rating tools?

The most common issues raised that should be addressed in Green Star – Design & As Built were Life Cycle Assessment, Passive Design and Adaptation and Resilience.

Life Cycle Assessment

"Life Cycle Assessments / Carbon Footprinting is certainly a key component missing from the existing Green Star tools. The new Innovation Challenges are a great way to introduce the life cycle assessment thinking into the industry, but embedding them in the main categories is essential for the next steps into sustainability; thinking about the built environment from cradle to cradle, rather than just in the operation during the building's life span."

Oliver Grimali, Cundall

A 'Material Life Cycle Impacts' credit is being proposed in the Materials category as an alternative pathway to compliance from the current material credits. The changes to the Materials category are currently being reviewed by the Green Star Development team and the technical working groups for Green Star – Design & As Built.

Passive Design

"I currently see that not all architects are pulling their weight on passive design issues such as orientation, massing, extent of glazing, effective external shading and effective daylight design. The tool should be pushing architects to take responsibility for these attributes so that the building owner is not forced into complex and costly building services infrastructure to compensate for poor architectural decision-making. The inclusion of simple calculators for building facade thermal performance and daylight (could be currently proposed as parallel compliance paths to avoid modelling) will enable architects to better understand impacts of their own decision-making at an early design stage"

ESD Consultant, Design Consultancy

The results of good passive design are recognised and rewarded in the Energy and Indoor Environment Quality categories within Green Star. It is intended that Green Star – Design & As Built rewards positive environmental outcomes as much as possible, rather than prescribing the way in which the benefits are achieved. The GBCA will raise this issue with the technical working groups for consideration. However, following industry feedback that Green Star should provide simpler pathways to compliance for certain buildings types, the GBCA may be introducing 'deemed to satisfy' (DTS) pathways to achieve compliance for some credits. The DTS pathways may reward elements of passive design.

Adaptation and Resilience

"Encourage the building of long life structures designed for refit and refurbishment - Adaptation and Resilience"

Ross Davies, Bluescope Steel

An 'Adaptation and Resilience' credit is being considered for inclusion in the new Green Star – Design & As Built rating tool and is currently being reviewed by technical working groups.

Project Objectives and Outcomes

Q: Do you agree with the above project and outcomes? Are there any other outcomes of objectives that you believe should be addressed by Green Star – Design & As Built?

The majority of respondents agreed with the project outcomes presented in the consultation paper. Several other outcomes and objectives were identified, including:

- streamlining the Design to As Built certification process
- the integration of other assessment methods
- education for suppliers and subcontractors
- the inclusion of social and economic sustainability.

Streamline the Design to As Built certification process

"Streamline the As Built submission process, where project teams have achieved a Design rating for the project. (This would hopefully encourage more of the industry to register for and achieve an As Built rating)."

Peta Early, NDY

The Green Star Development team is currently looking at ways to facilitate the transition from a Design rating to an As Built rating. Feedback relating to what form the design stage assessment should take in the new rating tool will also be considered. Streamlining the Design to As Built certification process is indeed one of the project aims.

Integration of complementary assessment methods

"Integration or recognition of complementary assessment methods, tools and rating systems, across all categories (e.g. BREEAM, Passivhaus, LEED), or the ability for these to be appreciated using a one off assessment and approval process. These 'approved' tools would then be published and available for all subsequent projects to utilise."

Phil Wilkinson, AIRAH

The Green Star Development team has commissioned engineering design consultancies to recommend ways in which complementary rating tool methodologies can be incorporated into the Energy, Water and Land Use and Ecology categories. Integration of complementary assessment methods is also being considered by the technical working groups as each credit is reviewed, as part of the new Green Star – Design & As Built rating tool.

Education for suppliers and subcontractors

"One of the issues at the moment with Green Star is a lack of education for suppliers and subcontractors in the industry. This lack of education is the source of non-compliances with Green Star criteria, poor quality documentation and a great deal of wasted time and effort. The GBCA should consider ways they can work with other industry groups to improve education of these groups."

Matt Fitzgerald, NDY

The GBCA is currently working on a 'Contractor Education Innovation Challenge' credit with several member organisations. This will result in a 'Contractor Education' credit being available to all projects in the Innovation Category in the near future.

Social and Economic Sustainability

"Start to address the other important axis of sustainability; social and economic. The current tool is fantastic at focusing on ecological sustainability, how can Green Star become the rating system of choice that addresses social and economic sustainability too?"

Oliver Grimaldi, Cundall

The GBCA recognises the importance of social and economic sustainability and is looking to include these issues in the main credit categories in the future. As an interim step, social and economic 'Innovation Challenge' credits are currently available to all projects and will be included in the Innovation category of the new Green Star – Design & As Built rating tool.

Project Drivers

Q: Do you have any other suggestions about these or other project drivers for Green Star – Design & As Built?

The following drivers were suggested by the respondents:

Reducing the cost of documentation

"The costs associated with submitting a Green Star rating is currently a real issue and has meant that many projects we are now working on are asking for "Green Star equivalence", which doesn't deliver the full benefits of Green Star.

This tool should really focus on reducing the number of documents required for submission. On most projects the documents that are submitted are often not documents that are generally produced for a standard project, or where they are, they require additional marking up or additional details to be added, to make the assessment process easier. It is these items that are increasing the cost."

Peta Early, NDY

Precinct Initiatives

"Precinct initiatives: such as precinct recycled water, precinct thermal solutions, precinct energy should be easily rewarded for individual buildings within the precinct in the new Green Star tool without having to lodge CIR or TCs. Green Star should understand that the time to implement such initiatives is heavily dependent on load from the precinct - the first buildings in the precinct will typically not provide this load, therefore the precinct infrastructure is typically delayed. Recommend a period of 2 years be allowed for individual buildings to be connected to precinct infrastructure and still award the credit provided sufficient evidence can be provided demonstrating the initiatives intend on being implemented."

Phil Wilkinson, AIRAH

The Green Star Development team and the technical working groups are considering how to include precinct initiatives as part of the credit review with the new Green Star – Design & As Built rating tool.

Delivering on Project Outcomes: Scope and Approach

Green Star – Design & As Built will assess the design and construction attributes of buildings of all uses and sizes

Q: What types of buildings do you think should or should not be eligible for assessment under the new Green Star – Design & As Built rating tool?

The majority of respondents agreed that aiming to allow all building types apart from single-unit residential buildings to be certified using Green Star – Design & As Built was appropriate. Respondents recognised that it may be difficult to establish benchmarks that are appropriate to all building types. The Green Star Development team and the Design & As Built technical working groups are considering updated benchmarks to all credits on a case-by-case basis.

Q: Should refurbishments be eligible for assessment under this rating tool?

Over 90% of respondents agreed that refurbishments should be eligible for assessment. Green Star – Design & As Built will allow certification of refurbishment projects.

"Major refurbishments should definitely be eligible. The tool should also fairly value a building refurbishment based on some further research in this area (i.e. demolishing an existing concrete structure and re-building it in "green" materials is not the same outcome and it should be valued in "green credits" accordingly)."

Wood and Grieve Engineers

Q: How should 'significant refurbishments' be defined?

Many comments were received about that the current definition of a 'significant refurbishment'. Respondents were concerned it may be too generic and it should be better defined. A limit of 50% by area was suggested by many respondents, and there were some suggestions that this would be in line with the Building Code of Australia's definition. However, it was also pointed out that area alone may not be an appropriate metric. The GBCA will review the definition of 'signification refurbishment' for Green Star – Design & As Built, in alignment with the suggested comments.

Q: Are the definitions of 'shell and core', 'integrated fitout' and 'conventional delivery' still appropriate today? If not, why not and what other definitions should be considered?

Around 75% of respondents agreed with the definitions given in the consultation paper. Several respondents noted that the GBCA should provide a clearer definition for 'Shell and Core' type office projects. The GBCA also received feedback that it may be useful to allow for a staged delivery approach to certification.

"Shell & Core' is very hard to achieve in the sense that buildings are incomplete if certain aspects of it are not installed, i.e. sprinklers, ventilation, lighting.

A greater understanding and clarity of 'integrated fitout' should be introduced, most commercial office projects are being done this way and in order to assess them under the D&AB tools can be very complex."

Mark Tickle, Grocon Group

Q: Considering the universal application of the rating tool, should Green Star – Design & As Built address the full scope of deliveries, from shell and core to integrated fitouts? What are the benefits or drawbacks of this approach?

Around 60% of respondents agreed with this approach. Many respondents felt that while it was desirable to include certification of all delivery types, this may make the rating tool more complicated to use.

"I believe they should address all types of delivery scope & methods although I am concerned that this might make the tool less user friendly / more difficult and cumbersome to use.

Natasha Praseak, pdt Architects

Q: Do you think there should be a size limit for the buildings that can be assessed by Green Star – Design & As Built?

All respondents replied that there should be no size limits for the buildings that can be assessed by Green Star – Design & As Built. Many respondents noted that the credit criteria should be flexible enough to be applicable to all building sizes.

"Sustainable outcomes need be delivered on small and large projects. As such we need to ensure the new tool has adequate flexibility to deal with building of different sizes. "

Samantha Andersom, Inhabitgroup

Q: Additional feedback on the proposed scope of assessment

"GBCA should align scope, fees and time scales with BCA approvals - this will see a significant uptake in certification. The third party assessment process has been problematical since its inception and is a significant barrier to expanded uptake. The tool should have no restrictions to projects which have areas of multiple class types, e.g. office + education + retail."

Phil Wilkinson, Australian Institute of Refrigeration, Air Conditioning and Heating

"Need to consider Mixed Use developments - how are they assessed under the universal approach, will it be easier. Will size of each building class no longer matter making mixed use easier to assess?"

Anissa Farrell, Conrad Gargett Riddell Architecture

"The universal approach sounds great in theory however realistically different requirements will be needed for a lot of credits to address different building types. It is not clear to me at this stage whether taking the universal approach will actually make it any simpler on a project by project basis.

More thought needs to be given to assessment of projects developed/built by the same organisation with very similar design brief/specification. For example, industrial properties do not change much and therefore assessment of credits like energy, daylight, thermal comfort, and others can really be based on a deemed to satisfy/attributes based approach rather than require modelling for each project. I would welcome a more detailed discussion on this area."

Paolo Bevilacqua, Australand

Green Star – Design & As Built will integrate and align with Green Star – Communities, Green Star – Interiors and Green Star – Performance

Q: What other opportunities for alignment of the rating tools exist? Do you have any suggestions for how alignment can be increased to ensure better and more consistent project and sustainability outcomes?

- Alignment with other environmentally sustainable development related targets such as the National Australian Built Environment Rating System (NABERS) and Building Code of Australia (BCA) section J
- Pre-award credits that are aligned with other Green Star rating tools, such as Green Star – Interiors
- Pre-award credits from Design certification to As Built assessment

Q: What other challenges or frustrations that project teams face when progressing their project through the different rating tools exist? How could these challenges or frustrations be minimised through Green Star – Design & As Built?

- Remove the use of the phrase "Suitably qualified professionals"
- Restricted lines of communication with the GBCA during the assessment process
- Make the Certified Assessor part of the process from day one

The GBCA will consider how the phrase 'suitably qualified professionals' could be better defined, without becoming too prescriptive. This phrase was previously introduced following member feedback that specifying that a report was produced by a particular professional, such as the Mechanical Engineer, was not flexible enough.

Communication with GBCA Case Managers and the role of the Certified Assessor will be considered during the Green Star Certification Process Review. We will keep members up-to-date with the progress of this project via the GBCA website.

Green Star – Design & As Built will provide a pathway for ensuring design attributes are implemented throughout construction

Q: Do you think that there is still a need to offer some form of assessment and certification for building design? Why, why not?

Around 70% of respondents agreed that there should be some form of assessment at building design stage. It was recognised that the ultimate goal of Green Star is to certify completed buildings; however comments were received that a design stage assessment was useful as a check for the design team and for marketing purposes.

"... achieving a Design rating should then streamline the As-built submission and hopefully increase the number of buildings going for As Built submissions. If a building cannot be certified during the design phase then this would not assist the as-built submission and does not give a project team any certainty on whether design decisions will be compliant.

Therefore a design rating should really only be in place to assist a project team achieve their As Built rating. If GBCA really want to eliminate design ratings, then change it so you can only register for an As Built rating, but project teams could be given the option if they want to register for an As Built rating with or without a design rating."

Peta Early, Norman Disney & Young

"Our team was split on this issue. On the one hand we thought assessment yes but not for certification. Design teams need to know they are on track. A design rating should not be awarded without an as-built rating - combine into one rating. The as-built component should include 12 months of performance. Refer to LEED and Living Building Challenge. Developers are taking advantage of the marketing opportunities associated with a Design rating.

On the other hand some had the view that if you engage a competent design team then you should get the correct outcome - ie just focus on the As Built rating."

Engineering Consultancy ESD team

Q: Green Star – Design ratings should continue to be awarded without a requirement for a subsequent As Built rating. The current time limit of two years on the validity of Green Star ratings is a sufficient measure to address the issue of lack of delivery.

The majority of respondents disagreed with the statement that Design ratings should be awarded without a requirement for a subsequent As Built rating, as shown by the response rates below.

Yes - 26% No - 74%

Q: Green Star – Design ratings should be awarded only upon the condition of the future achievement of an As Built rating.

A smaller majority of respondents agreed with the statement that a Design rating should be awarded on the condition of achieving an As Built rating in the future, as shown by the response rates below.

Yes - 68% No - 32%

Q: There should be no Green Star – Design rating. It should be replaced with a design stage pre-certification to assess whether the project is on course to achieve an As Built rating. This pre-certification should not allow project teams to market their project as Green Star – Design certified.

The responses for replacing the Design rating with a design stage pre-assessment were split, with no clear preference, as shown by the response rates below.

Yes - 48% No - 52%

Q: There should be no Green Star assessment at the design stage.

The majority of respondents disagreed with the statement that there should be no Green Star assessment at the design stage, as shown by the response rates below.

Yes - 7% No - 93%

Q: Please provide further comments or feedback to support your view on the future of Green Star – Design ratings

“There needs to be Design Stage marketability for projects that need to obtain tenants / sales prior to completion or even a pre-design commitment. Even with As Built the rating may not be available for several months after PC at which stage the building has been sold etc.”

Wood and Grieve Engineers

“I believe that the design rating should be obsolete as offer no real value anymore in the industry. It was a great tool to drive the industry back in 2002 but over ten years now, we need to be ahead of our time. The LEED model has been successful in pre-awarding design credits in an as-built submission but the whole kudos and success of the project falls within the final and official submission of an as-built rating. I am aware of the two years deadline for design ratings but still would not resolve industry's perceptions that there are buildings in Australia awarded design ratings but not built or even performed like their design ratings. GBCA needs to continuously transform the industry!”

Haris Moratis, BSE

“If the design rating becomes a pre-requisite for the As Built rating, the process of the moving from one to the other must be simple and not create additional work. Furthermore, the cost of this must be rationalised. Recommend that that online system is significantly tired and tested prior to enforcing mandatory Design and As Built rating for certification”

Samantha Anderson, Inhabitgroup

The GBCA is currently reviewing the assessment path from a Design rating to As Built rating and will use feedback from the consultation paper to inform this process, along with feedback from other stakeholders. We will also consider feedback received from the Certification Process Review when reviewing this issue.

Q: What is the relevant purpose of a 'Design' rating? Would a commitment suffice? Should it be addressed at the design brief stage? Schematic design? Other?

Many respondents agree that a Design rating or other assessment at design stage is important for the design team to have an indication of how they are tracking for the As Built assessment.

In the comments received, there was a discussion of the definition of 'tender', that this should be better defined and possibly more flexible depending on the project delivery path. The GBCA will seek further feedback from industry on the most appropriate design stage documentation which should be used for a Design certification submission.

“Design rating is only useful for marketing purposes which is still very important. The GBCA should consider giving design teams the ability to be free to do what they want so long as they achieve the end result. Specs

are really relevant for standard Tender delivered commercial projects but the same results can be achieved without them for D&C etc. We need to recognise and value that the sustainability outcome is in the performance and operation of the building, not in the way it is specified or documented.”

Wood and Grieve Engineers

“The Design rating allows the marketing of the project prior to its completion. It allows ideas / theories to be explored/ tested / designed in without the pressure of being onsite. I don’t believe a ‘commitment’ has as much weighting or assists the sustainable cause as effectively as an award based rating does. Where projects do not move ahead into construction phase, I believe it is still important to reward the design team for their work in meeting a sustainable agenda. The Design rating certification process could benefit from being brought forward into earlier stages of a project rather than to rely on the documentation stage only, perhaps through the use of pre-certification assessments.”

Natasha Praseak, pdt Architects

Q: Do you agree with the current approach to design ratings whereby a time limit applies? If so, is 24 months still an appropriate period? Should a time limit exist for Green Star – As Built ratings?

The majority of respondents agreed that there should be a time limit for Design ratings. A period of 24 months is generally agreed on. However, some respondents suggested that 12 months post practical completion could be more appropriate for some projects.

Only a few respondents commented that there should be a time limit for As Built ratings. However, there were a couple of suggestions that this could be linked to the Green Star – Performance rating tool.

“Time limits are good to encourage clients to commit to building. There should be no time limit to an As Built if someone is going for a performance rating. It is either built to the rating tool or it is not, that status should not change in 12 months or 24 months.”

Anissa Farrell, Conrad Gargett Riddel Architecture

Q: Do you believe that the rating scale for Green Star – Design & As Built certified ratings should be expanded to include 1 Star - 3 Star ratings?

The majority (70%) of respondents did not agree with the introduction of 1 - 3 stars for Design or As Built ratings. It was noted by some respondents that it may 'cheapen' the Green Star brand and appear to be rewarding projects that are worse than best practice.

Some respondents suggested that the awards could be renamed, from 4 Star to 6 Star, to more descriptive terms such as 'Best Practice' and 'World Leadership'. In other words, it was suggested by some respondents that 'Stars' may no longer be used to describe project achievements in Green Star. There were other suggestions that outstanding Green Star certified projects could be recognised by an award, selected by the GBCA board.

Q: Do you believe there is a need to recognise achievements in excess of 6 Stars in some way?

The majority of respondents (70%) did not support the introduction of a 7 Star rating. However, many responses mentioned that awards for outstanding performance (beyond 75 points/ 6 Star) may be well received by industry

"Six stars is world excellence so cannot see how (in its current form) it can be 'exceeded'. If a project manages to exceed this somehow then the rating tool probably needs to be adapted / changed to raise the bar again. Awards over 6 stars would cause confusion / diminish the current significance of the stars awarded."

Natasha Prasaek, pdt Architects

"I suggest a GBCA Board selected award each year for the 'GBCA Board, Green Star Building of the Year' rather than trying to have another overall rating adding to the prestige of the award. This could be for any type of building that goes above and beyond the expectations of Green Star or is far in away a leader in their building type. e.g. a 5 star industrial building may be cutting edge and therefore eligible if the next best to date is 4 star."

Ross Davies, Bluescope Steel

Green Star – Design & As Built will provide a simpler, more user-friendly and cost-effective user experience

Q: What features should be included as part of the Green Star – Design & As Built online system?

The majority of respondents agreed with the features of Green Star – Design & As Built as described in the consultation paper. The following features were also suggested.

- Online forum for discussion
- Case studies
- Faster updates and issue of rulings
- Allow for project management in project teams
- Compatible with all operating systems and devices
- Downloadable technical manual
- Templates

The GBCA is currently scoping further specifications for the online system and will consider the suggestions submitted.

It is proposed that the submission for the new Green Star – Design & As Built rating tool will be delivered in a similar way to Green Star – Performance, in that the submission will be done via an online 'Submission Template' form. Once project teams are ready to submit for assessment, the entire submission (including all Submission Templates and supporting documents) will be sent online to Case Managers and the Assessment Panel. The GBCA will consider all other suggestions when scoping further specifications of the online system.

Some features will be added over time, as project teams have the opportunity to test the online system with real life projects. For instance, following feedback from Green Star – Performance PILOT projects, a 'Print' feature has been added to the individual credits within the online Submission Guidelines.

Q: Do you agree with the proposed timeframe/schedule for updates to the rating tool? If not, what is your preferred schedule for updates?

The majority of respondents agreed with the timeframe for the delivery of Green Star – Design & As Built as described in the consultation paper.

There were a wide range of views on how often the online system should be updated from every month, to every five years.

The GBCA expect that the online delivery system of Green Star – Design & As Built will facilitate regular updates. There are several types of updates to consider, correcting minor errors, inclusion of rulings and major updates to the rating tool, i.e. updating credit criteria. The GBCA will consider a plan for major and minor updates to the new rating tool as part of the development of the online system for Green Star – Design & As Built.

Green Star – Design & As Built will help to ensure that Green Star remains the rating system of choice for the built environment by redefining current best practice and promoting innovation

Q: Should the scope of the rating tool be limited to environmental issues, or should this scope be expanded to include socio-economic sustainability impacts?

The responses received showed mixed opinions as to whether these issues should be included in the main body of the new rating tool, or as additional points in the Innovation category. A third of respondents would like social and economic issues in the main rating tool, a third were against their inclusion and the rest of respondents were unsure.

"Even with environmental issues only, there is no common metric to make it make sense, e.g. if everything was somehow linked to Greenhouse Gas emissions then there would be a limited number of credits. As there are so many broad and non-comparable areas, the weightings become purely subjective and are rightly subject to scrutiny. If socio-economic factors are included then this problem is only exacerbated, and the points-scoring system has to be very carefully re-imagined."

Steven Choi, Viridis

"I suggest it could be expanded in this manner, however I also suggest this is an option to achieve compliance i.e. by setting the points such that a project that doesn't pursue these initiatives isn't penalised, however a project may pursue the initiatives in lieu of other existing initiatives e.g. energy etc."

Matt Fitzgerald, NDY

The GBCA recognises the importance of social and economic sustainability in the built environment. The Green Star - Communities rating tool rewards initiatives in these areas, as do some of the new Innovation Challenge credits recently released. The Green Star Development team, in consultation with technical working groups, will consider whether the inclusion of these issues into the main body of the new Green Star – Design & As Built rating tool would be appropriate at this time. The current proposal is to encourage project teams to pursue social and economic sustainability initiatives and have them rewarded in the Innovation category. There are currently several Innovation Challenges set by the GBCA for social and economic sustainability initiatives.

Q: Are there any issues or credits that you think should not be included in the new Green Star – Design & As Built rating tool because they are now just 'business as usual'? Do you believe they should be removed entirely, or should they become minimum requirements for other credits (E.g. High frequency ballasts could become a requirement for other lighting credits)?

The respondents suggested that the following issues are now considered 'business as usual':

- High Frequency Ballast
- Zero Ozone Depleting Potential refrigerants and insulation
- Low formaldehyde materials, reward could be focused on zero formaldehyde materials only
- Fire system water consumptions

The Green Star Development team, along with technical working groups will consider whether requirements regarding these issues should be removed from the tool, or made mandatory with no point awarded (minimum requirement).

Q: Are there any other issues or impacts that are not covered by the roadmap that should be considered for inclusion in the new rating tool? If so, please provide links to resources that will assist the Technical Advisory Group (TAG) in assessing the relevance of such issues.

The respondents suggested the following issues be considered for the new Green Star – Design & As Built rating tool:

- Design for refurbishment or refit
- Local sourcing of materials and products
- Supply chain sustainability
- Adaptability and resilience
- Embodied energy
- Embodied water

The Green Star Development team, along with the technical working groups will consider these suggestions for the new Green Star – Design & As Built.

Q: Currently, there are only two minimum requirements in the Green Star rating tools for design and construction - the Greenhouse Gas (GHG) Emissions Conditional Requirement and the Land Use and Ecology Conditional Requirement. Should there be any additional minimum requirements required for the achievement of particular Star ratings? For example, should a mandatory Greenhouse Gas Emissions score be achieved in order for a project to be awarded a 5 or 6 Star Green Star certification?

We received many comments supporting the idea of a minimum GHG emissions score for each Green Star rating level. There were also a few suggestions that a minimum water performance is also made mandatory for each Green Star rating level.

Respondents were concerned that, in theory, a building could be awarded a 5 Star rating while only achieving the minimum requirement for GHG emissions. However, the GBCA has found that this concern has not been supported by data from previously certified projects. On average, 4 Star Green Star office buildings produce 73 kgCO₂/m²/annum while 5 Star Green Star office buildings and 6 Star Green Star office buildings produce 58 kgCO₂/m²/annum and 44 kgCO₂/m²/annum respectively¹. This

¹ Page 3, The Value of Green Star: a Decade of Environmental Benefits, GBCA, May 2013

indicates that the higher the overall Green Star rating achieved, the better buildings have performed from a GHG emissions perspective.

Q: Are there any other opportunities for providing performance or prescriptive paths to address the issues highlighted in the roadmap? If so, please provide details below:

“The performance paths are preferred.

Air change effectiveness should have a more appropriate DTS path.

Daylight calculator created and hand calculator refined to account for louvred, slotted or perforated shading devices that still admit daylight.

The use of the water calculator should be optional - AECOM have a number of water balance worksheets that capture water use more accurately.

Methodology for calculating benefits of a district system.”

Nicki Parker, AECOM

“Yes, particularly where one building owner develops similar buildings multiple times across different sites. In this case requirements could be prescriptive or DTS. E.g. for an industrial facility that includes T5 high bay lights with daylight control - 5 points awarded, solar hot water - 1 point awarded, solar system of x kW/m2 GLA = x points awarded, etc.

Performance commitments should be considered in as built ratings where the applicant has registered for a performance rating. For example - greenhouse gas credit could be awarded based on a commitment and short report where a performance rating is to be achieved.”

Paolo Bevilacqua, Australand

“Testing the achieved level of building fabric thermal performance could be included, such as:

- thermographic analysis of insulation installation

- degree of building sealing achieved to be measured through the use of blower door testing

There could be a option to feed this back into energy modelling to improve/validate energy credits”

Sebastian Carr, Sustainability House

“Energy should be rated as energy (the metric being the amount of energy/resource being consumed by the building) so that it recognises energy efficiency. GHG emissions should be rated separately as emissions. Currently the use of GHG emissions as an energy metric is encouraging energy-inefficient solutions and the inappropriate use of tri-gen. Energy and emissions should be dealt with on equal merit but separately.

The impact of passive design and natural ventilation techniques are not effectively recognised, particularly by the BCA approach to determining a standard reference building.

In some tools (e.g. office) Green star needs to place more importance on improving the envelope performance beyond the NCC minimum. Part of the conditional energy credit should be establishing a higher envelope thermal performance than that in deemed-to-satisfy J1 and J2 or a JV3 Reference Building. Achievement above this new conditional minimum could also be rewarded with energy points in the Design rating, as could pressure testing and confirmation of insulation and glazing installed in the As Built rating. These are yet to be adequately addressed in the BCA.

Recycling of high impact materials e.g. lighting.

Life Cycle Costing and/or Assessment – should be incorporated in the tool itself and not included for Innovation (perhaps in next revision – once industry catches up).

Construction Activity Pollution Prevention – refer LEED.

Green Power – refer LEED.

Regional Materials – refer LEED.

Maximising Open Space – including vegetated/green space on site that is open access and encourages community use.

Proximity to Amenities – refer LEED and BREEAM, refer to the site’s surrounding amenities such as schools, doctors, etc.

The lifecycle/embodied energy/carbon within the development. This is a significant aspect of refurbishment projects and should be acknowledged as part of the “actual” greenhouse gas emissions of the project.

Whatever is provided by way of a credit within the rating system should be assessed in terms of clear benefits and how these are derived and measured (i.e. deemed to satisfy otherwise you have significant variance in outcomes which results from the alternative drivers from some developers.”

Phil Wilkinson, AIRAH

The GBCA will consider these ideas during the credit development of the new Green Star – Design & As Built rating tool.

Green Star – Design & As Built will allow issues, features and design solutions to be clearly and accurately compared through the implementation of a revised weighting system.

Q: Should the current system of weighting, whereby different states and territories have different weightings remain? If so, how could climate factors and power supply be accounted for within the rating tool?

The responses to this question did not reach a clear consensus. Most respondents agreed that local issues such as water supply and energy supply were important but many felt that the state based weightings were overly complex.

Yes - 36% No-26% Maybe/not sure - 36%

The GBCA will consult with the technical working groups and other stakeholders to discuss the future direction of state/territory weighting. We will be looking into ways that local issues can be included in specific credits where required, rather than applying weightings to category scores.

Q: Should one point in one category be equal to one point in another category, i.e. no weightings?

Yes - 50%, No 30%, Maybe/not sure 20%

Half (50%) of the respondents agreed with the statement that one point should be equal to one point across all Green Star categories. Those that disagreed with the statement were concerned with how the relative importance of different initiatives could be recognised if weightings are not implemented to category scores.

"No, otherwise providing a recycle bin storage becomes as important as incorporating a rainwater harvesting system for example. Building projects will always need to apply cost factors when achieving credits, where the cheapest (and not necessarily the most sustainable) option will always be selected. There needs to be a clear weighting of categories and credits, or there needs to be a significantly higher number of credits awarded when achieving more sustainable outcomes."

Oliver Grimaldi, Cundall

Following the reviews undertaken for Green Star – Communities and Green Star - Performance, the preferred approach is that 100 points would be available in the core categories for Green Star – Design & As Built, plus an additional 10 points in the Innovation category. The idea is that 'one point is equal to one point', and the relative importance of categories is represented by the total number of points available to any category.

The Green Star Development Team, along with the technical working groups, will review the point score of all credits and criteria to ensure that the importance of each issue is reflected in its point score and sustainability impact.

Delivering on project outcomes: development and testing

Q: Do you agree with the 'beta testing' approach to development and testing? If not, please provide details of the alternative approach you would suggest.

Around 70% of respondents agreed with the beta testing approach detailed in the feedback report. Many comments highlighted that there should be an incentive in place for project teams to take part in the beta test. The GBCA will adopt the approach described in the consultation paper.

Delivering on project outcomes: other feedback or suggestions

Q: Please provide your feedback or suggestions on any additional issues or opportunities that should be addressed or considered during the development and review of Green Star – Design & As Built

“Whatever Green Star can do to force the hand of architects to adopt sustainable architectural responses at an early stage, these opportunities should be pursued. Currently Green Star is forcing the adoption of building services engineering technology solutions in the absence of willingness to adopt sustainable architectural design practice. Admittedly this could constrain developers (major financial backers of the GBCA) in the possible design responses at a particular site, but more needs to be done in Green Star to encourage real sustainable architecture. To use a car analogy the current situation is like manufacturing a car with a very high efficiency engine, while allowing the aerodynamics of the body's design to be pretty much ignored.”

Michael Shaw, Connor Pinicus Group

*“Green Star LITE - Energy, Water, Waste only
Get university students to research in to credit targets and put more science behind the choice of target.
Accredited energy modellers as per New Zealand Project receives an extra credit if the submission is made available on the GBCA website.”*

Nicki Parker, AECOM

“The role of the GSAP needs to be discussed and agreed with the Industry. We need to give the GSAP's the technical skill and tools to either play a valued role in the design process. This could be by enhancing their role to self-certify part or all of a submission, or by giving them the responsibility to promise at concept design, assess the detailed design and certify the builders works to achieve the outcome.

Otherwise, having a technical assistant spend months prepare a submission and add no real value to the project, is not a benefit to the sustainable outcome.”

Wood & Grieve, Engineers

The Green Star Development team will take these issues into consideration and raise them with the technical working groups and other stakeholders.

Conclusion

The GBCA would like to thank all members that provided comments on the Green Star – Design & As Built Consultation Paper. The comments will be used to inform the development of the credits, structure and online delivery of the new rating tool.

The GBCA will issue a Green Star – Design & As Built Scoping paper in April 2014 confirming the scope of Green Star – Design & As Built. The program of works for the development of Green Star – Design & As Built can be found on the GBCA website.