Building a sustainable future

Green Star – Performance Scoping paper Stakeholder Feedback Report

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Version Control

Version	Release Date	Description of Changes
1.0	December 2011	First release

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Executive summary

This report is the result of feedback collected from several stakeholders, including 24 formal submissions, between December 2010 and March 2011 in response to the draft Green Star – Performance Scoping Paper. The Green Star - Performance Scoping Paper was prepared as a first step in the development of a Green Star assessment methodology to address the ongoing operational performance of existing buildings.

The Green Building Council of Australia (GBCA) has received feedback from stakeholders in various formats, including emails, formalised report submissions and via an online questionnaire.

Most stakeholders (*71% of the submissions*) agreed with the proposed definition for an 'existing building' presented in the Scoping Paper. The majority of stakeholders (*65% of submissions*) thought the proposed definition of 'operations' was appropriate. The proposed definitions for 'performance' and maintenance were also supported in general terms by the majority of stakeholders (*59% of submissions*).

No specific comments were submitted in regard to non-certified or certified individual building assessments. However, there were many comments submitted regarding 'portfolio assessments'. The majority of stakeholders supported the idea of 'portfolio assessments', both as a way to obtain discounted 'volume certification' and as a way to officially disclose a portfolio's averaged Green Star ratings.

Most stakeholders (*78% of submissions*) agreed with the proposed 3 year validity of Green Star – Performance certified ratings and various comments were provided on how this could be achieved. Similarly, the proposal to make certified ratings available for all star levels (1 through 6, not only 4, 5 and 6) was supported by most stakeholders (*85% of submissions*).

The proposal to keep all nine Green Star categories in Green Star – Performance was supported by majority of stakeholders (*78% of submissions*). All respondents (*100% of submissions*) suggested that *NABERS Energy* should be referenced in Green Star – Performance, since it is widely used by industry and it has been written into legislation for the commercial office sector. Similarly, most stakeholders (*86% of submissions*) agreed that it would be beneficial to reference *NABERS Water* in the Green Star – Performance rating tool.

Less than half the stakeholders (*38% of submissions*) considered *NABERS Waste* to be accepted practice in the real estate industry, indicating that its current format and processes have not been widely adopted by industry. Similarly, *NABERS Indoor Environment* is not currently widely used by the real estate industry as only *26% of respondents* considered it to be 'industry practice'.

Half the stakeholders (*53% of submissions*) indicated that it would be beneficial to have a Green Star – Performance rating tool available for the multi-unit residential market, while the majority of stakeholders (*65% of submissions*) thought it would be desirable for tenants / occupants to be involved in Green Star – Performance, either through an independent rating or as an integral part of a 'whole building' rating.

It is the intention of the GBCA to engage with the appropriate target users. These include tenants, real estate agents, leasing agents, universities and developers as well as the target users suggested in the Scoping Paper (building owners, facilities managers, portfolio manager and government organisations).

The GBCA appreciates the feedback received on the Scoping Paper. Stakeholders will be kept informed of developments relating to the Green Star – Performance delivery mechanism and associated costs, as the project develops.

More detailed industry feedback, as well as the GBCA's response to this feedback, can be found in the next sections of this document.

1 Introduction

The Green Star - Performance Scoping Paper was prepared as a first step in the development of a Green Star assessment methodology that addresses operational performance of existing buildings. Its purpose was to identify and scope issues associated with the development of the rating tool, to identify matters which should be considered in the next phases of development and to collect feedback from interested stakeholders.

This report is the result of stakeholder feedback collected from 24 formalised submissions in response to the draft Green Star – Performance Scoping Paper released in December 2010. In addition to these formalised submissions, further feedback was provided in other formats; some of the feedback provided through an online questionnaire was provided anonymously. The Green Building Council of Australia (GBCA) has received feedback from stakeholders in various formats, including emails, formalised report submissions and via an online questionnaire.

This feedback report, along with the Green Star - Performance Scoping Paper, will form part of the briefing documents for the Green Star - Performance Technical Working Group. The Technical Working Group will assist the GBCA with the development of the Green Star – Performance rating tool and related items (such as certification processes and education requirements).

The GBCA would like to thank all stakeholders for assisting in the development of Green Star – Performance. Further feedback is welcomed as Green Star – Performance is developed and implemented.

2 General comments

An ‘existing building’ in the context of the Green Star - Performance Scoping Paper, was defined as any building that has been operating at 75% occupancy or greater for at least 24 months. ‘Existing buildings’ refer to many building types and uses, not only commercial office buildings.

Extract from Green Star – Performance Scoping Paper, page 4:

The Green Building Council of Australia invites feedback from industry stakeholders on the definition of the term ‘existing building’.

Most stakeholders (**71% of the submissions**) agreed with the proposed definition above. However, the following general comments were also submitted for consideration:

Comment 1: I think this is a good baseline. There will often however be buildings where the occupancy has dipped below 75% occupancy during any 24 month period and it would be unfortunate to preclude them from seeking Green Star rating because of this. There may be some more detailed technical allowances within this, e.g. if base building plant has still been running during the period etc. Might relate to metering strategies, utility billing etc. Not my field but in principle there should be a 'CIR path' to allow some flexibility.

Comment 2: It's a good definition, but in a down market where vacancies might increase, could a 10 year old building with an anchor tenant who moves out and leaves it 60% vacant still not count as an existing building? This might be an issue considering today's office market. Also, how would this apply to public buildings like libraries and museums? (Probably not much difference.)

Comment 3: This is the definition from NABERS office, right? I think the [Technical Working Group] (TWG) should test if this definition is workable for other types of buildings. How would this work for schools for example? They are often left empty for a few months in summer, and would technically never be 'existing' as per this definition...

Comment 4: The proposed 75% occupancy and 24 month occupancy may not be effective parameters. Buildings are usually not able to proportion base building operations in direct relation to occupancy for this reason the lesser the occupancy of a building the more difficult it is to achieve higher performance. That is, it is suggested that occupancy naturally regulates performance and need not be considered as an “entry barrier”. “Occupancy” may also be further addressed by consideration in specific credit criteria, for example, any measure of emissions could be related to occupancy. NABERS does not require an “occupancy” level for evaluation except for a commitment agreement. The proposed 24 month period may deter buildings from seeking a performance rating. Typically a new building may have undertaken both Green Star “Building Tuning” and NABERS Energy/Water assessment in the first year of operation. There is no sound reason to defer a performance rating for a further 12 months. A 12 month period as an occupied building is suggested.

Comment 5: Why 24 months and not 12 when the DLP (defects liability period) finishes and As Built is eligible etc?

GBCA response

The definition of 'existing buildings' must be broad enough to cover a variety of building types, including offices, universities, schools, hospitals, healthcare centres, shopping centres, industrial buildings and residential housing, recognising that different building types will have different uses.

The GBCA agrees that occupancy alone may not be the best way to define an 'existing building' for the purpose of Green Star – Performance, particularly for building types other than commercial office buildings. The 'occupancy' portion of the definition above needs to be further explored.

The definition of 'existing buildings' should also include a period of operation, to ensure sufficient time to gather the relevant performance data. This operational period should be linked to occupancy, as empty buildings cannot be comparably rated.

The GBCA agrees with comments that 12 months after practical completion should be enough time for a building to be classified as 'existing' for the purpose of a Green Star – Performance rating. This length of time gives building managers enough leeway to collect the information required for a potential Green Star – Performance rating considering, for instance, that a Building Energy Efficiency Certificate (BEEC) requires at least 12 months worth of operational energy data.

However, the GBCA will also explore the interaction with the other Green Star rating tools (Design and As Built) now and into the future, as expiration periods for these rating types are also being explored as part of the Green Star Revolution project.

GBCA staff will work with the Technical Working Group to further refine this definition, considering the feedback provided above and the interaction with other Green Star building rating types.

The following general comments about the Green Star – Performance project do not require a specific response from the GBCA, and are only provided for information.

Comment 6: This tool is an excellent response to market demand for assessment of a building's performance in actual operation, as opposed to the design phase. With the large existing building stock in Australia it will assist in targeting inefficiencies and improve the overall performance of the built environment.

Comment 7: Energy efficiency training programs for facility managers are essential for promoting and achieving energy efficiency in buildings. A recent study conducted under the Low Energy High Rise (LEHR) project run by the Warren Centre concluded that the knowledge and skills held by the facility manager can have an effect on the building NABERS energy rating of up to 1.2 stars. Training and continued professional development of facility managers and maintenance personnel is essential to good building performance.

Comment 8: The proposed process of development for this rating tool – Green Star - Performance is a sound process and I believe is likely to result in a workable pilot rating tool.

3 Major features Feedback

3.1 DEFINITIONS

Green Star - Performance will focus on assessing existing buildings based on operational issues, including performance benchmarking. Feedback was sought on the keys definitions of operations, performance and maintenance.

Extract from Green Star – Performance Scoping Paper, page 7 'Definition of operations'

Operations encompass the processes that take place within the building when in use, whether they are mechanical or human oriented.

The majority of stakeholders (***65% of submissions***) agreed with the proposed definition of 'operations'. However, the following comments were submitted for consideration:

Comment 9

In principle this is ok. The 'human orientated' component would need some clear definitions/controls applied. e.g. the building's maintenance/operational performance can rely heavily on the facilities manager - some are good and some not. What if the FM is good but then moves to another job/building directly after the rated period? Perhaps the 'rating' could clearly state that the rating relies in part on 'Mr. Joe Bloggs the Facilities Manager'.

Comment 10

The word "use" in current definition suggests perhaps during the hours of business activity whereas most buildings are "live" and consuming resources on a 24/7 basis – suggest "use" is not required. The word "mechanical" is too restrictive as it may suggest the exclusion of electrical, hydraulic, etc. Those services are also part of the sustainability impact of buildings. Suggested definition "Operations encompass the dynamics of the building whether they are building services or occupant orientated".

Comment 11

'Operations' should relate to those that take place 'within' and 'of' the building. That is, to distinguish between business operations and facility operations.

Comment 12

Operations and maintenance are interlinked. Metering and monitoring for instance is an important operational activity that may fall under maintenance contracts. Operations should include for strategies that ensure that building performance is understood and addressed in an ongoing way by operational staff.

GBCA RESPONSE

The importance of the human component in operating buildings in general is well understood, particularly in the case of buildings aiming for more sustainable outcomes. The suggestion to link the Green Star – Performance rating to the Facilities Manager operating the building has been noted and will be further explored.

The intention of including the term 'use' when defining 'operations' was to imply that a building must be currently used by people for it to be considered operational. That means that an abandoned or completely vacant building, for instance, would not be in operation. Given that buildings must achieve a percentage of occupancy to be eligible for the rating and the confusion generated by the term 'use', the necessity of including 'use' in the definition will be reviewed.

GBCA staff will work with the Technical Working Group to further refine this definition, considering the feedback provided above and the interaction with other Green Star rating types (Design and As Built).

Extract from Green Star – Performance Scoping Paper, page 7 'Definition of performance'

Performance examines the building's ability to achieve the task for which it was intended, when in use.

The majority of stakeholders (***59% of submissions***) agreed with the proposed definition of 'performance'. However, the following comments were submitted for consideration:

Comment 13:

Agree in principle. 'Task for which it was intended' may change over time, or be very ambiguous. Is the intention to relate this definition to the BCA classification?

Comment 14:

Perhaps there should be something here about the building's ability to 'run' well?

Comment 15:

The Green Star – Performance rating is to address the sustainability performance of a building, not to "examine the building's ability to achieve the task for which it was attended". Suggested definition "Performance examines the sustainability of the operational building compared with a stated sustainability benchmark".

Comment 16:

Performance should be related to the buildings current use, not necessarily the task for which it was originally intended or designed for. Many buildings are changed after initial construction and throughout their working lifetime. It is important that the performance benchmark and assessment is related to current building usage not initial design assumptions or brief.

GBCA response

It is recognised that building use and building performance are very closely related – building use may change over time which in turn will influence operational performance.

It is important to highlight that 'operational performance' relates to the many facets of sustainability in the built environment, rather than being limited to energy efficiency. This differentiation is

reflected in the suggested definition in Comment 15. GBCA staff will work with the Technical Working Group to further refine this definition, considering the feedback provided above and the interaction with other Green Star rating types (Design and As Built).

Extract from Green Star – Performance Scoping Paper, page 7 'Definition of maintenance'

Maintenance is concerned with the level of upkeep required to ensure the building operates and performs to expected levels.

The majority of stakeholders (***59% of submissions***) agreed with the proposed definition of 'maintenance'. However, the following comments were submitted for consideration:

Comment 17:

Define preventative, tuning and regulatory maintenance.

Comment 18:

I generally agree, but it would be good if we could reward buildings that do not need major changes to keep them operating efficiently and achieving good levels of rental flow without significant change or resource / carbon input. The premise being that the longer we use the embodied carbon used to build the building the more efficiently we are using the carbon it took to create them.

Comment 19:

Either "maintenance" or "performance" could encompass a reference to building tuning / re-commissioning.

Comment 20:

"To expected levels" is the "kicker" here. What is expected? Where is this defined? Insert "required".

GBCA response

It is envisioned that Green Star – Performance will reward building owner/managers for operating efficiently with sustainable outcomes in mind; this may not necessarily require major upgrades or refurbishments. The maintenance component of Green Star - Performance will be addressed, as suggested, throughout the various Green Star categories and may encompass minimum, ongoing and preventive, maintenance requirements.

GBCA staff will work with the Technical Working Group to further refine this definition, considering the feedback provided above and the interaction with other Green Star rating types (Design and As Built).

3.2 ASSESSMENT METHODOLOGY OUTPUTS

The proposed outputs of the Green Star – Performance rating tool were presented in the Scoping Paper, as outlined below.

Extract from Green Star – Performance Scoping Paper, page 7:

Individual building assessments:

- Non-certified assessments – as with other Green Star tools, 'self-assessments' will be possible, allowing buildings to set environmental performance targets, inform investment decisions, etc. This would be a non-marketable assessment with no opportunity to use the Green Star trademark.
- Certified assessments (a Green Star rating) - a certified assessment of the environmental performance of existing buildings. Buildings that currently have a Green Star rating (Design and/or As Built) AND buildings that currently do not will both be eligible for a certified assessment.

Portfolio assessments – both self-assessments and certified ratings would be outputs of the assessment

No specific comments were submitted in regard to non-certified or certified individual building assessments. However, there were many comments submitted regarding 'portfolio assessments'. While the majority of stakeholders supported the idea of 'portfolio assessments', the following comments were submitted as feedback for consideration:

Comment 21:

[Portfolio assessments should allow for] some sort of aggregation mechanism, so I can report on all certified buildings at once.

Comment 22:

If each building within a portfolio must still be individually assessed then the 'portfolio' component isn't really a GBCA concern, it can be up to the stakeholder as to how they communicate this. I can't see a way to 'globally' assess a portfolio (e.g. 'multiple buildings' path for other Green Star tools) given the building-specific issues (locations, FM, age of building etc). Perhaps a value-add from GBCA is to 'certify' the portfolio's improvement strategy developed as a result of the individual building assessments?

Comment 23:

The portfolio certification sounds good, but very limited details are provided in the scoping paper. What does this actually mean? Does it mean you will certify a company's entire portfolio? How would the results be communicated? Will it be an average for the company's portfolio? More research of what the companies would like is needed - and that is exactly what you're asking for here, so good...

Comment 24:

I think all buildings still would need to be assessed individually. The owners or managers could work out their overall or average performance. Maybe the GBCA could recommend on how the system could be averaged accommodating portfolio reporting. I would hope that it would highlight performance in all 9 categories and not simply an overall star rating - this can be very misleading and can hide poor performance in key categories such as IEQ.

Comment 25:

Presumably the intent of a “portfolio assessment” is either to indicate quality (provide a marketing statement) and/or provide a cost benefit to the portfolio manager. In terms of a quality indicator the star rating provides some natural banding or quality indication. It may also be suitable to offer say two bands - a “Premium” portfolio consisting of 5 and 6 Star rated building and a “Standard” portfolio for all other Star rated buildings. In terms of cost benefit a simple volume discount may be suitable but perhaps should be geographically based (that is 10% discount for more than 5 rated buildings in Sydney).

Comment 26:

What is the intent? To "equalise" across buildings to get a better average? Or to recognise sponsors who happen to own a number of buildings? Portfolio ratings are a consequence of rating ALL the buildings you own?

Comment 27:

Portfolio assessment should include Energy water and IEQ on a building by building basis. They should also incorporate Tenant productivity somehow as this ultimately [affects] the performance.

GBCA response

It is recognised that an aggregation mechanism would be a desired feature of a certified ‘portfolio rating’. This would allow a building owner / manager to officially report its average Green Star – Performance portfolio rating, accounting for all individually rated Green Star – Performance buildings. Another desired ‘portfolio rating’ feature to be developed is a volume or discounted certification process, which would give building owners / managers an extra cost benefit when certifying various buildings at the same time (or during the same performance period).

The portfolio rating would be used as a reporting mechanism, enabling stakeholders to manage and compare all buildings within a Green Star – Performance portfolio. All buildings within a portfolio would need to have an individual rating to achieve a portfolio rating. Recognising that this may not always be possible, non rated buildings would be assigned a 0-Star Green Star rating. .

GBCA staff, in consultation with the Technical Working Group, will work on the details around ‘portfolio ratings’ further, taking the comments above into consideration. These details will include how the individual Green Star categories will be accounted for in a portfolio rating and how the validity of individual Green Star - Performance certified ratings will be addressed at portfolio rating level.

3.3 PROPOSED PERIOD OF VALIDITY

It was proposed in the Scoping Paper that certified ratings be valid for 3 years, allowing re-certification to be sought at the end of the 3 year period. Annual ‘desktop audits’ have been suggested as a possible method to keep the certified assessment current during years 2 and 3, perhaps by verifying the ongoing performance of ‘big ticket items’. This may be done with a NABERS Energy certificate, a NABERS Water certificate and some occupant satisfaction proxy.

Extract from Green Star – Performance Scoping Paper, page 8:

The Green Building Council of Australia invites feedback from industry stakeholders on the length of certification validity of 3 years and related processes.

Most stakeholders (***78% of submissions***) agreed with the proposed 3 year validity of Green Star – Performance certified ratings. However, the following comments were submitted for consideration:

Comment 28:

I agree but I think it might be a function of cost as well as performance. 3 years sounds reasonable as long as cost of recertification is not seen as prohibitive.

Comment 29:

I believe 3 years is too long, and if NABERS ratings are used then these will need to be renewed annually.

Comment 30:

The average upgrade cycle is closer to 7. The idea of a satisfaction proxy is a minefield.

Comment 31:

Generally agree however 2 years may be a better rating period as three years is a long time in the life of a building – significant changes can occur with respect to use, occupancy and performance additionally if a building does not get a “big ticket item” performance criteria management of any reduced status may be more effective over a shorter period.

Comment 32:

Ultimately the validity period is going to be dictated/influenced by the method/cost of assessment/auditing/re-certification. NABERS is annually however is simpler to assess. 3 years seems about right but would need to be controlled by a robust auditing (random?) regime in order to keep people honest. Perhaps there could be a component related to Mandatory Disclosure, e.g. if the building is to be sold during the 3 year period and the Green Star Performance rating is going to be used in that marketing/sale, then a full audit is required? The certification/audit process needs to control misuse and 'post-certification alterations' that are currently undermining the tenant market for Green Star.

Comment 33:

A certified NABERS Energy and Water rating should be performed on an annual basis. These should be fed into the Green Star rating. I'm not sure how a portfolio rating would be applied, considering the diverse range of building types that could make up any given portfolio.

Comment 34:

The performance of a building should be encouraged to be at its highest standard all the time. To only have to re-certify every 3 years takes away the edge and the credibility of what is trying to be achieved.

Comment 35:

I think there could be a standard audit where the building is reviewed in its current state to see how it is performing against the points it achieved through the design and more importantly its As-Built rating. Bring on Green Star - In Use reporting. This would be brilliant during due diligence on Green Star rated buildings and I believe would really add value to the Green Star rated buildings that are run as they were designed.

Comment 36:

NABERS energy and water are straight forward enough. The "proxy" element is the worry though! Definition could end up more of a problem than leaving out!

GBCA response

Building owners and operators, particularly in the office market, are currently undergoing an adaptation period with energy efficiency legislation requiring a Building Energy Efficiency Certificate (BEEC) to be presented at the point of lease or sale (which effectively means BEECs would become an annual process). Green Star – Performance will be developed to keep the amount of documentation for certification to a minimum, giving preference to information and data that can be easily accessible and verified such as a BEEC or a NABERS Energy rating.

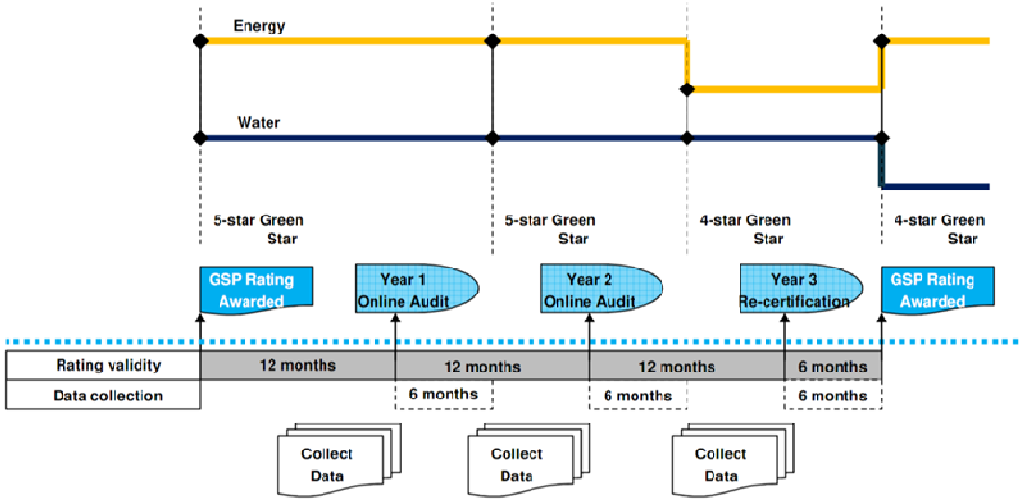
The suggestion of designing a standard auditing mechanism into the Green Star – Performance certification and recertification processes seems to be well accepted amongst stakeholders and it will be further developed.

The proposed certification process would see a certified Green Star – Performance rating remaining valid for 3 years. There would be interim checks at years 1 and 2, preferably using an online system. Energy and water performance data would be submitted to verify that the level of operational performance has been maintained over the proceeding 12 months. A six month 'grace period' for data submission would allow certified ratings to remain current.

Recertification would be required at the end of year 3; however it would be also available sooner if desired.

The figure below illustrates the proposed 3 year certification cycle, including the interim checks at the end of years 1 and 2 and the energy and water data provided at these milestones.

Figure 1: Propose Green Star – Performance certification timeline



GBCA staff will work with the Technical Working Group to further develop this concept, considering the feedback provided above and the interaction with other Green Star rating types (Design and As Built).

3.4 STAR LEVELS

It was proposed in the Green Star – Performance Scoping Paper that certified ratings would be available for all star levels, from 1 to 6 stars.

Extract from Green Star – Performance Scoping Paper, page 8:

The Green Building Council of Australia invites feedback from industry stakeholders on the availability of Green Star certification for all levels, from 1 to 6 stars, within the operational performance methodology.

Most stakeholders (***88% of submissions***) agreed with the proposal of making Green Star – Performance certified ratings available for all star levels. However, the following comments were submitted for consideration:

Comment 37:

Definitely. And this should be rolled into all other Green Star tools - I think this is the best way to make '4 star sexy' and encourage the next tier of owners to adopt Green Star. Certification/assessment fees should also be scaled to suit the stars (obviously a 2 star assessment is going to be much faster than a 6 star). Conditional Requirements should however be expanded to ensure that even a 1 star rating is still going to have some value to the market (e.g. Energy-1, Eco-1, Mat-1? VOCs?)

Comment 38:

From the start I think it would be a good idea. Everyone will likely get a 'rating' and then over time after the tool gets a bit of traction, you could phase out some of the lower levels of performance and raise the bar so to speak.

Comment 39:

Don't understand why you want to advertise that your building is performing really bad or why GBCA should award mediocrity. I think buildings could be assessed and get a 2 or 3 star assessment results, but the GBCA should only give out diplomas and plaques for 4, 5 and 6 star buildings.

Comment 40:

I'm not sure if companies would pay for a 1-3 star rating. If this assessment costs anywhere near as much as a design or as-built rating, then it is unlikely that a 1-3 star rating would be used. It is possible that these ratings could be used to identify areas of improvement, although it is unlikely that a company will pay to receive this rating.

Comment 41:

If this is to occur, 1-3 stars need to be provided with agreed terms equivalent to the existing 'Best Practice', Australian Excellence' and 'World Leadership' for 4, 5 and 6 stars respectively. These should demonstrate that a 1 star Green Star rating is, in fact, not very good.

GBCA response

The intention of having Green Star – Performance certified ratings from 1 to 6 stars would be to allow building owners / managers to demonstrate operational improvements of their buildings over time. This way, for instance, a building would be allowed to be awarded a 3-star Green Star – Performance rating the first time it goes through the certification process. Over the next 3 years, the building operators may be able to improve their building operational performance in a certain category or concentrate on addressing another category that was previously neglected. At the time of recertification, this building could then go for a higher certification level clearly demonstrating improvements to their tenants and / or occupiers.

The GBCA currently labels a 1 star Green Star rating as 'Minimum Practice', 2 stars as 'Average Practice' and 3 stars 'Good Practice'. However these star levels are not available for certification, since Green Star currently only recognises best practice in new building design and construction (or major refurbishments). As Green Star – Performance will address the existing building market, it is recognised that some existing buildings may start their Green Star path at a lower performance level. The existing Green Star labels for 1, 2 and 3 Star Green Star would remain in Green Star - Performance.

Another Star level, 0 Stars, would be created to designate buildings that are either not currently rated with Green Star – Performance, or buildings that do not meet the minimum requirements for certification, As mentioned earlier, this would be important for the implementation of portfolio ratings, where ALL buildings within a portfolio would need to have an individual rating for a portfolio rating to be possible.

3.5 ENVIRONMENTAL CRITERIA AND IMPACTS

It was proposed in the Scoping Paper that all the current Green Star categories were to be addressed in Green Star – Performance. These categories are: Management, Indoor Environment Quality, Energy, Transport, Water, Materials, Land Use & Ecology and Emissions (point source pollution). It was also suggested that the Innovation category be kept, rewarding innovative operational performance.

Extract from Green Star – Performance Scoping Paper, page 8:

The Green Building Council of Australia invites feedback from industry stakeholders on the range of impact categories proposed for inclusion in the Green Star – Performance rating tool and details of particular credits that should be considered.

Most stakeholders (***72% of submissions***) agreed with the proposal of keeping all the current Green Star categories in Green Star - Performance. However, the following comments were submitted for consideration:

Comment 42:

Definitely. Anything else is going to cause confusion and doubt. The place for variation is within the credits themselves.

Comment 43:

Good luck developing all the metrics! Learning from the previous Green Star tool for existing building it seems that being restricted to the Green Star framework caused us quite a few problems. I don't think we should be held to the eight categories, it is not possible to create criteria for some of them, and it may be that we want some other category. I don't think the eight Green Star categories are at all perfect. Most of them are for example not environmental impacts (e.g. transport, management, materials)

Comment 44:

I'm not sure that credit categories such as Transport, Land Use & Ecology and Emissions would be useful in the rating tool as once these are evaluated they are unlikely to change unless significant modifications are made to the building / landscaping.

Comment 45:

Some of these are stagnant, will change little in the course of the rating period, or the building manager has no control over. eg transport and land use. Criteria should focus on IEQ, Energy, Water, and Innovation.

Comment 46:

No we must include a reward for using the embodied energy that the building took to make. The longer we use it the more efficiently we use it. This is critical and should be well rewarded.

Comment 47:

All “standard” Green Star categories may be relevant. However “materials” would seem relevant only if materials were introduced or deleted during an operational period – that is a change in sustainability due to variation in materials. It may also be the case that information on already incorporated materials is difficult to obtain post occupancy. Similarly Land Use and Ecology may have limited relevance. Innovation was not mentioned in the scoping paper but it would seem that it too is relevant to recognise any significant operational innovations introduced into building operations. Embodied energy by definition is not an operational quality. It is a static quantity of energy forfeited by the construction of the building; it is not relevant to a performance rating. Embodied energy is clearly relevant to existing “Design” and “As-Built” tools which would benefit from further incorporation of Embodied Energy.

Comment 48:

No. materials and ecology should not be included as they would not feature greatly in the operations unless it incorporates fitouts.

Comment 49:

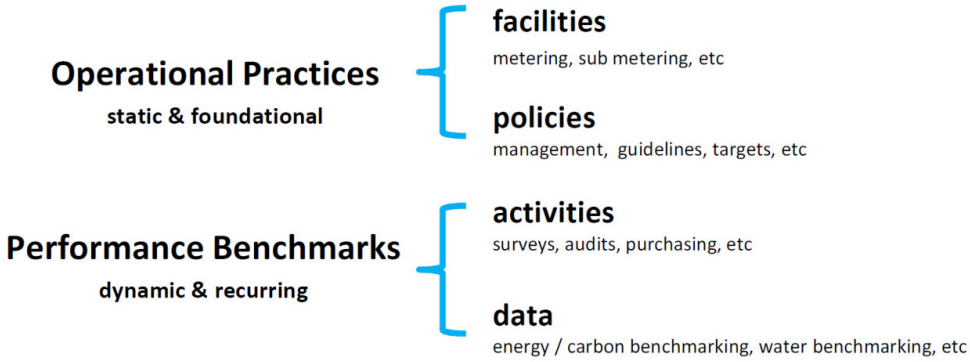
Education, training and continual professional development should also be integrated.

GBCA response

Green Star – Performance will address operational practices and operational impacts of buildings, including but not limited to, performance benchmarking. The now discontinued 'Green Star Existing Building EXTENDED PILOT' had a completely different approach to Green Star – Performance, as it focused solely on design attributes of existing buildings.

It is recognised that some Green Star categories (such as Energy) may be more fluid than others (such as Land Use & Ecology) when it comes to building operations. However, feedback from stakeholders has supported the view that maintaining consistency between the Design/As Built tools and the Performance rating tool is highly desirable. Keeping all the Green Star categories also assists in maintaining the credibility associated with the other Green Star tools.

Having said that, it is expected that some credit criteria may be more 'static' in nature than others. The diagram below illustrates the types of issues Green Star – Performance credits will address:



'Operational practices' criteria will address foundational or static requirements that allow a building to successfully implement Green Star – Performance and plan its upgrade targets. These criteria may not change very much after initial implementation, but may be revised or updated over time. 'Performance benchmarks' criteria will address dynamic indicators of a building's performance over time. They can be either recurring activities like a 'satisfaction survey' or ongoing tracking such as monitoring of energy and water consumption. Category weightings may be used to focus attention onto the more dynamic categories such as if so required.

As Green Star – Performance is further developed the definitions of Green Star categories in an operational sense will need to be widely communicated. For instance, the Materials category in Green Star – Performance will cover materials that go into - or come out of - a building, allowing it to be operated as required, not the materials of which the building is made. Areas such as sustainable procurement and purchasing (materials in) and operational waste benchmarking (materials out) may also be covered by the Materials category.

Although embodied energy and embodied carbon are important issues, they are not operational issues and as such will not be addressed directly in Green Star – Performance. Embodied energy and embodied carbon will be considered by another Green Star project currently being carried out – the Life Cycle Assessment (LCA) methodology project, which will be used in the Design and As Built rating tools in the future.

3.6 CREDITS TO BE CONSIDERED

The following comments were submitted in response to the second part of the request for feedback above, dealing with *'details of particular credits that should be considered.'*

Comment 50:

Without going into detail (big task); all existing credits relating to outdoor air supply, air change effectiveness, VOCs, daylight and lighting, BMS controls, Mat-1, Eco-3 (OIv1.1), air supply ductwork, maintainability (adapted to suit ongoing operation), (reduce value of Transport credits), water (increase value of plant-related potable water consumption, e.g. cooling towers), indoor plants (not sure how to address in base building?)

Comment 51:

I think there needs to be a procurement credit. I think there needs to be some mechanism to engage or include the tenants and its activities in the assessment.

Comment 52:

Maybe the operation and maintenance manual and training checklist.

Comment 53:

Weighting should be given to IEQ, Energy, Water, Innovation. Consideration to Materials and Management.

Comment 54:

Embodied energy, not just in the materials used in the building, but the embodied energy contained in the building itself. While writing, as there is no other space. I do not think that the current design accommodates the really large buildings that are continuously being upgraded and will never stop being upgraded. We need a system that can rate the base building, ie with management systems and good NABERS ratings and then have a system whereby the floors are upgraded to Green Star when they are available. If you cannot get to some floors because they are occupied that does not matter. The way to manage that would be for the owner to commit, as part of the overall rating, that when floors become available they will upgrade them to certain GS ratings. It might be that as a minimum they would be to GS D & AB 2012. It would not be wise to commit to future standards, but the market would keep pushing the standards and no doubt when the standards changed they would assess them and make a call, and then probably go to the next standard. Hope you like the idea - you have probably heard it before. Best wishes - good initiative.

Comment 55:

Cleaning and cleanliness as relates occupant health and longevity to reduce land fill disposal (of old carpets for eg). Availability of service and comfort across the year. Toxicity. Responsiveness and quality of communication for FM team. Building Use Studies protocols could inform credits to be considered from the survey and assessment of the building performance.

Comment 56:

Management - ongoing commissioning Facilities management Energy - ENE1 and ENE2 IEQ - thermal comfort, air quality Water efficiency and emissions refrigerant replacement and maintenance.

Comment 57:

Education, training and professional development are critical. As is competency standards for those responsible for building operations, that is, facility managers.

GBCA response

Green Star – Performance will address operational practices and operational impacts of buildings, including but not limited to, performance benchmarking. There will be issues that have not been previously addressed by Green Star Design and As Built ratings which will be addressed in Green Star - Performance. These issues include procurement, cleaning and cleanliness, ongoing operation and maintenance, ongoing commissioning and monitoring of user/ occupant satisfaction, as suggested by some stakeholders.

Although embodied energy and embodied carbon are important issues, they are not operational issues and as such will not be addressed directly in Green Star – Performance, as mentioned earlier.

It is anticipated that Green Star – Performance will be flexible enough to be applied to existing buildings of many sizes, allowing large iconic CBD buildings to start their Green Star path at the appropriate operational performance level. As with other Green Star rating tools, it is not envisioned that parts or portions of buildings will be available for Green Star – Performance accreditation.

Education and training are important parts of the Green Star – Performance project and the GBCA will be developing content to support rating tool training as well as general building operations courses. It is envisioned that, as with other Green Star tools, some of this education and training will be delivered in association with industry.

3.7 NABERS ENERGY AND NABERS WATER CERTIFICATES

It was suggested in the Scoping Paper that reporting standards such as NABERS should be referenced into the proposed Green Star – Performance assessment methodology whenever possible and the feedback below was requested.

Extract from Green Star – Performance Scoping Paper, page 9:

The Green Building Council of Australia invites feedback from industry stakeholders on the adoption of NABERS Energy, NABERS Water, NABERS Indoor Environment and NABERS Waste as industry practice in the real estate market.

All respondents (***100% of submissions***) suggested that *NABERS Energy* be referenced in the *Green Star – Performance* rating tool, since it is widely used by industry and it has been written into legislation for the commercial office sector, as part of the national Commercial Building

Disclosure program. Similarly, most stakeholders (***86% of submissions***) agreed that it would be beneficial to reference *NABERS Water* in the *Green Star – Performance* rating tool.

GBCA response

According to figures provided by the NABERS national administrators, over 1000 office buildings have been awarded *NABERS Energy* certificates in FY 2010/2011, while 425 office buildings have been awarded *NABERS Water* certificates in this same period. In the retail sector (shopping centres) 31 buildings have been awarded *NABERS Energy* certificates, while 34 buildings have been awarded *NABERS Water* certificates.

At this point in time, it is likely that *NABERS Energy* and *NABERS Water* certificates will become mandatory requirements for *Green Star – Performance* certified ratings. These certificates and the data provided with them will be used as a way to comply with minimum requirements and 'claim credits' in the Energy and Water categories in the *Green Star – Performance* rating tool.

For those building uses not currently covered by *NABERS Energy* and *NABERS Water*, the GBCA will develop interim operational performance benchmarks for the appropriate Energy and Water categories in the *Green Star – Performance* rating tool. Where possible this development will take place in partnership with the NABERS national administrators (NSW Office of Environment and Heritage). These interim energy and water benchmarks will be used in the *Green Star – Performance* rating tool until NABERS benchmarks for other building uses have been developed. To facilitate an ongoing close alignment between Green Star and NABERS, the GBCA will provide recommendations to the NABERS national steering committee on the preferred priorities for development of new NABERS benchmarks.

The GBCA aims to collaborate with the NABERS national administrators and industry stakeholders to assist in collecting the necessary data to develop energy and water benchmarks for other building uses.

The GBCA is committed to ensuring that Green Star – Performance ratings maintain transparency. To this end, the method of communicating and reporting the individual achievement in each Green Star category and the contributing NABERS certificates will be investigated with stakeholders, including the NABERS national administrators.

3.8 NABERS WASTE CERTIFICATES

Extract from Green Star – Performance Scoping Paper, page 9:

The Green Building Council of Australia invites feedback from industry stakeholders on the adoption of NABERS Energy, NABERS Water, NABERS Indoor Environment and NABERS Waste as industry practice in the real estate market.

About one third of stakeholders (***38% of submissions***) suggested that *NABERS Waste* could be referenced as industry practice. The following comments were submitted for consideration:

Comment 58:

Perhaps the benchmarks should be considered, not the process; again offices only.

Comment 59:

Very few bother with NABERS Waste – too prescriptive.

Comment 60:

In general yes to the benchmarks. This measures the % of waste overall that is diverted from landfill which makes sense.

Comment 61:

Perhaps only as one component of the category.

GBCA response

The feedback received suggests that the *NABERS Waste* rating process has not yet been widely adopted as industry practice in the real estate market, although there was greater support for the rating benchmarks. Figures provided by the NABERS national administrators also indicate that the *NABERS Waste* methodology has not been widely used by the real estate industry. In FY 2010/2011, only two (2) office buildings in Australia were awarded *NABERS Waste* certificates. It has also been pointed out that *NABERS Waste* only addresses the commercial office market.

At this point in time, it is unlikely that *NABERS Waste* certificates will become a mandatory requirement of *Green Star – Performance* ratings. However, the GBCA would like benchmarks used in NABERS Waste to be used to measure waste-related performance in *Green Star – Performance* if the issues raised by stakeholders can be addressed

GBCA staff will work with the Technical Working Group during the tool development phase of the project, considering the feedback provided above and the interaction with other Green Star rating types (Design and As Built) to address waste management credits in *Green Star – Performance*. The GBCA and the NABERS national administrators will work together to identify and address any stakeholder concerns in the NABERS Waste methodology rather than create a competing benchmark to measure operational performance. If the issues raise by stakeholders are addressed, NABERS Waste may become a mandatory requirement of Green Star – Performance in the future.

3.9 NABERS INDOOR ENVIRONMENT CERTIFICATES

Approximately a quarter of stakeholders (***26% of submissions***) indicated that *NABERS Indoor Environment* is currently considered industry practice in the real estate industry. The following comments were submitted for consideration:

Comment 62:

Some NABERS tools may require some modification, such as NABERS indoor Environment. This currently uses a 1 day snapshot of measured parameters to assess the air quality component, for the whole year! No additional credit is given for continuous monitoring. It also includes parameters, such as airborne microbial assessment, that are not appropriate for building ratings. Microbial assessment is appropriate for specific response to water/mould contamination within a building…but not for when rating one building with another around Australia.

Comment 63:

The NABERS Indoor Environment Quality tool varies somewhat to Green Star and may require further examination as to the adaptability of the two tools.

Comment 64:

Maybe as above (benchmarks only) however it's still of value to include 'Green Star-type' credits that provide users with some suggestions on how to achieve the IEQ rating. The NABERS IEQ requires on-site testing which is going to lead to costs/delays etc - would be preferable to perhaps offer alternative/DTS pathway also.

Comment 65:

Only available for offices; too complex on its own.

Comment 66:

May not have quite hit the target as an assessment tool.

GBCA response

The feedback received by the GBCA also indicates that *NABERS Indoor Environment* for offices has not been widely accepted as industry practice in the real estate market. According to figures provided by the NABERS national administrators, ten (10) office buildings in Australia were awarded *NABERS Indoor Environment* certificates in FY 2010/2011.

Stakeholder feedback suggests that the suitability and frequency of on-site monitoring as well as some of the parameters measured by *NABERS Indoor Environment* for offices may not be ideal. It has also been pointed out that there are no *NABERS Indoor Environment* parameters for other buildings uses besides offices.

At this point in time, it is unlikely that *NABERS Indoor Environment* certificates will become a mandatory requirement of *Green Star – Performance* ratings. However, the GBCA would like the indoor environment benchmarks used in NABERS Indoor Environment to be used to measure indoor environment performance in *Green Star – Performance* if the issues raised by stakeholders can be addressed. .

There have been substantial developments in operational performance measurement metrics over the past two years, particularly in the field of operations-related indoor environment. One example of such developments, is the 'Performance Metric Protocols' publication release in 2010 and co-authored by the U.S. Green Building Council (USGBC), the American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) and the Chartered Institution of Building Services Engineers (CIBSE).

These 'Performance Metric Protocols' identify what to measure, how it is to be measured and how often it is to be measured for inclusion in a building's operations and maintenance plan. This operations-based approach relies on three levels of indoor environment performance – Basic, Intermediate and Advanced – providing choices for consistent performance characterisation of buildings and comparison to benchmarks.

GBCA staff will work with a Technical Working Group during the tool development phase of the project, considering the feedback provided above and the interaction with other Green Star rating types (Design and As Built) to address Indoor Environment Quality credits in *Green Star – Performance*. The GBCA and the NABERS national administrators will work together to identify and address any stakeholder concerns in the NABERS Indoor Environment rating tool rather than create a competing benchmark to measure Indoor Environment operational performance. If the issues raised by stakeholders are addressed NABERS Indoor Environment may become a mandatory component of Green Star – Performance in the future.

3.10 TARGET BUILDING TYPES

The GBCA's intention is for Green Star – Performance to address all building types and uses which are currently covered by the Design and As Built rating tools. These include education facilities, healthcare facilities, industrial buildings, commercial office buildings, retail centres, public buildings and the multi-unit residential market. However, the following question was raised in the Scoping Paper:

Extract from Green Star – Performance Scoping Paper, page 9:

The Green Building Council of Australia invites feedback from industry stakeholders on the need for a Green Star assessment methodology for existing buildings in the multi-unit residential market.

Slightly more than half of stakeholders (***53% of submissions***) indicated that it would be beneficial to have a Green Star – Performance rating tool available for the multi-unit residential market. The following comments were submitted for consideration:

> Comment 67:
>
> Go for it. Part of this is about educating the masses, and if their 'Green Star apartment' leads to them becoming slightly greener in their everyday living then some good has been achieved. The BASIX tool (amongst others) isn't robust enough to deliver the best outcomes so a Green Star tool would be valuable.
>
> Comment 68:
>
> While the concept of a performance rating for all building types is endorsed it may be that the performance of a multi-unit residential building would be very difficult to determine unless performance indicators (such as occupancy, energy and water) could be determined for all units.
>
> Comment 69:
>
> Not yet, in the current elevated house price market the buyer is not prepared to pay for additional costs unless mandated.
>
> Comment 70:
>
> Yes, but this could be considered in future versions of the tool as this section of the market is under-developed compared to commercial office, education, etc.

GBCA response

Feedback from the Stakeholder Reference Group and other stakeholders indicates that Green Star – Performance should address all building types and uses which are currently addressed by Green Star Design and As Built tools. These include – commercial office buildings, industrial buildings, retail centres, education facilities, healthcare facilities, public buildings and multi-unit residential.

However, it is likely that the first version of Green Star – Performance will be developed to address commercial office buildings and shopping centres or industrial buildings. Other space uses and

building types will be able to be addressed by Green Star – Performance in subsequent releases of the rating tool.

While there is general support for the application of the Green Star - Performance tool in the multi-unit residential market, stakeholders have suggested that this could be included in a future release of the tool, rather than within the initial tool development phase.

3.11 OCCUPANT INVOLVEMENT

Green Star – Performance is to address 'base building' and 'whole building' holistic operational performance, depending on the particular industry practice. However, initial feedback from stakeholders indicated that tenant or occupier involvement in a performance rating should also be explored. This issue was raised in the Scoping Paper, as described below.

Extract from Green Star – Performance Scoping Paper, page 9:

The Green Building Council of Australia invites feedback from industry stakeholders on the need for a Green Star assessment methodology for existing building occupiers or 'tenancies'.

The majority of stakeholders (***65% of submissions***) thought it would be desirable for tenants / occupants to be involved in Green Star – Performance, either through an independent rating or as an integral part of a 'whole building' rating. The following comments were submitted for consideration:

Comment 71:

Valuable. A reluctant/unwilling landlord shouldn't prevent a tenant from being proactive and reducing their environmental impact. This should be relatively straightforward [in association with] the Interiors tool.

Comment 72:

I think it's fairly important to distinguish between tenancies. A trading floor in an office will use far more energy than a law firm of similar size in the same building or a call center.

Comment 73:

Yes the base Building should be the main measure because in some instances you have no control over tenants.

Comment 74:

It may be useful, perhaps in association with a 'base building' rating.

Comment 75:

I think both options should be made available, as in some cases not all tenants of a building are going to be interested in getting a rating, which means they will negatively impact on the other tenant's results.

Comment 76:

Agree with reservations. Under current NABERS methodology it is far too easy for a tenant to "Off Load" onto base building. Demarcation lines need to be clearly defined, and they need to deal with variables such as tenants with people that come to work early, or outside leasing hours.

Comment 77:

Agree strongly that individual tenancies need to be addressed. This will allow engagement of specific occupiers around how they use their space and how it is fitted out.

Comment 78:

No I do not agree, there is a third part to this and that is the Landlord's preparation of the space the tenancy will occupy. The landlord cannot be responsible for the way the tenant treats the tenancy, but he can be responsible for the base building and the way he prepares the tenancy before the tenant takes occupation. Please do not confuse these areas.

Comment 79:

Clearly the two are inextricably linked! Good luck separating them but clearly a methodology must be agreed that is credible to manage. May need to reference the lease arrangements too and extent of influence.

Comment 80:

It is reasonable that tenancies are also able to demonstrate sustainable performance. Alignment with NABERS methodology would also be beneficial – anything other than such an alignment would cause confusion and add to complexity and cost if both ratings were pursued.

Comment 81:

In order to assess the building's 'performance' the level of productivity is required from the tenancy's within therefore there needs to be feedback from these tenants.

GBCA response

The feedback provided above supports the view that building occupiers should be involved in the Green Star – Performance rating process. Green Star – Performance will be used to certify the ongoing operations of existing buildings, by providing the market with a holistic approach to building performance. Its aim is to encourage owners and operators of existing buildings to implement sustainable practices and reduce the environmental impact of their buildings over their life cycles.

It is envisioned that Green Star – Performance will be a whole of building rating tool, allowing 'base building' ratings to take place while encouraging interactions between owner/operators and occupiers. The GBCA recognises the 'symbiotic relationship' that exists between base building and occupiers and will design Green Star – Performance to recognise this relationship. This approach could be used for all building types.

The 'World Leadership' rating (6 Stars) would be designed to include occupant involvement. It has been suggested that one should not be able to claim world leadership in building operations without interacting and engaging with building occupants.

It is not envisioned that individual tenant spaces will be eligible for a Green Star – Performance rating on their own; rather occupiers will contribute to a building's rating, either through a 'green lease' approach of through specific credits aimed at occupants, by providing operational

performance information to building owners / operators. Building owners/operators would retain control of base building operations. It has also been suggested that occupiers be recognised for their contributions to overall building sustainability by being individually named as participating organisations on the Green Star – Performance rating certificate awarded to a particular building.

There is also the opportunity to build operational performance requirement credits into the Green Star – Interiors rating tool in the future, allowing occupiers to contribute to a building's Green Star – Performance rating in a more formalised way.

GBCA staff will work with the Technical Working Group during the tool development phase of the project, considering the feedback provided above and the interaction with other Green Star rating types (Design, As Built and Interiors).

3.12 TARGET USERS

It is believed that Green Star - Performance would be of interest to a large stakeholder audience, such as institutional investors, building tenants and consultants; however the main target users of the assessment methodology are believed to be:

- Building owners
- Facilities managers, including maintenance professionals
- Portfolio managers
- Government organisations

Extract from Green Star – Performance Scoping Paper, page 10:

The Green Building Council of Australia invites feedback from industry stakeholders on other uses of the Green Star assessment methodology for existing buildings and how users might interact with the rating tool.

The following comments were submitted for consideration:

Comment 82:

Tenants. Real estate agents (however they've a long way to go before they realise the benefits of this tool).

Comment 83:

I think tenants will be a key stakeholder, especially to generate demand. Government tenants were key for the current green star tools. We need to engage with leasing agents and tenant advisors to pick up the tenants.

Comment 84:

A data base for performance by use by engineers and real estate agents.

Comment 85:

Universities - studies on building energy consumption - Real estate agents - marketing buildings

Comment 86:

Tenants' representatives could use ratings to guide prospective tenants.

Comment 87:

As a critical part of Technical Due Diligence, it would provide a highly valuable audit tool.

Comment 88:

Tenants looking for a new building to move into would find this information valuable especially if it had real productivity figures associated.

Comment 89:

Developers would seem to be a further significant "user" of the performance tool. It is not unusual for developers, aware that a "guaranteed" rating for NABERS or Green Star will require the Head Contractor to achieve such a rating in order to enhance the sales potential of the building, a "Performance" rating could be similarly required.

Comment 90:

Don't miss the PPP delivered buildings.

Comment 91:

Could potentially act as a data gathering tool under programs such as Commercial Building Disclosure.

GBCA response

It is the intention of the GBCA to engage with the appropriate target users. Based on the feedback provided, these include tenants, real estate agents, leasing agents, universities and developers as well as the target users suggested in the Scoping Paper (building owners, facilities managers, portfolio managers and government organisations).

3.13 DELIVERY MECHANISM AND COSTS

Stakeholder feedback has identified the need for Green Star - Performance to be user-friendly, cost effective and easy to update and upgrade. It was therefore proposed that the Green Star – Performance be delivered fully online, including the rating tool itself, the certification and re-certification process and related educational resources.

Further work and research is required around the actual costs associated with delivering a Green Star - Performance certified rating. However, as part of this research, the following was requested in the Scoping Paper:

Extract from Green Star – Performance Scoping Paper, page 10:

The Green Building Council of Australia invites feedback from industry stakeholders on the costs associated with building operations, such as 'annual operational budgets' or 'upgrade budgets'. Metrics based on area of buildings would be of most use.

The following comments were submitted in response to the feedback request above.

Comment 92:

Note that the mandatory disclosure tenants lighting assessment is predicted to cost $1500.

Comment 93:

Not enough room here for a detailed explanation. Current R&M budget for a 45000m2 building is $112 per square meter.

Comment 94:

The only comment here is that provision of facilities management services often occurs at very tight financial margins (eg 5-7%), so any costs need to reflect this.

GBCA response

The GBCA appreciates the feedback provided above. Stakeholders will be kept informed of developments relating to the Green Star – Performance delivery mechanism and associated costs, as the project develops.

4 Contact information

Stakeholders are encouraged to contact the Green Building Council of Australia for further information and to provide comments.

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