













GREEN STAR – RETAIL CENTRE DESIGN & GREEN STAR – RETAIL CENTRE AS BUILT v1

As the Green Star – Shopping Centre PILOT rating tool moves into version 1, many questions have been asked by different sectors of the industry regarding the changes to particular credits and categories and whether they are now easier or harder to achieve.

In an attempt to make version 1 of this tool as transparent and easy-to-use as possible, the following “traffic light system” is provided. It sets out how each credit has changed and whether it is now easier, about the same, or harder to achieve, bearing in mind that the standards across the industry overall are improving. Where clarifications have been made following feedback from the PILOT, these have also been detailed.

KEY

	Benchmark higher than PILOT in line with feedback, Shopping Centre Design Technical Working Group (TWG) and Green Star – Office v3, or significant revision made.	<p>Summary:</p> <ul style="list-style-type: none"> The Green Star – Shopping Centre PILOT rating tool has been re-named to Green Star – Retail Centre v1. Technical manuals have been produced in line with the format adopted for Green Star – Office v3. Documentation requirements have been aligned with Green Star – Office v3. Calculators and associated guides have been amended in line with learning outcomes from PILOT projects and public feedback. Credit numbering has been aligned across the Office, Education and Retail Centre tools, so the same number will be applicable to the same credit across all 3 released rating tools. Benchmarks and compliance requirements for Green Star – Office v3 have been adopted where appropriate, i.e. where no justification exists for building type specific differences.
	Clarification or change of wording/criteria/requirements.	
	As PILOT, or with minor clarifications/additional options.	

Credit No.	Credit Name	Update Outcome	Notes on Update
MANAGEMENT			
Man - 1	Green Star Accredited Professional		Benchmark as PILOT. Alignment with Green Star – Office v3.
Man - 2	Commissioning Clauses		Benchmark as PILOT. Alignment with Green Star – Office v3 with clarifications that training need not be in the specifications, but rather a commitment be provided that this happens.
Man - 3	Building Tuning		Scope of the credit expanded as Green Star – Office v3 to ensure that the aims of the credit are being met.
Man - 4	Independent Commissioning Agent		Scope of the credit expanded as Green Star – Office v3 to ensure that the aims of the credit are being met.
Man - 5	Building Guides		Scope of the credit expanded as Green Star – Office v3 to require monitoring and targeting for water, waste and indoor environment quality in addition to energy. Draft Building User Guide accepted to demonstrate compliance for Design rating, an actual copy of the Guide is required for an As Built rating.
Man - 6	Environmental Management		The two points for an Environmental Management Plan (EMP) and Environmental Management System (EMS) are now interdependent within the Green Star – Retail Centre tool: One point for an EMP. Two points for an EMP and an EMS. An additional note has been included that if the contractor has ISO14001, the points for an EMP need not be documented to demonstrate compliance.
Man - 7	Waste Management		Alternate methods of demonstrating compliance provided as Green Star – Office v3.
Man - 8	Waste Management - Operations Plan		Points available have been increased to two in line with feedback and TWG agreement. Additional criteria has been included for the second point addressing the provision of physical infrastructure, crossovers with Mat-1 have been avoided.
Man - 9	Building Management Systems		Additional criteria has been included to require the building management system (BMS) to actively control systems, not solely monitor them. A list of systems has been detailed within the technical manual.

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INDOOR ENVIRONMENTAL QUALITY			
IEQ - 1	Ventilation Rates	●	<p>PILOT tool required the Credit Criteria to be met for 100% of operating hours, this has been reduced to 98% of operating hours in line with stakeholder feedback and TWG agreement.</p> <p>PILOT tool required 90% of nominated area to comply for the PILOTs in line with Green Star – Office v2, this has been updated to 95% in line with Green Star – Office v3.</p> <p>External mall areas are excluded within the assessment of this credit.</p> <p>Credit Criteria clarified as Green Star – Office v3 for differently serviced buildings (i.e. naturally ventilated vs. mechanically ventilated).</p>
IEQ - 2	Air Change Effectiveness	●	<p>Number of points available reduced to one point as tenancies are not addressed within this credit.</p> <p>External mall areas are excluded within the assessment of this credit.</p> <p>PILOT tool required 90% of nominated area to comply for the PILOTs in line with Green Star – Office v2, this has been updated to 95% in line with Green Star – Office v3.</p> <p>Credit Criteria clarified as Green Star – Office v3 for differently serviced buildings (i.e. naturally ventilated vs. mechanically ventilated).</p>
IEQ - 3	Carbon Dioxide Monitoring and Control	●	<p>External mall areas are excluded within the assessment of this credit.</p> <p>As with the PILOT, tenancies are excluded from the requirements of this credit.</p> <p>Credit Criteria clarified as Green Star – Office v3 for differently serviced buildings (i.e. naturally ventilated vs. mechanically ventilated).</p>
IEQ - 4	Daylight	●	<p>External mall areas are included within the assessment of this credit.</p> <p>Alternate methods of demonstrating compliance provided, as Green Star – Office v3.</p>
IEQ - 5	Thermal Comfort	●	<p>Acceptability limits have been included for naturally ventilated spaces.</p> <p>Credit Criteria clarified for differently serviced buildings (i.e. naturally ventilated vs. mechanically ventilated), as Green Star – Office v3.</p> <p>Alternate methods of demonstrating compliance for naturally ventilated buildings provided.</p>
IEQ - 6	Hazardous Materials	●	<p>Scope of the credit expanded to address other hazardous materials – lead and PCBs.</p> <p>Following research , the following clarification has been provided: A Hazardous Materials Survey for buildings completed in 2005 or later is only required to address Lead paint; it does not have to address Asbestos or Polychlorinated Biphenyls (PCBs).</p>
IEQ - 7	Internal Noise Levels	●	<p>External mall areas are excluded within the assessment of this credit.</p> <p>Tightened criteria to ensure that the aims of the credit are being met, as Green Star – Office v3.</p>
IEQ - 8	Volatile Organic Compounds	●	<p>As Green Star – Office v3, scope of the credit expanded to address all flooring, not just carpet.</p> <p>Reduced benchmark for paints and sealants/adhesives.</p>
IEQ - 9	Formaldehyde Minimisation	●	<p>As PILOT.</p> <p>External mall areas are excluded within the assessment of this credit.</p>
IEQ - 10	Mould Prevention	●	<p>Credit Criteria clarified as Green Star – Office v3 for differently serviced buildings (i.e. naturally ventilated vs. mechanically ventilated).</p>

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ENERGY			
Ene - 1	Greenhouse Gas Emissions	●	<p>TWG agreed to increase the number of points available to 20, with the full 20 points available for base build Zero Net Operating Emissions, aligning with Green Star – Office v3. Incremental steps in improvements are relative to the Retail Centre Standard Practice benchmark.</p> <p>Clarifications made to the benchmark in respect to lift energy, daylight dimming of lighting and HVAC systems when condenser water is supplied by the base build.</p> <p>HVAC options have been provided for the following five scenarios within the Retail Centre Energy Calculator:</p> <ul style="list-style-type: none"> - Minor tenancies are provided with full air conditioning by the base building; - Minor tenancies are provided with chilled water or heating hot water; - Minor tenancies are provided with condenser water; - Minor tenancies are not provided with access to any system; and - Minor tenancies are effectively naturally ventilated.
Ene - 2	Energy Sub-metering	●	<p>Ene-2 'Electrical Sub-metering' and Ene-3 'Tenancy Sub-metering' have been combined and it has been clarified that an effective mechanism for monitoring energy consumption must be present in line with Green Star – Office v3.</p> <p>Name change from Electrical Sub-metering to Energy Sub-metering.</p> <p>Same number of points available. The second point is now dependant on the first being achieved.</p>
Ene - 3	Peak Energy Demand Reduction	●	<p>Any energy generation systems used to comply with this credit must be included within the Green Star Energy Calculator for the Ene-1 credit.</p> <p>System viability has been defined for passive design technologies to achieve flatter electrical demand curve.</p> <p>Benchmark is now incremental with a lower threshold to achieve the first point as Green Star – Office v3.</p> <p>Alternative compliance option provided for naturally ventilated buildings.</p>
Ene - 4	Credit not applicable to this tool.	—	
Ene - 5	Credit not applicable to this tool.	—	
Ene - 6	Car Park Ventilation	●	<p>Clarifications made throughout in light of the PILOT experience.</p> <p>N/A has been introduced for single storey open-air car parking.</p>
TRANSPORT			
Tra - 1	Provision Car Parking	●	As PILOT.
Tra - 2	Fuel-Efficient Transport	●	TWG agreed to remove the requirements for the first point and reduce the number of points available to one. Small car park spaces must be located near the facility entrance.
Tra - 3	Cyclist Facilities	●	TWG agreed to separate the requirements for staff and visitor cyclist facilities so that these points are no longer interdependent.
Tra - 4	Commuting Mass Transport	●	<p>Easier to demonstrate compliance if located adjacent to major transport hubs as Green Star – Office v3.</p> <p>In line with stakeholder feedback and TWG agreement weekend and evening times for public transport are to be included within the assessment.</p>
Tra - 5	Trip Reduction - Mixed Use	●	Credit criteria has been clarified and the scope expanded to ensure that the aims of the credit are being met.

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WATER			
Wat - 1	Occupant Amenity Water	●	<p>In line with stakeholder feedback, additional data was collected on shopper use of sanitary facilities to better inform the benchmark frequency.</p> <p>Rise in benchmark to ensure the aims of the credit are being met and to encourage water reuse/recycling, as Green Star – Office v3.</p> <p>Total number of points available remain the same, however, the maximum number of points that can be achieved without water reuse/recycling has been reduced.</p>
Wat - 2	Water Meter	●	<p>Number of points available reduced from four to three.</p> <p>Introduced fire test water to the list of items requiring metering.</p> <p>Rise in benchmark in line with industry progress as Green Star – Office v3.</p>
Wat - 3	Landscape Irrigation	●	<p>Tightened criteria in line with Green Star – Office v3 to ensure that a measurable reduction in potable water consumption is achieved (benchmark unchanged).</p> <p>Expanded the scope to incorporate alternate compliance method.</p>
Wat - 4	Heat Rejection Water	●	<p>Criteria expanded to address all water-based heat rejection systems in the building, not just cooling towers, as Green Star – Office v3.</p> <p>Significant clarification to ensure buildings with different servicing strategies understand their options for compliance.</p>
Wat - 5	Fire System Water	●	Criteria tightened as Green Star – Office v3 to ensure that the aims of the credit are being met.
MATERIALS			
Mat - 1	Recycling Waste Storage	●	Specific size requirement replaced with expanded criteria for facilities being 'adequately sized'.
Mat - 2	Building Re-use	●	<p>Combined from two separate credits (Re-use of facade and Re-use of structure) as Green Star – Office v3, points available remain the same.</p> <p>Criteria revised from addressing the re-used proportion of the new building, to addressing the proportion of the original building that was re-used.</p>
Mat - 3	Recycled Content & Re-used Products and Materials	●	<p>The PILOT credits Mat-10 Re-used Products & Materials and Mat-9 Recycled Content Products and Materials have been merged to one credit. The points are awarded independently.</p> <p>Re-used Products and Materials must be 2% of contract value as per Green Star – Office v3</p>
Mat - 4	Concrete	●	Rise in benchmark in line with industry progress, as Green Star – Office v3.
Mat - 5	Steel	●	As PILOT.
Mat - 6	PVC Minimisation	●	As PILOT.
Mat - 7	Sustainable Timber	●	<p>Compliance Requirements streamlined.</p> <p>Benchmark lowered to encourage industry uptake of the credit, as Green Star – Office v3.</p>
Mat - 8	Design for Disassembly	—	<p>NEW CREDIT included, as Green Star – Office v3:</p> <p>One point is awarded where the following are designed for disassembly, to "minimise embodied energy and resource loss during demolition":</p> <p>50% of structural roofing and façade</p> <p>OR</p> <p>95% of the total façade.</p>
Mat - 9	Dematerialisation	—	<p>NEW CREDIT included, as Green Star – Office v3:</p> <p>One point is awarded where a substantial reduction in materials consumption can be demonstrated through structure, ductwork, building efficiency, finishes, cladding or piping, to "encourage and recognise designs that produce a net reduction in the total amount of material used".</p> <p>New Changes:</p> <p>Aim reworded: "To encourage and recognise designs that require less material than conventional designs."</p> <p>Building efficiency (which is concerned with NLA) has been excluded from Retail Centre.</p>

Credit No.	Credit Name	Update Outcome	Notes on Update
LAND USE & ECOLOGY			
Eco	Ecological Value of Site: Conditional Requirement	●	Expanded the definition of land of high ecological value to include old growth forests as Green Star – Office v3. The Eco-Conditional Requirement is under advisement. Please refer to xxx webpage for the latest update on the status of this requirement.
Eco - 1	Topsoil	●	Rise in benchmark requiring protection of top soil, as Green Star – Office v3. Not applicable options expanded to include refurbishment projects and project where the topsoil on site is inherently non-productive.
Eco - 2	Reuse of Land	●	As PILOT.
Eco - 3	Reclaimed Contaminated Land	●	Alternate methods of demonstrating compliance as Green Star – Office v3, benchmarks remain the same.
Eco - 4	Change of Ecological Value	●	Tightened criteria to ensure that the aims of the credit are being met, as Green Star – Office v3. Increased number of points available, in line with Green Star – Office v3. This balances the points taken out from the Ecological Value of Site conditional requirement which was worth two points in the PILOT tool.
EMISSIONS			
Emi - 1	Refrigerant ODP	●	Rise in benchmark in line with industry progress as Green Star – Office v3. Reduction in number of points available.
Emi - 2	Refrigerant GWP	●	Benchmark is now incremental as Green Star – Office v3 with an additional point introduced to award partial replacement of refrigerant charge. Increased number of points available.
Emi - 3	Refrigerant Leaks	●	Combined from two separate credits (refrigerant leak detection and refrigerant recovery), points available remain the same as Green Star – Office v3. The second point is now dependant on the first being achieved.
Emi-4	Insulant ODP	●	As PILOT.
Emi - 5	Watercourse Pollution	●	As Green Star – Office v3, where a site contains, or is immediately adjacent to, a waterway an additional point is available for creating a vegetated riparian buffer zones between the development and the watercourse. Increased number of points available.
Emi - 6	Discharge to Sewer	●	As Green Star – Office v3, where a blackwater system is being installed an additional point is available for a Blackwater Treatment Maintenance Plan. Increased number of points available.
Emi - 7	Light Pollution	●	General clarifications made to the Credit Criteria in addition to the criteria being tightened in line with Green Star – Office v3 to ensure that the aims of the credit are being met.
Emi - 8	Legionella	●	Scope of the credit expanded to address all water-based cooling systems, not just cooling towers, as Green Star – Office v3.
INNOVATION			
Inn - 1	Innovative Strategies and Technologies	●	Significant clarifications to the credit, benchmarks remain the same as Green Star – Office v3.
Inn - 2	Exceeding Green Star Benchmarks	●	Significant clarifications to the credit, benchmarks remain the same as Green Star – Office v3.
Inn - 3	Exceeding Green Star Scope	●	Significant clarifications to the credit, benchmarks remain the same as Green Star – Office v3.