

Summary of Changes

Green Star NZ -

Education Design & Built 2009

June 2009



The NZGBC is committed to ensuring ease of use and transparency of all its Green Star NZ tools. With the release of the Green Star - Education 2009 tool, the following 'traffic light system' has been developed to outline how each credit has changed since the PILOT version. This indicates whether it is now easier or harder to achieve the credit, or similar to the requirements in the PILOT tool. A number of overall improvements have also been made and these are outlined below.

Overall Changes




- Wherever possible the text and format of each Credit has been clarified, simplified and streamlined. Submission Checklists have been introduced for each Credit to simplify the collection of documentation for Submission.
- A table at the top of each Credit sets out clearly the number of points, any related Credits, and the area of the building that the Credit applies to (Assessable Area). Credits have been renumbered so that they are the same across all Green Star NZ tools; old numbers have been indicated in italics below the new number for each Credit.
- Detailed guidance on the eligibility criteria for both individual education buildings seeking a rating, and school campuses, has been provided in the introduction to the Technical Manual. In addition the submission process and methodology for awarding points to school campuses is also clarified.

The weighting of the Energy category has been decreased to 25%, and the Materials category increased to 15% to reflect the fact that this tool addresses both base build and integrated fitout materials.

- The energy calculation methodology has been finalised with full details provided in the Energy Calculation Guide available to download from www.nzgbc.org.nz.
- Detailed explanation of the area of the building to which each Credit is applied, has been provided in the Introduction to the Technical Manual.
- The range of eco-labels recognised within Green Star NZ has been expanded across all 2009 tools. Please refer to www.nzgbc.org.nz for further details.

Credit Changes
















A traffic light system has been used to provide an indication of the change to each credit at a glance. In addition to this there is a summary of the key change to the credit, and a more detailed explanation of the modifications. The meaning of each 'traffic light' is set out to the right:

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|  | Credit more attainable through reduced benchmark, or introduction of alternative methods of compliance. |
|  | Credit not significantly changed from PILOT version. Overall impact deemed to be neutral. |
|  | Significant change to the Credit, in line with feedback and/or other 2009 tools. |





| MANAGEMENT | | | |
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| MAN-1 | Green Star NZ Accredited Professional | ● | Wording change in Credit Criteria for consistency: 'design and construction team' changed to 'project team'. |
| MAN-2 | Commissioning Clauses | ● | No change to Credit. |
| MAN-3 | Building Tuning | ● | No change to Credit. |
| MAN-4 | Independent Commissioning Agent | ● | No change to Credit. |
| MAN-5 | Waste Management | ● | A Waste Management Plan is no longer included in the Compliance Requirements. |
| MAN-6 | Users' Guide | ● | No change to Credit. |
| MAN-7 | Environmental Management | ● | No change to Credit. |
| MAN-B | Learning Resources | ● | The reference to 'displaying the measurable economic benefits' in the Credit Criteria has been removed. The word attribute has been changed to 'learning resource'. |
| MAN-C | Learning Resources Incorporated into the Curriculum | ● | The Compliance Requirements have been amended to allow Head of Department (tertiary) or Principal (school) to 'sign off' the curriculum, rather than the Board of Trustees / MoE or Committee on University Academic Programmes. |
| MAN-D | Maintainability | ● | The requirement for a second design review has been removed and the Compliance Requirements have been expanded to give more guidance for schools when they do not have a caretaker or Facilities Manager to perform the review. |
| INDOOR ENVIRONMENT QUALITY | | | |
| IEQ-1 | Base Ventilation Rates | ● | No change to Credit. |
| IEQ-2 | Ventilation Rates | ● | No change to Credit. |
| IEQ-3 | Indoor Air Quality | ● | No change to Credit. |
| IEQ-4 | Air Change Effectiveness | | Not applicable to this tool. |
| IEQ-5 | Exhaust Riser | ● | As this tool assesses the whole building (i.e. base building and fitout) this Credit has been amended to reward provision of printing/photocopy rooms and kitchenettes which are enclosed and have a dedicated and separate exhaust facility. This is aligned with the Office Interiors Exhaust Riser Credit. |
| IEQ-6 | Thermal Comfort | ● | No change to Credit. |

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| IEQ-7 | Thermal Comfort Control | | This Credit has been removed. Based on feedback and further investigation it is now not considered appropriate to have occupant control for education spaces where there are high population densities, and where the population is predominantly transient. |
| IEQ-8 | Daylight | ● | No change to Credit. |
| IEQ-9 | Daylight Glare Control | ● | No change to Credit. |
| IEQ-10 | External Views | ● | No change to Credit. |
| IEQ-11 | Electric Lighting Levels | ● | The recent changes to the Core Credit (in Office 2009), which was adapted in response to industry feedback, have been adopted in the Industrial tool. The Credit Criteria for the industrial and offices areas of the building have been combined into the same Credit. One point for reflectances has been removed from the requirements for the office space to provide a balance between the office and industrial space, and ensure the overall points value of the Credit is appropriate to the environmental impact. |
| IEQ-12 | High Frequency Ballasts | ● | No change to Credit. |
| IEQ-13 | Internal Noise Levels | ● | No change to Credit. |
| IEQ-D (IEQ-J) | Furniture for Learning Spaces | ● | This Credit has been updated to include a N/A option for projects not sourcing loose furniture. |
| (IEQ-I) | Drinking Water | | This Credit has been removed due to the overlap it has with health and other New Zealand Building Code requirements. In addition to this overlap it has been agreed that this issue is not a 'green building' issue and therefore outside the scope of the tool. |
| ENERGY | | | |
| ENE-1 | Conditional Requirement | ● | The energy calculation methodology has now been finalised and an Energy Calculation Guide is available on www.nzgbc.org.nz . The key changes are summarised below: - Ten points are now awarded for energy efficiency and ten points for a reduction in Greenhouse Gas Emissions. - The schedule method has been developed to allow lower budget buildings to achieve some recognition without the added cost of a full energy modelling process. This approach will award 5 points for achieving a schedule of requirements. - The calculator has now been amended so that all buildings regardless of ventilation method are compared to a mechanically ventilated system. - The standard carbon factor for all combustible heating in the reference building is 0.25kg CO2/kWh. |
| ENE-2 | Greenhouse Gas Emissions | ● | |
| ENE-3 | CO2 Monitoring and Control | ● | No change to Credit. |

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| ENE-4 | Lighting | | This Credit has been removed as the energy model required in ENE-1 and -2 takes into account the energy of the actual lighting design. It would therefore be considered double counting if it was not removed. |
| ENE-5 | Lighting Control | ● | No change to Credit. |
| ENE-6 | Electrical Sub-metering | ● | This Credit has been updated to include a N/A option for the first part of the Credit where there are no loads over 100kVa. The benchmarks for the second point have been altered to suit education buildings - the 600m2 and per floor requirement has been replaced with the requirement for separate power and lighting meters per building block. |
| ENE-7 | Peak Energy Demand Reduction | ● | No change to Credit. |
| ENE-F (ENE-I) | Stairs | ● | Minor wording changes removing ambiguous requirements. |
| ENE-G (ENE-J) | HVAC Zoning and Control | ● | Minor clarifications added. |
| (ENE-K) | Passive Systems | | This Credit has been removed as the energy and indoor environment benefits resulting from passive systems are already rewarded by existing Credits within these Categories. |
| TRANSPORT | | | |
| TRA-1 | Car Park Minimisation | ● | The reference to car parks on the 'Site' (in the first clause) has been removed to allow the criteria to apply to both the 'construction zone' and the wider campus. The percentage benchmarks have been lowered to make them more achievable and to align with other Green Star tools. |
| TRA-2 | Fuel Efficient Transport | ● | Significant changes have been made to the benchmarks for the numbers of fuel efficient transport spaces. The 'Not Applicable' criteria has been amended to apply only where no additional car parking spaces are to be provided as a result of the development when it is located within an education facility with less than 1000 existing car parking spaces. |
| TRA-3 | Cyclist Facilities | ● | As a result of feedback, the ratio of bicycle storage spaces per primary and secondary school student has been reduced to more appropriate levels. The maximum distance between secure (undercover, restricted access and security surveillance) bicycle storage spaces and the building entrance has been expanded from 50 to 100m to allow more flexibility within existing tertiary education facilities. |
| TRA-4 | Mass Commuting Transport | ● | Credit amended to be applicable to private transport services. Points for private services are now awarded on the basis of the percentage of students and staff catered for. |
| (TRA-A) | Pedestrian and Cycle Links | | This Credit has been merged with TRA-B Travel Plan. |

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| TRA-A (TRA-B) | Travel Plan |  | This credit has been merged with TRA-A Pedestrian and Cycle Links. This has resulted in some changes to the Aim, Credit Criteria and Compliance Requirements of the combined Credit to accommodate both original Credits. The two Credits were merged due to their similarities and now one point is awarded for a Travel Plan that includes pedestrian and cycle links. |
| WATER | | | |
| WAT-1 | Base Building Water Efficiency |  | No change to Credit. |
| WAT-2 | Water Meters |  | No change to Credit. |
| WAT-3 | Landscape Irrigation Water Efficiency |  | No change to Credit. |
| WAT-4 | Heat Rejection Water |  | No change to Credit. |
| (WAT-C) | Fire System Water Consumption | | This Credit has been removed. This Credit is not in any other Green Star tools and it is not considered to be a significant issue for education buildings. |
| MATERIALS | | | |
| MAT-1 | Shell and Core or Integrated Fitout | | Not applicable to this tool. |
| MAT-2 | Building Reuse |  | No change to Credit. |
| MAT-3 | Applied Coatings |  | No change to Credit. |
| MAT-4 | PVC |  | No change to Credit. |
| MAT-5 | Insulation |  | No change to Credit. |
| MAT-6 | Timber |  | No change to Credit. |
| MAT-7 | Concrete |  | No change to Credit. |
| MAT-8 | Steel |  | No change to Credit. |
| MAT-9 | Floor Coverings |  | No change to Credit. |
| MAT-10 | Waste Recycling |  | No change to Credit. |
| MAT-A | Furniture |  | No change to Credit. |

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| MAT-B | Walls, Partitions and Joinery | ● | No change to Credit. |
| MAT H (MAT-F) | Landscaping Materials | ● | The points have been reduced from two points to one point when both criteria are met to recognise the relative impact of this issue within the category. |
| MAT-I (MAT-G) | Recycled Content & Reused Products and Materials | ● | The points have been reduced from three points to one point. There are a number of other Credits which address recycled content and reused products and materials within Green Star, and therefore the reduced points reflect the relative impact of the remaining materials and products specifically addressed by this Credit. |
| LAND USE & ECOLOGY | | | |
| ECO-1 | Ecological Value of the Site | ● | Deleted 'was built on prior to 2006' as this was included in error. |
| ECO-2 | Reuse of Land | ● | No change to Credit. |
| ECO-3 | Reclaimed Contaminated Land | ● | No change to Credit. |
| ECO-4 | Change of Ecological Value | ● | No change to Credit. |
| ECO-5 | Topsoil and Fill Removal from Site | ● | No change to Credit. |
| (ECO-D) | Campus Master Plan | | This Credit has been removed. This Credit was considered to be adding no value to current standard practice and was not workable for the range of buildings eligible to be rated under the tool (e.g. new building on existing site versus whole new school campus). |
| (ECO-E) | Biodiversity Enhancement | | This Credit has been removed as this issues is addressed by ECO-4. |
| EMISSIONS | | | |
| EMI-1 | Refrigerant ODP | ● | No change to Credit. |
| EMI-2 | Refrigerant GWP | ● | No change to Credit. |
| EMI-3 | Insulant ODP | ● | No change to Credit. |
| EMI-4 | Discharge to Sewer | ● | No change to Credit. |
| EMI-5 | Watercourse Pollution | ● | No change to Credit. |
| EMI-6 | Light Pollution | ● | No change to Credit. |
| EMI-7 | Purge Control | ● | No change to Credit. |

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| EMI-8 | Legionella |  | The criteria has been simplified by removing the additional CIBSE requirements for the hot and cold water installation. |
| INNOVATION | | | |
| INN - 1 | Innovative Strategies and Technologies |  | Reworded for clarity and inserted need for environmental benefits to be quantified to ensure that benefits are tangible. |
| INN - 2 | Exceeding Green Star Benchmarks |  | The following has been added: "...and where that improvement can be demonstrated or considered to have a commensurate additional environmental benefit". This is a result of there needing to be a significant benefit beyond the benefit achieved by complying with the upper end of the existing benchmark. This has now aligned with the Office 2009 Credit. The word 'quantified' has been added to ensure that benefits are |
| INN - 3 | Environmental Design Initiatives |  | The word 'quantified' has been added to ensure that benefits are tangible. |