



Sustainability Guidelines for Capital Works



Sustainability Guidelines for Capital Works

Introduction

This document provides an overview of the sustainability requirements applicable to all capital works projects delivered by the Department of Justice and Regulation. This includes all building works, along with fitouts and refurbishment and non-building works such as infrastructure. The document is intended to be general enough to be applied to all projects, and provide sufficient specific advice so that it may be easily applied during project delivery.

The initiatives included in this document are based on typical industry best practices, and are consistent with recent projects delivered by the department. When included on a project, they are expected to provide real economic, environmental and health outcomes, including a reduction in energy costs of up to \$16 per m² per annum for some building types.

This document provides:

- updated benchmarks and initiatives to ensure capital works continue to include current best practice sustainable design practices.
- industry recognised benchmarks and initiatives to ensure consultants and contractors can readily understand and incorporate the requirements into projects.
- a consistent benchmark across all types and sizes of projects.
- a prescriptive approach to many sustainability initiatives, reducing the administrative burden for projects smaller than \$50 million; and providing
- information to be included in tender documentation for capital projects

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Strategic Framework

The Department of Justice and Regulation (DJR) has a strong commitment to sustainable practices throughout their operations. This is grounded in an understanding that appropriate sustainable practices can have a positive impact on the local and global environment, operational efficiencies, and can promote additional wellbeing in staff.

New capital works present an opportunity to implement sustainable practices in a way that provides maximum benefit to occupants and the department's operations. Undertaking sustainable design is preferable to retrofitting facilities, which can be more expensive. Sustainable initiatives included in the structure and layout of the building, such as good orientation, passive design and daylight strategies, are embedded for the lifespan of the building, typically 60-100 years. Therefore, it is critical to include a holistic sustainability strategy into the design of a building as early as possible to achieve the best outcome possible to serve a community for generations.

Economic and Environmental Outcomes

Including sustainable design in new works can have a wide range of positive outcomes. By including sustainable procurement strategies and considering ecological outcomes in site selection, the project can limit the impact on ecological systems in the local area, regionally and globally. Encouraging daylight and high quality natural ventilation options can promote wellness and resilience in staff and others using the facility, while reducing stress. Energy efficient design solutions can reduce a building's reliance on fossil fuels, and onsite renewable energy systems can reduce the peak power demand for the building.

Many of these environmental and health benefits have real economic outcomes, both to the local operating budget and to the wider community. Some initiatives such as improving energy and water efficiency have a direct benefit shown on the department's financial operations. The benefits from improving the local environment of staff and residents might not be as easy to quantify, but are likely to have a larger benefit through increased staff retention, reduced sick leave rates and increased productivity.

Other sustainable initiatives such as improved commissioning and tuning processes and monitoring the performance of building systems, can also improve the operation of the building, leading to lower maintenance costs and fewer complaints from occupants.

Comprehensive energy modelling of the initiatives in this document has been undertaken to determine the likely economic and environmental payback over the life of the facility. Using conservative assumptions, this assessment determined that the annual electricity savings are likely to be around \$4 - \$16 per m² of floor area and the annual gas savings of up to \$1.80 per m² of floor area, depending on the type of building.

The associated reduction in greenhouse gas emissions is expected to be around 80 kg CO₂-e per m² of floor area, again depending on the type of building.

Some initiatives do not currently have an economic payback when considering only the operation of the facility, such as sustainable procurement and environmentally preferable materials. However, environmentally preferable materials and products typically have the lowest cost overall, if the life cycle and ecological values are considered. Additionally, these initiatives generally have benefits under the Victorian Industry Participation Program (VIPPP)

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Environmental Performance Reporting

Currently, all Victorian Government departments are required by the Commissioner for Environmental Sustainability to maintain an Environmental Management System (EMS), and report in accordance with Financial Reporting Directive 24C. Since 2007-08 the department has included both office-based and operational activities within this process. This includes identifying environmental impacts from energy, water, waste, transport, paper and purchases, recording environmental performance in these areas and taking actions as part of a continuous improvement process.

Climate Change Adaptation Framework

The Victorian Government has implemented a whole of government commitment to climate adaptation. This commitment involves risk management strategies facilitating climate resilience across public assets.

Environmental Management and Sustainability Policy

The Department manages its aspirations and responsibilities through its Environmental Management and Sustainability Policy. The policy commits the Department to monitor its environmental performance and engage in continual improvement activities.

Climate Change Act 2017

The Victorian Climate Change Act 2017 embeds a long-term state-wide emissions reduction target of net zero greenhouse gas emissions by 2050. This applies to all emissions both from public and private sector activities.

TAKE2 Initiative

TAKE2 is a collective climate change pledge initiative that supports all Victorians to take action on climate change. The Victorian government has made a TAKE2 pledge “that Victorian Government departments will take action to combat climate change. We’ll look at areas like energy use, transport and waste and find cleaner, greener ways to operate. This will contribute to one whole-of-government pledge.”

Department Climate Change Pledge

The department committed to eight climate change pledges in the 2016-2020 pledge period. One of these pledges focused on incorporating sustainable design into all new Capital Projects. The pledge utilises modelling within the Building Code of Australia for quantifying energy use and reduction in emissions. Individual construction projects and their benefits will be referenced when reporting under the department’s pledges.

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Implementation Process

The department delivers a large variety of capital works projects, each with various security requirements and functions. To tailor the guidelines to each type of works expected to be delivered, the following process outline has been provided.

All works are expected to be categorized by one of the four project types listed in the following table. Each type of project has a different assessment process depending its scope, security requirements and function.

Additionally, the level of administration and oversight increases as the contract value increases, consistent with achieving the lowest possible lifecycle costs for a project. A project with a \$3 million value delegates ESD responsibility to the architect or project team member, whereas a \$60 million project requires a full assessment by an ESD consultant, with energy modelling to inform lifecycle costings.

For the purpose of this document, total contract value refers to the value of the construction cost, excluding property acquisition, consultant's fees, furniture and equipment, authority charges, temporary accommodation and project administration.

Type of Projects	Total Contract Value		
	<\$5m	\$5m - \$50m	>\$50m
<i>New buildings, refurbishments and fitouts in secure environments</i>	A	B	C
<i>Fitouts and refurbishments (except in secure environments)</i>	D	E	E
<i>New buildings and refurbishments (except in secure environments)</i>	F	G	H
<i>Non-building infrastructure works</i>	J	J	J

Process A: New buildings, refurbishments and fitouts in a secure environment with a TCV less than \$5 million.

- No specific ESD consultant – Architect responsible for ESD
- Architect applies the minimum design standards to ensure a high level of sustainability is included
- No benchmarking required

Process B: New buildings, refurbishments and fitouts in a secure environment with a TCV between \$5 million and \$50 million.

- ESD consultant appointed
- ESD consultant verifies minimum standards and benchmarking requirements have been met
- Simplified benchmarking - no modelling required
- Post occupancy tuning scope

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Process C: New buildings, refurbishments and fitouts in a secure environment with a TCV greater than \$50 million.

- ESD consultant appointed
- ESD consultant verifies minimum standards and benchmarking requirements have been met
- Full benchmarking including energy and water modelling
- Post occupancy tuning scope

Process D: Fitouts located outside of secure environments with a TCV less than \$5 million

- No specific ESD consultant – Architect responsible for ESD
- Architect applies the minimum design standards to ensure a high level of sustainability is included
- Office only – refer to the Victorian Government Office Accommodation Guidelines 2007 for additional requirements, including a 5 Star Green Star – Interiors Rating and a 5 Star NABERS Tenancy Energy Rating and requirements for the building owner to meet.
- Office only – where the office accommodation is leased, a lease clause is to be included which requires the building owner to rate the building under NABERS Base Building Energy each year, and publicly publish the result on the NABERS website and provide the rating to the tenants.

Process E: Fitouts located outside of secure environments with a TCV greater than \$5 million

- ESD consultant appointed
- ESD consultant verifies minimum standards have been met
- Building is to be benchmarked against a 5 Star Green Star Rating
- Office only - where the accommodation is leased, a lease clause is to be included which requires the building owner to publish the energy performance of the building each year, using NABERS or other benchmarks.
- Office only – refer to the Victorian Government Office Accommodation Guidelines 2007 for additional requirements, including a 5 Star Green Star – Interiors Rating and a 5 Star NABERS Tenancy Energy Rating and requirements for the building owner to meet.

Process F: New buildings and refurbishments located outside of secure environments with a TCV less than \$5 million.

- No specific ESD consultant – Architect responsible for ESD
- Architect applies the minimum design standards to ensure a high level of sustainability is included
- No benchmarking required

Process G: New buildings and refurbishments located outside of secure environments with a TCV between \$5 million and \$50 million.

- ESD consultant appointed
- ESD consultant verifies minimum standards have been met

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- Building is to be benchmarked against a 5 Star Green Star Rating
- Energy and water modelling is optional
- Post occupancy tuning scope

Process H: New building and refurbishments outside of secure environments with a TCV greater than \$50 million.

- ESD consultant appointed
- ESD consultant verifies minimum standards and benchmarking requirements have been met
- Building is to be benchmarked against a 5 Star Green Star Rating
- Energy and water modelling is required
- Post occupancy tuning scope

Process J: Non-building infrastructure works

- Principal Consultant applies sections of the minimum sustainable design standards (management, materials and ecology as appropriate)

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Building Types

The Sustainable Prisons Guide uses ten Sustainability Categories to differentiate between different types of buildings.

For simplicity, areas have been categorised based on typical sustainable initiatives that apply to each space, rather than expected use or energy consumption of the space. As such, various different spaces with different usage patterns have been grouped together.

For example, both 12 hour and 24 hour administration areas have been grouped together as Category 1, and all common areas have been grouped together as Category 2, despite large variations in occupancy and energy consumption.

Category 8 is a catch all category for all building areas that do not fall into the previous seven categories. This category is for application in non-secure environments only – all areas in prisons and correction facilities should be allocated to categories 1-7.

Categories 9 and 10 are for non-building works – fitouts and infrastructure works respectively.

For fitout / refurbishment works in secure environments, it may be appropriate to only include sustainability initiatives that are included in both category 9, and the applicable 1-7 category. For instance, a refurbishment in a cell block should only have to comply with the refurbishment related initiatives (category 9) that are applicable in a cell block (category 3).

Sustainability Categories	Space Types
Category 1	Administration: Office spaces, boardrooms, meeting rooms and similar spaces
Category 2	Common rooms: Educational spaces, gathering/common spaces, shared dining rooms, lunch rooms, day rooms, faith-based rooms, kitchen, recreation, commercial laundry and the like
Category 3	Cellular accommodation: Prisoner Cells, Management Cells, Observation Cells, and the like
Category 4	Back of house: toilets, change rooms, storage areas, receiving areas, cleaners' rooms, plant rooms, server rooms and the like
Category 5	Transient spaces such as lobbies and corridors
Category 6	Self-contained cottage accommodation: bedrooms, living rooms, dining rooms and kitchens
Category 7	Industries
Category 8	Non-secure building works which do not fall into the categories above
Category 9	Fitout and refurbishment works
Category 10	Non-building infrastructure works such as sewer works, treatment plants, electricity upgrades

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Minimum Sustainable Design Standards

The minimum sustainable design standards have been developed to ensure a minimum level of compliance across all projects. These standards contain 'common sense' type initiatives which are proven to have an environmental benefit and reduce whole of lifecycle project costs, including operating costs.

- The Minimum Sustainable Design Standards have been separated from the benchmarking process. This means that if a project cannot comply with a standard due to the reasons listed below, it does not affect the scoring and benchmarking process. The project is still compared fairly to other projects.
- Exemptions from the Minimum Sustainable Design Standards are allowable where the initiative is not relevant to the scope of the project or not achievable due to security concerns. Exemptions, exclusions or deviations are not allowed due to cost reasons alone.
- Application of, and variation away from the Minimum Sustainable Design Standards are to be approved by the Director BEBS on a case by case basis.

A full list of proposed Minimum Sustainable Design Standards has been provided as Appendix A.

Application Requirements

The standards are mandatory for all projects except where it is not applicable to the scope of the project or where it is not possible due to security reasons. Cost reasons alone are not sufficient to deviate from the standards.

Each project is to submit a summary of the proposed design against the Minimum Sustainable Design Standards, highlighting any deviations for approval by the Environment Team within the Department.

Small Building Projects, Refurbishments and Fitouts <\$5m

A template for smaller projects to submit for approval has been attached as Appendix B. This is appropriate for all building works smaller than \$5 million who are not expected to engage a specialist ESD Consultant.

This process applies equally to projects in secure and non-secure environments.

Medium and Large Building Projects, Refurbishments and Fitouts >\$5

Building works larger than \$5 million are to engage a specialist ESD consultant who is to demonstrate how the project meets the Minimum Sustainable Design Standards. This may take the form of a report, an excel table, or other means as appropriate.

This process applies equally to projects in secure and non-secure environments.

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Infrastructure Projects

Non-building infrastructure projects (such as waste water treatment, electricity supply upgrades and similar) typically have a high material cost but are simpler to administer, from an environmental performance point of view. As such, an ESD Consultant is not required to be employed for these projects and the simple templates in Appendix B may be used.

Infrastructure and Fitout Works

Infrastructure and fitout / refurbishment projects are only required to meet some of the Minimum Sustainable Design Standards, as listed in Appendix A.

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Benchmarking

It is understood that each project is different and not all of the initiatives included in the Minimum Sustainable Design Standards will be applicable to all projects. There are expected to be many instances where a project will be exempted from one or more standards.

However, the department requires that regardless of the type of project, all projects are held to a consistent benchmark. As such, a benchmarking process has been developed to compare different projects of different types and budgets fairly. This process can be used to ensure all projects achieve a consistent sustainable outcome.

This section of the document outlines how the benchmarking process is expected to proceed for all projects.

Rating Tools & Scope

Most commonly used industry green building rating schemes, such as Green Star and LEED, are rated out of a score of 100. A score of 60 points or over under these rating schemes equates to a 5 Star Green Star rating or a LEED Gold rating, both of which are commonly interpreted as 'industry best practice'. Other ratings tools have similar ratings at a similar point score. It is generally accepted in the industry that to achieve all 60 points at completion, it is best to target 66 points during the design process.

All rating tools have slightly different categories, but generally cover water, energy, occupant health, site ecology, transport, materials, management, and wider impacts.

For most department projects, providing sustainable transport does not provide an environmental benefit, as residents do not use transport and staff are highly unlikely to cycle to work in remote locations. Therefore, the benchmarking process has excluded this category to prevent projects providing facilities which will be unused. Projects may include sustainable transport options as innovations, provided they justify the expected use of these facilities.

Other specific initiatives are not relevant or not possible in certain parts of secure environments. These have been listed in detail in the exclusions section of these guidelines.

Projects are encouraged to use all available rating tools, both local and global, to demonstrate how they have included innovative sustainable initiatives into their design. However, to ensure consistency each project should have an equivalent sustainable outcome to a current 5 Star Green Star rating.

Target

Projects are required to demonstrate an equivalent sustainable outcome to a current 5 Star Green Star rated building by achieving 60 points (excluding any transport points) in a self-assessed benchmarking exercise. A 60 point benchmark has been chosen as it represents 'Best Practice' sustainability. This benchmark should be achievable for all projects delivered by the Department, especially given the expected life cycle cost savings. The sustainable initiatives included to achieve this benchmark would be expected to be similar to those delivered recently by the Department.

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As no points will be awarded for Sustainable Transport, this 60 point target is from a maximum of 90 points (plus innovation), which is deemed equivalent to 66 points out of 100 in most rating schemes.

Exclusions

Due to the nature of secure environments, many areas cannot meet the requirements for certain credits due to functional, safety or security reasons. Therefore, these areas have been excluded from some of the credit requirements.

Exclusions are only available for space types 1-7 in secure environments.

A list of exclusions is provided in Table 2. This list is based on the Green Star – Design and As-Built v1.1 rating tool, but projects may treat similar initiatives from other tools in the same way. Any exclusion not specifically allowed in this guide is to be submitted to the BEBS Team for approval.

Simplified Benchmarking

Many of the points within green building rating schemes rely on comparing the design against a 'reference building', representing minimum compliance with the building code. This process generally involves computational modelling and can be time intensive to demonstrate compliance. To simplify the process for projects smaller than \$50 million, alternative compliance pathways have been developed and are provided in Appendix C.

Note that these pathways have been developed based on the Green Star – Design and As-Built v1.1 tool, but project teams may submit alternative pathways for other rating tools or future updates of the Green Star tool. When submitting alternative pathways, the project team is to justify their approach by comparing it to pathways outlined in this document.

Projects larger than \$50 million are required to use the full credit criteria including computational modelling if required by the tool.

Application Requirements

Although all projects are required to achieve the same benchmark, the level of oversight required in this process has been tailored to the different processes involved in different project values.

For projects with a Total Contract Value (TCV) smaller than \$5 million, the building is deemed to comply with the benchmarking process provided the building meets the Minimum Sustainable Design Standards, with no further evidence required.

For projects with a TCV between \$5 million and \$50 million, an ESD consultant is expected to be engaged and projects are required to demonstrate that they achieve the required benchmarking performance. Projects in this range may use the simplified benchmarking process listed in Appendix C, with a summary provided in Table 2.

For projects with a TCV greater than \$50 million, an ESD consultant is expected to be engaged and projects are required to demonstrate that they achieve the required benchmarking performance. For projects in this range, the full Green Star criteria are required to be followed,

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including energy and daylight modelling where required, rather than relying on the simplified process.

Innovation

Project teams are encouraged to include innovative design solutions in their projects, and additional points are available for each innovation points. There is no limit to the number of innovation points a project can claim.

Projects that are struggling to achieve the requisite 60 points because of site constraints should look to other rating tools for inspiration. Suggestions include:

- International tools such as WELL, LEED, BREEAM, DGNB, Living Building, One Planet Living & Green Mark
- Alternative local tools such as BESS, Infrastructure Sustainability Rating Scheme, BASIX

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Table 1: Summary of exclusions and simplified pathways for a typical Green Star – Design and As-Built v1.1. Note that no exclusions are allowed in projects outside of secure environments (categories 8-10)

Credit	Criteria	Applicable Categories						
01 Green Star Accredited Professional	Full Green Star Criteria	All Categories						
02 Commissioning and Tuning	Full Green Star Criteria	All Categories						
03 Adaptation and Resilience	Full Green Star Criteria	All Categories						
04 Building Information	Full Green Star Criteria	All Categories						
05 Commitment to Performance	Full Green Star Criteria	All Categories						
06 Metering and Monitoring	Simplified	All Categories						
07 Construction Environmental Management	Full Green Star Criteria	All Categories						
08 Operational Waste	Simplified	All Categories						
09 Indoor Air Quality	Full Green Star Criteria	1	2					7
10 Acoustic Comfort	Full Green Star Criteria	1	2					7
11 Lighting Comfort	Full Green Star Criteria	1	2					7
12 Visual Comfort	Simplified	1	2					7
13 Indoor Pollutants	Full Green Star Criteria	1	2		4	5		7
14 Thermal Comfort	Simplified	1	2		4	5		
15 Greenhouse Gas Emissions	Simplified	All Categories						
16 Peak Electricity Demand Reduction	Simplified	All Categories						
17 Sustainable Transport	Excluded	N/A						
18 Potable Water	Simplified	1	2		4	5		7
19 Lifecycle Impacts	Simplified	All Categories						
20 Responsible Building Materials	Full Green Star Criteria	All Categories						
21 Sustainable Products	Full Green Star Criteria	1	2		4	5		7
22 Construction and Demolition Waste	Simplified	All Categories						
23 Ecological Value	Full Green Star Criteria	All Categories						
24 Sustainable Sites	Full Green Star Criteria	All Categories						
25 Heat Island Effect	Full Green Star Criteria	All Categories						
26 Stormwater	Simplified	All Categories						
27 Light Pollution	Full Green Star Criteria	All Categories						
28 Microbial Control	Full Green Star Criteria	All Categories						
29 Refrigerant Impacts	Full Green Star Criteria	All Categories						
30 Innovation	Simplified	All Categories						

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Sustainability Guidelines for C



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Appendix A – Minimum Sustainable Design Standards

ID	Credit	Criteria	Applicable Categories								
Construction and Operational Management											
Man-1	Sustainable Design Professional	At least one principal participant in the design team is to be a Sustainability Professional with relevant credentials such as Green Star, NABERS, engaged to provide dedicated sustainability advice throughout the design period. For projects with a Total Contract Value < \$5 million and infrastructure works this responsibility may be delegated to the Project Architect.	All Categories								
Man-2	Commissioning	Comprehensive pre-commissioning, commissioning, and quality monitoring are contractually required to be performed by personnel on site and the Works are done in accordance with CIBSE Commissioning Codes or ASHRAE Commissioning Guideline 1-1996 (for mechanical services only) and CIBSE Commissioning Codes for all other services. Contractor is also required to transfer information and documentation to the State regarding design intent; as installed details; commissioning report; and training of building management staff.	All Categories								
Man-3	Building Tuning	Contractor commits to a firm 12-month commissioning building tuning period after handover. This requires minimum quarterly reviews and a final recommissioning after 12 months, and a final Building Tuning Report.	1	2	3	4	5	6	7	8	9
Man-4	Users' Guide	Provide a simple "Users' Guide", which includes information relevant for all users. The Users' Guide should at minimum outline the environmental aims, objectives and targets (energy, water and waste) and policies for the project, as well as the description and operation of the Prison's building services.	1	2	3	4	5	6	7	8	9
Man-5	Environmental Management Plan	The managing contractor is to incorporate a site specific Construction Environmental Management Plan (CEMP) for the works in accordance with Section 3 of the NSW Environmental Management System guidelines 1998 or with Section 4 of the NSW Environmental Management System Guidelines 2007 For projects with a Total Contract Value of greater than \$5 million, the managing contractor is to have an Environmental Management System audited and certified in accordance with ISO14001.	All Categories								
Man-6	Construction Waste Reduction	The contractor is to divert at minimum 80% of demolition and construction waste by mass from landfill. This can be achieved by reusing or recycling waste and may occur on or off site.	All Categories								

Appendix A – Minimum Sustainable Design Standards

ID	Credit	Criteria	Applicable Categories									
Man-7	Metering and Monitoring	<p>An effective sub-metering system is to be installed. At minimum, the following sub-meters are required:</p> <ul style="list-style-type: none"> - Each submain from each main switchboard is to be separately metered - General power is to be separately metered from lighting on each distribution board - Lifts, AHU / FCU fans and chillers are to be separately metered where included in the design - Each building is to be separately metered for water - The irrigation supply, rainwater collection and hot water supply are to be separately metered for water <p>A BMS or EMS is to be provided with the capability to record and report on energy consumption and provide the following reports:</p> <ul style="list-style-type: none"> - Daily, weekly and monthly energy and water consumption, compared to historical and predicted targets - Energy and water use by meter and by end use (eg. lighting meters grouped together) <p>All sub-meters are to be connected to the BMS.</p> <p>All sub-meters are to have at least a Class 1.0 accuracy, and be validated according to the requirements in NABERS Energy and Water for Offices, Rules for Collecting and Using Data V3.0.</p>	All Categories									
Indoor Environment Quality												
IEQ-1	Increased Ventilation	Where ventilation is provided, increase outside air rates by 50% from the minimum requirements of AS1668.2-2012.	1	2					7	8		
IEQ-2	Air Intakes	Air intakes are to be located to minimise pollutants entering the air distribution system.	1	2	3	4	5	6	7	8		
IEQ-3	Daylight Design	<p>A review of the proposed massing and layout is to be undertaken to ensure the potential daylight access in working areas and common areas is maximised, within site, functional and security constraints. This review is to be undertaken at Master Plan stage with the following target as a guideline.</p> <ul style="list-style-type: none"> - 40% of workstations and 30% of the floor area to be within 5m of a large, clear window. <p>It is noted that some buildings may not be able to achieve this benchmark. The intent of the credit is to maximise daylight access and for these buildings improving daylight access as far as practical is sufficient.</p>	1	2					7	8		
IEQ-4	External Views	<p>A review of the proposed massing and layout is to be undertaken to ensure the potential views access in working areas and common areas is maximised, within site, functional and security constraints. This review is to be undertaken at Master Plan stage with the following target as a guideline.</p> <ul style="list-style-type: none"> - 60% of the floor area to have a direct line of sight to a large, clear window. <p>It is noted that some buildings may not be able to achieve this benchmark. The intent of the credit is to maximise daylight access and for these buildings improving daylight access as far as practical is sufficient.</p>	1	2						8		
IEQ-5	Glare Control	Manual blinds or automatic blinds with manual override to be provided to external windows in all occupied spaces except cells.	1	2					7	8	9	
IEQ-6	Lighting Quality	All luminaires are to be LED type, except where a more energy efficient alternative is available, and have a Color Rendering Index (CRI) greater than 80	1	2			5		7	8	9	

Appendix A – Minimum Sustainable Design Standards

ID	Credit	Criteria	Applicable Categories										
			1	2	3	4	5	6	7	8	9		
IEQ-7	Lighting Levels	<p>All spaces are to meet the relevant lighting levels specified in AS1680 and meet the Department OH&S requirements.</p> <p>All spaces are to achieve the following lighting uniformity ratios (ratio of lowest light level to average light level for the space): >0.3 for circulation, >0.5 for occupied spaces where general lighting only is provided, >0.7 for workstations where task lighting is provided</p>	1	2			5		7	8	9		
IEQ-8	Acoustic Comfort	<p>For all projects, partitions for enclosed offices, meeting rooms and interview rooms are to achieve a weighted sound reduction index (Rw) of at least 45.</p> <p>For projects with a total contract value larger than \$50 million (subject to confirmation with Department), an acoustic consultant is to be engaged and the project is to achieve the recommended sound levels and reverberation times in AS2107:2000</p>	1	2			5		7	8	9		
IEQ-9	Volatile Organic Compounds	<p>All paints, adhesives and sealants are to meet the maximum VOC limits listed in Table 13.1.1 of the Green Star - Design and As-Built v1.1 Submission Guidelines.</p> <p>All Carpets are to meet the maximum VOC limits listed in Table 13.1.2 of the Green Star - Design and As-Built v1.1 Submission Guidelines.</p>	1	2		4	5		7	8	9		
IEQ-10	Formaldehyde	All engineered wood products are to meet the maximum formaldehyde limits listed in Table 13.2 of the Green Star - Design and As-Built v1.1 Submission Guidelines.	1	2		4	5		7	8	9		
Energy Efficiency													
Ene-1	Orientation	Wherever practical, buildings are to be orientated along an east - west axis to maximise north facing glazing and minimise the east and west facing glazing.	1	2	3	4	5	6	7	8			
Ene-2	Shading & Passive Design	External shading and high performance glass is to be provided in accordance with passive design principles to exclude unwanted summer solar gains, while allowing solar access in winter.	1	2	3	4	5	6	7	8			
Ene-3	Insulation	Building fabric is to have an R-Value of at least 15% greater than that required under the BCA.	1	2		4	5		7	8			
Ene-4	Glazing	Glazing performance is to be 15% greater than the minimum required under the BCA - no more than 85% of the allowance on the glazing calculator.	1	2		4	5		7	8			
Ene-5	Cooling	The cooling systems are to achieve at minimum a COP of 4.0. The COP may be weighted by area across the development to account for small spaces that may not be able to achieve the benchmark individually.	1	2	3	4	5	6	7	8			
Ene-6	Heating	The heating systems are to either achieve at minimum a COP of 4.0, or be a condensing type natural gas water heater with a nominal efficiency of at least 89% when measured using higher heating value, or 98% when measured using lower heating value. The COP value may be weighted by area across the development to account for small spaces that may not be able to achieve the benchmark individually.	1	2	3	4	5	6	7	8			

Appendix A – Minimum Sustainable Design Standards

ID	Credit	Criteria	Applicable Categories													
			1	2	3	4	5	6	7	8	9	10				
Ene-7	Solar PV	A Solar Photovoltaic renewable energy system is to be provided with a nominal output equivalent to 15% of the peak demand, subject to available roof space and where security requirements permit. Peak demand is to be calculated in accordance with AS3000. Other renewable energy systems may be provided in lieu of this requirement provided that it is sized to produce an equivalent amount of energy.	1	2	3	4	5	6	7	8						
Ene-8	Internal Lighting	Lighting power density is to be 40% lower than the maximum allowance under BCA 2016 or no greater than 2.0 W/m ² per 100 lux (eg. for an area designed to 320 lux, the lighting power density is not to be greater than 6.2 W/m ²). An increased allowance for small areas and areas with sensors may be applied in accordance with the process set out in the BCA 2016 Table J6.2a. Note that for all spaces, lighting is to be designed to meet the Department OH&S requirements.	1	2		4	5		7	8	9					
Ene-9	External Lighting	External lighting to have an efficacy of no less than 80 lumens per watt.	All Categories													
Ene-10	Lighting Controls	Lighting is to be provided with zones no larger than 100 m ² . Motion sensors are to be provided in Category 4 areas with a transient occupancy. Daylight sensors are to be provided in all zones where high levels of daylight are expected.	1	2		4	5		7	8	9					
Ene-11	HVAC and Ventilation Shutdown	All standalone A/C, ventilation fans and exhaust fans in areas with transient occupancy are to have a manual or automatic shutdown switch when not in operation, except in prisoner areas.				4	5			8	8					
Ene-12	Variable Speed Pumps and Fans	All 3 phase fans and pumps with a variable demand are to include a VSD. Where appropriate, smaller fans may include electronic speed control.	1	2	3	4	5	6	7	8						
Ene-13	Domestic Hot Water	The preferred domestic hot water supply is to be from a heat pump with a minimum COP of 2.5. If an electric type system is not possible due to electricity supply constraints, a condensing type natural gas water heater may be acceptable with a nominal efficiency of at least 89% when measured using higher heating value, or 98% when measured using lower heating value. This is subject to approval by the environment team. If a gas source system is used in prisoner shower applications, a solar preheat is to be installed (subject to security requirements) to provide some redundancy in the event of gas supply failure.	1	2	3	4	5	6	7	8						
Ene-14	Innovative Technologies	Additional opportunities to include low emissions or renewable sources of energy in the project are to be explored.	All Categories													
Ene-15	Skylights	Skylights are to be included and are to be integrated with the security requirements.	1	2		4	5		7	8						
Ene-16	Natural Ventilation	Openable windows to be provided to allow for effective natural ventilation, except where a central plant provides ventilation and local control is not possible.	1	2	3	4	5	6	7	8						
Ene-17	Power Factor Correction	For new prisons, power factor correction is to be provided to ensure the power factor is at minimum 0.95. For smaller projects, inclusion of power factor correction may be considered on a project by project basis.	1	2	3	4	5	6	7	8						10
Water Efficiency																

Appendix A – Minimum Sustainable Design Standards

ID	Credit	Criteria	Applicable Categories									
			1	2	3	4	5	6	7	8	9	10
Wat-1	Efficient Fittings and Fixtures	<p>Fixtures and fittings are to achieve the following WELS ratings as a minimum:</p> <ul style="list-style-type: none"> Kitchen Taps - 5 Star WELS (<6.0L/min) Bathroom Taps - 6 Star WELS (<4.5L/min) Showers - 3 Star WELS (<6.0L/min) Toilets - 4 Star WELS (<3.5L/flush) Urinals - 6 Star WELS (<0.8L/flush) 	1	2		4	5		7	8	9	
Wat-2	Efficient Appliances	<p>Appliances are to achieve the following WELS ratings as a minimum:</p> <ul style="list-style-type: none"> Dishwashers - 4 Star WELS Washing Machines - 4 Star WELS <p>Note that commercial appliances are excluded from this requirement as they cannot be rated by the WELS system. Commercial appliances are to be as efficient as is practical for the intended purpose.</p>		2							8	9
Wat-3	Rainwater Collection	<p>Rainwater is to be collected from all non-trafficable roof area for use in toilet flushing and irrigation. The tank is to be sized to the lesser of 20L/m² of collection area and 10L/m² GFA and is to be integrated and secure. Underground tanks are preferred due to passive surveillance requirements.</p> <p>For large sites and new prisons, overland stormwater flows are to be captured for reuse in irrigation applications.</p>	1	2	3	4	5	6	7	8		10
Wat-4	Irrigation Requirement	<p>Landscaping is to incorporate plantings which are suitable for the local environment with a low irrigation requirement.</p> <p>Irrigation is to be provided by a non-potable water supply, with potable supply only as a backup.</p>	1	2	3	4	5	6	7	8		10
Wat-5	Fire System Reuse	Where fire pumps are installed as part of the project, a water reuse tank is to be provided for pump test water capture and reuse.	1	2	3	4	5	6	7	8		10
Wat-6	Stormwater Flow Rates	All sites are to include stormwater detention to limit the post-development peak event discharge to no more than the pre-development discharge on a 10 year ARI basis. This detention may be a site or precinct wide solution, such as a retention basin downstream of a prison.	1	2	3	4	5	6	7	8		10
Wat-7	Stormwater Pollution	<p>All projects are to include stormwater treatment to achieve the following pollution reduction targets:</p> <ul style="list-style-type: none"> Total Suspended Solids - 80% Gross Pollutants - 90% Total Nitrogen - 45% Total Phosphorus - 60% Total Petroleum Hydrocarbons - 90% Free Oils - 90% <p>A project which achieves a score of 100% on the Melbourne Water STORM calculator would be expected to achieve this target. Alternatively, the more detailed MUSIC program may be used to determine performance.</p>	1	2	3	4	5	6	7	8		10
Materials												
Mat-1	Timber	All timber used on the project is to be reused, recycled or certified in accordance with the PEFC (AFS) or FSC certification schemes.	All Categories									

Appendix A – Minimum Sustainable Design Standards

ID	Credit	Criteria	Applicable Categories									
			1	2	3	4	5	6	7	8	9	10
Mat-2	Concrete - Cement Content	<p>Content of Portland cement in concrete mixes is to be no more than the following, depending on the strength grade of the concrete:</p> <p>20 MPa - 200 kg/m³ 25 MPa - 220 kg/m³ 32 MPa - 250 kg/m³ 40 MPa - 310 kg/m³ 50 MPa - 390 kg/m³ 65 MPa - 390 kg/m³ 80 MPa - 430 kg/m³ 100 MPa - 460 kg/m³</p> <p>Note that local suppliers are preferred to minimise embodied energy. For regional projects, if no suppliers within 50km of the project site can achieve these requirements, the project may use a 'best endeavours' approach.</p>	1	2	3	4	5	6	7	8	9	10
Mat-3	Concrete - Non-potable Water	<p>At minimum 50% of the water used in concrete mixes is to be from non-potable sources.</p> <p>Note that local suppliers are preferred to minimise embodied energy. For regional projects, if no suppliers within 50km of the project site can achieve these requirements, the project may use a 'best endeavours' approach.</p>	1	2	3	4	5	6	7	8	9	10
Mat-4	Concrete - Aggregates Reduction	<p>One of the following requirements is to be selected and incorporated into the project:</p> <p>At minimum 40% of coarse aggregate in the concrete by mass is crushed slag aggregate or another alternative material, provided that the use of such materials does not increase the mass of Portland cement by over 5 kg/m³ of concrete.</p> <p>OR</p> <p>At minimum 25% of fine aggregate (sand) inputs in the concrete by mass are manufactured sand or other alternative materials, provided that the use of such materials does not increase the mass of Portland cement by over 5 kg/m³ of concrete.</p> <p>Note that local suppliers are preferred to minimise embodied energy. For regional projects, if no suppliers within 50km of the project site can achieve these requirements, the project may use a 'best endeavours' approach.</p>	1	2	3	4	5	6	7	8	9	10
Mat-5	Steel - High Strength Structural Steel	<p>For steel framed buildings, the following strength grades are to be met for all structural steel elements. This credit is intended to ensure the quantity of steel used on the project has been minimised.</p> <p>Roof Sheeting - 550 MPa Wall Sheeting - 550 MPa Profiled Steel decking - 550 MPa Purlins - 450 MPa Girts - 450 MPa Light Steel Framing Systems - 450 MPa Hot-Rolled Structural Steel Sections and Plate (UB, UC, PFC, EA, UEA etc.) - 350 MPa Cold-Formed Sections (SHS, RHS, CHS, channels, angles) - 450 MPa Welded Sections (WB, WC) - 400 MPa</p>	1	2	3	4	5	6	7	8	9	10

Appendix A – Minimum Sustainable Design Standards

ID	Credit	Criteria	Applicable Categories									
			1	2	3	4	5	6	7	8	9	10
Mat-6	Steel - Responsible Steel Fabricator	For steel framed buildings, the main steel fabricator is to be accredited to the Environmental Sustainability Charter of the Australian Steel Institute. Note that local suppliers are preferred to minimise embodied energy. For regional projects, if no suppliers within 50km of the project site can achieve these requirements, the project may use a 'best endeavours' approach.	1	2	3	4	5	6	7	8	9	10
Mat-7	Steel - Energy Reducing Processes	For concrete framed buildings, reinforcing steel is to be sourced from a producer which uses Polymer Injection Technology (PIT), or another 'energy reducing process'. If a process other than PIT is used to demonstrate compliance, it is to be accompanied with calculations demonstrating this process has a reduced energy requirement of at least 40 MJ/Tonne lower than a typical process.	1	2	3	4	5	6	7	8	9	10
Mat-8	Steel - Responsible Steel Maker	For all projects, steel is to be sourced from a steel maker which has a current ISO14001 certified Environmental Management System (EMS) for the facility where the projects steel was produced.	1	2	3	4	5	6	7	8	9	10
Mat-9	Flooring	Where practical, flooring is to be certified as 'environmentally preferred' by Ecospecifier - GreenTag GreenRate v4.0 or later. While Certification Levels A, B and C are acceptable for this benchmark, preference should be given to products that achieve Level A over those that achieve Levels B or C. Alternate products may be deemed to be equivalent to this requirement if they are reused or contain greater than 50% recycled content. Suppliers may be sourced at: http://www.globalgreentag.com/blog/product_category/flooring/	1	2		4	5		7	8	9	
Mat-10	Joinery	Where practical, engineered wood products are to be certified as 'environmentally preferred' by Ecospecifier - GreenTag GreenRate v4.0 or later. While Certification Levels A, B and C are acceptable for this benchmark, preference should be given to products that achieve Level A over those that achieve Levels B or C. Alternate products may be deemed to be equivalent to this requirement if they are reused or contain greater than 50% recycled content. Suppliers may be sourced at: http://www.globalgreentag.com/blog/product_category/engineered-wood/	1	2		4	5		7	8	9	
Mat-11	Furniture	Where practical, tables, chairs and storage are to be certified as 'environmentally preferred' by Ecospecifier - GreenTag GreenRate. While Certification Levels A, B and C are acceptable for this benchmark, preference should be given to products that achieve Level A over those that achieve Levels B or C. Alternate products may be deemed to be equivalent to this requirement if they are reused or contain greater than 50% recycled content. Suppliers may be sourced at: http://www.globalgreentag.com/blog/product_category/furniture/	1	2		4	5		7	8	9	
Mat-12	Ceilings	Where practical, ceilings are to be certified as 'environmentally preferred' by Ecospecifier - GreenTag GreenRate. While Certification Levels A, B and C are acceptable for this benchmark, preference should be given to products that achieve Level A over those that achieve Levels B or C. Alternate products may be deemed to be equivalent to this requirement if they are reused or contain greater than 50% recycled content. Suppliers may be sourced at: http://www.globalgreentag.com/blog/product_category/ceilings/	1	2		4	5		7	8	9	

Appendix A – Minimum Sustainable Design Standards

ID	Credit	Criteria	Applicable Categories											
			1	2	3	4	5	6	7	8	9	10		
Mat-13	Plasterboard	Where practical, plasterboard is to be certified as 'environmentally preferred' by Ecospecifier - GreenTag GreenRate. While Certification Levels A, B and C are acceptable for this benchmark, preference should be given to products that achieve Level A over those that achieve Levels B or C. Alternate products may be deemed to be equivalent to this requirement if they are reused or contain greater than 50% recycled content. Suppliers may be sourced at: http://www.globalgreentag.com/blog/product_category/interior-wall-coverings/	1	2		4	5		7	8	9			
Mat-14	Insulation	Where practical, thermal and acoustic insulation (excluding services) is to be certified as 'environmentally preferred' by Ecospecifier - GreenTag GreenRate or later. While Certification Levels A, B and C are acceptable for this benchmark, preference should be given to products that achieve Level A over those that achieve Levels B or C. Alternate products may be deemed to be equivalent to this requirement if they are reused or contain greater than 50% recycled content. Suppliers may be sourced at: http://www.globalgreentag.com/blog/product_category/acoustic-thermal-insulation/	1	2		4	5		7	8	9	10		
Mat-15	Blinds	Where practical, blinds are to be certified as 'environmentally preferred' by Ecospecifier - GreenTag GreenRate. While Certification Levels A, B and C are acceptable for this benchmark, preference should be given to products that achieve Level A over those that achieve Levels B or C. Alternate products may be deemed to be equivalent to this requirement if they are reused or contain greater than 50% recycled content. Suppliers may be sourced at: http://www.globalgreentag.com/blog/product_category/blinds-shading-and-window-treatment/	1	2		4	5		7	8	9			
Land Use & Ecology														
Eco-1	Native / Indigenous Plants	When selecting plants for landscaping, preference is to be given to plants that are indigenous (first preference), or native (second preference), subject to security requirements. Plant selection is to be drought tolerant.	1	2	3	4	5	6	7	8			10	
Eco-2	High Value Sites	Development is to occur on sites with a high ecological value. A site is deemed to be high value if any of the following conditions are true: The site contains old-growth forest The site contains prime agricultural land The project impacts on a wetland of 'High National Importance' The project impacts on a 'Matter of National Significance' under the Environmental Protection and Biodiversity Conservation Act (1999) The site contains threatened or endangered species of flora or fauna. In certain circumstances works can occur on high value sites provided that the ecological risks are managed appropriately.	1	2	3	4	5	6	7	8			10	
Eco-3	Reuse of Land	Sites that reuse previously developed land are to be preferred over greenfield sites.	1	2	3	4	5	6	7	8			10	
Eco-4	Heat Island Effect	Where a metal roof is incorporated into the project, the colour is to be chosen to achieve a three year Solar Reflective Index (SRI) >64 or an initial SRI > 82.	1	2	3	4	5	6	7	8			10	

Appendix A – Minimum Sustainable Design Standards

ID	Credit	Criteria	Applicable Categories									
Eco-5	Soft Landscaping	Soft landscaping such as grassed and garden areas is to be incorporated wherever possible, subject to security requirements.	1	2	3	4	5	6	7	8		10



Sustainability Guidelines for Capital Works – Appendix B



Appendix B – Templates for Small Projects

ID	Minimum Standard	Brief Description (include details of how the project meets the intent of the requirement)
Construction and Operational Management		
Man-1	Sustainable Design Professional	
Man-2	Commissioning	
Man-3	Building Tuning	
Man-4	Users' Guide	
Man-5	Environmental Management Plan	
Man-6	Construction Waste Reduction	
Man-7	Metering and Monitoring	
Indoor Environment Quality		
IEQ-1	Increased Ventilation	
IEQ-2	Air Intakes	
IEQ-3	Daylight Design	
IEQ-4	External Views	
IEQ-5	Glare Control	
IEQ-6	Lighting Quality	
IEQ-7	Lighting Levels	
IEQ-8	Acoustic Comfort	
IEQ-9	Volatile Organic Compounds	
IEQ-10	Formaldehyde	
Energy Efficiency		

Appendix B – Templates for Small Projects

ID	Minimum Standard	Brief Description (include details of how the project meets the intent of the requirement)
Ene-1	Orientation	
Ene-2	Shading & Passive Design	
Ene-3	Insulation	
Ene-4	Glazing	
Ene-5	Cooling	
Ene-6	Heating	
Ene-7	Solar PV	
Ene-8	Internal Lighting	
Ene-9	External Lighting	
Ene-10	Lighting Controls	
Ene-11	HVAC and Ventilation Shutdown	
Ene-12	Variable Speed Pumps and Fans	
Ene-13	Domestic Hot Water	
Ene-14	Innovative Technologies	
Ene-15	Skylights	
Ene-16	Natural Ventilation	
Ene-17	Power Factor Correction	
Water Efficiency		
Wat-1	Efficient Fittings and Fixtures	

Appendix B – Templates for Small Projects

ID	Minimum Standard	Brief Description (include details of how the project meets the intent of the requirement)
Wat-2	Efficient Appliances	
Wat-3	Rainwater Collection	
Wat-4	Irrigation Requirement	
Wat-5	Fire System Reuse	
Wat-6	Stormwater Flow Rates	
Wat-7	Stormwater Pollution	
Materials		
Mat-1	Timber	
Mat-2	Concrete - Cement Content	
Mat-3	Concrete - Non-potable Water	
Mat-4	Concrete - Aggregates Reduction	
Mat-5	Steel - High Strength Structural Steel	
Mat-6	Steel - Responsible Steel Fabricator	
Mat-7	Steel - Energy Reducing Processes	
Mat-8	Steel - Responsible Steel Maker	

Appendix B – Templates for Small Projects

ID	Minimum Standard	Brief Description (include details of how the project meets the intent of the requirement)
Mat-9	Flooring	
Mat-10	Joinery	
Mat-11	Furniture	
Mat-12	Ceilings	
Mat-13	Plasterboard	
Mat-14	Insulation	
Mat-15	Blinds	
Land Use & Ecology		
Eco-1	Native / Indigenous Plants	
Eco-2	High Value Sites	
Eco-3	Reuse of Land	
Eco-4	Heat Island Effect	
Eco-5	Soft Landscaping	



Sustainability Guidelines for Capital Works – Appendix C



Appendix C – Simplified Benchmarking

Simplified Benchmarking Process

Many of the points within building standards rely on comparing the design against a 'reference building', representing minimum compliance with the building code. This process generally involves computational modelling and can be time intensive to demonstrate compliance. To simplify the process for projects smaller than \$50 million, the following alternative compliance pathways have been developed.

For projects greater than \$50 million, full compliance is expected.

06 Metering and Monitoring

Achieving the metering and monitoring requirements in the Minimum Sustainable Design Standards section of this report is deemed to be acceptable to achieve 2 out of 2 points.

08 Operational Waste

The operational waste requirements will be deemed to be met where the Department confirms that the waste storage and collection facilities are sufficient for their needs. This will achieve 1 out of 1 points

10 Acoustic Comfort

The following credits are not achievable for projects where an acoustic consultant is not engaged.

- 10.1 Internal Noise Levels
- 10.2 Reverberation

Projects without an acoustic consultant will not be able to claim points for these credits. We note that 10.3 Acoustic Separation may be claimed using the prescriptive approach detailed within the Green Star guidelines.

12 Visual Comfort

It is not expected that projects undertake daylight modelling for where the contract value is smaller than \$50 million. Rather the process outlined in the Green Star Daylight and Views Hand Calculation Guide may be undertaken.

14 Thermal Comfort

The following revised prescriptive requirements will be sufficient to claim the points for thermal comfort.

- For 1 point, the HVAC system requirements outlined in the Green Star guidelines must be met (including design temperature and zoning requirements).
- For 2 points, both the HVAC system requirements and the building façade requirements outlined in the Green Star guidelines must be met.

If the above requirements are not met for any spaces, including naturally ventilated spaces, the points will not be achievable without computational modelling.

15 Greenhouse Gas Emissions

Appendix C – Simplified Benchmarking

It is not expected that projects undertake energy modelling where the contract value is smaller than \$50 million. Additionally, it is recognised that the prescriptive approach within the Green Star tool is conservative. As such the following alternative approach is provided for projects to demonstrate compliance.

- For one point, the building fabric has an R-Value of at least 15% greater than that required under BCA 2016, excluding accommodation.
- For one point, the glazing is improved on the minimum required under BCA 2016 by 15% (no more than 85% of the total allowance on the glazing calculator), excluding accommodation.
- For two points, lighting power density is to be 40% lower than the maximum allowance under BCA 2016 or no greater than 2.0 W/m² per 100 lux (eg. for an area designed to 320 lux, the lighting power density is not to be greater than 4.8 W/m²). An increased allowance for small areas and areas with sensors is to be applied in accordance with the process set out in the BCA 2016 Table J6.2a.
- For one point, lighting zoning is to be no more than 100m², motion sensors to be provided in Category 4 areas, timeclocks to be provided throughout and daylight sensors are to be provided for external lighting and perimeter lighting.
- For one point, the cooling systems are to achieve at minimum a COP of 4.0. The COP may be weighted by area across the development to account for small spaces that may not be able to achieve the benchmark individually.
- For one point, the heating systems are to either achieve at minimum a COP of 4.0, or be a condensing type natural gas water heater with a nominal efficiency of at least 89% when measured using higher heating value, or 98% when measured using lower heating value. The COP value may be weighted by area across the development to account for small spaces that may not be able to achieve the benchmark individually.
- For one point, the domestic hot water system is to be a heat pump with a minimum COP of 2.5, or be a condensing type natural gas water heater with a nominal efficiency of at least 89% when measured using higher heating value, or 98% when measured using lower heating value
- For two points, a Solar Photovoltaic renewable energy system is to be provided with a nominal power output equal to 15% of the maximum demand.
- We note that these initiatives are also a minimum requirement as part of the 'Minimum Sustainable Design Standards', and most projects should achieve these requirements. If a project cannot meet these requirements for any reason, the points will not be achieved and the project will need to make up the points elsewhere.

16 Peak Electricity Demand Reduction

The following revised prescriptive requirements will be sufficient to claim points for Peak Electricity Demand Reduction.

- For one point, a Solar Photovoltaic renewable energy system is to be provided with a nominal power output equal to 15% of the maximum demand.
- For one point, at minimum six points are to be achieved for energy efficiency initiatives (excluding renewable energy) in 15 Greenhouse Gas Emissions (out of eight possible).

18 Potable Water

It is not expected that projects undertake water modelling where the contract value is smaller than \$50 million. Rather, the prescriptive approach outlined in the Green Star guidelines may be undertaken, with the following alterations.

- For multi-storey buildings the prescriptive method of sizing a rainwater tank in Green Star - 10L/m² of GFA - often results in an oversized tank, with the full capacity unused. As such, the tank size is to be the smaller of 10L/m² of GFA or 20L/m² of available roof collection area.
- To claim the credit for rainwater reuse the collection area must be at minimum 1m² of collection area per 20L of tank size.

Appendix C – Simplified Benchmarking

19 Life Cycle Impacts

Detailed life cycle assessment reporting is time intensive and not suitable to projects with a contract value less than \$50 million. As such, it is expected that the prescriptive measures contained within Green Star will be used for this credit.

21 Sustainable Products

Including sustainable products is to be encouraged on all projects. Half a point is to be awarded for each of the following product types:

- Flooring
- Joinery
- Furniture
- Ceilings
- Plasterboard
- Insulation
- Ceilings

To claim points, at least 50% of products in a given category are to be certified as environmentally preferred' by Ecospecifier - GreenTag GreenRate v4.0 or later. While Certification Levels A, B and C are acceptable for this benchmark, preference should be given to products that achieve Level A over those that achieve Levels B or C. Alternate products may be deemed to be equivalent to this requirement if they are reused or contain greater than 50% recycled content.

26 Stormwater

The following prescriptive requirements will be sufficient to claim points for Storm water.

- For one point, storm water detention is to be provided, either on-site or downstream from the site location. A campus wide integrated water management strategy would be expected to meet this requirement.
- For two additional points (one point for the Storm water Credit and one point for Innovation – Exceeding Green Star Benchmarks), the project achieves a score of 100% or greater on the STORM Calculator, available on the Melbourne Water website. These points are only available where the detention point has also been achieved.

30 Innovation

Innovative sustainable technologies and strategies are encouraged for all projects. Indicatively, initiatives meeting the following will be recognised as innovative.

- A sustainability initiative that has not been included in a prison previously.
- An Innovative Technology or Process that is automatically awarded a point in the Green Star Submission Guidelines.
- A Market Transformation that is automatically awarded a point in the Green Star Submission Guidelines.
- Improving on Green Star Benchmarks, with points awarded as described in the Green Star Submission Guidelines.
- An Innovation Challenge either within the Green Star Submission Guidelines or listed on the GBCA website.
- Specific Initiatives from other rating tools as listed in the Green Star Submission Guidelines.
- Other initiatives may be accepted at the Department's discretion.

Appendix C – Simplified Benchmarking

One point is available for each innovative initiative included in the project.