

TEMPLATE: SUSTAINABLE BUILDINGS & INFRASTRUCTURE POLICY



Organica Engineering Pty Ltd

V4

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OE Document Control

Version	Author	Review	Date	Notes
1.	I. Adams	SM, JR, TM	18/01/2020	1 st draft policy template
2.	I. Adams	SM, JR, TM	12/02/2020	2 nd draft policy template
3.	I. Adams	SM, JR, TM	05/03/2020	3 rd draft policy template
4.	I. Adams		11/03/2020	4 th draft policy template

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Cover Photo

Knox Council's net zero energy Bayswater Hubs project

About this template

This draft policy template has been prepared for the eight member councils of the Eastern Alliance for Greenhouse Action (EAGA): Glen Eira, Stonnington, Whitehorse, Boroondara, Maroondah, Monash, Yarra Ranges and Knox. Environmentally Sustainable Design (ESD) policies and environmental strategies were compared and critiqued through a benchmarking process which involved researching and defining “best practice” for Victorian councils. The template is the culmination of a policy development process with each council with tailored recommendations.

Surveys and workshops were conducted with each council to assess the current and potential effectiveness of ESD implementation. The results of these surveys have informed the policy template and the template guide that accompanies this document.

With appropriate budget, resourcing and customised processes for implementation based on the needs of each individual council, best practice is achievable for Melbourne’s eastern councils.

How to use this template document

This document has been provided as a template for EAGA member Councils to use to help develop a customised Policy

- **Please copy** the draft policy into a **Council template** and apply relevant Council fonts and styling
- **The items above this grey box** can be deleted once this template is made into a draft Council policy
- **References to Organica Engineering (OE)** can be removed
- **Note:** Items in **blue** must be updated for each Council
- Councils should **add or delete parts of the document** as part of the customisation process
- Councils should **add or delete** sustainability targets and other elements to suit Council situation
- **Grey boxes** are for guidance in using the template only and should be deleted from the Council customised policy
- **See that associated policy guide released as part of the EAGA project for more information on each section**

Policy Control Schedule

Policy Number:

Directorate:

Approval by:

Responsible Officer:

Approval Date:

Version Number:

Review Date: 3 Years from Meeting Date

1 Purpose

- Establish a consistent approach for achieving best practice Environmentally Sustainable Design (ESD) outcomes in the design, construction, and operation of buildings and infrastructure
- Drive innovation and sustainability leadership in through Council processes and practices
- Enable Council to achieve and exceed its targets within its XXXXXXXX strategy

2 Context

Council recognises that best practice ESD outcomes may incur additional upfront cost, however are significantly outweighed by the financial savings and other co-benefits secured over the asset's lifecycle.

Other co-benefits may include but are not limited to:

- Delivering assets that are resilient to the impacts of climate change
- Enhancing the wellbeing of facility users by connecting the natural and built environment and improving indoor environments for buildings.
- Encouraging the uptake of this ESD practices in the wider community.
- Securing ongoing operation efficiencies, through improved asset management and less intensive maintenance regimes
- Addressing gaps and the absence of minimum requirements in the National Construction Code (NCC) and relevant legislation
- Reducing reliance on emissions intensive transport modes and facilitating active transport options
- Driving the uptake of low impact construction materials and stimulating local markets for recycled products

3 Scope

This policy applies to:

- The design, construction and operation of all substantial renewals, renovations, upgrades to Council buildings.
- The design and construction of Council infrastructure including but not limited to car parks, footpaths, roads and drainage.
- Council staff and all external designers, engineers, contractors and stakeholders involved in capital works projects.

4 Objectives

The following objectives set out Councils commitment for the delivery of ESD outcomes. For all relevant projects / programs, Council will develop a **Sustainability Management Plan (SMP)** that documents how all ESD objectives, targets and standards will be met, and how the performance outcomes will be achieved. The SMP must also provide a schedule for implementation, ongoing management, maintenance and monitoring and how the ESD elements and practices can be maintained over time. The SMP should be used to survey available sustainable technologies and innovative approaches, and to resolve any questions around feasibility of applying ESD initiatives to the project or program. For a program of works, one regularly updated SMP will generally meet requirements.

The following table can be adjusted to suit Council policy ambitions and appetite for external toolkits. See that associated policy guide for more information, and for more suggestions of sustainability targets that could be included.

Objective	Buildings	Infrastructure	<input checked="" type="checkbox"/> Applicable to Project / Program?	QA and project notes
Greenhouse gas emissions				
All building services are electric (no fossil fuels) using efficient heating, cooling and hot water.		✓	<input type="checkbox"/>	
Use 100% renewable energy, either through onsite generation and storage or offsite renewable energy (i.e. GreenPower, PPA) via retailing arrangements.	✓	✓	<input type="checkbox"/>	
Procurement of materials and choice of construction methods must reduce embedded carbon emissions wherever feasible – target materials cause less emissions in their production (i.e. target an 80% reduction in embedded carbon).	✓	✓	<input type="checkbox"/>	
Project life cycle				
Where appropriate, design for at least a 100-year asset life to greatly reduce lifecycle cost. Design for long term resilience, adaptability and flexibility.	✓	✓	<input type="checkbox"/>	
Ensure that climate change impacts and adaptation has been addressed to improve resilience to extreme weather events.	✓	✓	<input type="checkbox"/>	
Waste				
Divert a minimum of 70% of the demolition and construction waste to recycling.	✓	✓	<input type="checkbox"/>	
Specify recycled content construction materials. This is to help generate and support markets for recycled materials.	✓	✓	<input type="checkbox"/>	
Biodiversity				
Ensure that landscaping and plant selection enhances local biodiversity values.	✓	✓	<input type="checkbox"/>	
Ensure that the design retains and plants canopy trees where possible to contribute to urban greening and to reduce the urban heat island effect.	✓	✓	<input type="checkbox"/>	

Objective	Buildings	Infrastructure	<input checked="" type="checkbox"/> Applicable to Project / Program?	QA and project notes
Transport				
Infrastructure must support all forms of active transport and provide safe environments for pedestrian and bicycle users.	✓	✓	<input type="checkbox"/>	
Buildings must have suitable end of trip facilities including secure bicycle parking, shower and change room numbers use Green Star standards.	✓	✓	<input type="checkbox"/>	
Provision of electric vehicle charging infrastructure, charging and cabling wherever feasible.	✓	✓	<input type="checkbox"/>	
Stormwater				
Water Sensitive Urban Design (WSUD) elements should be included in drainage design to contribute to landscape design and urban cooling.	✓	✓	<input type="checkbox"/>	
Achieve 100% of BPEM stormwater targets (a 45% reduction in nitrogen runoff) through harvesting, infiltrating and WSUD treatments.	✓	✓	<input type="checkbox"/>	
Use permeable materials and infiltrate stormwater where possible to reduce runoff volumes. Target 40% reduction in average annual runoff volumes pre and post development.	✓	✓	<input type="checkbox"/>	
Materials				
Specify (where feasible) reused / recycled / eco-certified content in building and infrastructure construction materials (e.g. roads, framing, slabs, footpaths, shared paths, kerb and channel)	✓	✓	<input type="checkbox"/>	
Optimise the size, shape and layout of buildings to reduce costs and materials use.	✓		<input type="checkbox"/>	
<i>Timber requirements:</i> must be responsibly sourced and FSC or PEFC certified ¹ .	✓	✓	<input type="checkbox"/>	
<i>Concrete requirements:</i> Use of low embedded carbon (Geopolymer / E-Crete) concrete, or substitute 30% of Portland cement with supplementary extenders. Specify that at least 40% of coarse aggregate or 25% of fine aggregate (sand) is a recycled material ² .	✓	✓	<input type="checkbox"/>	
Energy and water efficiency				
Minimum 40% efficiency improvement over existing National Construction Code (NCC) for both water and energy use. The project's Sustainability Management Plan will detail how this can be achieved.	✓	✓	<input type="checkbox"/>	

¹ See Green Star Design and As-Built v1.2 Materials credits for more details

² See Green Star Design and As-Built v1.2 Materials credits for more details

Objective	Buildings	Infrastructure	<input checked="" type="checkbox"/> Applicable to Project / Program?	QA and project notes
Outdoor lighting to be high efficiency LED warm white colour with daylight controls and a CRI>80. No up lighting is permitted.	✓	✓	<input type="checkbox"/>	
Management				
A project / program specific Construction Environmental Management Plan (CEMP) should be completed by the main construction contractor and approved by Council.	✓	✓	<input type="checkbox"/>	

5 Requirements

It is Council policy that all new Council buildings and infrastructure will adhere to the following **requirements**, and **additional requirements** (where applicable and feasible):

The following table can be adjusted to suit Council policy ambitions and appetite for external toolkits. See that associated policy guide for more information, and for more suggestions of sustainability targets that could be included.

Requirement	Project Stage	Applicability check <input checked="" type="checkbox"/> and responsibility for implementation	QA and project notes
Demonstrate at business case stage how project can contribute towards achieving Council's sustainability targets.	Bidding and planning	<input type="checkbox"/>	
Ensure that the business case includes budget for items required to meet sustainability principles and that respective teams are consulted at business case stage. A minimum ESD budget allowance of 10% as an appropriate allocation.	Bidding and planning	<input type="checkbox"/>	
Include ESD principles into the project brief at inception, concept design, detailed design and in tender documents.	Bidding and planning Design	<input type="checkbox"/>	
Seek specialist ESD technical advice for larger projects (See below 'project specific requirements' for guidance) from project inception to delivery. See the below additional requirements list for requirements for different sized projects.	Bidding and planning Design Delivery	<input type="checkbox"/>	
Generate a SMP and refer this to Council's ESD/environment officer for review prior to tendering.	Design	<input type="checkbox"/>	
Document at schematic design stage a Sustainability Management Plan (SMP) of how the project or program will meet sustainability targets.	Design	<input type="checkbox"/>	
Building SMP reports must clearly summarise the project specific sustainable design requirements and be supported by an appropriate ESD tool.	Design	<input type="checkbox"/>	

Requirement	Project Stage	Applicability check <input checked="" type="checkbox"/> and responsibility for implementation	QA and project notes
Infrastructure SMP reports must consider; sustainable construction materials procurement, construction environmental management, biodiversity enhancement opportunities, and integrated water management.	Design	<input type="checkbox"/>	
Use the SMP report to consult with other internal stakeholders as necessary. This includes ESD, WSUD engineering, transport and biodiversity officers.	Design	<input type="checkbox"/>	
Use lifecycle costing in procurement and contracting. Target the best long-term value to Council, rather than the cheapest up-front cost. Value management must protect ESD and recognise the value of community and environmental goals.	Procurement Tendering Delivery	<input type="checkbox"/>	
Ensure that ESD objectives are included within the deliverables for tendered work.	Procurement Tendering Delivery	<input type="checkbox"/>	
Ensure that commissioning, building tuning and handover is undertaken in a comprehensive way and that it includes the management of sustainable design initiatives.	Delivery Occupancy	<input type="checkbox"/>	
Report to Council annually as part of the capital works program delivery report on the key achievements of the sustainable buildings and infrastructure policy.	Delivery	<input type="checkbox"/>	

The following table can be adjusted to suit Council policy ambitions and appetite for external toolkits. See that associated policy guide for more information, and for more suggestions of sustainability targets that could be included.

6 Project specific requirements:

This section outlines the specific requirements of different sizes and types of project. Larger projects require more involved and detailed project sustainability management initiatives.

Project cost	<\$1mill	>\$1mill	>\$10mill	>\$20mill
Require Sustainability Management Plan (SMP) for buildings	Yes – short form Sustainable Design Assessment (SDA)	Yes	Yes	Yes
SMP objectives and applicable toolkit for buildings	Meet sustainability objectives above plus: Council ESD checklists	Meet sustainability objectives above plus: BESS tool targeting Excellence	Meet sustainability objectives above plus: Green Star 4 or 5 Star Design and As-Built (Certified by the GBCA)	Meet sustainability objectives above plus: Green Star 5 or 6 Star Design and As-Built (Certified by the GBCA)

Require Sustainability Management Plan (SMP) for infrastructure (project or program)	Yes – short form	Yes	Yes	Yes
SMP objectives and applicable toolkit for infrastructure	Meet sustainability objectives where applicable and feasible.	Meet sustainability objectives where applicable and feasible.	Meet sustainability objectives where applicable and feasible. Reference Green Star Communities tool Materials Credits.	Infrastructure Sustainability (IS v 2) Design and As Built rating tool – Gold rating (Certified by ISCA).
Suitably qualified ESD professional appointed to the design team	Only if required to trial innovative approaches	Yes	Yes	Yes
Council to appoint an Independent Commissioning Agent (ICA)	Only if required to trial innovative approaches	Yes	Yes	Yes

Please add additional notes here to expand on any of the above requirements or terms

Notes:

7 Supporting documents

- **Policy guide for sustainable capital works** related to this policy for further information and background to this policy.
- Project specific **Sustainability Management Plan (SMP)** relative to the size, location, and intended uses of the project
- **Specific standards**, provided as minimum requirements.

8 Further Information

Glossary

BESS: an online sustainability assessment tool developed by the Council Alliance for a Sustainable Built Environment (CASBE), an alliance of Victorian Councils working to improve the sustainability of the built environment, to assess the sustainability of building projects at the design stage.

BPEM: Best Practice Environmental Management Guidelines for Stormwater – administered by EPA Victoria.

Environmentally Sustainable Design (ESD): Building design that seeks to improve performance, reduce environmental impacts, resource use and waste and create healthy environments for occupants. Also called **Sustainable Development** or **Economic and Environmentally Sustainable Design (EESD)**

Green Star: Developed by the Green Building Council of Australia (GBCA), buildings can be Green Star certified for the environmental sustainability of their construction (Design and As-Built tool); fit outs (Interiors tool) and their operational performance (Performance tool). Buildings are accredited through an assessment by a third party and can achieve between a 4-6 star accreditation.

Independent Commissioning Agent (ICA): A role that can be filled by one or more people who are appointed by, and report directly to, Council. They are independent of any contractor, sub-contractor or consultant who has been involved in the design or installation of the nominated building systems. They are a registered professional engineer or qualified technician with demonstrated knowledge on mechanical, electrical, hydraulic and ESD systems commissioning.

Integrated Water Management (IWM) and Water Sensitive Urban Design (WSUD): An holistic approach to water management that integrates urban design and planning with social and physical sciences in order to deliver water services and protect aquatic environments in an urban setting. A WSUD approach could include the integration of raingardens, infiltration, water harvesting and wetlands in an urban area to manage stormwater.

Infrastructure Sustainability Tool (IS) - IS Rating Scheme is Australia and New Zealand's only comprehensive rating system for evaluating sustainability across the planning, design, construction and operational phases of infrastructure programs, projects, networks and assets. IS evaluates the sustainability performance of the quadruple bottom line (Governance, Economic, Environmental and Social) of infrastructure development. Formal certification is only available for projects over \$20 million in value. The framework can be used informally in developing SMP reports for smaller projects.

Lifecycle cost: The total cost of an asset throughout its useful life taking account of the planning, design, construction, acquisition, operational, maintenance, rehabilitation, and disposal costs.

Sustainable Design Assessment (SDA): A simple sustainability assessment for **small** projects that documents how a project will address sustainability objectives, targets and standards.

Sustainable Management Plan (SMP): A detailed sustainability assessment for **larger** projects that documents how a project will address sustainability objectives, targets and standards and how the performance outcomes will be achieved. The SMP must also provide a schedule for implementation, ongoing management, maintenance and monitoring and how the ESD elements and practices can be maintained over time.

Policy and legislation references:

Council Plan

Relevant Legislation

- Local Government Act 1989 – Objectives of a Council (SECT 3C)
- Environment Protection Act 1970
- SEPP(Waters) – State Environmental Protection Policy outlining Council water and stormwater quality responsibilities.

Related Council Policies

- Environment plan
- Procurement and contract management policies

Related State and Local References

- Integrated Water Management Framework for Victoria 2017
- Victorian Planning Provisions (VC154 amendments – Stormwater Management) 2018
- Local Planning Policy – Environmentally Sustainable Development

International Agreements

- This policy has been assessed against and complies with the Charter of Human Rights.
- This policy assists in achieving elements of the UN Sustainable Development Goals

References relevant to the Policy:

- **BESS scorecard** Municipal Association of Victoria, Built Environment Sustainability Scorecard, <http://bess.net.au/>
- **Beyond Zero Emissions (BZE)**, Buildings Plan: <https://bze.org.au/research/energy-efficient-buildings-plan/> and Zero Carbon Cement Plan: <https://bze.org.au/research/manufacturing-industrial-processes/rethinking-cement/>
- **Carpet Institute of Australia**, Australian Carpet Certification Scheme, www.carpetinstitute.com.au
- **Ecospecifier**, www.ecospecifier.com.au/ building materials and products certification,
- **Energy Star Labelling** www.energyrating.gov.au/ appliance Energy Rating,
- **Forest Stewardship Council (FSC)**, Public certificate search, <http://info.fsc.org/certificate.php>
- **Global Green Tag**, www.globalgreentag.com/ building materials and products certification,
- **Green Star Design and As-Built tool** (used for buildings), <http://new.gbca.org.au/> Green Building Council of Australia (GBCA)
- **Green Star Communities tool**, <http://new.gbca.org.au/> (used for precincts and infrastructure) Green Building Council of Australia (GBCA)
- **Green Environmental Choice Australia**, www.geca.org.au/
- **ISCA IS Design and As Built rating tool** Infrastructure Sustainability Council of Australia www.isca.org.au/
- **National Construction Code (NCC)** <https://ncc.abcb.gov.au/> Australian Building Codes Board (ABCB)
- **WELS Water Rating product labelling**: Water Efficiency Labelling and Standards (WELS) Scheme, www.waterrating.gov.au/