

## 22.19 Energy, Water and Waste Efficiency

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The policy applies to applications for the construction of a building (including alterations and additions) for the purposes of office, retail, education centre and accommodation (except for Dependant Person's Unit, Camping & Caravan Park, Corrective Institution, Host Farm) uses.

The policy provides guidelines to ensure that the design, construction and operation of buildings and urban renewal areas:

- Minimise the production of greenhouse gas emissions and maximise energy efficiency.
- Minimise mains potable water use and encourage the use of alternative water sources.
- Minimise waste going to landfill, maximise the reuse and recycling of materials and lead to improved waste collection efficiency.

### 22.19-1 Policy Basis

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The City of Melbourne's policies for becoming an environmentally sustainable city, include the *Zero Net Emissions by 2020* energy strategy, *Total Watermark – City as a Catchment* water strategy and the *Waste Management Strategy*. The City's eco-city goals and targets as set out in *Future Melbourne Community Plan 2008* are derived from these policies.

The relevant Eco-City goals are:

- Residents reduce their greenhouse gas emissions by 35 percent per capita by 2020 (from 2006 levels)
- Workers reduce their greenhouse gas emissions by 59 per cent per capita by 2020 (from 2006 levels)
- Reduce residents' mains water consumption by 40 per cent by 2020 (from 1999/2000 levels)
- Reduce workers' mains water consumption by 50 per cent by 2020 (from 1999/2000 levels)
- Reduced household waste in the City of Melbourne
- Reduced commercial waste in the municipality

These policy documents underpin the need to consider resource use and efficiency in the assessment of new development under the Melbourne Planning Scheme.

The State Planning Policy Framework (SPPF) encourages sustainable development, including the development of buildings which use energy and water efficiently and minimise waste within Victoria's urban areas.

The City of Melbourne Municipal Strategic Statement (MSS) includes a vision for a sustainable city and strategies to reduce greenhouse gas emissions and to encourage buildings which use energy and water efficiently and minimise waste.

It is Council policy to encourage the development of integrated precinct solutions to reduce greenhouse gas emissions and increase resilience to climate change.

The objectives and guidelines of this policy build on this body of established strategic work by aiming to ensure that new buildings incorporate design measures that assist in reducing energy, water and waste resource use in accordance with the targets set by Council's eco-city goals.

### 22.19-2 Objectives

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The objectives of this policy are:

- To ensure buildings achieve high environmental performance standards at the design, construction and operation phases.
- To minimise the city's contribution to climate change impacts by reducing greenhouse gas emissions.

- To improve the water efficiency of buildings and encourage the use of alternative water sources.
- To minimise the quantity of waste going to landfill and maximise the recycling and reuse of materials.
- To minimise the impacts of waste on the community.
- To encourage the connection of buildings to available or planned district energy, water and waste systems in urban renewal areas in order to achieve additional energy, water & waste efficiency arising from a precinct-wide approach to infrastructure where appropriate.

**22.19-3 Policy**

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It is policy to encourage buildings that:

- minimise greenhouse gas emissions and maximise energy efficiency.
- minimise mains potable water consumption and encourage the use of alternative water sources, such as rainwater and grey water.
- provide the facilities that will enable building users and occupants to reduce waste sent to landfill, maximise the recycling and reuse of materials and support the municipality’s progress towards becoming a resource and material-efficient city.

**22.19-4 Application Requirements**

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- All applications must be accompanied by a Waste Management Plan prepared in accordance with the City of Melbourne’s *Guidelines for Waste Management Plans*.
- All applications must be accompanied by an Environmentally Sustainable Design Statement which demonstrates how the development meets the policy objectives of Clause 22.19-2 and the policy requirements of Clause 22.19-3. The Sustainable Design Statement must also include the following as applicable:
  - Applications for buildings over 2,000 square metres in gross floor area must provide a statement from a suitably qualified professional verifying that the building has the preliminary design potential to achieve the relevant required Performance Measures set out in clause 22.19-5.
  - Applications for buildings under 2,000 square metres in gross floor area must provide a statement demonstrating that the building has the preliminary design potential to achieve the relevant required Performance Measures set out in clause 22.19-5.

**22.19-5 Performance Measures**

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It is policy to assess proposals against the following performance measures:

TYPE OF BUILDING		PERFORMANCE MEASURE		
		Energy Efficiency	Water Efficiency	Waste Efficiency
Office	Up to 2,000 square metres gross floor area	Compliance with the energy efficiency requirements of the Sustainable Design Scorecard or equivalent.	3 points for Wat-1 credit under a current version of the Green Building Council of Australia's Green Star – Office rating tool or equivalent.	A Waste Management Plan prepared in accordance with the current version of the <i>City of Melbourne's Guidelines for Waste Management Plans</i> .

	More than 2,000 square metres gross floor area	NABERS Office – Energy 5 Stars or equivalent.	3 points for Wat-1 credit under a current version of the Green Building Council of Australia's Green Star – Office rating tool or equivalent.	A Waste Management Plan prepared in accordance with the current version of the City of Melbourne's <i>Guidelines for Waste Management Plans</i> .
	Over 5,000 square metres gross floor area	Same minimum energy, water & waste requirements as buildings over 2,000 square metres plus a 5 star rating under a current version of Green Star - Office rating tool or equivalent.		
Retail premises	Up to 2,000 square metres gross floor area	N/A (sufficiently covered by the Building Code of Australia)	5 points for Wat-1 credit under a current version of the Green Building Council of Australia's Green Star – Retail rating tool or equivalent.	A Waste Management Plan prepared in accordance with the current version of the City of Melbourne's <i>Guidelines for Waste Management Plans</i> .
	More than 2,000 square metres gross floor area	N/A (sufficiently covered by the Building Code of Australia)	5 points for Wat-1 credit under a current version of the Green Building Council of Australia's Green Star – Retail Centre rating tool or equivalent.	A Waste Management Plan prepared in accordance with the current version of the City of Melbourne's <i>Guidelines for Waste Management Plans</i> .
	Over 5,000 square metres gross floor area	Same minimum energy, water & waste requirements as buildings over 2,000 square metres plus a 5 star rating under a current version of Green Star - Retail Centre rating tool or equivalent		
Education centre	Up to 2,000 square metres gross floor area	Compliance with the energy efficiency requirements of the Sustainable Design Scorecard or equivalent.	3 points for Wat-1 credit under a current version of the Green Building Council of Australia's Green Star – Education rating tool or equivalent.	A Waste Management Plan prepared in accordance with the current version of the City of Melbourne's <i>Guidelines for Waste Management Plans</i> .
	More than 2,000 square metres gross floor area	5 points for Ene-1 credit under a current version of the Green Building Council of Australia's Green Star – Education	3 points for Wat-1 credit under a current version of the Green Building Council of Australia's Green Star –	A Waste Management Plan prepared in accordance with the current version of the City of

		rating tool or equivalent.	Education rating tool or equivalent.	Melbourne's <i>Guidelines for Waste Management Plans</i> .
	Over 5,000 square metres gross floor area	Same minimum energy, water & waste requirements as buildings over 2,000 square metres plus 5 star rating under a current version of Green Star - Education rating tool or equivalent.		
Accommodation (except for Dependant Person's Unit, Camping & Caravan Park, Corrective Institution, Host Farm)	Up to 5,000 square metres gross floor area	N/A (sufficiently covered by the Building Code of Australia)	1 point for Wat-1 credit under a current version of the Green Building Council of Australia's Green Star – Multi Unit Residential rating tool or equivalent.	A Waste Management Plan prepared in accordance with the current version of the City of Melbourne's <i>Guidelines for Waste Management Plans</i> .
	Over 5,000 square metres gross floor area	Same minimum energy, water & waste requirements as buildings up to 5,000 square metres plus a 5 star rating under a current version of Green Star - Multi Unit Residential rating tool or equivalent.		

Mixed use developments should be assessed against the performance measures in the table above applicable to each use component of the development.

Applications for alterations and additions should be assessed against the performance measures in the table above in so far as they are applicable to the alterations and additions to the building.

Applications for development may use alternative rating tools or assessment methods provided that equivalence of the development to the performance measures listed in the table can be demonstrated.

Proposals that do not meet these performance measures may still meet the objectives of this policy.

**22.19-6 Urban Renewal Areas**

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It is policy that:

- In addition to the performance requirements set out at Clause 22.19-5, when developing land within any urban renewal area, the development should be capable of connecting to available and planned alternative district water supply, energy supply, waste collection and treatment systems.
- Developers of precincts or large sites are encouraged to install alternative district water supply, energy supply, waste collection and waste treatment systems.

Examples of Alternative District water supply, energy supply, waste collection and waste treatment systems that can be considered include, but are not limited to, the following:

*Alternative district water supply -*

Black and grey water treatment systems, stormwater harvesting systems and desalination.

*Alternative district energy supply -*

Solar concentrating and district solar, biomass and gas fired co and tri generation, wind and geothermal generation.

*Alternative district waste collection -*

Vacuum and automated based collection systems.

*Alternative district treatment -*

Mechanical (wet and dry sorting) and biological treatment, (anaerobic digestion and other biological processes), thermal treatment systems (pyrolysis, gasification, plasma gasification)

## **22.19-7 Reference Documents**

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- Future Melbourne Community Plan (September 2008)
- City of Melbourne: Energy, Water and Waste Review (2011)
- City of Melbourne, Zero Net Emissions by 2020 (2002)
- City of Melbourne, Zero Net Emissions by 2020 – Strategy Update (2008)
- City of Melbourne, Total Watermark – City as a Catchment (2009)
- City of Melbourne. Waste Management Strategy (2005)
- City of Melbourne. Waste Management Strategy - Summary Report (2009)
- City of Melbourne, Guidelines for preparing a waste management plan (2012)
- Green Building Council of Australia, Green Star rating tools (as amended from time to time)
- National Australian Built Environment Rating System (as amended from time to time)
- City of Port Phillip and City of Moreland, Sustainable Design Scorecard (as amended from time to time)

## **22.19-8 Definitions for the Purpose of this Policy**

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Green Star

Developed by the Green Building Council of Australia, Green Star is a credit-based tool that assesses a range of building classes for their environmental impact. Areas of consideration include energy, transport, materials, land & ecology, and management. Under its point based system, Green Star Awards of 4 to 6 star ratings are granted for environmentally sustainable design and / or construction.

NABERS

The National Australian Built Environment Rating System (NABERS) is a rating tool that assesses a building on the basis of its measured operational impacts (energy, water, indoor environment and waste) on the environment. A building can be awarded star ratings (between 4 and 5 stars) for each of the environmental components.

Sustainable Design Scorecard (SDS)

The Sustainable Design Scorecard is a Microsoft Excel tool developed to assess the environmental performance of non-residential developments (commercial, industrial and mixed use) in Victoria.