

## DRAFT

### SMALL SCALE RENEWABLE ENERGY SYSTEMS

**STATUS:** *City Policy* — A policy that is developed for administrative and operational imperatives and has an internal focus.

*Developed by the Policy Committee and/or the administration and adopted by Council.*

**RESPONSIBLE:** Director Planning and Development

**OBJECTIVE:** To establish criteria for the development of small scale renewable energy systems on land or buildings within the City.

To protect the quality of the streetscape and amenity (particularly visual and acoustic amenity) of adjoining properties from the impact of renewable energy technologies.

#### POLICY AREA

This policy shall apply to the installation of all small scale renewable energy systems within the City of Joondalup.

#### DEFINITIONS

**Solar energy system:** A system which converts energy from the sun into useable electrical energy, heats water or produces hot air or a similar function through the use of solar panels.

**Small scale renewable energy system:** A solar energy system of up to 100kW capacity, or a small wind energy system of up to 10kW capacity.

**Total height:** The vertical distance from natural ground level to the tip of a wind generator blade when the tip is at its highest point.

**Wind energy system:** Equipment that converts and then stores or transfers energy from the wind into usable forms of energy. This equipment includes any base, blade, foundation, generator, nacelle, rotor, tower, transformer, vane, wire, inverter, batteries or other component used in the system.



## APPROVALS REQUIRED

### Solar energy system:

An application for planning approval is **required** for a solar energy system installation, except where it is installed on a dwelling in a residential zone.

A *Building Licence* is **not required** for the installation of a solar energy system. However, it remains the property owner's duty of care to ensure that any installation does not impact on the structural integrity of the building on which it is installed or any other structure.

### Wind energy system:

An application for planning approval is **required** for all wind energy system installations.

A *Building Licence* is **required** for the installation of any wind energy system.

## STATEMENT

### Solar energy system:

#### Development provisions:

Solar energy systems should be designed and positioned on rooftops so as not to detract from the building itself or impose on the existing streetscape.

### Wind energy system:

#### Development provisions:

All wind energy systems are to comply with the general provisions listed below and the development standards provided in Table 1:

- The system must be well set back from any overhead power lines.
- The turbine system must be fitted with an automatic and manual braking system or an over-speed protection device.
- Unless colour-matched to the supporting roof, the wind energy system and any tower structure must remain painted or finished in the colour or finish applied by the manufacturer.
- No signage, other than the manufacturer's or installer's identification, shall be attached to the system.
- Any electrical components and wires associated with a small wind energy system must not be visible from the street.
- The system must not be located on a property/building on the City's Heritage List.

**Table 1: Development standards**

	<b>Residential and Special Residential zones and Single and grouped dwellings in City North and Lakeside District of the Joondalup City Centre</b>	<b>All other zones:</b>
<b>Number of turbines</b>	<ul style="list-style-type: none"> <li>Maximum of one per lot</li> </ul>	<ul style="list-style-type: none"> <li>Maximum of one per 1,000m<sup>2</sup> of lot area</li> </ul>
<b>Minimum lot size</b>	<ul style="list-style-type: none"> <li>350m<sup>2</sup></li> </ul>	<ul style="list-style-type: none"> <li>1,000m<sup>2</sup></li> </ul>
<b>Nameplate capacity</b>	<ul style="list-style-type: none"> <li>Maximum 2 kW</li> </ul>	<ul style="list-style-type: none"> <li>Unlimited</li> </ul>
<b>Height</b>	<p>Pole Mounted:</p> <ul style="list-style-type: none"> <li>Maximum 5.0 metres total height above natural ground level</li> </ul> <p>Roof Mounted:</p> <ul style="list-style-type: none"> <li>Maximum total height 3.0 metres above roofline if mounted on a single-storey dwelling</li> <li>Minimum 1.0 metre clearance above roofline</li> <li>Not permitted on dwellings 2-storeys or more</li> </ul>	<p>Pole Mounted:</p> <ul style="list-style-type: none"> <li>Maximum 10 metres total height above natural ground level</li> </ul> <p>Roof Mounted:</p> <ul style="list-style-type: none"> <li>Maximum total height 7.5 metres above roofline</li> </ul>
<b>Diameter</b>	<ul style="list-style-type: none"> <li>Maximum blade diameter 2.0 metres</li> </ul>	<ul style="list-style-type: none"> <li>Maximum blade diameter 5.5 metres</li> </ul>
<b>Boundary setbacks (street)</b>	<ul style="list-style-type: none"> <li>Not permitted between the building and the street alignment</li> </ul>	<ul style="list-style-type: none"> <li>Not permitted between the building and the street alignment</li> </ul>
<b>Boundary setbacks (side and rear)</b>	<p>Pole Mounted:</p> <ul style="list-style-type: none"> <li>Setback from boundaries is not less than the total height of the wind energy system</li> </ul> <p>Roof Mounted:</p> <ul style="list-style-type: none"> <li>No minimum setback from boundary, however, wind energy system to be located a minimum of 7.5 metres from major opening of adjoining dwelling</li> </ul>	<p>Pole Mounted:</p> <ul style="list-style-type: none"> <li>Setback from boundaries is not less than half of the total height of the wind energy system</li> </ul> <p>Roof Mounted:</p> <ul style="list-style-type: none"> <li>No minimum setback from boundary, however, wind energy system to be located a minimum of 7.5 metres from major opening of adjoining building</li> </ul>



## **ADVERTISING**

Applications for planning approval that do not comply with this policy will require consultation with adjoining property owners likely to be affected by the proposal for a minimum period of 21 days prior to the determination of the application. Consultation will include neighbours on the opposite side of the street where the structure may be visible from the street and will be undertaken by the City.

Where planning approval is granted for development that complies with this policy, the owners of adjoining properties will be notified of the approved development in writing.

## **OTHER**

### **Compliance with other legislation:**

All wind energy systems are required to comply with the *Environmental Protection (Noise) Regulations 1997*. In addition, wind energy systems that connect to the electric utility supply must comply with the requirements of the relevant public authorities.

Manufacturer's specifications and a statement demonstrating compliance with the *Environmental Protection (Noise) Regulations 1997* must be submitted with the planning application.

## **VARIATIONS**

Where a proposal does not meet the specific requirements of this policy, the applicant is to provide appropriate justification, and the proposal will be considered in accordance with the objectives of this policy.

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## **AMENDMENTS:**

**RELATED** *Environmental Protection (Noise) Regulations 1997*  
**DOCUMENTATION:** Office of the Renewable Energy Regulator

## **ISSUED:**



**DRAFT**

**ENVIRONMENTALLY SUSTAINABLE BUILDINGS  
IN THE CITY OF JOONDALUP**

**STATUS:** *City Policy — A policy that is developed for administrative and operational imperatives and has an internal focus.*

*Developed by the Policy Committee and/or the administration and adopted by Council.*

**RESPONSIBLE:** Director Planning and Development

**OBJECTIVE:** To encourage the integration of environmentally sustainable design principles into the siting, design and construction of both new and redeveloped residential, commercial and mixed-use buildings (excluding single and grouped dwellings, internal fitouts and minor extensions) in the City of Joondalup. Environmentally sustainable design considers the environmental impact of a building for the entire life of the asset.

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**POLICY AREA**

This policy shall apply to the construction and redevelopment of residential, commercial and mixed-use buildings (excluding single and grouped dwellings, internal fit outs and minor extensions) in the City of Joondalup.

**STATEMENT**

In pursuance of its commitment to sustainability, the City seeks to encourage the integration of environmentally sustainable design principles into the construction and redevelopment of residential, commercial and mixed-use buildings (excluding single and grouped dwellings, internal fit outs and minor extensions) within the City of Joondalup.

To this end, the City will seek to prioritise the assessment of planning applications and associated subsequent building applications that demonstrate the development has been designed and assessed against a national recognised rating tool.



The incorporation of the following design principles is encouraged:

- Designing and constructing buildings to preserve the natural features of the site.
- Designing and constructing buildings to include passive solar design.
- Increasing the energy efficiency of buildings by using low energy technologies for lighting, heating and cooling, appliances and equipment.
- Using renewable energy technologies.
- Increasing water efficiency and encouraging water reuse and water recycling for buildings and landscaping.
- Selecting sustainable building materials, such as locally sourced and recycled content.
- Reducing the amount of waste that is created through the construction process by implementing waste management practices on site.
- Encouraging adaptability in the design and construction to ensure longevity of the building;
- Increasing the indoor air quality of buildings by using low allergic and low volatile organic compound (VOC) fittings, furniture, paints and adhesives.
- Utilising water wise and native gardening techniques.

## **OTHER**

### **City of Joondalup — Environmentally Sustainable Design Checklist:**

Applications for planning approval for residential, commercial and mixed-use buildings (excluding single and grouped dwellings, internal fit outs and minor extensions) must be accompanied by a completed *City of Joondalup — Environmentally Sustainable Design Checklist*.

## **AMENDMENTS:**

**RELATED DOCUMENTATION:** *Local Government Act 1995*  
*Joondalup City Centre Structure Plan*  
*Joondalup City Centre — Environmentally Sustainable Design Checklist*  
*Policy — Sustainability*

## **ISSUED:**



## DRAFT

### City of Joondalup

#### Draft Environmentally Sustainable Design Checklist

Under the City's planning policy, *Environmentally Sustainable Buildings in the City of Joondalup*, the City encourages the integration of environmentally sustainable design principles into the construction of all new residential, commercial and mixed-use buildings and redevelopments (excluding single and grouped dwellings, internal fit outs and minor extensions) in the City of Joondalup.

Environmentally sustainable design is an approach that considers each building project from a 'whole-of-life' perspective, from the initial planning to eventual decommissioning. There are five fundamental principles of environmentally sustainable design, including: siting and structure design efficiency; energy efficiency; water efficiency; materials efficiency; and indoor air quality enhancement.

For detailed information on each of the items below, please refer to the *Your Home Technical Manual* at: [www.yourhome.gov.au](http://www.yourhome.gov.au), and *Energy Smart Homes* at: [www.clean.energy.wa.gov.au](http://www.clean.energy.wa.gov.au).

This checklist must be submitted with the planning application for all new residential, commercial and mixed-use buildings and redevelopments (excluding single and grouped dwellings, internal fit outs and minor extensions) in the City of Joondalup.

The City will seek to prioritise the assessment of your planning application and the associated building application if you can demonstrate that the development has been designed and assessed against a nationally recognised rating tool.

Please tick the boxes below that are applicable to your development.

### Siting and structure design efficiency

Environmentally sustainable design seeks to affect siting and structure design efficiency through site selection, and passive solar design.

Does your development retain:

- existing vegetation; and/or
- natural landforms and topography.

Does your development include:

- northerly orientation of daytime living/working areas with large windows, and minimal windows to the east and west;
- passive shading of glass;
- sufficient thermal mass in building materials for storing heat;



- insulation and draught sealing;
- floor plan zoning based on water and heating needs and the supply of hot water; and/or
- advanced glazing solutions.

## **Energy efficiency**

Environmentally sustainable design aims to reduce energy use through energy efficiency measures that can include the use of renewable energy and low energy technologies.

Do you intend to incorporate into your development:

- renewable energy technologies (for example photo-voltaic cells, wind generator system and the like), and/or
- low energy technologies (for example energy efficient lighting, energy efficient heating and cooling, and the like) and/or
- natural and/or fan forced ventilation.

## **Water efficiency**

Environmentally sustainable design aims to reduce water use through effective water conservation measures and water recycling. This can include stormwater management, water reuse, rainwater tanks, and water efficient technologies.

Does your development include:

- water reuse system(s) (for example: grey water reuse system); and/or
- rainwater tank(s).

Do you intend to incorporate into your development:

- water efficient technologies (for example: dual-flush toilets, water efficient showerheads, and the like).

## **Materials efficiency**

Environmentally sustainable design aims to use materials efficiently in the construction of a building. Consideration is given to the lifecycle of materials and the processes adopted to extract, process and transport them to the site. Wherever possible, materials should be locally sourced and reused on-site.



Does your development make use of:

- recycled materials (for example: recycled timber, recycled metal, and the like);
- rapidly renewable materials (for example: bamboo, cork, linoleum, and the like); and/or
- recyclable materials (for example: timber, glass, cork, and the like).
- natural/living materials such as roof gardens and "green" or planted walls.

### **Indoor air quality enhancement**

Environmentally sustainable design aims to enhance the quality of air in buildings, by reducing volatile organic compounds (VOCs) and other air impurities such as microbial contaminants.

Do you intend to incorporate into your development:

- low-VOC products (for example: paints, adhesives, carpet, and the like).

### **'Green' Rating**

Has your proposed development been designed and assessed against a nationally recognised "green" rating tool?

- Yes    No

If yes, please indicate which tool was used and what rating your building will achieve:

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If yes, please attach appropriate documentation to demonstrate this assessment.

**If you have not incorporated or do not intend to incorporate any of the principles of environmentally sustainable design into your development, can you tell us why:**

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**PROPOSED DRAFT POLICIES  
Small Scale Renewable Energy Systems,  
Environmentally Sustainable Buildings and  
Environmentally Sustainable Design Checklist**

**SCHEDULE OF SUBMISSIONS FOLLOWING ADVERTISING  
(CLOSED 16 DECEMBER 2010)**

NO	NAME AND ADDRESS OF SUBMITTER	DESCRIPTION OF AFFECTED PROPERTY	SUBMISSION SUMMARY	OFFICER OR COUNCIL'S RECOMMENDATION
1	A True 119 High Street Sorrento WA 6020	N/A	<p>Suggests that the following points be made mandatory rather than encouraged:</p> <ul style="list-style-type: none"> <li>• Designing and constructing buildings to include passive solar design.</li> <li>• Increasing water efficiency and encouraging water reuse and recycling for buildings and landscaping.</li> <li>• Increasing the energy efficiency of buildings by using low energy technologies for lighting, heating and cooling appliances and equipment.</li> <li>• Increasing air quality of buildings by using low allergic and low volatile organic compound (VOC) fittings, furniture, paints and adhesives.</li> <li>• Joondalup should aim for 6 star rated green buildings.</li> <li>• City of Joondalup should avoid brick paving verges and median strips and plant more trees and shrubs.</li> </ul>	<p>Noted.</p> <p>The aim of developing these policies is to provide developers with guidance and encourage them to incorporate environmentally sustainable practices for development within the City. As the Green Building Council of Australia has strongly recommended the Green Star Rating be used as a voluntary tool and not as a mandatory standard, the City does not believe it is appropriate to mandate specific requirements.</p> <ul style="list-style-type: none"> <li>• This is beyond the scope of the draft policies under consideration.</li> </ul>

**PROPOSED DRAFT POLICIES  
Small Scale Renewable Energy Systems,  
Environmentally Sustainable Buildings and  
Environmentally Sustainable Design Checklist**

**SCHEDULE OF SUBMISSIONS FOLLOWING ADVERTISING  
(CLOSED 16 DECEMBER 2010)**

2	S Magyar 31 Drummer Way Heathridge WA 6027	N/A	<ul style="list-style-type: none"> <li>• Requests the policy applies to single and grouped dwellings or a separate policy is developed.</li> <li>• Requests the deletion of 'electrical components and wires associated with a small wind energy system must not be visible from the street.'</li> <li>• Request that small scale renewable energy systems be permitted between the building and the street alignment.</li> <li>• Boundary setbacks (side and rear) should be reviewed to encourage instead of discourage residents to install systems.</li> </ul>	<p>Noted.</p> <ul style="list-style-type: none"> <li>• The Residential Design Codes (2010) permit solar collectors on single and grouped dwellings without the need for planning approval. Additionally applicants are required to demonstrate how the energy efficiency requirements are met when they apply for a building licence. The application for a building licence is then assessed against the Building Codes of Australia</li> <li>• As stipulated in the objective of the policy, the aim of these requirements is to establish criteria for the development of small scale renewable energy systems whilst protecting the quality of the streetscape and amenity of the adjoining property. Proposals outside the provisions of the policy can be considered, however, would require consultation with adjoining owners.</li> </ul>
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**PROPOSED DRAFT POLICIES  
Small Scale Renewable Energy Systems,  
Environmentally Sustainable Buildings and  
Environmentally Sustainable Design Checklist**

**SCHEDULE OF SUBMISSIONS FOLLOWING ADVERTISING  
(CLOSED 16 DECEMBER 2010)**

3	S Young (email address provided)	N/A	<ul style="list-style-type: none"> <li>• Requests the deletion of 'electrical components and wires associated with a small wind energy system must not be visible from the street.'</li> <li>• Request that small scale renewable energy systems be permitted between the building and the street alignment.</li> <li>• Boundary setbacks (side and rear) should be reviewed to encourage instead of discourage residents to install systems.</li> <li>• Delete 'Solar energy systems should be designed and positioned on rooftops so as not to detract from the building itself or impose on the existing streetscape.'</li> <li>• Delete 'The system must not be located on a property/ building on the City's Heritage List.'</li> </ul>	<p>Noted.</p> <ul style="list-style-type: none"> <li>• As stipulated in the objective of the policy, the aim of these requirements is to establish criteria for the development of small scale renewable energy systems whilst protecting the quality of the streetscape and amenity of the adjoining property. Proposals outside the provisions of the policy can be considered, however, would require consultation with adjoining owners.</li> </ul>
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**SCHEDULE OF SUBMISSIONS FOLLOWING ADVERTISING  
(CLOSED 16 DECEMBER 2010)**

			<ul style="list-style-type: none"> <li>• The height limits effectively disallow any sensible installation of wind generators. Requests these parameters be reviewed.</li> <li>• The limit of a solar energy system of up to 100kW capacity or a small wind energy system of up to 10kW capacity limits installation of systems to those that are one tenth of the possible solar energy system.</li> <li>• Recommends the requirement of consultation with neighbours where the structure may be visible from the street be deleted as this will mean some projects won't be permitted due to visual appearance.</li> <li>• The Building Codes of WA should be included as related documentation.</li> </ul>	<ul style="list-style-type: none"> <li>• It is the City's practice to seek public comment in regard to a development which is considered to impact on an adjoining landowner. In the event an objection is received through the consultation process, the application is not automatically refused. Alternative solutions and further negotiations with the affected landowners may be necessary.</li> <li>• There are numerous documents which may relate to the policies however the documents listed were the most relevant to the development of the policies specifically.</li> </ul>
4	B Hermann 41 Cutter Crescent Beldon WA 6027		Identical to Submission 3,	Refer submission 3.