

Attachment B

**Draft Development Control Plan
Performance Standards for Net Zero Energy
Buildings 2021**

Draft Development Control Plan – Performance Standards for Net Zero Energy Buildings 2021

The purpose of the draft Development Control Plan

- 1) The purpose of this draft Development Control Plan (DCP) is to amend various development control plans applying to the City of Sydney local government area by inserting provisions that:
 - a) set out the performance standards for net zero energy buildings and the dates for implementation
 - b) identify the development thresholds for new development, additions and refurbishments that the performance standards apply to
 - c) identify the options for demonstrating compliance with the performance standards through recognised planning and design tools, as well as an energy intensity target
 - d) provide guidance for the implementation of the performance standards for heritage items
 - e) set out submission requirements for development applications
 - f) may be adopted by Council as a design guide where necessary to integrate with the relevant local environmental plan

Citation

- 2) This amendment may be referred to as Draft Development Control Plan – Performance Standards for Net Zero Energy Buildings 2021

Land covered by this Plan

- 3) This amendment applies to the City of Sydney Local Government area.

Relationship of this Plan to other Development Control Plans

- 4) This plan amends *Sydney Development Control Plan 2012* as shown in schedule 1 and as follows:
 - a) throughout section 3.6 Ecologically Sustainable Development make minor amendments for clarification, delete unnecessary background text and delete one set of objectives as they are a duplicate.
 - b) in section 3.6 Ecologically Sustainable Development include new definitions
 - c) replace exiting provisions at the end of 3.6.1 Energy efficiency in non residential developments to implement the performance standards for net zero energy buildings.

5) This plan amends the *Green Square Town Centre Development Control Plan 2012* as shown in schedule 2 and as follows:

- a) throughout section GSTC 8 Environmental Management make minor amendments for clarification
- b) in section GSTC 8 Environmental Management include new definitions
- c) replace exiting provisions in 8.2.1 Energy efficiency in non residential developments to implement the performance standards for net zero energy buildings.

6) The content of this plan may also be adopted by Council as a Design Guide.

Schedule 1: Amendment to Sydney Development Control Plan 2012

Amend section 3.6 of Sydney Development Control Plan 2012 with text to be inserted shown as underlined and text to be deleted shown as ~~strikethrough~~.

3.6 Ecologically Sustainable Development

This section sets out objectives and controls to provide a framework for the application of ecologically sustainable development principles in the design, construction and operation of buildings across the City of Sydney local government area.

Council encourages the application application of ecologically sustainable development principles for all development. Implementing the principles means that the development will be designed and constructed so that it complies with the objectives of this section. ~~following objectives:~~

- ~~(a) Greenhouse gas emissions will be reduced.~~
- ~~(b) The use of cogeneration and tri-generation systems will be increased.~~
- ~~(c) Energy that is used will be renewable and low carbon.~~
- ~~(d) Potable water use will be reduced.~~
- ~~(e) Development can adapt to climate change.~~
- ~~(f) Waste will be reduced.~~
- ~~(g) Recycling of waste and use of products from recycled sources will be increased.~~
- ~~(h) Indoor environmental quality will be improved.~~
- ~~(i) The environmental impact from building materials will be reduced through reduction, re-use and recycling of materials, resources and building components.~~
- ~~(j) Biodiversity will be improved.~~

~~Section J of the Building Code of Australia contains mandatory requirements for the design of building envelopes and fixtures to minimise energy use.~~

~~The Commonwealth Commercial Building Disclosure Program requires energy efficiency information to be provided in most cases when commercial office space of 1,000 sqm or more is offered for sale or lease. The aim is to improve the energy efficiency of Australia's large office buildings and to ensure prospective buyers and tenants are informed. The Commercial Building Disclosure Program is an initiative of the Council of Australian Governments. It was established by the Building Energy Efficiency Disclosure Act 2010 and is managed by the Australian Government Department of the Environment and Energy.~~

~~In NSW, State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004 (BASIX SEPP) mandates provisions that aim to reduce consumption of mains-supplied potable water, reduce emissions of greenhouse gases and improve thermal comfort in all residential development. The BASIX SEPP sets the minimum standards that a development is to achieve. The BASIX SEPP also mandates that a DCP cannot include provisions which require a development to exceed its minimum standards. However, where voluntarily proposed, Council encourages development to exceed minimum BASIX scores. From time~~

~~to time Council may provide guidelines or other relevant information that will assist applicants to implement the principles of ecologically sustainable development.~~

~~From time to time Council may provide guidelines or other relevant information that will assist applicants to implement the principles of ecologically sustainable development.~~

~~In the absence of comprehensive government standards and building rating tools which can be used to assess the environmental performance of buildings, Council encourages applicants to use an environmental building rating tool, such as Green Star or any similar rating tool, to demonstrate the environmental performance of a proposed development.~~

~~Applicants should contact the operator of the rating tool, such as the Green Building Council of Australia, if they wish to obtain a certified rating.~~ Where an applicant voluntarily proposes achieving a Green Star or other building tool rating Council will apply a condition of development consent that requires the development to obtain the certified rating that was nominated by the applicant.

Definitions

The following definitions are applicable to 3.6.1 Energy efficiency in non residential developments provision only.

Net zero energy development means a development that consumes no more energy than is provided by a combination of:

- (a) renewable energy generated onsite, or
- (b) renewable energy procured from offsite sources for a period of at least 5 years.

In this definition, energy includes gas, electricity and thermal energy, and excludes diesel used for emergency back-up generation. Other emissions, such as those from refrigerants, are not included.

Renewable energy means energy that comes from natural resources such as sunlight, wind and rain that are renewable (naturally replenished).

Shopping centre means two or more retail premises within a building that has shared plant and services which are managed by a single person or entity. This does not include specialised retail premises, garden centres, hardware and building supplies, landscaping material supplies, plant nurseries, roadside stalls, rural supplies, timber yards or vehicle sales or hire premises.

Refurbishment means carrying out of works to an existing building where the works affect at least half the total volume of the building measured over its external roof and walls and where there is no increase in the gross floor area. In calculating the extent of the building's volume that is being changed, the proposed works and all other building work completed or authorised within the previous three years is to be included.

Objectives

- (a) Apply principles and processes that contribute to ecologically sustainable development (ESD).
- (b) Reduce the impacts from development on the environment.
- (c) Reduce the use of resources in development and by development over its effective life.

- (d) Reduce the cause and impacts of the urban heat island effect.
- (e) Increase the resilience of development to the effects of climate change.
- (f) Ensure that greenhouse gas emissions will be reduced.
- ~~(g) Increase the use of cogeneration and tri-generation systems.~~
- (h) Replace intensive carbon power sources with low carbon and renewable energy.
- (i) Reduce the use of potable water.
- (j) Ensure that development can adapt to climate change.
- (k) Ensure that demolition, construction and operational waste will be reduced.
- (l) Increase the use of products from recycled sources.
- (m) Improve indoor environmental quality.
- (n) Reduce the environmental impact from building materials through reduction, re-use and recycling of materials, resources and building components.
- (o) Improve ~~the~~ biodiversity.

Provisions 3.6.1 Energy efficiency in non residential developments

- (1) Development is to be designed and constructed to reduce the need for active heating and cooling by incorporating passive design measures including design, location and thermal properties of glazing, natural ventilation, appropriate use of thermal mass and external shading, including vegetation.
- (2) Lighting for streets, parks and any other public domain spaces provided as part of a development should be energy efficient lighting such as LED lighting.
- (3) In multi-tenant or strata-subdivided developments, electricity sub-metering is to be provided for lighting, air-conditioning and power within each tenancy or strata unit. Locations are to be identified on the development plans.
- (4) Electricity sub-metering is to be provided for significant end uses that will consume more than 10,000 kWh/annum.
- (5) Car parking areas are to be designed and constructed so that electric vehicle charging points can be installed at a later time.
- (6) Where appropriate and possible, the development of the public domain should include electric vehicle charging points or the capacity for electric vehicle charging points to be installed at a later time.
- ~~(7) Applications for new developments containing office premises with a net lettable area of 1,000sqm or more are to be submitted with documentation confirming that the building will be capable of supporting a Base Building National Australian Built Environment Rating System (NABERS) Energy Commitment Agreement of 5.5 stars with the NSW Office of Environment and Heritage. Such an agreement is to be entered into prior to any construction certificate being issued for the approved development.~~
- ~~(8) Applications for developments involving alterations, additions and refurbishments to existing office premises where the estimated cost of works is over \$5 million, and contains a~~

~~net lettable area of 1,000sqm or more, are to be submitted with documentation confirming that the building will be capable of supporting a Base Building National Australian Built Environment Rating System (NABERS) Energy Commitment Agreement of 5 stars with the NSW Office and Environment Heritage. Such an agreement is to be entered into prior to any construction certificate being issued for the approved development. Notwithstanding, a Base Building National Australian Built Environment Rating System (NABERS) Energy Commitment Agreement of 5 stars is not required where the consent authority is satisfied that:~~

~~(a) the upgrade works would negatively impact on significant heritage fabric or the heritage significance of a listed heritage item, or~~

~~(b) the costs associated with the energy efficiency upgrade works are unreasonable when compared to the overall estimated cost of works for the alterations, additions and refurbishment.~~

~~(9) Any application which may impact on significant heritage fabric or the heritage significance of a listed item is to be supported by a Heritage Impact Statement prepared by an appropriately experienced heritage consultant.~~

~~(10) Where it is asserted that the costs are unreasonable under subclause (8) (b) the development application is to be supported by a registered Quantity Surveyor's detailed cost report itemising and verifying the cost of the required energy efficiency upgrade works.~~

(7) Development identified in Table 3.5: Development thresholds and performance standards is to be capable of achieving the performance standards in that table and:

(a) Applications are to include an Energy Assessment Report prepared by a suitably qualified person, who is also a NABERS accredited assessor, demonstrating that the building is capable of achieving the performance standards identified in Table 3.5: Development thresholds and energy performance standards.

(b) Where development proposes to achieve the energy intensity performance standard (kWh/yr/m²), an assessor from the NABERS Independent Design Review Panel is to formally verify energy modelling.

(c) Where it is a refurbishment of or addition to a heritage item, a reduction in the performance standards in Table 3.5: Development thresholds and energy performance standards may be considered if it is clearly demonstrated that compliance with the standards cannot be reasonably achieved without unacceptable impact on the heritage item and that energy efficiency and use of renewables is reasonably maximised. The application for a reduction in the standards must be supported by:

- i. a Heritage Impact Statement, prepared by an appropriately experienced heritage consultant
- ii. energy modelling prepared by a suitably qualified person.

Table 3.5: Development threshold and energy performance standards

Proposed land use	Development threshold for performance standards	Energy performance standards	
		Applications submitted between 1 January 2023 – 31 December 2025	Applications submitted from 1 January 2026 onwards
Office (base building)	A new office building containing a net lettable area (NLA) of 1,000m ² or more	- maximum 45 kWh/yr/m ² of Gross Floor Area (GFA), or	- maximum 45 kWh/yr/m ² of GFA, or
	A refurbishment* to an existing office building that contains a NLA of 1,000m ² or more	- 5.5 Star NABERS Energy Commitment Agreement (CA) + 25%, or	- 5.5 Star NABERS Energy CA + 25%, or
	An existing office building of 1,000m ² NLA or more with an addition of 50% or more NLA	- certified Green Star Buildings rating with a “credit achievement” in Credit 22: Energy Use, or equivalent	- certified Green Star Buildings rating with a “credit achievement” in Credit 22: Energy Use, or equivalent and - renewable energy procurement equivalent to “net zero energy” or a maximum of 45 kWh/yr/m ² of GFA
Retail (applies to shopping centre base building only)	A new shopping centre containing a gross lettable area – retail (GLAR) of 5,000m ² or more	- maximum 55 kWh/yr/m ² of GFA, or	- maximum 45 kWh/yr/m ² of GFA, or
	An existing shopping centre of 5,000m ² GLAR or more with an addition of 50% or more GLAR	- 4 star NABERS Energy CA, or	- 5 star NABERS Energy CA, or
Hotel (whole of building)	A new hotel of 100 rooms or more	- certified Green Star Buildings rating achieving the “minimum expectation” in Credit 22: Energy Use, or equivalent	- certified Green Star Buildings rating with “exceptional performance” in Credit 22: Energy Use, or equivalent
	A refurbishment* to an existing hotel that contains 100 rooms or more	- maximum 245 kWh/yr/m ² of GFA, or	- maximum 240 kWh/yr/m ² of GFA, or
	An existing hotel of 100 rooms or more with an addition of 50% or more hotel rooms	- 4 star NABERS Energy CA, or	- 4 star NABERS Energy CA + 10%, or
Mixed use	Where one or more of the above thresholds for each proposed use apply	- certified Green Star Buildings rating achieving the “minimum expectation” in Credit 22: Energy Use, or equivalent	- certified Green Star Buildings rating with a “credit achievement” in Credit 22: Energy Use, or equivalent and - renewable energy procurement equivalent to “net zero energy” or a maximum of 240 kWh/yr/m ² of GFA
		- The above performance standards apply for each proposed use	- The above performance standards apply for each proposed use

Schedule 2: Amendment to Green Square Town Centre Development Control Plan 2012

Amend Green Square Town Centre Development Control Plan 2012 with text to be inserted shown as underlined and text to be deleted shown as ~~strikethrough~~.

GSTC 8

Environmental Management

Definitions

The following definitions are applicable to this provision only.

Net zero energy development means a development that consumes no more energy than is provided by a combination of:

- (a) renewable energy generated onsite, or
- (b) renewable energy procured from offsite sources for a period of 5 years.

In this definition, energy includes gas, electricity and thermal energy, and excludes diesel used for emergency back-up generation. Other emissions, such as those from refrigerants, are not included.

Renewable energy means energy that comes from natural resources such as sunlight, wind and rain that are renewable (naturally replenished).

Shopping centre means two or more retail premises within a building that has shared plant and services which are managed by a single person or entity. This does not include specialised retail premises, garden centres, hardware and building supplies, landscaping material supplies, plant nurseries, roadside stalls, rural supplies, timber yards or vehicle sales or hire premises.

Refurbishment means carrying out of works to an existing building where the works affect at least half the total volume of the building measured over its external roof and walls and where there is no increase in the gross floor area. In calculating the extent of the building's volume that is being changed, the proposed works and all other building work completed or authorised within the previous three years is to be included.

Objectives

- (a) Ensure that new development applies the principles of ecologically sustainable development ("ESD").
- (b) Reduce the impacts from development on the environment.
- (c) Reduce the use of resources in development and by development over its effective life.
- (d) Reduce the cause and impacts of the urban heat island effect.
- (f) Promote the use of renewable energy sources and materials to reduce the use of resources, and the generation pollution and waste resulting from development activity.
- (g) Encourage improved environmental performance through the voluntary use of industry recognised building rating tools, such as NABERS and Green Star.

(h) Encourage energy and water efficiency and water recycling in non BASIX affected development.

(i) Reduce the amount of waste disposed of at landfill from construction, ~~and demolition waste~~ and operational waste. ~~generated in the operation of a development going to landfill.~~

(j) Ensure waste from within developments can be collected and disposed in a manner that is healthy, efficient, minimises disruption to amenity, and is conducive to the overall minimisation of waste generated.

(k) Facilitate the delivery of the City's targets for sustainable urban renewal by encouraging development to connect to the City's Green Infrastructure.

Note: Residential development is addressed by BASIX. The provisions of this DCP in relation to reducing greenhouse gas emissions, reducing potable water use, or improving the thermal comfort in the use of a dwelling, do not apply to BASIX affected development.

Provisions

GSTC 8.1 Ecologically Sustainable Development

(1) All development is encouraged to use an environmental rating tool, such as NABERS ~~and~~ Green Star, to demonstrate the degree to which it is ecologically sustainable development.

(2) Development is to enable the incorporation of sustainable development initiatives, including green infrastructure.

GSTC 8.2 Energy

(1) For building maintenance and to future proof the building to enable infrastructure upgrades, heating and cooling infrastructure is to be consolidated into a centralised basement location near the street frontage within residential developments.

(2) In multi-floor or multi-tenant or strata-subdivided developments, electricity sub-metering is to be provided for light, air conditioning and power within each floor and/or tenancy and/or strata unit. Locations are to be identified on the development plans.

8.2.1 Energy efficiency in non residential developments

~~(1) Applications for new developments containing office premises with a net lettable area of 1,000sqm or more are to be submitted with documentation confirming that the building will be capable of supporting a Base Building National Australian Built Environment Rating System (NABERS) Energy Commitment Agreement of 5.5 stars with the NSW Office of Environment and Heritage. Such an agreement is to be entered into prior to any construction certificate being issued for the approved development.~~

~~(2) Applications for developments involving alterations, additions and refurbishments to existing office premises where the estimated cost of works is over \$5 million, and contains a net lettable area of 1,000sqm or more, are to be submitted with documentation confirming that the building will be capable of supporting a Base Building National Australian Built Environment Rating System (NABERS) Energy Commitment Agreement of 5 stars with the NSW Office and Environment Heritage. Such an agreement is to be entered into prior to any construction certificate being issued for the approved development. Notwithstanding this, a Base Building National Australian Built Environment Rating System (NABERS) Energy~~

~~Commitment Agreement of 5 stars may be not required by the consent authority where it is satisfied that:~~

~~(a) the costs associated with the energy efficiency upgrade works are unreasonable when compared to the overall estimated cost of works for the alterations, additions and refurbishment; and~~

~~(b) where it is asserted that the costs are unreasonable under subclause (2)(a) the development application is to be supported by a registered Quantity Surveyor's detailed cost report itemising and verifying the additional cost of the required energy efficiency upgrade works.~~

(1) Development identified in Table 6.3: Development thresholds and performance standards is to be capable of achieving the performance standards in that table and:

(a) Applications are to include an Energy Assessment Report prepared by a suitably qualified person, who is also a NABERS accredited assessor, demonstrating that the building is capable of achieving the performance standards identified in Table 6.3: Development thresholds and energy performance standards.

(b) Where development proposes to achieve the energy intensity performance standard (kWh/yr/m²), an assessor from the NABERS Independent Design Review Panel is to formally verify energy modelling.

(c) Where it is a refurbishment of or addition to a heritage item, a reduction in the performance standards in Table 6.3: Development thresholds and energy performance standards may be considered if it is clearly demonstrated that compliance with the standards cannot be reasonably achieved without unacceptable impact on the heritage item and that energy efficiency and use of renewables is reasonably maximised. The application for a reduction in the standards must be supported by:

- i. a Heritage Impact Statement, prepared by an appropriately experienced heritage consultant
- ii. energy modelling prepared by a suitably qualified person.

Table 6.3: Development threshold and energy performance standards

<u>Proposed land use</u>	<u>Development threshold for performance standards</u>	<u>Energy performance standards</u>	
		<u>Applications submitted between 1 January 2023 – 31 December 2025</u>	<u>Applications submitted from 1 January 2026 onwards</u>
<u>Office (base building)</u>	<u>A new office building containing a net lettable area (NLA) of 1,000m² or more</u>	- <u>maximum 45 kWh/yr/m² of Gross Floor Area (GFA), or</u> - <u>5.5 Star NABERS Energy Commitment Agreement (CA) + 25%, or</u> - <u>certified Green Star Buildings rating with a "credit achievement" in</u>	- <u>maximum 45 kWh/yr/m² of GFA, or</u> - <u>5.5 Star NABERS Energy CA + 25%, or</u> - <u>certified Green Star Buildings rating with a "credit achievement" in Credit 22: Energy Use, or equivalent</u>
	<u>A refurbishment* to an existing office building that contains a NLA of 1,000m² or more</u>	- <u>maximum 45 kWh/yr/m² of Gross Floor Area (GFA), or</u> - <u>5.5 Star NABERS Energy Commitment Agreement (CA) + 25%, or</u> - <u>certified Green Star Buildings rating with a "credit achievement" in</u>	- <u>maximum 45 kWh/yr/m² of GFA, or</u> - <u>5.5 Star NABERS Energy CA + 25%, or</u> - <u>certified Green Star Buildings rating with a "credit achievement" in Credit 22: Energy Use, or equivalent</u>

	<u>An existing office building of 1,000m²NLA or more with an addition of 50% or more NLA</u>	- <u>Credit 22: Energy Use, or equivalent</u>	and - <u>renewable energy procurement equivalent to “net zero energy” or a maximum of 45 kWh/yr/m² of GFA</u>
<u>Retail (applies to shopping centre base building only)</u>	<u>A new shopping centre containing a gross lettable area – retail (GLAR) of 5,000m² or more</u> <u>An existing shopping centre of 5,000m² GLAR or more with an addition of 50% or more GLAR</u>	- <u>maximum 55 kWh/yr/m² of GFA, or</u> - <u>4 star NABERS Energy CA, or</u> - <u>certified Green Star Buildings rating achieving the “minimum expectation” in Credit 22: Energy Use, or equivalent</u>	- <u>maximum 45 kWh/yr/m² of GFA, or</u> - <u>5 star NABERS Energy CA, or</u> - <u>certified Green Star Buildings rating with “exceptional performance” in Credit 22: Energy Use, or equivalent</u> and - <u>renewable energy procurement equivalent to “net zero energy” or a maximum of 45 kWh/yr/m² of GFA</u>
<u>Hotel (whole of building)</u>	<u>A new hotel of 100 rooms or more</u> <u>A refurbishment* to an existing hotel that contains 100 rooms or more</u> <u>An existing hotel of 100 rooms or more with an addition of 50% or more hotel rooms</u>	- <u>maximum 245 kWh/yr/m² of GFA, or</u> - <u>4 star NABERS Energy CA, or</u> - <u>certified Green Star Buildings rating achieving the “minimum expectation” in Credit 22: Energy Use, or equivalent</u>	- <u>maximum 240 kWh/yr/m² of GFA, or</u> - <u>4 star NABERS Energy CA + 10%, or</u> - <u>certified Green Star Buildings rating with a “credit achievement” in Credit 22: Energy Use, or equivalent</u> and - <u>renewable energy procurement equivalent to “net zero energy” or a maximum of 240 kWh/yr/m² of GFA</u>
<u>Mixed use</u>	<u>Where one or more of the above thresholds for each proposed use apply</u>	- <u>The above performance standards apply for each proposed use</u>	- <u>The above performance standards apply for each proposed use</u>