

# Energy Efficiency



## Who should read this guide?

Anyone who is proposing a new building and need to know the energy efficiency requirements.

## Introduction

Energy efficient buildings provide long term benefits to the building's occupants—lower operating costs, increased productivity and improved health—as well as to the environment by using less energy.

For this reason, applications for development approval must meet a number of energy efficient measures.

These measures are prescribed in:

- a Development Plan Consent in relation to the *Adelaide (City) Development Plan*
  - Building Rules Consent in relation to the *National Construction Code* (NCC).
- The *Development Plan*'s desired outcomes for energy performance are sometimes higher than those of the NCC.
- This guide provides information explaining how various rating systems, such as Green Star and the National Australian Built Environment Rating System (NABERS), relate to the *Development Plan* and the NCC.

- Incorporation of insulation and draught proofing
- Use of energy efficient materials
- Reuse and improvement of existing buildings
- Enhancement of local biodiversity, such as green roofs
- Consideration of thermal mass benefits
- Incorporation of efficient energy use technologies (e.g. geo exchange) and energy generation systems (e.g. cogeneration, wind power, fuel cells and photovoltaics)
- A roof form that facilitates the installation of photovoltaics
- Consideration of the building's future adaptability to climate change.

Further detail can be found in the Energy Efficiency Council Wide section of the *Development Plan*.

## Desired Development Plan Energy Outcomes

To obtain a planning consent, all development across the City will be assessed in relation to the following *Development Plan* energy principles which seek to minimise energy consumption and limit greenhouse gas emissions:

- Maximised access to northern light
- Incorporation of an energy efficient internal layout, e.g. zoning of areas
- Design and location of windows to minimise summer sun and maximise winter sun
- Allowance for natural ventilation, day light and air movement

## National Construction Code

The NCC prescribes minimum energy performance requirements for all residential, commercial and industrial buildings.

It is important to be well informed about NCC requirements at the planning consent stage.

**Note:** Satisfying the NCC requirements does not automatically mean that the building will satisfy the *Development Plan* energy principles, which may require additional design outcomes.

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## How the desired Development Plan energy outcomes can be achieved

The *Development Plan* does not prescribe how to achieve desired energy outcomes.

While a range of options are suggested (referred to as 'design techniques'), other methods and solutions may also be acceptable.

Rating tools, such as NABERS or Green Star, are not prescribed in the *Development Plan* or the NCC and are non-statutory energy measuring schemes that change over time.

Additionally, whilst the *Development Plan* and NCC apply to all forms of development, rating tools are not available for all building types.

If rating tools are used, you should ensure your building project:

- does not conflict with the NCC minimum energy efficiency requirements
- satisfies the *Development Plan* energy principles.

Operational impacts on the environment are measured by using NABERS, which has rating tools for office, homes, hotels, existing buildings, retail, schools, hospitals and transport.

Green Star assesses energy, transport, materials, water, land use and ecology, emissions, indoor environmental quality and management. Green Star is available for office, retail, healthcare, education, industrial and multi-unit residential buildings.

The National Australian Built Environment Rating System (NABERS) measures total energy consumption per square metre of floor space. It converts this to a greenhouse measurement in kilograms per square metre, allowing for benchmarking of buildings in different climates zones throughout Australia.

## Information to be Provided

Information demonstrating the energy efficiency of your building is required to enable an assessment of the energy components of the proposed building in relation to the *Development Plan*. Information can be in the form of a written summary of the design features and through annotations on the plan.

If a rating tool is to be used, information setting out the proposed energy strategy and proposed star rating system is requested at the planning assessment stage. If information is presented in a manner responding to the *Development Plan* principles, this will assist the processing of your application. If granted *Development Plan Consent*, detailed information to satisfy the conditions of the *Development Plan Consent* will be required to be submitted to Council before Council can issue Development Approval. It is recommended that a design professional be engaged early in the process so that appropriate design solutions can be incorporated.

## Other Resources

- Green Building Council of Australia at [www.gbca.org.au](http://www.gbca.org.au)
- The National Australian Built Environment Rating System at [www.nabers.com.au](http://www.nabers.com.au)
- Department of Climate Change and Energy Efficiency at [www.yourhome.gov.au](http://www.yourhome.gov.au)

## Further Information

For further information or to discuss your specific requirements, please contact Council's Development Assessment team on **08 8203 7185** or [d.planner@cityofadelaide.com.au](mailto:d.planner@cityofadelaide.com.au).