



# FACTSHEET

## 6-star (or equivalent) energy efficiency rating for class 1 buildings

**From 1 May 2010, 6-star energy equivalence rating for houses and townhouses (class 1 buildings) will become the minimum requirement in Queensland.**

### What is an energy equivalence rating?

A house's energy equivalence rating is determined by the design of its 'shell'—roof, walls, windows and floors and in Queensland credits are available for homes that include outdoor living areas and photovoltaic cells. The rating is out of 10 stars with more stars indicating a more energy efficient and comfortable home.

### What buildings will the 6-star requirement apply to?

The 6-star requirement will apply to all new houses and townhouses (class 1 buildings) and enclosed garages (class 10a buildings) attached to class 1 buildings. The requirement also applies to new work done on existing buildings, such as additions, alterations or re-locations.

Development applications submitted before a new or amended building code begins do not need to comply with the new or amended code (in this case May 1).

Further, building certifiers have discretion to not apply new or amended codes in cases where planning of a building was well advanced before the new or amended code began and it would take more than minor changes to make the application comply.

### Is 6-star applicable to units?

No. Since 1 March 2010, units have been required to achieve a minimum 5-star energy equivalence rating. This will remain unchanged from 1 May 2010 when the Building Code of Australia (BCA) 2010 commences.

### How does this benefit Queensland?

The increase from 5-star to 6-star will help reduce greenhouse gas emissions in all new houses and townhouses built in Queensland. This will help contribute to the Queensland Government's *Towards Q2* target to reduce greenhouse gas emissions by one third by 2020.

### How does the energy equivalence requirement benefit me?

A 6-star house or townhouse is not only more comfortable to live in, it will also provide occupier's with lower energy bills because it uses less energy for artificial cooling and heating. Reduced energy use from air conditioning means a lower household carbon footprint.

### What was the previous requirement in Queensland?

The previous requirement for houses and townhouses was a minimum 5-star energy equivalence rating. The 5-star energy equivalence rating requirement came into effect on 1 March 2009 through the Queensland Development Code (QDC) 4.1 - Sustainable buildings.



### How will this affect renovations and existing parts of the building?

The requirement will apply to new work done on existing houses and townhouses, such as additions, alterations or re-locations. At the time of building approval, a building certifier will need to consider whether some of the requirements apply to the existing parts of the building.

### How does my building certifier decide how the 6-star requirements apply to the existing parts of my unit for additions or alterations?

Under the *Building Act 1975*, a building certifier has the discretion to determine how the 5-star requirement applies to existing parts of houses with proposed extensions, alterations or re-locations. For example, if the alteration represents more than 50 per cent of the existing building the certifier can determine whether the existing building, along with the alteration, would also need to comply with the requirement. It is recommended that you discuss possible requirements involved with your building certifier during the design stage.

### What design options are there to achieve a 6-star house?

Compliance with the 6-star or equivalent housing requirement can be achieved in a number of ways. The building code is performance-based so designers and architects are able to use a range of styles and energy efficient features to comply with the new requirements including:

- » northern orientation of living rooms
- » minimising east and west facing walls and windows
- » wider eaves and awnings for shading
- » increased insulation
- » treated glazing, particularly for windows facing west and north-west
- » light coloured roof and walls
- » natural ventilation through windows and doorways
- » ceiling fans in living areas and bedrooms.

### What changes need to be made to a 5-star house to meet the 6-star requirement?

Moving from a 5 to 6 star house could be as simple as adding an outdoor living area with a ceiling fan or adding insulated sarking to the inside of the roof and more energy efficient windows. Improved ventilation through louvers, increased roof void ventilation or a light coloured roof are just a few of the other cost-effective options can also help boost the star rating of a home.

### Will the 6-star requirement increase the cost of building?

It is anticipated that the increase to 6-star will result in building costs increasing by around 1.25 per cent on average depending on the design and location. The extra costs will be offset by ongoing savings for the life of the home on household energy bills by reducing the need for artificial heating and cooling.

### How is a 6-star home assessed?

The methods used to assess new houses and townhouses have been improved over time to better reflect Queensland's climatic conditions, including better consideration of shading and natural ventilation. The following assessment methods can be used to determine compliance:

- i. Deemed-to-satisfy (DTS)** — as per the BCA Part 3.12—Energy efficiency in volume two (with Queensland specific variations outlined in QDC 4.1).
- ii. Software** — using the latest design software (2nd generation - i.e. BERS Pro, AccuRate or FirstRate5) and undertaken by a house energy assessor.
- iii. Verification** — using a reference building that allows the intended design to be compared with a design that is known to comply
- iv. Peer review** — having an expert confirm if an innovative building design meets the 6-star energy equivalence requirement. The Peer review guideline is available at [www.dip.qld.gov.au](http://www.dip.qld.gov.au).



**What is the Government doing to make sure the 6-star standard works in Queensland's unique climate?**

A Tropical Design Forum was held in Cairns on 2 March 2010 to discuss implementation options for 6-star in Queensland's unique climate. Key themes and outcomes of the forum are available on the Department of Infrastructure and Planning website. The Minister will be holding a follow-up forum in Toowoomba to discuss a proposed code that will implement the 6-star provisions. Please contact Building Codes Queensland on 3239 6369 for further details.

**For more information**

The draft QDC 4.1—Sustainable buildings and an updated version of the associated guideline will be available on the Department of Infrastructure and Planning's website in coming weeks.