

5-star energy requirement for houses and townhouses in Queensland

Frequently asked questions

When did the 5-star requirement commence in Queensland?

The 5-star energy equivalence rating requirement came into effect 1 March 2009, through the Queensland Development Code (QDC) Mandatory Part (MP) 4.1—Sustainable buildings.

What was the previous energy equivalence requirement for housing in Queensland?

Since September 2003, new houses, townhouses and additions or alterations to existing houses were required to achieve a minimum energy equivalence rating of 3.5 or 4-stars (depending on the climate zone) under the Building Code of Australia (BCA).

What is a 5-star energy equivalence rating?

A house's energy equivalence rating is determined by the design of its building envelope, or its 'shell'—roof, walls, windows and floors. The rating is out of 10 stars—more stars indicate a more energy efficient and comfortable house.

An energy equivalence rating does not take into consideration a house's fixtures and appliances, such as hot water systems, air-conditioners, lighting and fridges.

What buildings does the 5-star requirement apply to?

The 5-star requirement applies 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. Your building certifier will need to consider whether some of the requirements apply to the existing parts of the building.

The 5-star requirement will not apply to new or existing units (class 2 buildings) from 1 March 2009. The current 3.5 or 4-star standard will remain applicable on new or existing units (class 2 buildings) until 1 March 2010.

How does my building certifier decide how the 5-star requirements apply to the existing parts of my house for additions or alterations?

Under S81 (1)(a) and (3) of 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.

How does the 5-star requirement include indoor-outdoor connections?

The QDC MP4.1—Sustainable buildings contains provisions that are designed to promote our sub-tropical and tropical lifestyle. An optional credit of up to 1-star is available for new houses and townhouses that include a covered outdoor living area connected to the building's living area, such as a deck, verandah or pergola. A ½ star credit is available for a covered and insulated outdoor area (minimum 12m² floor area), and a further ½ star credit will be provided if a ceiling fan is installed.

How is the 5-star requirement implemented?

Initially, from 1 March 2009 through the [QDC MP4.1—Sustainable buildings](#), and then through the BCA 2009 from 1 May 2009.

What are the benefits of 5-star houses or townhouses?

A 5-star house or townhouse is not only more comfortable to live in, it will also provide you with ongoing savings on energy bills as it uses less energy for artificial cooling and heating. Reduced energy use from air-conditioning means you can minimise your household's carbon footprint.

Will the 5-star requirement increase the cost of building?

Industry advises that meeting the 5-star requirement will typically cost less than 1 per cent of the total construction cost of a new house or townhouse—depending on its design, size and location. This cost will be off-set by ongoing savings of around \$200 per year in an average home by reducing the need for artificial cooling and heating (resulting in a payback period of around five years, with ongoing savings thereafter over the life of the house or townhouse).

Does the 5-star requirement mean uniform design across Queensland?

No. As Queensland has a range of climate zones, from tropical to warm temperate, different design principals are needed in different locations. For example, houses in Cairns need to be designed more for hot, humid conditions while houses in Toowoomba need to be suitable for cooler conditions.



What design options can achieve a 5-star house or townhouse?

As the 5-star housing requirement is performance-based, designers and architects are able to use a range of styles and energy efficient features to comply with the new requirements. This includes:

- 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.

Additionally, new houses and townhouses in sub-tropical and tropical areas that include a covered outdoor living area connected to the building, such as a deck or verandah, can gain a credit of up to 1-star towards achieving the 5-star requirement.

How is a 5-star house or townhouse assessed?

The methods used to assess new houses and townhouses have been improved 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:

- Deemed-to-Satisfy (DTS)**—as per the BCA (Part 3.12-Energy Efficiency in Volume Two), and any Queensland variations do not apply.
- Software (verification)**—using only 2nd generation software (i.e. BERS Pro, AccuRate or FirstRate5), and is undertaken by a house energy assessor.
- Verification**—using a reference building in accordance with V2.6.2.2 and the definition of V2.6 of the BCA.
- Peer review**—having an expert confirm compliance if an innovative building design can achieve the 5-star energy equivalence requirement. See the *Peer review guideline* at www.dip.qld.gov.au for more information.

For more information

For further information on how to comply with the 5-star requirement, refer to the guideline for QDC MP 4.1—Sustainable buildings.

Details of the 5-star housing requirement can be found in the QDC MP4.1—Sustainable buildings.

Both of these are available on the department's website or by contacting Building Codes Queensland on 07 3239 6369.

Prior to making any decisions about the design of your house or townhouse, you should talk to your designer or building certifier concerning the 5-star requirements.

You are encouraged to obtain independent legal advice if you are unsure if the laws apply to your situation.

Disclaimer

This fact sheet is not a comprehensive statement of the law. The laws referred to can be complex and various qualifications may apply to the provisions in different circumstances.

Department of **Infrastructure and Planning**
PO Box 15009 City East Qld 4002 Australia
tel +61 7 3227 8548
fax +61 7 3224 4683
info@dip.qld.gov.au

www.dip.qld.gov.au

