



Victoria - The 5 Star State

House energy efficiency: what's the story?

Insulation regulations for houses came into force in Victoria in 1991. A cost benefit study released in August 2002, by the Building Commission, in association with the Sustainable Energy Authority Victoria (SEAV) showed that in Victoria, the average house energy rating (HER) of new homes at that time was around 2 stars. To address this energy matter it was announced by the State government on World Environment Day, 5 June 2002, of a policy decision to implement a 5 Star rating for new houses and apartments in Victoria. On 4 July 2003, an implementation program was announced, including transitional arrangements. 1 July 2004, being the adoption date for 5 Star rating. Further, from 1 July 2005, mandatory water measures (rain water tanks and solar hot water systems) took effect.

What I need to know about 5 Star energy rating for homes and apartments?

What is a house energy rating?

This is a measure of the thermal performance of the external building fabric and how it influences the heating and cooling of a building. A house energy rating assesses the interaction between different building materials and the design itself. Ratings range from zero up to five stars.

Factors considered in energy rating

Energy rating software programs calculate the interaction between many different elements in a building.

The factors that are considered in energy rating are:

- Types of building materials – wall fabric, floor types, window frames and glass types etc.
- Increased wall and ceiling insulation
- Better house orientation to the sun
- Higher performance windows, including double glazing
- Improved window protection to stop heat transferring in or out
- Size of windows in relation to the floor area
- Improved sealing of airflow points to prevent air leakage and assist draft control
- Using 5 Star rated heating and hot water systems
- Using energy efficient cooling systems

Who can conduct an energy rating?

Energy ratings must be conducted by an accredited energy rater.

- The Sustainable Energy Authority Victoria manages the accreditation system for energy raters in Victoria
- Energy raters include: Building Surveyors, Architects and designers, Builders and Engineers

What should I expect to see submitted with a building permit application?

Energy raters will provide a report showing the star rating of the design. They will stamp the plans and record the rating on the plan. Plans should specify the materials to be used to achieve the 5 Star rating (insulation levels, energy efficient windows, location of draught excluders etc.)

What does a 5 Star house look like?

Any style of house can achieve 5 Stars and need not look any different to other houses.

What does the 5 Star rating mean for houses?

From 1 July 2004, 5 Star rating came into operation in Victoria. This means that all new homes are required to achieve a house energy rating of at least 5 Stars as assessed by a person accredited in the use of:

- The FirstRate house energy rating software or
- The Nationwide House Energy Rating Software (NatHERS) or
- Comply with Building Commission Practice Note 2004-55

What are the benefits to me for achieving a 5 Star rating house?

The 5 Star energy efficiency standard will make new homes 50 per cent more energy efficient and reduce water consumption by up to a quarter.

- *More affordable:* on today's prices, new homebuyers will save an average \$50 a year on their water bill and \$210 on energy bills
- *More comfortable:* 5 Star homes will be up to five degrees warmer in winter and 10 degrees cooler in summer
- *More environmentally sustainable:* within 5 years of introduction, 5 Star will reduce Victoria's annual greenhouse gas emissions by 600,000 tonnes – the equivalent to taking 140,000 cars off Victoria's roads or planting two million trees
- *Good for Victoria's economy:* the initiative will add \$570 million to the economy through new jobs and the creation of new housing products

What options will there be for a new house not to have a 5 Star rating?

From 1 July 2004, to 30 June 2005, 4 Star option is available if in addition one of the following are installed:

- Rain water tank connected to all sanitary flushing systems or
- A solar water heater system

NOTE: From 1 July 2005, onwards 5 Stars will be required plus rain water tank OR solar hot water system.

What does the 5 Star rating mean for apartments (Class 2 buildings)?

On 1 July 2004, 5 Star came into operation in Victoria. This means that all apartments are now required to:

- Achieve an average house energy rating of at least 5 Stars for all the dwellings in the building and
- A minimum house energy rating of at least 3 Stars for each dwelling in the building as assessed by an accredited person.

NOTE: There is NO requirement to install rain water tank or solar water system.

What about other buildings?

From 1 May 2006, energy provisions were introduced in the BCA to apply to:

- Class 4 buildings (a dwelling in a shop for instance) Other than its services, compliance is verified when it is determined using a thermal calculation method that the average energy rating of the sole-occupancy unit is not less than 4 stars.
- Class 5 to 9 buildings now are required to comply with energy provisions.

What should I do at building permit stage concerning energy standards?

At building permit stage the applicant is to provide the relevant building surveyor with +evidence that the design will comply. A Star rating report from software may be acceptable for the issue of a building permit. A FirstRate report is acceptable but a NatHERS ratings (because it is national) must have area adjustment allowances shown for your particular locality. The applicant must show rain water tank or solar water heater system details.

Effect of adjoining property

- Rating software must include any existing buildings that overshadow
- Trees, shrubs and landscaping is **not** considered
- Cannot predict construction but note that it may have an impact

NOTE: It is important that the building permit plans reflect the energy report.

Occupancy permit stage

- The relevant building surveyor (RBS) may choose to carry out additional inspections and/or the RBS may request a report or statement of compliance.
- Software can produce a report.
- Non-complying matters relating to energy efficiency, the RBS can either:
 - Refuse to issue occupancy permit or
 - Issue occupancy permit with a building notice or building order

NOTE: Plumbing compliance certificate is required to be obtained from the plumber if rain water tank or solar water system installed.

Useful contacts and references

Sustainable Energy Authority Victoria, 215 Spring Street, Melbourne 3000, phone 9655 3222, Fax 9655 3255, Toll Free (VIC Country) 1300 363 744 – www.seav.vic.gov.au

Building Commission, Level 27 Casselden Place, 2 Lonsdale Street, Melbourne 3000, phone 9285 6400, Fax 9285 6464 – www.buildingcommission.com.au

Plumbing Industry Commission, 450 Burke Road, Camberwell 3124, phone 9889 2211, Fax 9889 2244, free call 1800 015 129 – www.pic.vic.gov.au

Office of the Chief Electrical Inspector, Level 3/4 Riverside Quay, Southbank 3006, phone 9203 9700, Fax 9686 2197 – www.occi.vic.gov.au

Further information

Contact the Municipal Building Surveyor for further information on phone (03) 5945 4393.

The information in this Fact Sheet is a guide only. Regulations can change so, before undertaking any development, check with a registered building practitioner in the category of building surveyor.

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