

New home energy efficiency standards explained

Updated energy efficiency standards for new homes will commence in Victoria from 1 October 2023

Under these modernised standards, new homes will be better prepared for the future.

Energy efficient homes need less energy to stay comfortable all year round. They cut household energy bills and emissions and provide better protection from extreme weather events like heatwaves. Homes are long-lived assets and retrofitting later to improve efficiency is much more difficult and costly than getting it right in the first place.

That's why, raising the efficiency performance of new homes that will be standing for decades to come, is critical to ensuring all our homes are capable of providing safe, affordable and climate resilient shelter into the future.

What's changing?

The updated efficiency requirements for new residential buildings (detached houses, townhouses and apartments) included in the 2022 edition of the National Construction Code cover:

- an increase in the minimum efficiency performance requirement for the building shell (insulation, window glazing etc) from 6 to 7 stars out of a possible 10 through the Nationwide House Energy Rating Scheme (NatHERS)
- introduction of a Whole-of-Home annual energy use budget for fixed appliances (hot water, heating and cooling, lighting and pool and spa pumps) with potential to offset with rooftop solar
- removal of the current Victorian variation that requires either a solar water heater or a rainwater tank to be installed, allowing Victorians to choose their preferred hot water system
- requirements to ensure apartments are designed for easy and cost-effective retrofit of solar systems and electric vehicle charging.

What do these changes mean in practice?

Getting to 7 stars

In most cases, the new standards can be met through relatively simple and low-cost changes, particularly if design is considered early in the process of a new home build. Key differences between a 6 star and 7 star home may include:

- better design and orientation to the sun to take advantage of opportunities to passively heat the home in winter while shading it in summer
- improved ceiling, wall or under-floor insulation to suit the Victorian climate
- high performance glazing (windows) to better insulate the home from heat loss in winter and heat gain in summer.

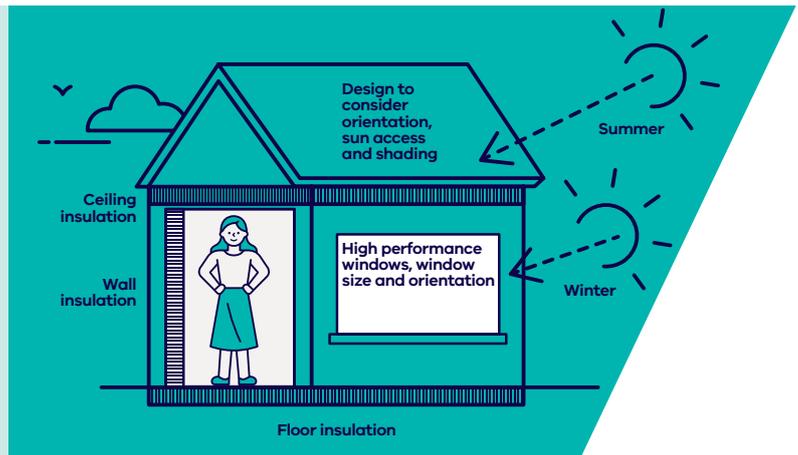
During the early roll out of these new standards, some volume builders may need to adjust their standard designs to 7 star rating until they become commonplace. You may find that a design you like needs minor modifications to help you achieve the minimum 7 star rating.

Energy efficient new homes

Ways to meet new efficiency standards that will come into effect from October 2023

1. Design and Build your home to a minimum thermal performance rating of 7 stars so it needs less energy to heat and cool

Use less energy



2. Choose fixed appliances that are more energy efficient so you need less energy to power your home

Use efficient appliances



3. Install rooftop solar to help offset your remaining energy usage and meet your Whole-of-Home budget

Use renewable energy



Consider other opportunities to future-proof your home and better manage your energy usage. You could:

- Build an all-electric home to maximise benefits of your solar
- Install batteries
- Optimise energy use through energy monitoring and timers
- Use more efficient plug-in appliances
- Select at least 4 star WELS hot water fixtures, eg showers and washing machines



Meeting the Whole-of-Home annual energy use budget

Hot water, heating, cooling, and lighting account for **70-80% of an average home's energy use** so these services provide ample scope for energy savings. The new standards will now require new homes to meet a Whole-of-Home annual energy usage budget to encourage the installation of efficient fixed appliances.

This Whole-of-Home approach sets a tailored budget for new homes to be met through a flexible combination of:

- type and efficiency rating of specific fixed appliances (hot water, heating, cooling, lighting and pool and spa pumps)
- installation of rooftop solar to offset any energy use above the budget cap

Home builders can choose the fuel type (gas or electricity), technology and efficiency rating of fixed appliances. This is as long as they meet the annual energy usage budget or install enough rooftop solar to offset the above-budget energy usage.

Key benefits



Lower energy bills

National energy efficiency standards for new homes have not been updated for more than a decade, during which time gas and electricity prices have risen dramatically. With prices expected to keep rising, improving efficiency to reduce the amount of energy needed to keep your home comfortable, is an obvious way to cut energy costs.

Research has shown cost savings from \$300 to over \$1,000 a year are achievable through energy efficient homes.*



More comfortable homes

Energy efficient homes are more comfortable to live in year-round, helping to protect people from the health risks of chronic cold and extreme weather events like heatwaves.



Lower greenhouse emissions

Victoria has set a target of net-zero emissions by 2050 with ambitious but achievable targets to reduce the state's greenhouse gas emissions from 2005 levels by 45–50 per cent by 2030.

Residential buildings are responsible for 11% of Australia's greenhouse gas emissions and offer many of the lowest cost opportunities for cutting emissions across the economy.



A greener energy grid

Making homes more energy efficient, helps to reduce demand on the electricity system at peak times, reducing the need for expensive network infrastructure upgrades that contribute to higher prices. Reducing demand will also reduce the costs as the energy system transitions to renewable energy.

Costs impacts for homebuyers

If smart design is considered early in the process of a new home build, achieving 7 stars can be met without significant additional costs or changes in materials or construction, and will deliver savings on energy bills. Any additional upfront costs of construction required to meet the new 7 star standards are expected to be minimal, particularly in the context of energy cost savings made over the multi-decade lifetime of the home and an average 30-year mortgage.

To help reduce the cost impacts for consumers the Victorian Government is funding rebates under the [Solar Homes Program](#).

*Analysis undertaken for NCC 2022, showed the new efficiency standards would save an average Victorian household at least \$300 a year in energy bills. More recent analysis by [Renew](#) found even higher savings – \$1,056 for an all-electric home in Melbourne and slightly less for a dual fuel home.



Henley 2022 Good Friday Appeal Charity home. Double storey Vogue 34 design.

ABOUT THIS HOME

NatHERS Rating: 7.1 Stars

Size: 257.3m² – 4 bedrooms, 3 bathrooms, 4 living spaces

Whole-of-Home: Ducted reverse cycle heating and cooling, heat pump hot water, induction cooking, 6kW solar PV, 13.5kWh battery

Annual Energy Bill: \$591

Looking ahead

The new energy efficiency provisions under NCC 2022 are available for use from 1 October 2022, with a 12-month transition period to allow the construction industry to make necessary adjustments and bring new projects in line with the uplifted standards. During the 12-month transition, homes will be permitted to be built to either NCC 2019 or the new improved NCC 2022 standards.

The new standards will be mandatory from 1 October 2023.

For more information on the new standards or how to future-proof your home with efficiency improvements, please visit energy.vic.gov.au/7starhomes and <https://www.sustainability.vic.gov.au/energy-efficiency-and-reducing-emissions/building-or-renovating>.

© The State of Victoria Department of Environment, Land, Water and Planning 2022



This work is licensed under a Creative Commons Attribution 4.0 International licence. You are free to re-use the work under that licence, on the condition that you credit the State of Victoria as author. The licence does not apply to any images, photographs or branding, including the Victorian Coat of Arms, the Victorian Government logo and the Department of Environment, Land, Water and Planning (DELWP) logo. To view a copy of this licence, visit creativecommons.org/licenses/by/4.0/

Printed by Gunn & Taylor, 4 Aristoc Rd, Glen Waverley VIC 3150.

ISBN 978-1-76136-077-0 (Print)

ISBN 978-1-76136-078-7 (pdf/online/MS word)

Disclaimer

This publication may be of assistance to you but the State of Victoria and its employees do not guarantee that the publication is without flaw of any kind or is wholly appropriate for your particular purposes and therefore disclaims all liability for any error, loss or other consequence which may arise from you relying on any information in this publication.

Accessibility

If you would like to receive this publication in an alternative format, please telephone the DELWP Customer Service Centre on 136 186, or email customer.service@delwp.vic.gov.au, or via the National Relay Service on 133 677, www.relayservice.com.au.

This document is also available on the internet at www.delwp.vic.gov.au