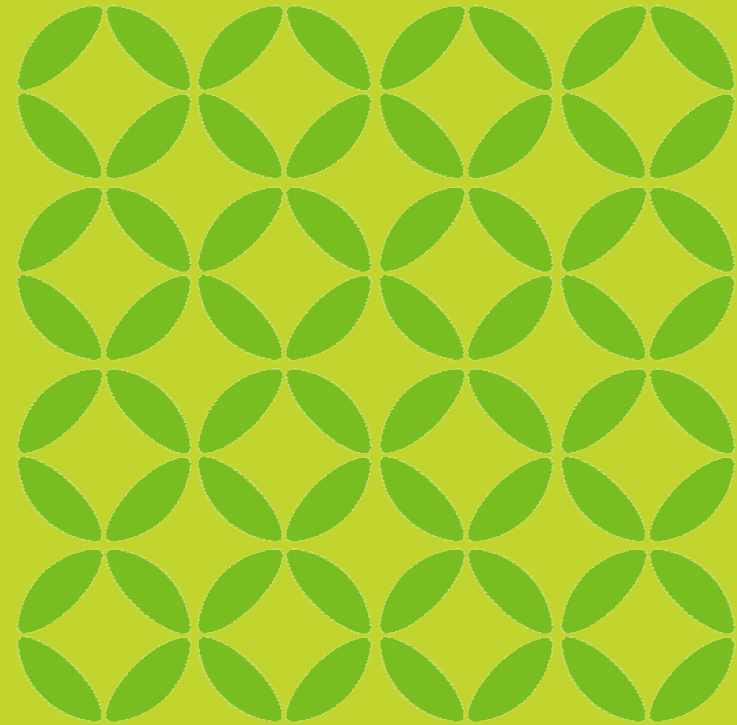


Green Star Homes

A strategy for the future



With thanks to our Future Homes Partners

Gold Partner



Supporting Partners



Associate Partner



Who is the GBCA?

GBCA is a world renowned organisation dedicated to transforming the built environment.

Established in 2002, the Green Building Council of Australia (GBCA) has grown to become a highly influential industry association.

Today we are a national, not-for-profit organisation that works with our members towards a common goal — to transform Australia's built environment into one that is healthy, liveable, productive, resilient and sustainable.

“GBCA has consistently served as one of the key organisations driving change in the built environment. We couldn't ask for a better organisation to partner with.”

Rod Fehring
Chief Executive
Frasers Property



What does the Green Building Council of Australia do?

We lead the sustainable transformation of the built environment



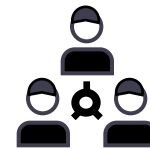
We rate



We advocate



We educate

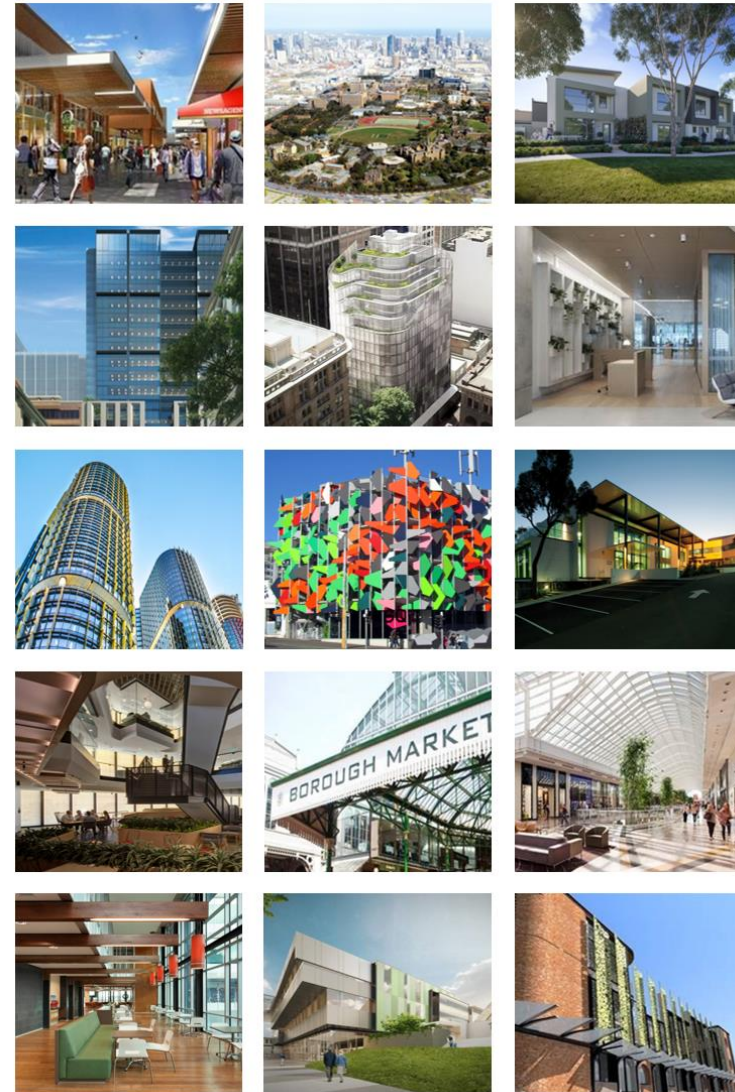


We collaborate



We set the standard for Australia

From libraries to hotels and from offices to the biggest regeneration projects in the country, Green Star continues to drive sustainable outcomes.

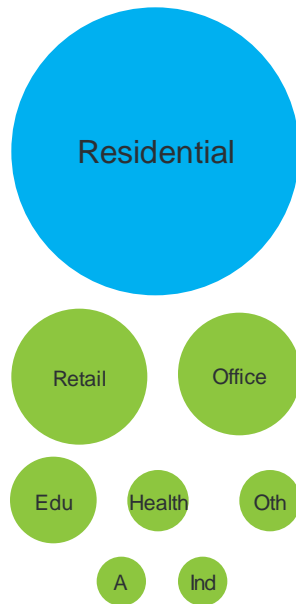


An aerial photograph of a city skyline at sunset, with a decorative pattern of overlapping circles in the foreground. The text is overlaid on a dark blue rectangular background on the left side of the image.

Our purpose

To transform the built environment through flexible, independent verification of best practice outcomes.

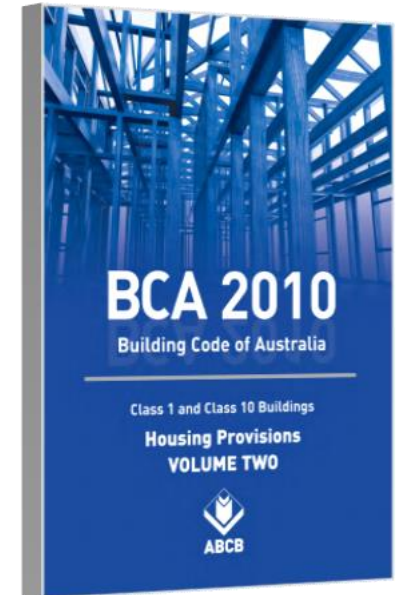
Why focus on sustainability in homes now?



57% of emissions from the building sector come from homes and apartments.

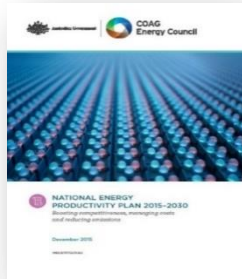


Research shows consumers want better homes, but don't know how to access them.



Legislation for new homes has not changed since 2010, and won't till 2022.

National policies for the residential building sector



2015

2016

2017

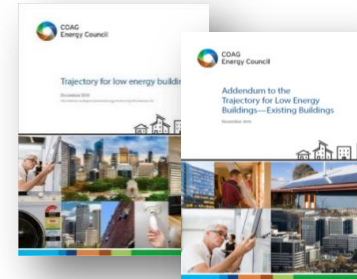
2018

2019

2020

National Energy Productivity Plan (NEPP) 2015-2030

- Measure 5: Improve residential building energy ratings and disclosure;
- Measure 31: Advance the National Construction Code;
- Measure 32: Improve compliance



Trajectory for Low Energy Buildings and its Addendum – Existing Buildings.

- Set a trajectory towards zero energy (and zero carbon) ready buildings.
- A suite of initiatives to improve the energy efficiency of new and existing buildings in Australia.

The Trajectory and its Addendum

- Set a trajectory towards zero energy (and zero carbon) **ready** buildings.
 - These have an energy efficient thermal shell and appliances, have sufficiently low energy use and have the relevant set-up so they are 'ready' to achieve net zero energy (and carbon) usage, if they are combined with renewable or decarbonised energy systems on-site or off-site.
- Proposed increases to energy efficiency provisions in the National Construction Code (NCC) 2022.
- Expand NatHERS to offer nationally accredited whole-of-home tools to enable verification of potential requirements in the NCC.
- Implement a suite of initiatives to improve the energy efficiency of existing buildings.
- Deliver home energy rating framework for existing homes, which leverages the NatHERS framework and accommodates rating tools.

www.coagenergycouncil.gov.au/publications/trajectory-low-energy-buildings



NatHERS Development



Expansion

NatHERS is being expanded to cover whole-of-home ratings (including accrediting **whole-of home** rating tools - focus is new builds

Extension

NatHERS is being extended to-include **existing home** rating tools

Future

NatHERS could accredit tools beyond energy efficiency, e.g. resilience, embodied energy. Working towards alignment between ratings for new and existing buildings

Establishing a Scheme Commonwealth-led

- Governs all elements of the assessment/rating process to ensure that it is able to deliver trusted outputs to the market.
- Includes establishing the requirements for tools, assessor training/accreditation and communication materials.

Establishing new Markets NSW-led

- Identify and establish new markets that can benefit from, and use, energy efficiency ratings and tools.
- Focus on banking and social housing sectors.
- Contact:
Celine.Bachelet@environment.nsw.gov.au

Delivering a tool/s Victoria-led

- Ensure a market-tested tool is available to the market and to inform the Scheme.
- Includes development of a national version of the Residential Scorecard to be brought under NatHERS.

The future of homes in Australia

The residential sector accounts for 57% of Australia's built environment emissions. We spend 90% of our time indoors with two thirds of this being at home.

Australians deserve healthy, resilient, energy efficient homes powered by renewables.





Healthy, resilient, and net zero energy homes for all Australians.



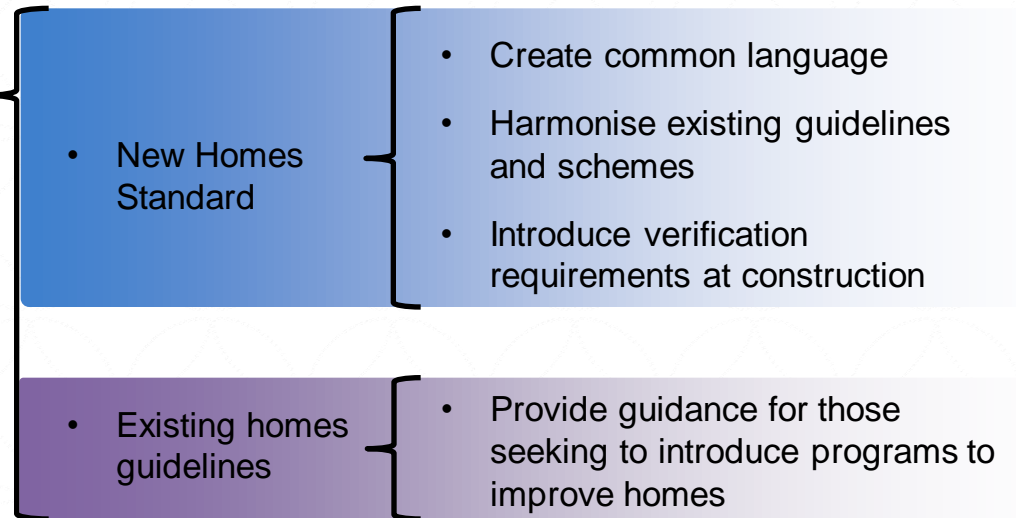
Set a common standard for new homes



Engage and educate customers and facilitate industry uptake



Advocate to support industry through a seamless transition





greenstar
Homes



Overview of the standard

Healthy, resilient, and net zero energy homes for all Australians.



Positive

Fully electric, draught sealed, efficient and powered by renewables

A net zero energy home has been built to generate sufficient renewable energy to power all estimated regulated loads as well as estimated appliances and plug loads. It does not use gas.



Healthy

Ventilated, comfortable, with products that are better for you

A healthy home has been built to be well ventilated to prevent the growth of mould. It has also been built to minimise the entry of pollutants, such as bushfire smoke. It is thermally comfortable and uses materials that are low or non-toxic. High quality lighting has been installed.



Resilient

Water efficient, climate change ready

A resilient home is one that has been built to be better than Code at withstanding natural disasters and future climate change conditions such as bushfires, flooding, and heat stress. The home also considers its effect on the broader climate by reducing water use and its impact on the community.

What is this standard for?

Green Star Homes aims to influence the design and construction of Class 1a buildings:

- Freestanding / detached houses;
- Dual Occupancy homes (attached and detached); and
- Townhouses.

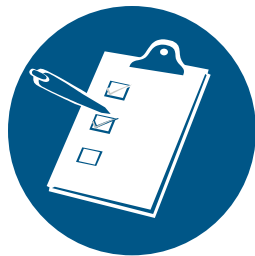
Green Star Homes is primarily targeted at **Volume Homes Builders.**



A best practice standard for new homes



Sets clear simple actions and targets for single family dwellings across health, efficiency, climate resilience and energy source



Introduces verification practices to be an effective, consistent and efficient mark of quality

A mark of quality that is simple to communicate

Healthy, resilient, and net zero energy homes for all Australians.



Positive

Fully electric, draught sealed, efficient and powered by renewables



Healthy

Ventilated, comfortable, with products that are better for you



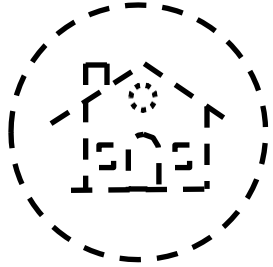
Resilient

Water efficient, climate change ready



Green Star Homes certified

Certifying under this standard



Designed

Confirms standard design

Builder submits to GBCA standard plans, modelling results, specification clauses, and material and fixture selections for the product line that will be certified.

Once certified, the product line can be marketed as 'designed to' the Standard.



Certified

Confirms outcomes

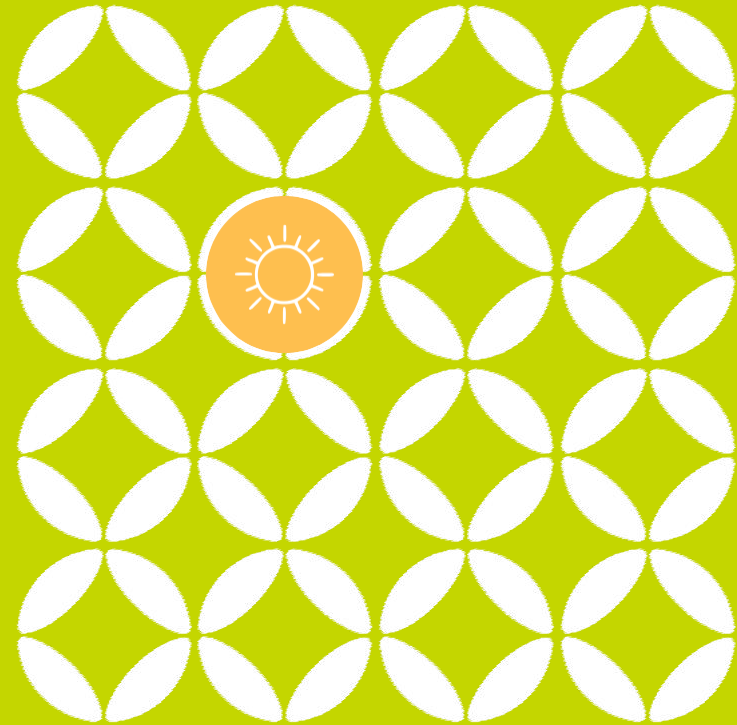
Builder submits statutory declarations, air tightness results, and any additional information that is relevant due to any variation.

Homes can be identified as 'built to' the Standard.

Early Access Program

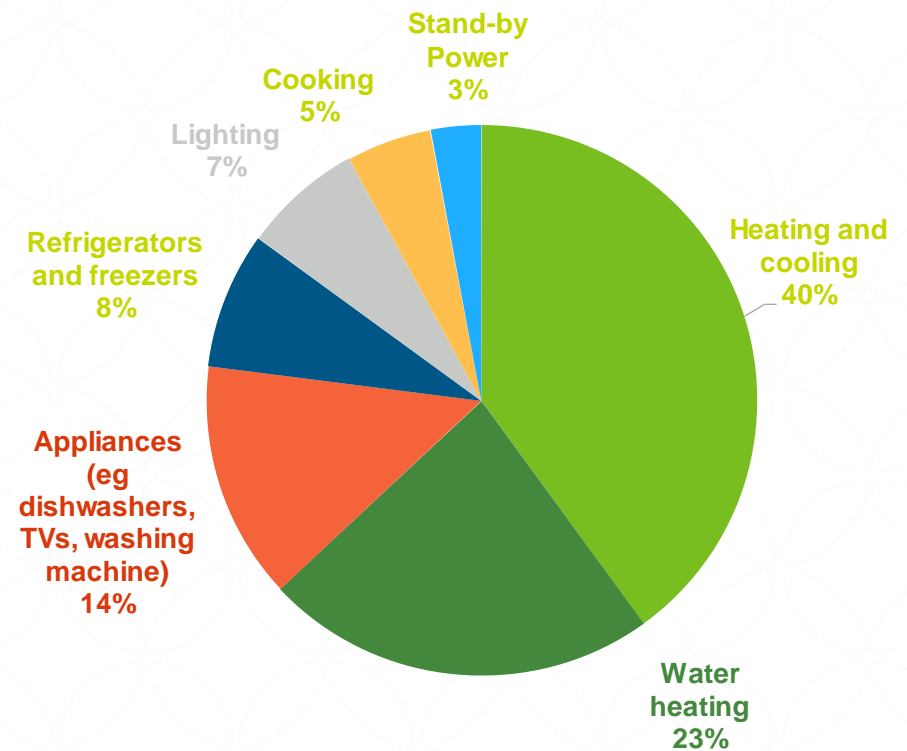


Positive



Home energy use

To deliver efficient homes, it's good to understand how energy is used in most homes. Data shows that on average across Australia, most energy is used to heat and cool homes, with the majority going to the heating of homes during winter. Water heating is the next highest consumer of energy, followed by appliances, lighting, cooking and lastly stand-by power.



SOURCE: RESIDENTIAL BASELINE STUDY FOR AUSTRALIA 2000-2030, 2015

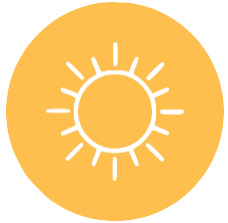
National House Energy Rating Scheme



Positive

City	Minimum NatHERS Star rating
Adelaide	7.5
Brisbane	7.0
Canberra	7.5
Hobart	7.5
Melbourne	7.5
Perth	7.0
Sydney	7.0
Western Sydney	7.5

Overview of Positive category



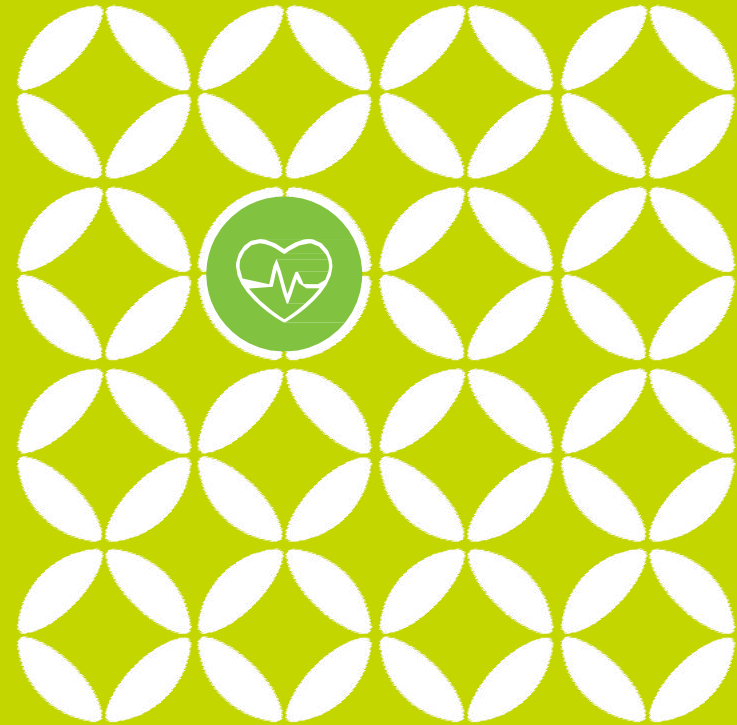
Positive

Fully electric, draught sealed, efficient and powered by renewables

A net zero energy home has been built to generate sufficient renewable energy to power all estimated regulated loads as well as estimated appliances and plug loads. It does not use gas. These requirements cover:

- National Heating Energy Rating System (NatHERS)
- Window system
- Airtightness
- Heating and cooling
- Hot water
- Appliances
- Renewable energy
- Home user's guide

Healthy



Overview of Healthy Category



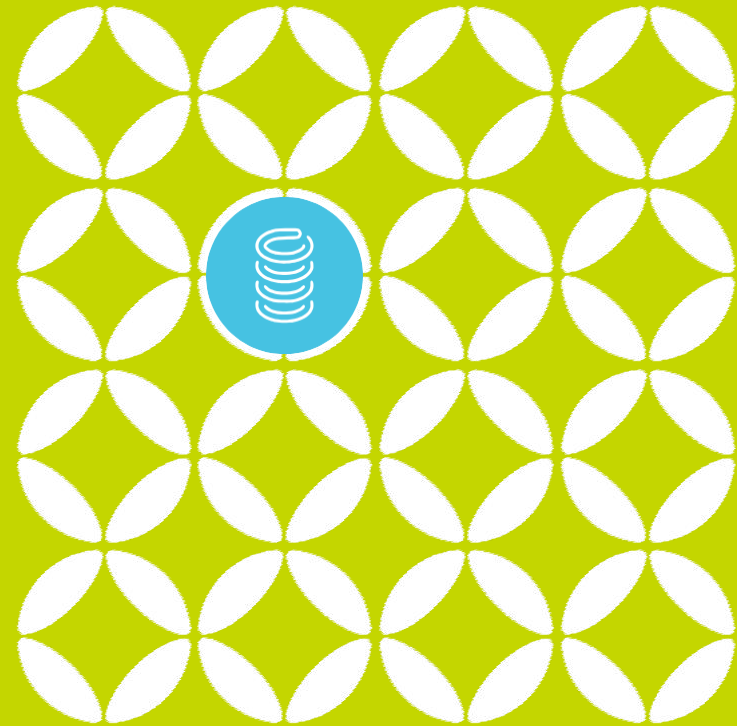
Healthy

Ventilated, comfortable, with products that are better for you

A healthy home has been built to be well ventilated to prevent the growth of mould. It has also been built to minimise the entry of pollutants, such as bushfire smoke. It is thermally comfortable and uses materials that are low or non-toxic. High quality lighting has been installed. These requirements cover:

- Air quality
- Moisture management
- Light quality
- Material toxicity

Resilient



Overview of Resilient category



Resilient

Water efficient, climate change ready

A resilient home is one that has been built to be better than Code at withstanding natural disasters and future climate change conditions such as bushfires, flooding, and heat stress. The home also considers its effect on the broader climate by reducing water use and its impact on the community. These requirements cover:

- Water management
- Heat stress
- Resilience rating

Existing homes opportunities: Renewables

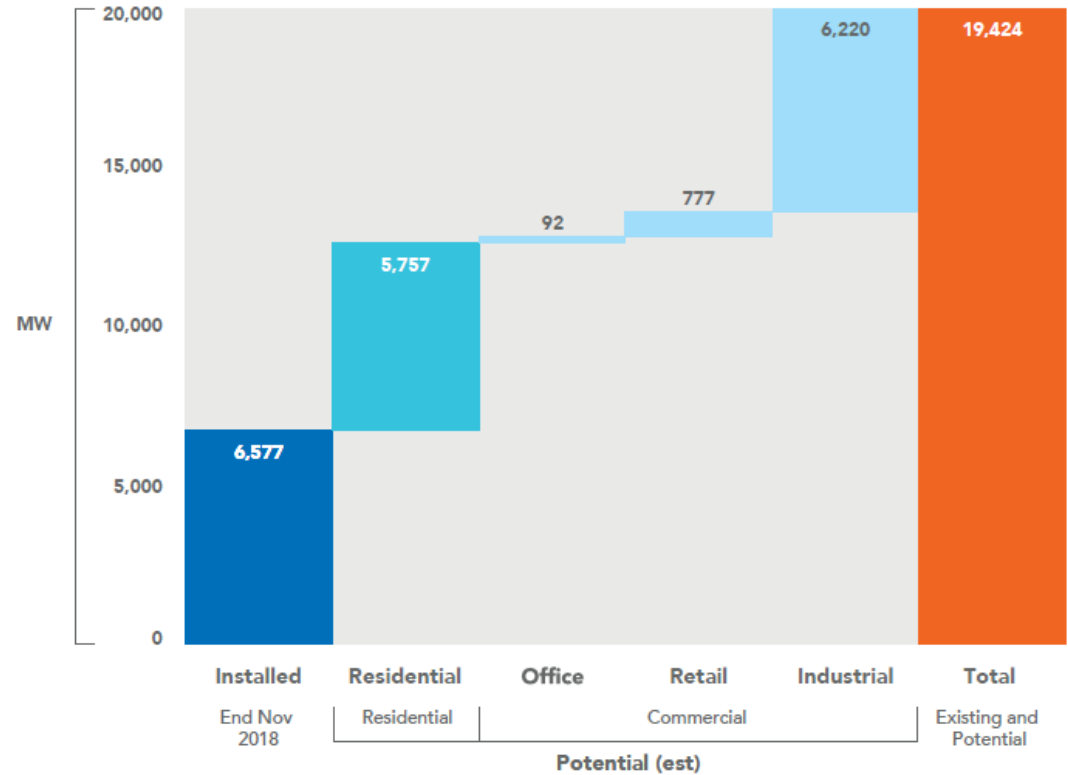
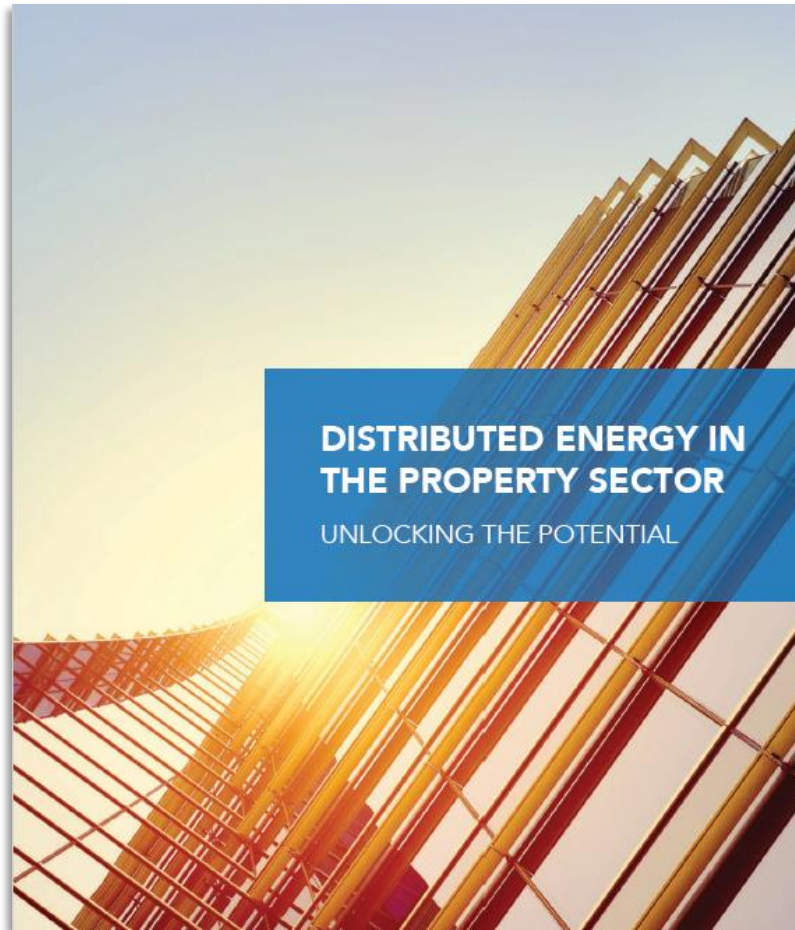
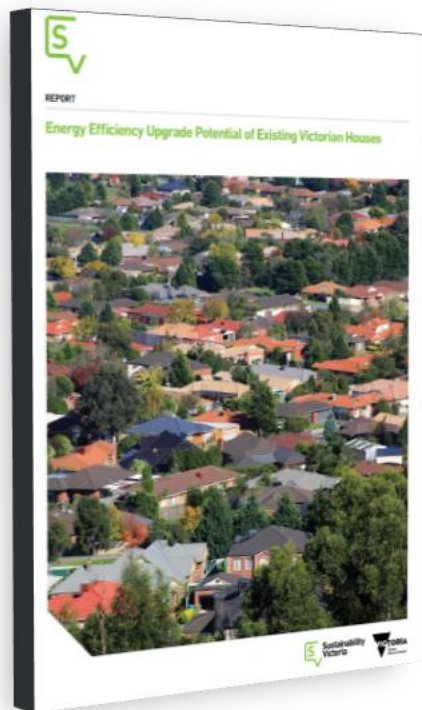


Figure 1: Existing and estimated potential additions to the installed solar PV systems, by property sub-sector, Australia, 2018, MW.

Existing homes opportunities: efficiency



Energy Efficiency Upgrade Potential of Existing Victorian Houses

Across stock	Av. GHG Saving (Kg/Yr)	Av. Saving (\$/Yr)	Av. Cost (\$)	Av. Payback (Yrs)
LF Shower Rose	95	\$57.9	\$48.8	0.8
Ceiling Insulation (easy)	64	\$19.3	\$78.6	4.1
Lighting	365	\$93.5	\$535.8	5.7
Draught Sealing	496	\$153.9	\$1,019.8	6.6
Clothes Washer	12	\$24.9	\$190.9	7.7
Water Heater – High Eff. Gas	330	\$58.2	\$477.3	8.2
Ceiling Insulation (difficult)	111	\$33.8	\$278.2	8.2
Heating	411	\$125.9	\$1,110.6	8.8
Refrigerator	365	\$93.5	\$1,103.7	11.8
Reduce Sub-Floor Ventilation	36	\$11.2	\$166.7	14.9
Seal Wall Cavity	57	\$17.6	\$270.4	15.3
TV	273	\$54.1	\$964.3	17.8

How to get involved

Feedback - Check out:

- [Green Star for Homes: a Strategy for the Future](#)
- [Green Star Homes](#) and provide comments by 30 October 2020

How to get involved with your projects?

- **New homes:** use the [Standard](#) to influence design
- **Existing homes:** look at opportunities to make [improvements](#)
- **Apartments:** can be certified in existing Green Star, however GBCA will launch a simplification tool using principles of homes based on feedback.



Contact us:

homes@gbca.org.au

Green Star Homes Consultation dates



**Draft
released**

July 2020

Release Draft
Standard

Open up Early Access
program

Set up Homes
Advisory Group made
up of participants and
experts.



Consultation

**August – 30
October 2020**

Consult on the draft
standard

Continue with Early
Access Program

Adjust standard
based on NCC
updates



**Certify
Homes (Pilot)**

**August 2020 -
March 2021**

Work with Early
Access partners to
certify designs and
Undertake testing and
research to inform key
aspects of Standard.



**Update
Standard**

July – Dec 2020

Consult on the draft
standard

Continue with Early
Access Program

Adjust standard
based on NCC
updates.



Release v1

April 2020

Release Standard and
certification process

Release supporting
documents and
calculators

Thank you

Questions

