

# Going from great to good

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Green Building Council of Australia



# greenstar

## Future Focus

### Buildings

Available now

### Homes

Available now

### Performance

Technical release:  
14 September 2022

### Communities

Mid-late 2023

### Fitouts

2023

### Future Focus Partners

#### Silver Partners



#### Supporting Partners



#### Technical Partner





# Built by industry

## Green Star Advisory Committee



Tanya Cox  
Board member (chair)



Andrew Cole  
Charter Hall



David Clark  
Cundall



David Walsh  
CIM



Emma Herd  
EY



Jennifer Saiz  
Commonwealth Bank



Lauren Kajewski  
Landcom

## Technical Advisory Group

- David Clark – Cundall (chair)
- Alan Davis - Mott MacDonald
- Andrew Thai - Frasers Property Australia
- Bernadette Fitzgerald - WSP
- Gerard Healey - The University of Melbourne
- Graham Agar - Full Circle Design Services Pty Ltd
- Greg Johnson - Stockland
- Jacqui Bonnitcha - Lendlease
- Samantha Peart - Development Victoria
- Sarah Kaleta - Richard Crookes Constructions
- Sam Archer – NZGBC

## Industry Advisory Group

- Andrew Cole – Charter Hall (Chair)
- Alex Lawlor - Architectus
- Alicia Maynard - ISPT
- Amy Hogan - Stockland
- Keith Montgomery - Sentinel Fund Manager
- Margot Black - Charter Hall
- Mark McKenna - Norman Disney & Young
- Parag Shinde – Australian Unity
- Sarah Reid - Suburban Rail Loop Authority
- Sonia Auld - Schools Infrastructure NSW

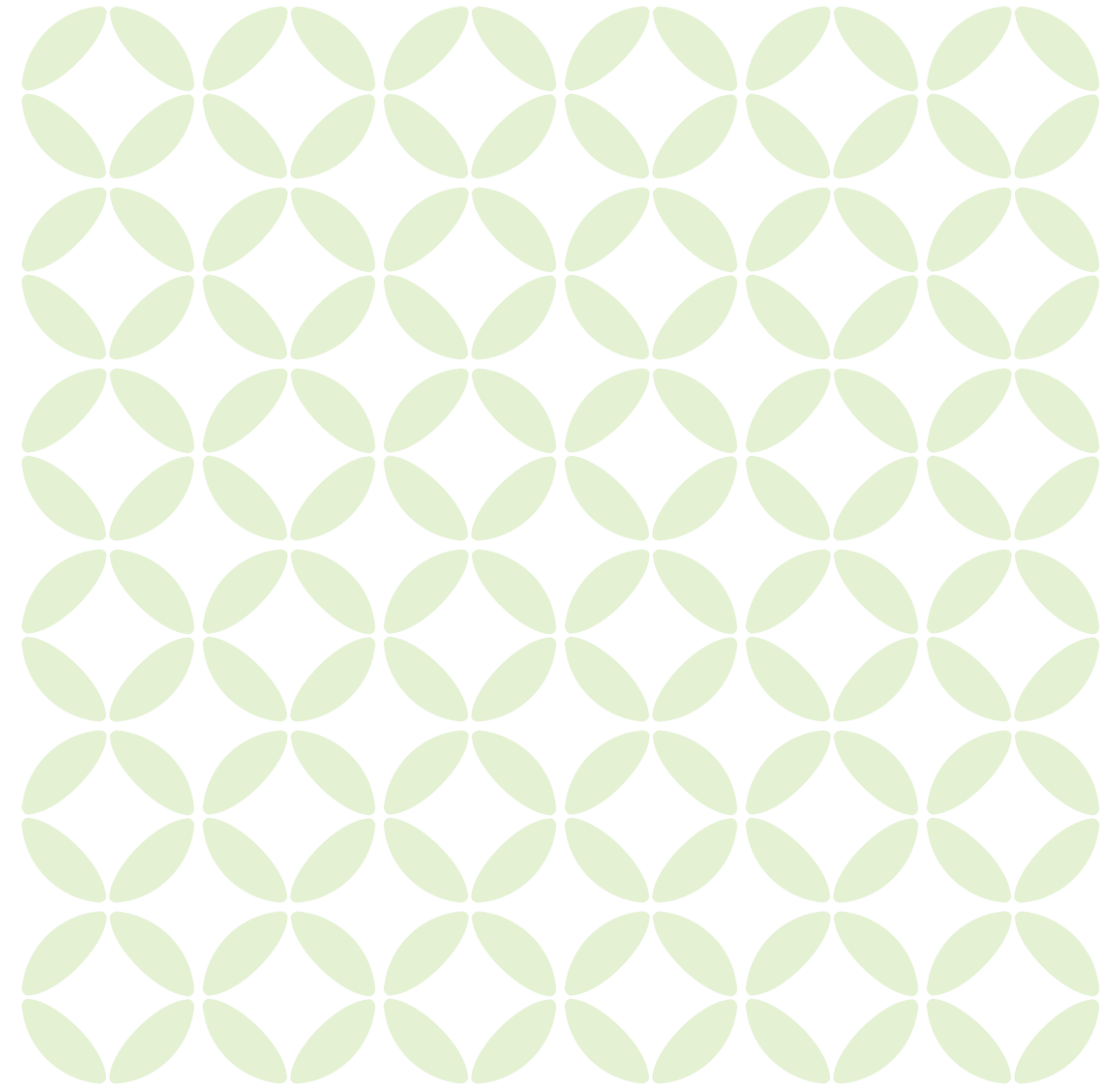
## Homes Advisory Panel

- Lauren Kajewski - Landcom (Chair)
- Anthony Wright - ASBEC/ CSIRO
- David McKibbin - Metricon
- Georgia Warren Myers - University of Melbourne
- Matthew Napper - Stockland
- Ryan Rathborne - Clean Energy Finance Corporation
- Tom Davies - Insurance Council of Australia

# What you should know about



1. Delivers a new definition of a sustainable building
2. Meets the Paris Agreement
3. Responds to sustainability megatrends
4. Drives opportunities for supply chain transformation
5. **Creates clear expectations for new buildings**



# A new definition

**Green Star Buildings** features eight new categories representing the issues that will define the next decade of the built environment.



Responsible

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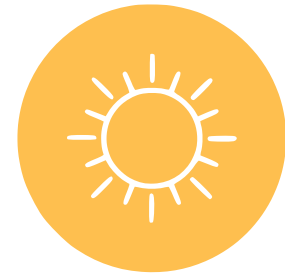
Healthy

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Resilient

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Positive

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Places

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People

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Nature

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Leadership

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## A new definition of sustainable buildings:

# The eight categories

**Green Star Buildings** features eight new categories representing the issues that will define the next decade of the built environment.



### Responsible

Recognises activities that ensure the building is designed, procured, built and handed over in a responsible manner.



### Healthy

Promotes actions and solutions that improve the physical and mental health of occupants.



### Resilient

Encourages collaboration and engagement solutions that address short-term shocks and long-term stresses by improving the capacity of communities, businesses and assets to adjust, respond and thrive in the face of adversity.



### Positive

Makes a positive contribution towards better buildings by focusing on key environmental issues of carbon, water consumption and the impact of materials.



### Places

Supports the creation of safe, enjoyable, inclusive and comfortable places that are integrated into the broader urban fabric and enable communities to connect and thrive.



### People

Encourages solutions that address the social health of the community.



### Nature

Encourages active connections between people and nature and creates opportunities to deliver new natural corridors and green spaces in cities.



### Leadership

Recognises projects that set a strategic direction, build a vision for industry or enhance the industry's capacity to innovate.

# A new definition

**Green Star Buildings** features eight new categories representing the issues that will define the next decade of the built environment.



## Responsible

- Industry development
- Responsible construction
- Verification and handover
- Operational Waste
- Responsible procurement
- Responsible structure
- Responsible envelope
- Responsible systems
- Responsible finishes



## Healthy

- Clean air
- Light quality
- Acoustic comfort
- Exposure to toxins
- Amenity and comfort
- Connection to nature



## Resilient

- Climate change resilience
- Operations resilience
- Community resilience
- Heat resilience
- Grid resilience



## Positive

- Upfront carbon emissions
- Energy use
- Energy source
- Other carbon emissions
- Water use
- Life cycle impacts



## Places

- Movement and place
- Enjoyable places
- Contribution to place
- Culture, heritage and identity



## People

- Inclusive construction practices
- Indigenous inclusion
- Procurement and workforce inclusion
- Design for inclusion



## Nature

- Impacts to nature
- Biodiversity enhancement
- Nature connectivity
- Nature stewardship
- Waterway protection



## Leadership

- Market transformation
- Leadership challenges

# The rating tool structure

Minimum expectations

No points – all mandatory for every project

Core rating tool

100 points – score is calculated based on these

Sector specific credits

Sector specific credits are optional and can be used to supplement the score above. There is no penalty for not achieving them.

 **Leadership**

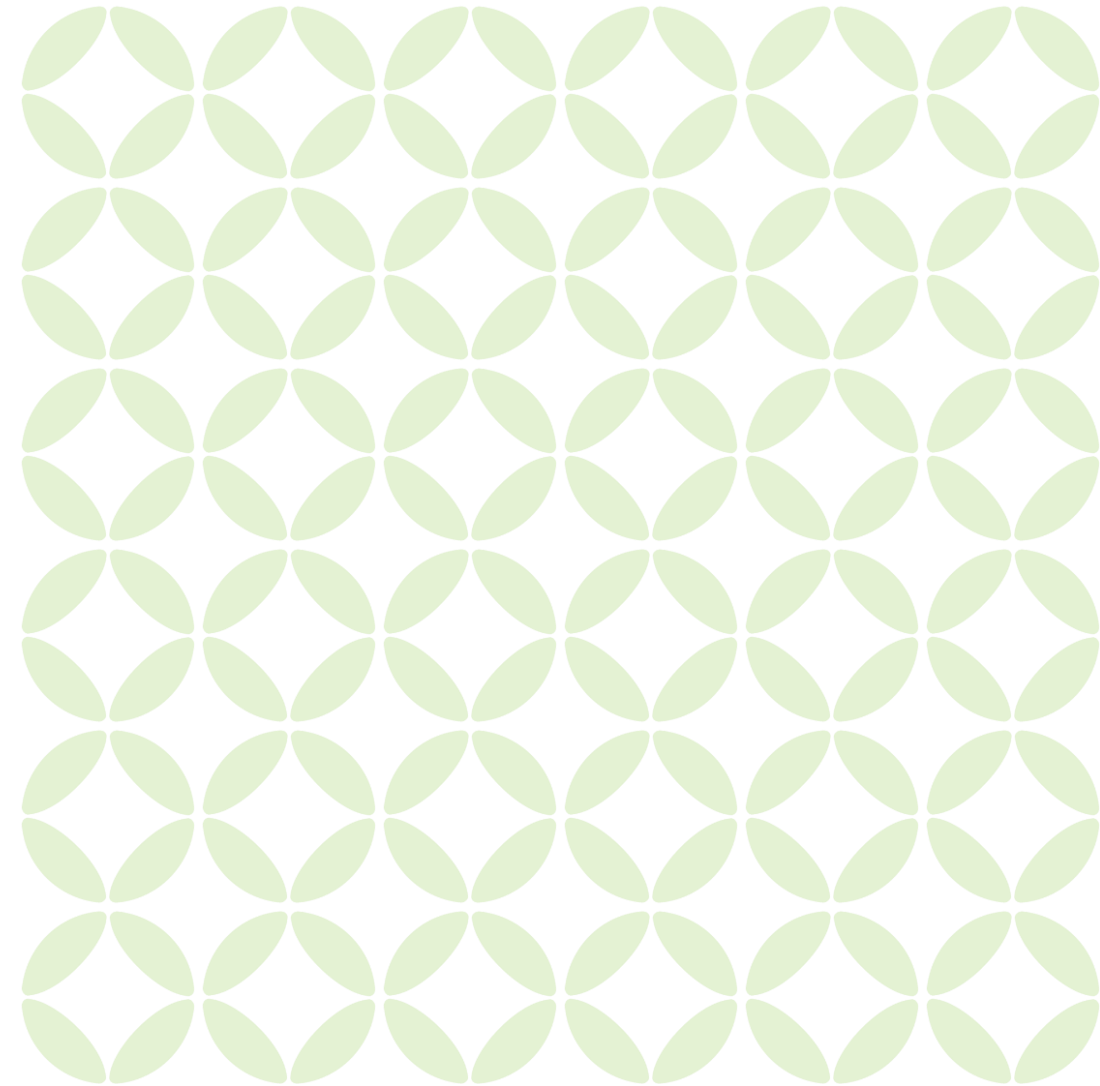
Market Transformation

Can be used to supplement score above.

1 point per claim, max 5 claims – Reflects industry claims

Leadership challenges

Unlimited claims – Developed by GBCA. Defines next step for the rating tool and leadership performance.





# Minimum expectations

1. Protect environmentally significant areas
2. Emit less carbon in construction and during operations
3. Be water efficient
4. Have improved air, light, acoustics, and product finishes
5. Promote physical activity
6. Be built with climate change in mind
7. Manage environmental impacts during construction
8. Embrace the diversity of our population
9. Enable practices that reduce operational waste; and
10. Be verified to work

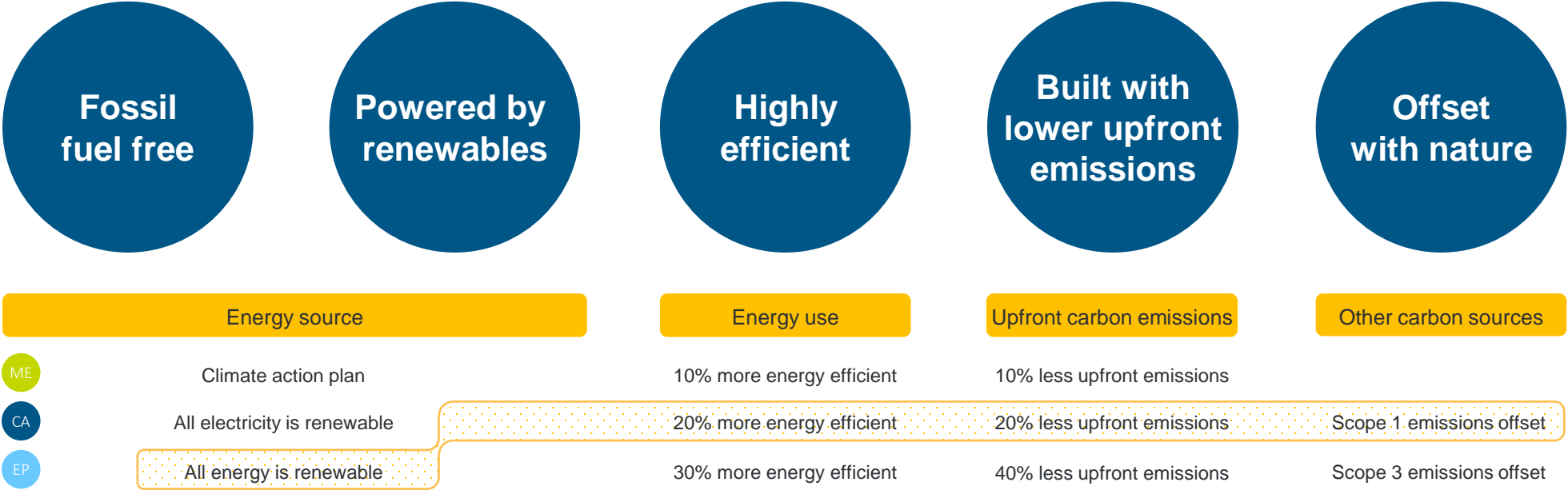
All expectations must be met  
to achieve a Green Star rating

# Minimum expectation requirements

|             | Credit                                  | Benchmark   |
|-------------|---|---|
| Responsible | <b>Responsible construction</b>         | The site must have an environmental management plan. The builder must have an environmental management system (large builders will need to be ISO14001 accredited). 80% of Construction and demolition waste must be recycled. Sustainability training is provided to construction workers. |
|             | <b>Verification &amp; handover</b>      | The building must be commissioned and tuned. Appropriate metering must be present.  |
|             | <b>Operational waste</b>                | The building must have appropriate spaces for waste management and an appropriately sized loading dock.   |
| Healthy     | <b>Clean air</b>                        | The ventilation system must have appropriate filtration. Point source pollutants must be exhausted directly outside (printers, kitchens). The building must be provided with at least 50% outside air.  |
|             | <b>Light quality</b>                    | Glare must be managed. Light fittings must be of good quality. Lighting levels must be appropriate. Daylight must be provided.  |
|             | <b>Acoustic Comfort</b>                 | Internal noise levels from services and the outside is limited through an acoustic comfort strategy.  |
|             | <b>Exposure to toxins</b>               | All the paints, adhesives, sealants, and carpets must be low Voc. Engineered wood must be low formaldehyde. There must be no lead, asbestos and PCBs in the building.   |
| Resilient   | <b>Climate change resilience</b>        | The project has done a pre-screening assessment and delineated design choices to mitigate these.  |
| Positive    | <b>Upfront carbon emissions</b>         | The building has 10% less upfront carbon emissions compared to a standard building from materials.  |
|             | <b>Energy use</b>                       | The building has at least a 10% lower energy consumption than one built to the National Construction Code 2019.   |
|             | <b>Energy source</b>                    | The building provides a Zero Carbon Action Plan.  |
|             | <b>Water use</b>                        | The building has at least a 15% reduction in potable water usage when compared to a reference building,   |
| Places      | <b>Movement and place</b>               | There are showers, lockers and change rooms in the building (not applicable to residential)   |
| People      | <b>Inclusive construction practices</b> | There are provisions for providing gender appropriate facilities and personal protective equipment  |
| Nature      | <b>Impacts to nature</b>                | Ecologically sensitive sites are protected  |

# Climate Positive Pathway

This is the **formula** that buildings should follow. These are the **credits** that will get you there.



 The Climate Positive Pathway is **required for 6 star rated buildings, and over time 5 and 4 star rated buildings as well**

# Climate Positive Pathway

**Green Star Buildings** requires 6 Star Green Star rated buildings to be net zero carbon in operations and sets the path for every building to follow.



# Sample Green Star strategy



A 4 Star rated building is a *Best Practice* environmental performer.  
Its focus is on either being net zero in operations *or* in a higher performer in energy, water, and health related issues.

## Meets Minimum Expectations

- Responsible construction
- Verification & Handover
- Operational waste
- Clean air
- Light quality
- Exposure to toxins
- Noise levels
- Climate change resilience
- Upfront carbon emissions
- Energy use
- Water use
- Access to amenity
- Social construction practices
- Impacts to nature



## Net zero in operations (15 points)

- Upfront carbon emissions
- Energy use
- Energy source (CA)
- Energy source (EP)
- Other carbon emissions

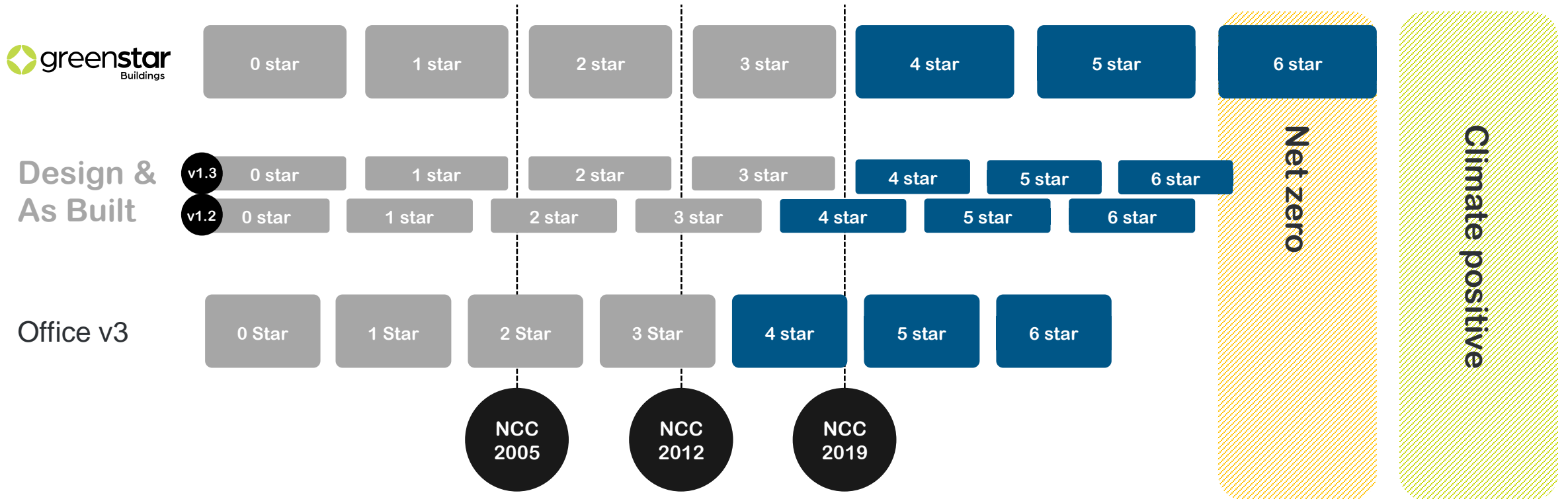
OR

## Credit Achievements (15 points)

- Industry development
- Responsible construction
- Clean air
- Light quality
- Energy use
- Water use
- People movement
- Access to amenity

# Meets the Paris Agreement targets

**Green Star Buildings** requires 6 Star Green Star rated buildings reduce their energy demand and be powered by renewables.



# Manage procurement & delivery process

The Green Star process ensures accountability & verified outcomes



**A common language**



**Harness expertise**



**Bring value chain together**



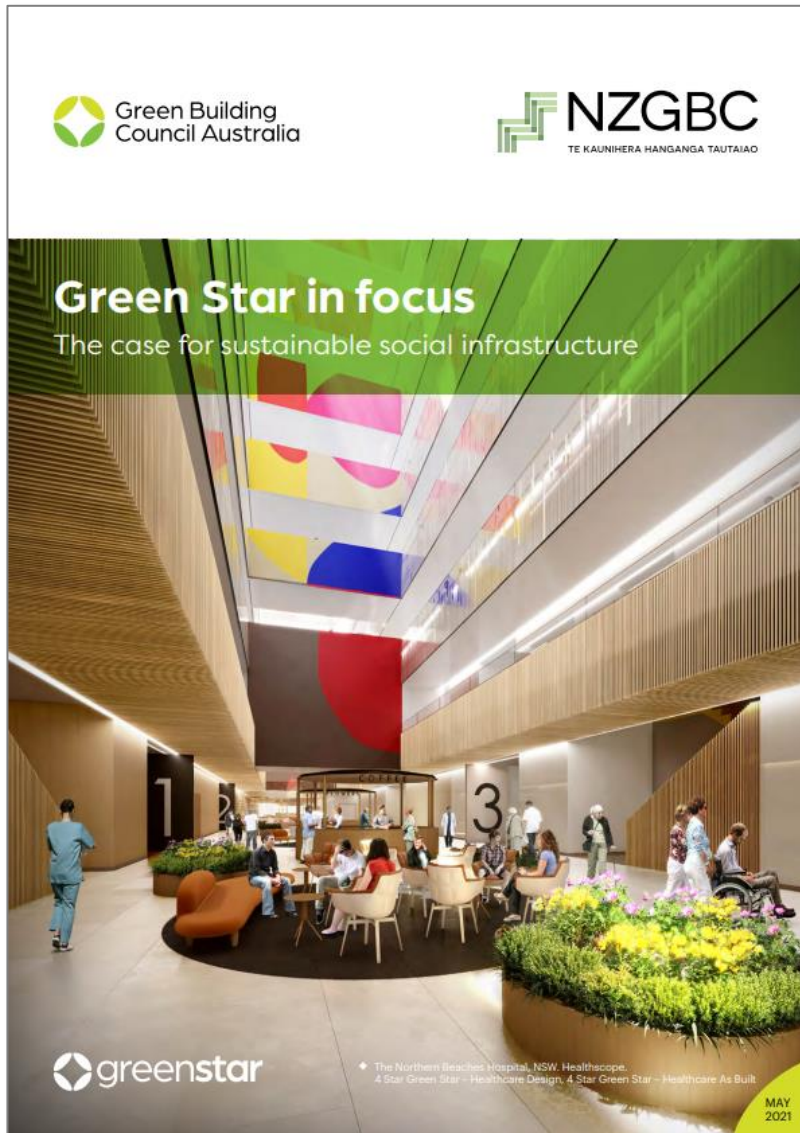
**Accountability**

**“By setting high benchmarks in sustainability through the use of Green Star, we are encouraging contractors to think outside the box and ensuring that our works are delivered with environmental and social impacts in mind. Lessons learned are shared for the benefit of the wider construction industry, helping each of our projects continually improve upon what others have done, which is in turn driving new discussion among interstate transport agencies.”**

Kevin Devlin, CEO, Level Crossing Removal Project





**Green Star unifies our sustainability initiatives, clarifies our approach and sets shared goals across the organisation while providing independent verification that our vision will deliver on environmental, social and economic sustainability.**

Dr Rocio Bona, Planning Director / Properties, Facilities & Development, Curtin University






Analysis of Green Star certified social infrastructure projects in Australia undertaken for this report by GBCA shows:




ON AVERAGE, GREEN STAR COMMUNITY CENTRES, LIBRARIES AND CIVIC BUILDINGS:

-  → use **50%** less energy than buildings built to minimum standards
-  → generate **54%** fewer GHG emissions than buildings built to minimum standards
-  → have an average energy intensity **86 kWh** per metre squared per annum, compared to **189 kWh** per square metre per annum if they had been built to standard practice
-  → will save around **\$100,000** per year in energy bills<sup>20</sup>

GREEN STAR SCHOOLS:

-  → Produce, on average, **67%** fewer GHG emissions than schools built to minimum standards
-  → **73%** of the schools analysed have onsite solar generation, with a combined capacity of **603,237 kWh**. That's enough to power around 50 homes for a year.
-  → demonstrate GHG emissions reductions with or without solar power.

TRAIN STATIONS AND BUS DEPOTS

-  → Use **49%** less energy, on average, compared to facilities built to minimum standards and generate **50%** fewer GHG emissions.
-  → Across the 26 bus stations and bus depots certified, there is a saving of **4,283,377 kWh** per year. Enough energy to power around 390 homes for a year.
-  → 16 of the facilities have onsite solar energy generation. Together they create **437,627 kWh** of electricity each year. Enough to power around 40 homes for a year.

\* The Northern Beaches Hospital, NSW, Healthscope  
4 star Green Star – Healthcare As Built



# ACCC says it's ready to pursue greenwashers

[Ayesha de Kretser](#) and  
[James Evers](#)

Updated Jun 15, 2022 - 5.38pm,  
first published at 2.28pm

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The competition watchdog will be targeting greenwashers in “problem sectors” proactively rather than waiting for complaints to direct its actions, ACCC deputy chair Delia Rickard says.

She said the ACCC would also be scrutinising the claims of companies that release net zero targets.

“So, when companies are out there saying, ‘we’re going to net zero, we’re reducing our carbon footprint’, we will be looking at those claims and making sure that they are doing what they say they’re doing.”

AFR, 15 June 2022

[ESG Summit: ACCC says it's ready to pursue greenwashers \(afr.com\)](#)

# Green Star Performance v2

Technical Release





# Our drivers and influences

These are some of the movements and initiatives that influenced the development of the new Green Star Performance rating tool.



United Nations Sustainable Development Goals



The Global Risks Report 2021



GRESB



IPCC report on climate change 2022



International Sustainability Standards Board



Carbon-risk real estate monitor (CRREM)



Task-force for Climate Related Financial Disclosures



EU Taxonomy on Sustainable Finance



Science-based Targets Initiative



Task-force on Nature-related Financial Disclosure

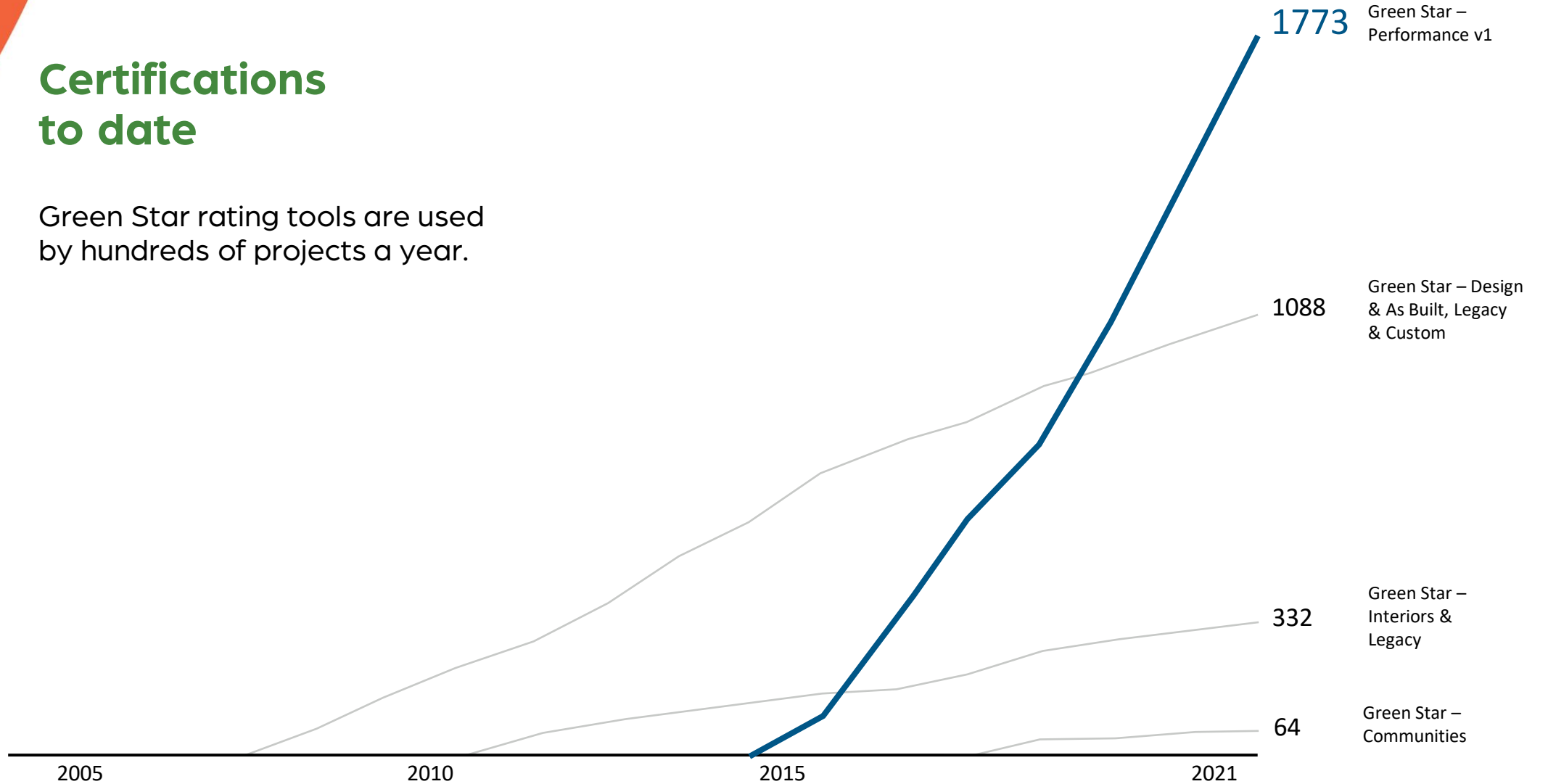


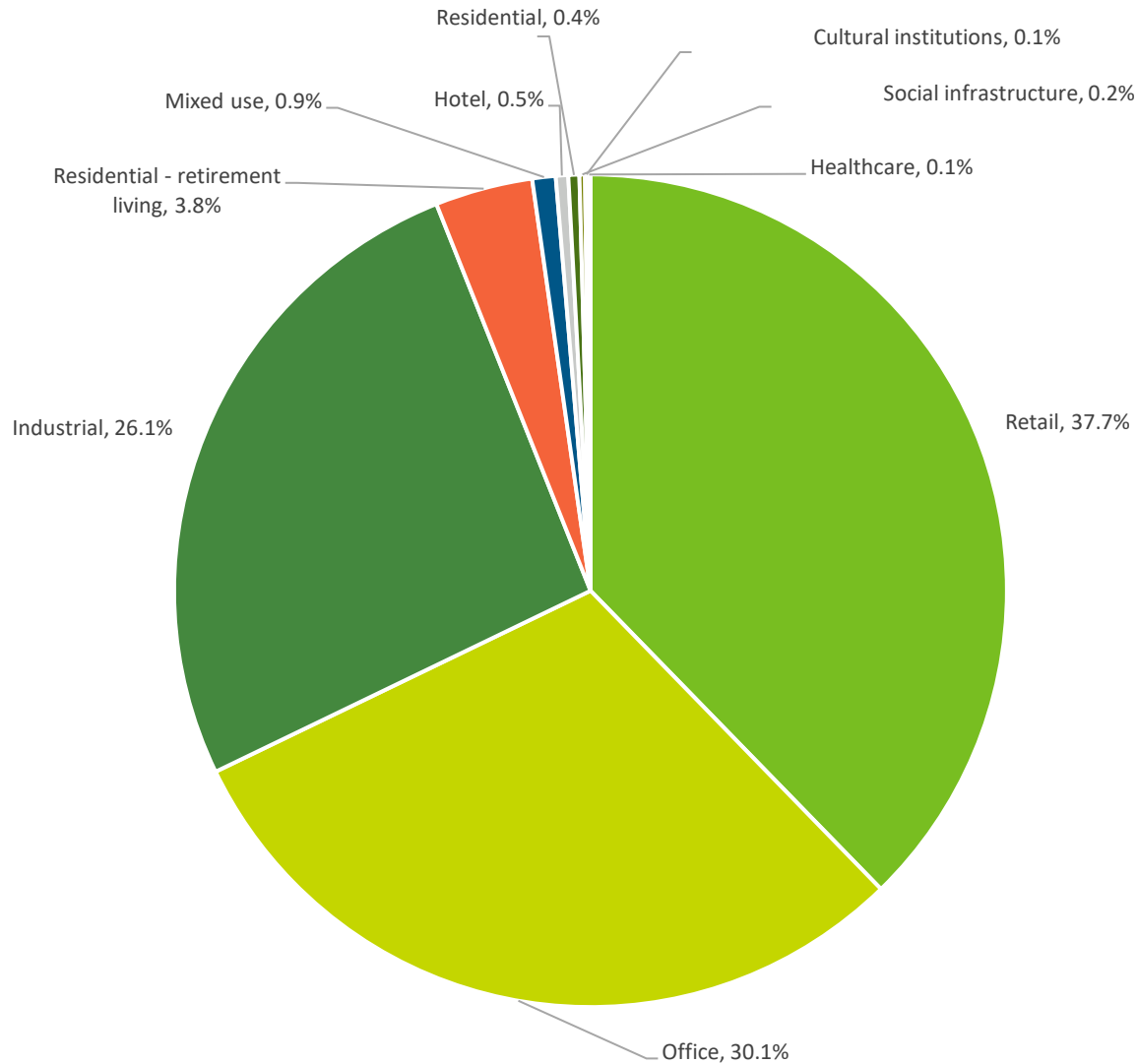
International Capital Market Association



## Certifications to date

Green Star rating tools are used  
by hundreds of projects a year.





Sector distribution

\* Data includes projects that are Archived, Certified, Completed & Rating Expired

## Green Star – Performance v1 highlights

### Since 2014:

- More than **1200 individual buildings** have achieved at least one certification. Of the 1200 buildings, **514 buildings have recertified at least once.**
- Out of the 514 buildings that have recertified, **61% have improved their rating by at least one star**, with over half of those improving two stars or more.



2014

2015

2016

2017

2018

2019

2020



800 Bourke Street  
First Green Star  
Performance rating  
4 Star

101  
buildings

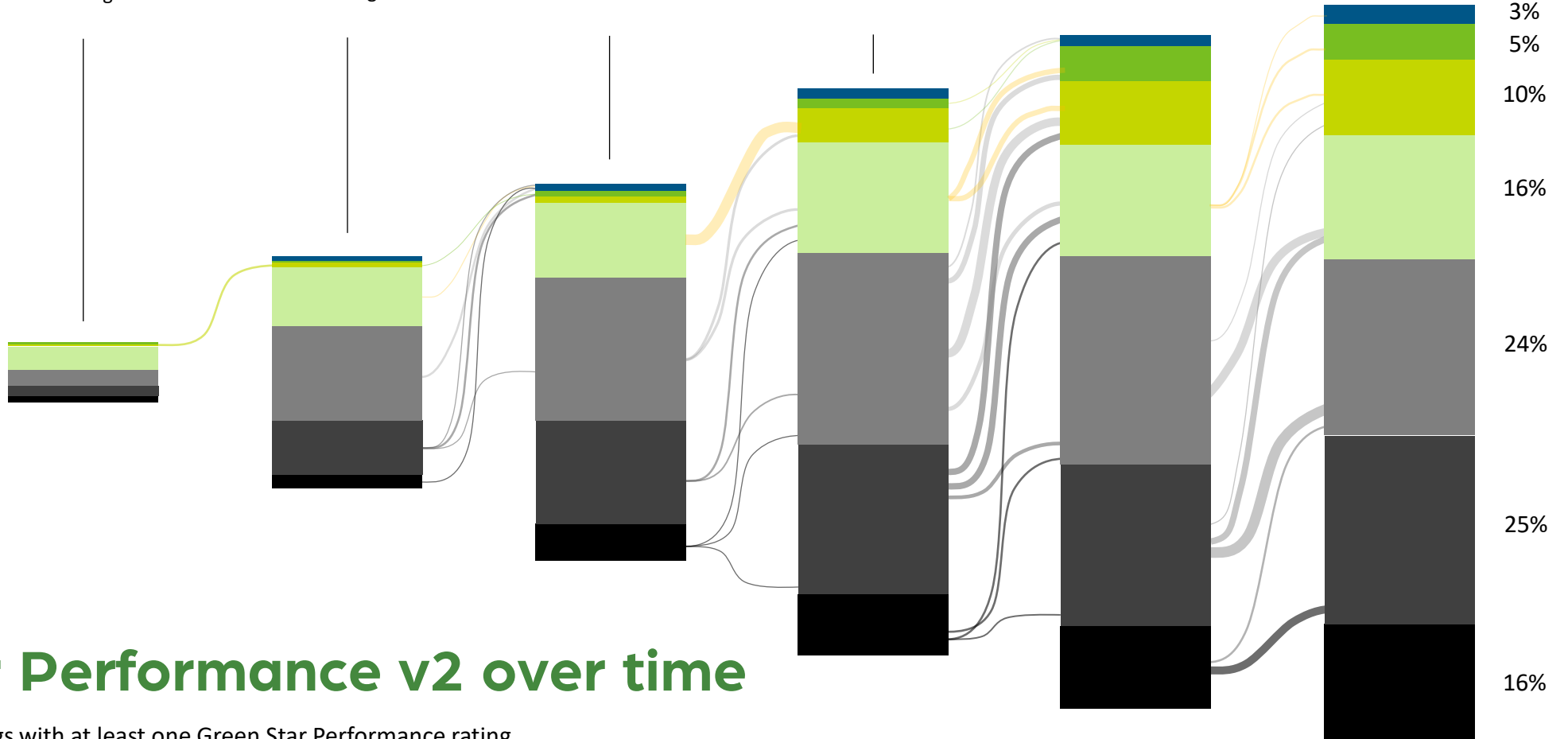
381  
buildings

626  
buildings

939  
buildings

1118  
buildings

1222  
buildings



# Green Star Performance v2 over time

Number of individual buildings with at least one Green Star Performance rating

● 6 star ● 5 Star ● 4 Star ● 3 Star ● 2 Star ● 1 Star ● 0 Star



# What you should know about Green Star Performance v2



1. Delivers a new definition of sustainable buildings in operation
2. Responds to developments in climate science
3. Applies to all sectors
4. Drives progression over time
5. Communicates clearly to industry

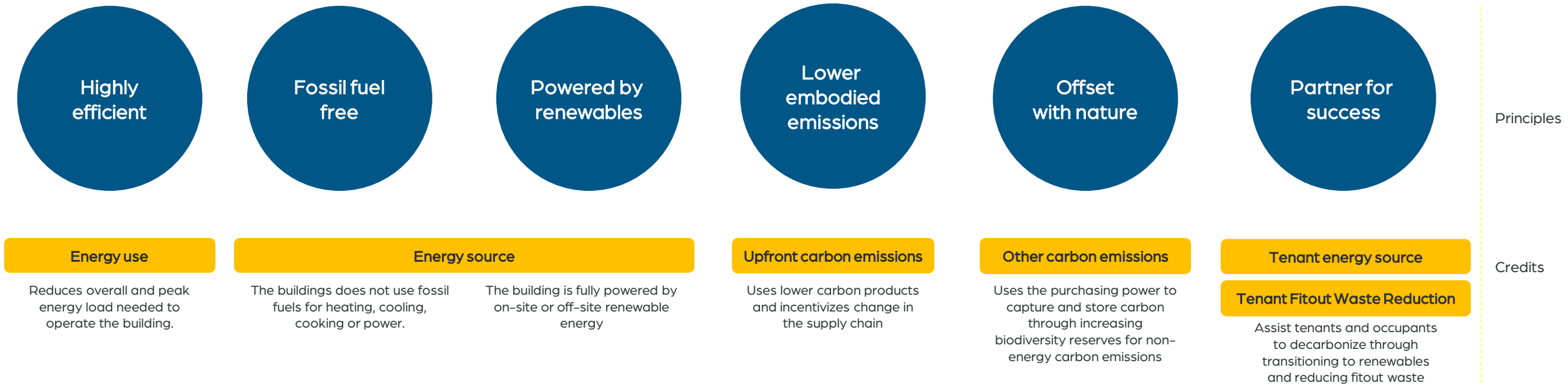




# Responds to developments in climate science

All existing buildings in Australia must be Climate Positive by 2050. All Green Star Performance rated buildings must achieve this by 2040. And all world leading buildings must achieve this by 2030.

This is our **formula** that every existing building should follow. These are the **credits** in Green Star Performance that will get you there.

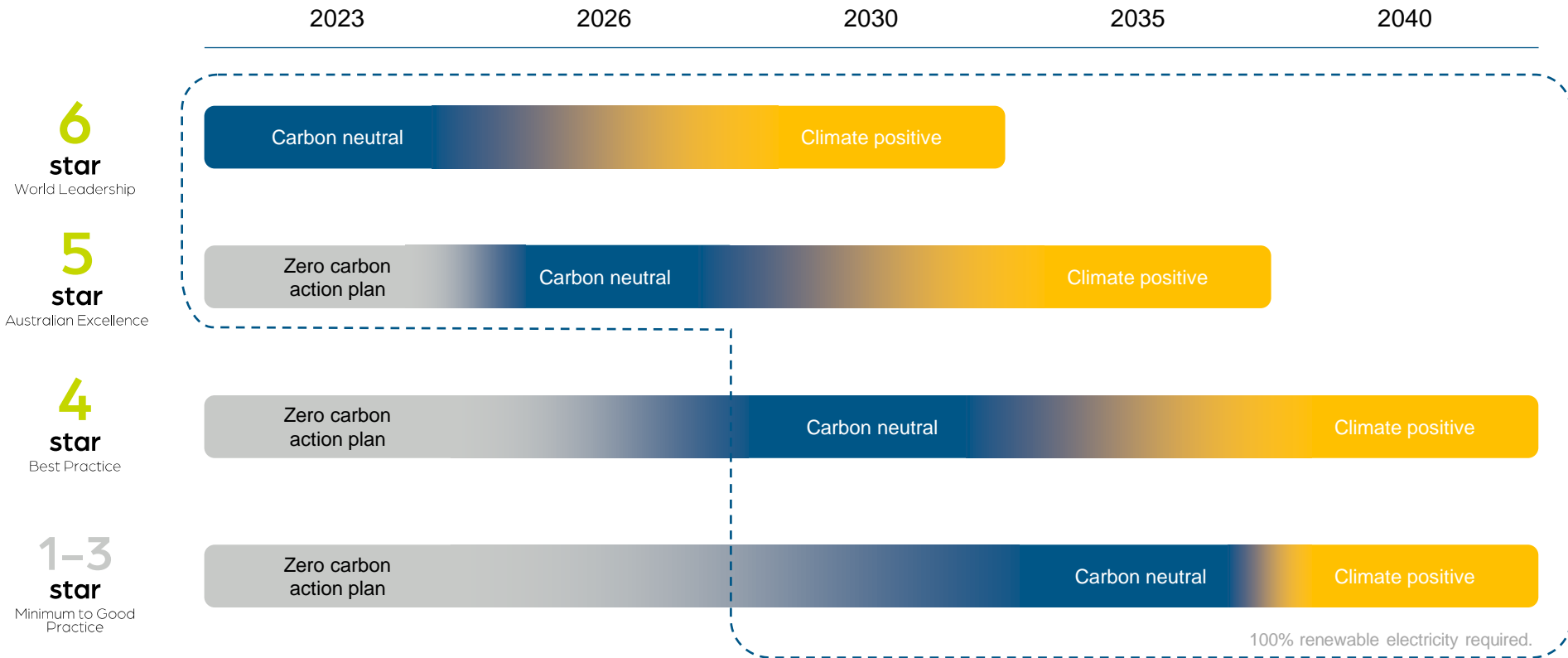






# Responds to developments in climate science

Green Star Performance v2 aims to drive every building towards Climate Positive Buildings in operation with a focus on transformational change over the next two decades.





## Applies to all sectors

Green Star Performance v2 is a holistic rating tool for buildings. It considers and provides distinct pathways for a diverse range of operational arrangements.



### **Whole building (e.g. Social infrastructure)**

The building is occupied by the entity that owns it, and has control over the building operations.



### **Base Building (e.g. Commercial, Retail, Build to rent)**

The building owner manages (by themselves or via a building management contract) the common areas of a building, with other spaces leased to a tenant (or tenants).



### **Tenant managed (e.g. Industrial or triple net leases)**

The building is owned by one entity, but managed by the entity occupying it.



# Drives progression over time

Green Star Performance v2 is structured to enable a move from policy to outcome at both a building and portfolio level



Policy or process

Action or plan

Data or on-site outcome

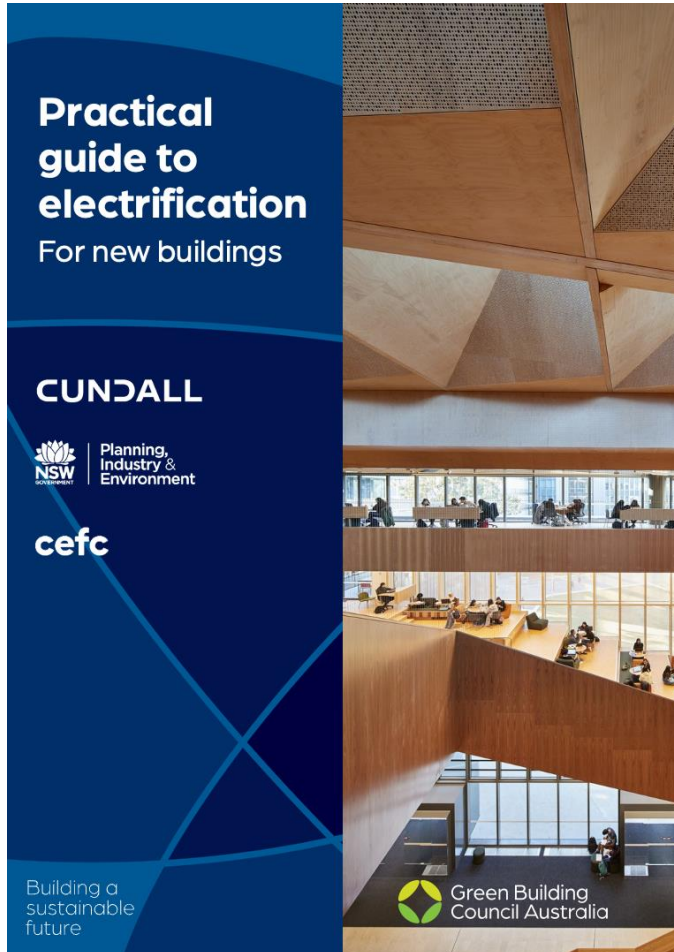
A high-level approach to how the project or portfolio will implement actions and plans, driven by the building owner (or asset manager)

A detailed approach to collecting data or making an on-site outcome possible, facilitated by the building owner (or asset manager)

Building or site-specific interventions or data

# Other frameworks promoting electrification





# Practical guides for electrification

These two guides (one for new buildings, and one for existing buildings) aim to overcome barriers to building electrification by:

- Educating industry practitioners in the process of delivering fully electric buildings
- Helping dispel misinformation, and
- Highlighting solutions for common difficulties.

New buildings available now

Existing buildings coming September

In partnership with:

**CUNDALL**

With the support from

**cefc**



Planning,  
Industry &  
Environment



# A practical guide to electrification for existing buildings

## Launch Webinar: Join us on 21 September 11:00am – 12:00pm AEST



### Speakers



**Jorge Chapa**  
Head of Market Transformation  
Green Building Council of Australia



**Taryn Cornell**  
Senior Manager Green Star Strategy  
Green Building Council of Australia



**David Clark**  
Director  
Positive Zero



**Ryan Rathborne**  
Director | Joint Head of Property  
Clean Energy Finance Corporation



**Rebecca Pettit**  
Technical Advisor  
Green Building Council of Australia

# Thank you

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