



# Green Star Program

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# Why Build Green?

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- ❖ Impact of global building sector
- ❖ Health impacts
- ❖ Net zero carbon target



# video: Story of a Green Building

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# Benefits of Green Buildings

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❖ Better for the environment

❖ Better for humans

❖ Better for the economy



.....▶ A **27%** reduction in staff turnover, as well as high levels (over 90%) of employee satisfaction in their workplace



.....▶ A **64%** reduction in reported allergy problems and a **68%** reduction in reported respiratory problems



.....▶ A reduction of four sick days per employee per year



.....▶ A **19%** reduction in absenteeism and a 16% reduction in presenteeism.<sup>22</sup>



# New Zealand Green Building Council

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- Non-profit organisation
- Better built environment
- Make NZ buildings sustainable
- Build industry skills and knowledge
- Rewards sustainable development and operation
- Member of World Green Building Council



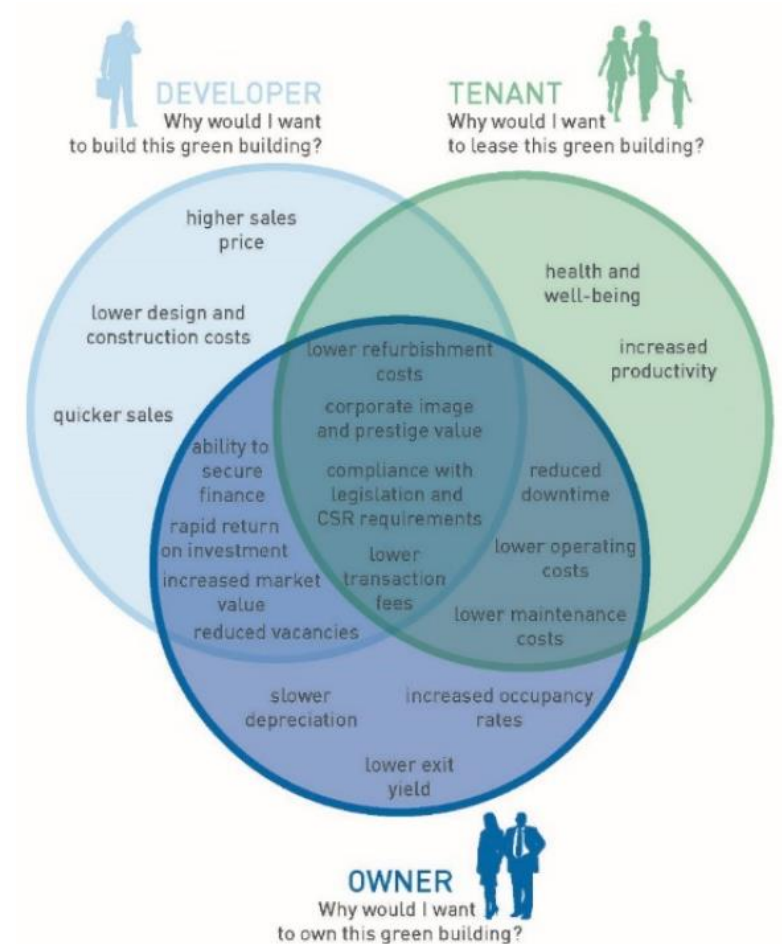
# video: History of Green Building rating systems

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# Green Star

- ❖ Comprehensive, national rating scheme
- ❖ Evaluates environmental performance
- ❖ Different rating tools
- ❖ Voluntary scheme
- ❖ Since 2007
- ❖ Adapted from Green Star Australia



# Green Star Professionals

	Green Star Practitioner	Green Star Accredited Professional (GSAP)
Consult and advise on Green Star requirements		
Participate in Green Star project teams		
Qualification logos for use on email and website		
Access submission guidelines (Member and GSAP only)		
Detailed knowledge of the components of Green Star		
Undertake and submit Green Star submission		



# Green Star Tools

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## Current tools



Communities



Design & As-Built



Interiors



Performance

# Green Star Tools – Objectives & Principles

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- ❖ Focus
- ❖ Robustness
- ❖ Transparency
- ❖ Relevance
- ❖ Independence
- ❖ Equity
- ❖ Customer Focus
- ❖ Inspiration



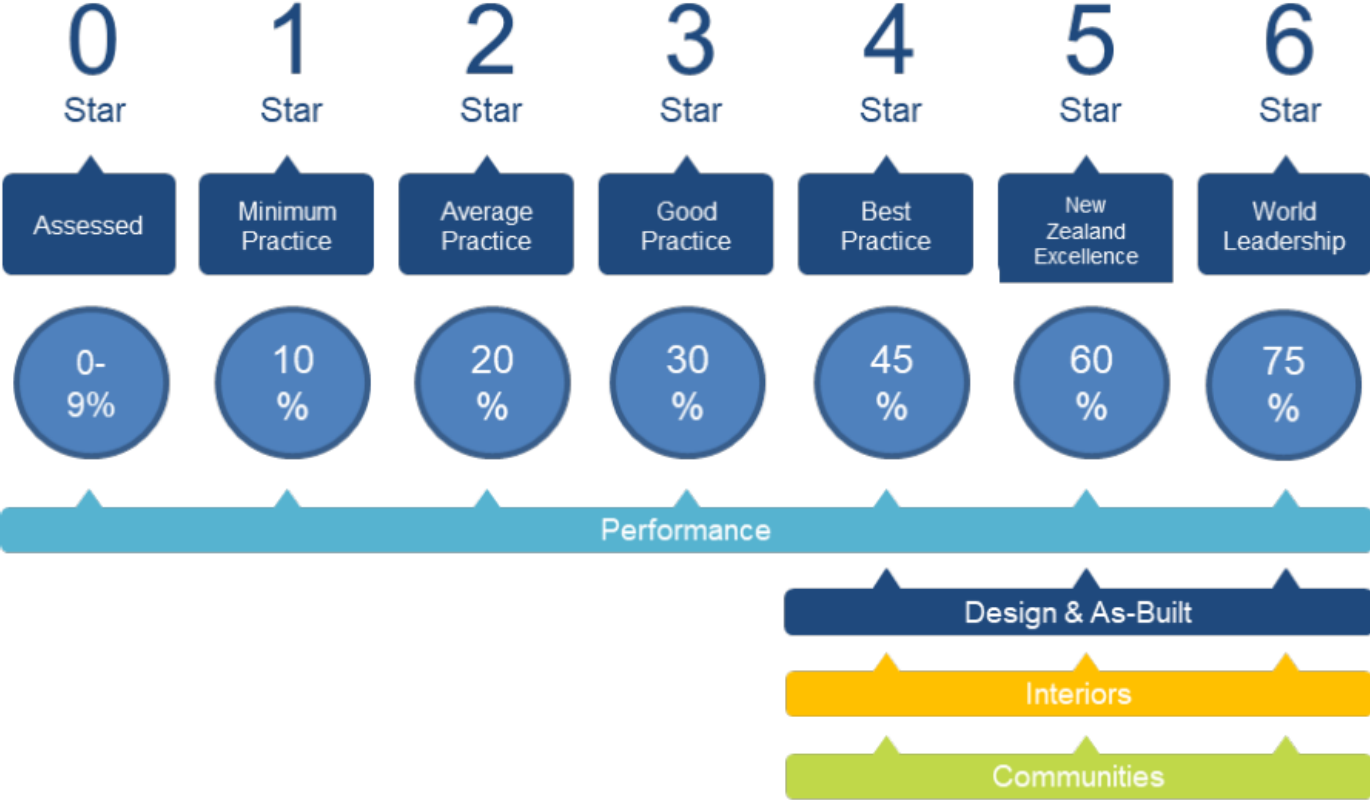
# Green Star Tools - Certification system

❖ Criteria

❖ Credits

❖ Points

❖ Innovation



# Design & As Built and Interiors

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## Design & As Built Tool

- New buildings and major refurbishments.
- Design rating
- Built rating

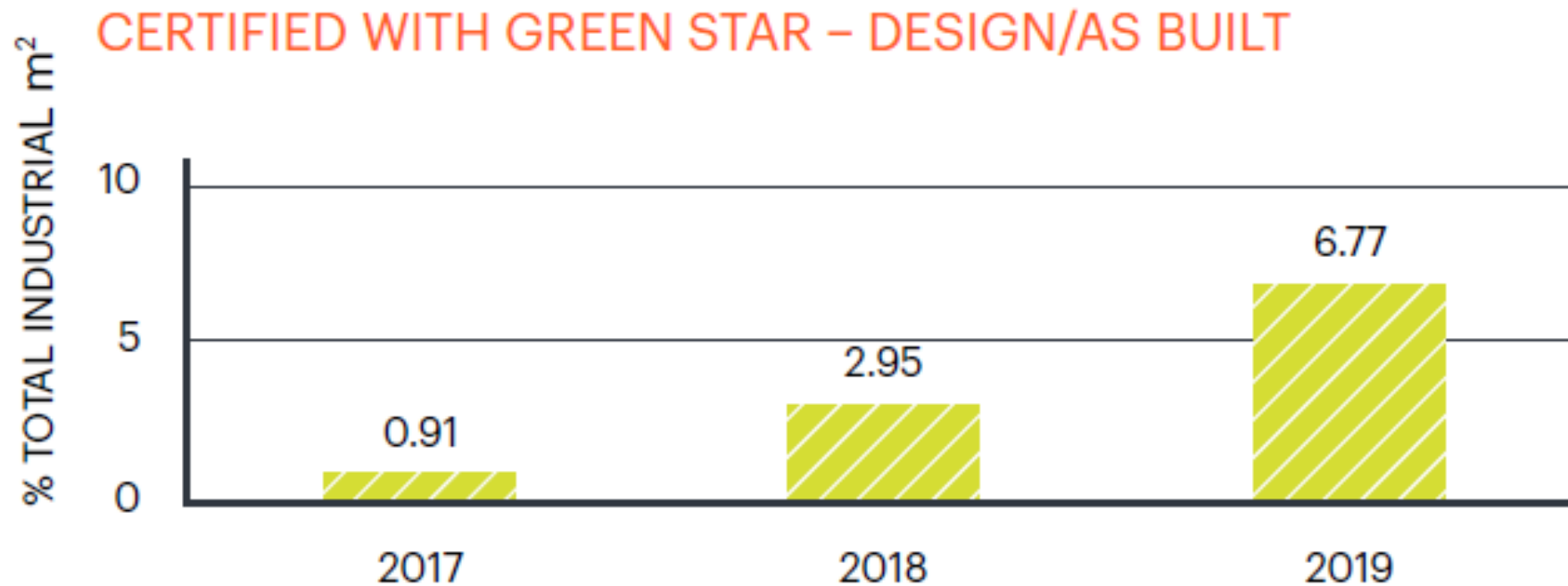
## Interiors Tool

- Covers interiors projects.



# Green Star Design/AsBuilt - uptake

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# Eligibility requirements

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**Building type**



**Spatial Differentiation**



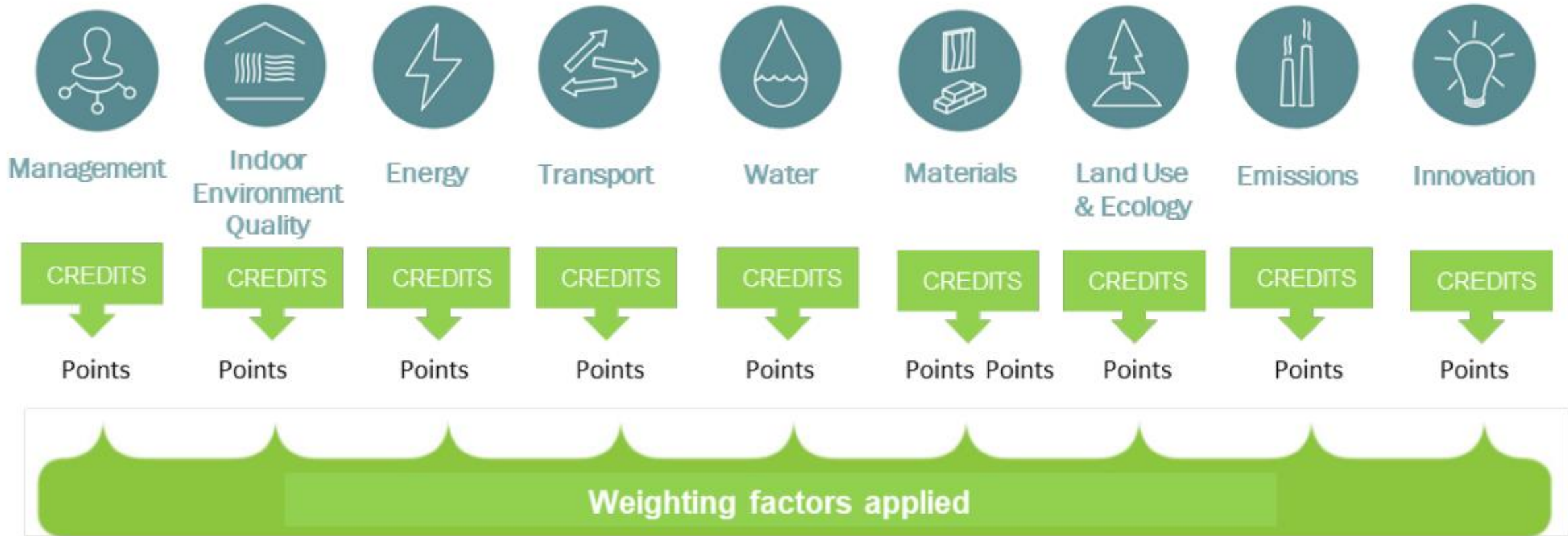
**Conditional Requirements**



**Timing**



# Categories and Credits



# Management credits (15pts)

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- ❖ Green Star Accredited Professional
- ❖ Commissioning & Tuning
- ❖ Adaptation & Resilience
- ❖ Building Information
- ❖ Metering and Monitoring
- ❖ Responsible Construction Practices
- ❖ Operational Waste

# Indoor Environment Quality credits (17pts)

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Design & As-  
Built



Interiors

- ❖ Indoor Air Quality
- ❖ Acoustic Comfort
- ❖ Lighting Comfort
- ❖ Visual Comfort
- ❖ Indoor Pollutants
- ❖ Thermal Comfort

# Energy credits (22 pts)

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Design & As-Built



Interiors

- ❖ Greenhouse Gas Emissions
- ❖ Peak Electricity Demand Reduction

# Transport credits (10pts)

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Design & As-Built



Interiors

❖ Sustainable Transport

# Water credits (12pts)

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Design & As-Built



Interiors

❖ Potable Water



# Materials credits (14pts)

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- ❖ Life Cycle Impacts
- ❖ Responsible Building Materials
- ❖ Sustainable Products
- ❖ Construction & Demolition Waste

# Land Use & Ecology credits (5pts)

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Design & As-Built



Interiors

- ❖ Ecological Value
- ❖ Sustainable Sites

# Emissions credits (5pts)

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Design & As-Built



Interiors

- ❖ Stormwater
- ❖ Light Pollution
- ❖ Microbial Control
- ❖ Refrigerant Impacts

# Innovation credits (10pts)

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- ❖ Innovative Technology or Process
- ❖ Market Transformation
- ❖ Improving on Green Star Benchmarks
- ❖ Innovation Challenge
- ❖ Global Sustainability

video: First LEED-Platinum skyscraper

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video: Geyser Building - Green Wall

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# Green Star Communities

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- ❖ Tool for precinct/master plan level developments
- ❖ Not limited simply to buildings
- ❖ Holistic sustainability assessment in the built environment
- ❖ Certification – Initial/progress/delivery



Communities

# Eligibility requirements

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Communities



**Space type**



**Distinct Boundary**



**Conditional Requirements**



**Timing**

# Categories and Credits



Communities



Governance

**Governance** – corporate responsibility, sustainability awareness, community participation



Environment

**Environment** – reduced impacts, IWM, GHG, sustainable materials, waste management.



Economic  
Prosperity

**Economic Prosperity** – business diversity, economic development, digital infrastructure.



Liveability

**Liveability** – affordability, social interaction, walkable amenities, safe places.



Innovation

**Innovation** - technology development, market transformation, global sustainability.

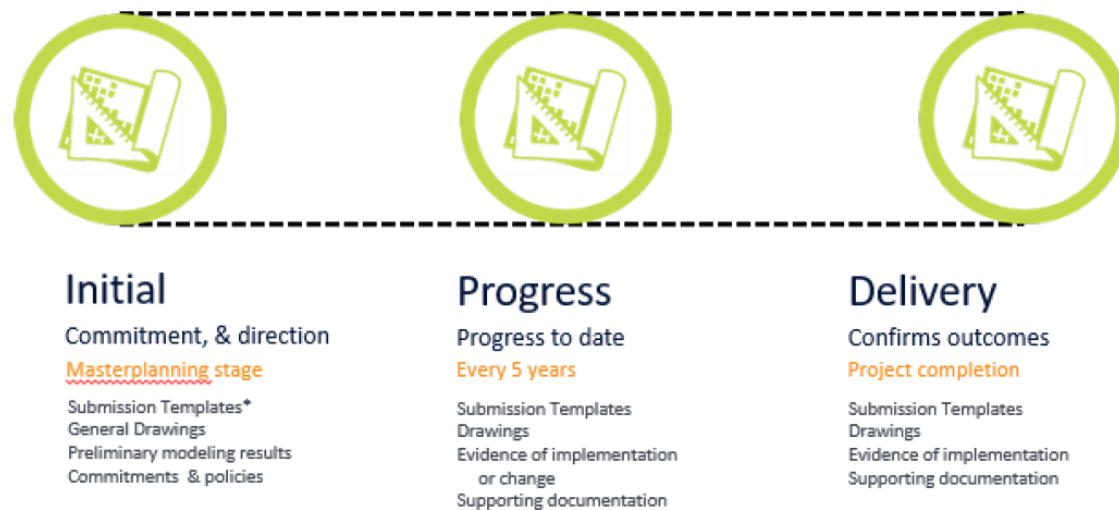


Communities

# Credit Types & Certification

❖ Outcome credits

❖ Process credits

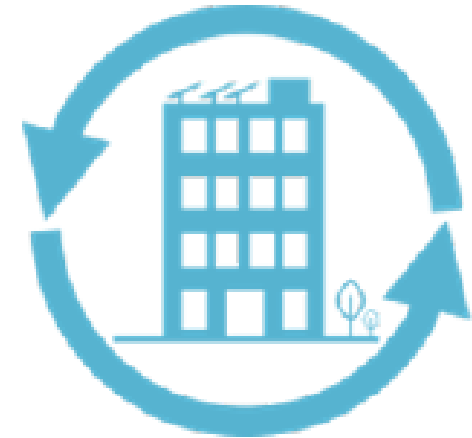


# Green Star Performance

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- Existing commercial buildings
- Health & productivity check
- Certify every 3 years
- Same categories, similar credits to GSAB

[video: Green Star Performance](#)



Performance

# Eligibility requirements

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**Building type**



**Distinct Boundary**



**Conditional requirements**



# Categories and Credits



Performance

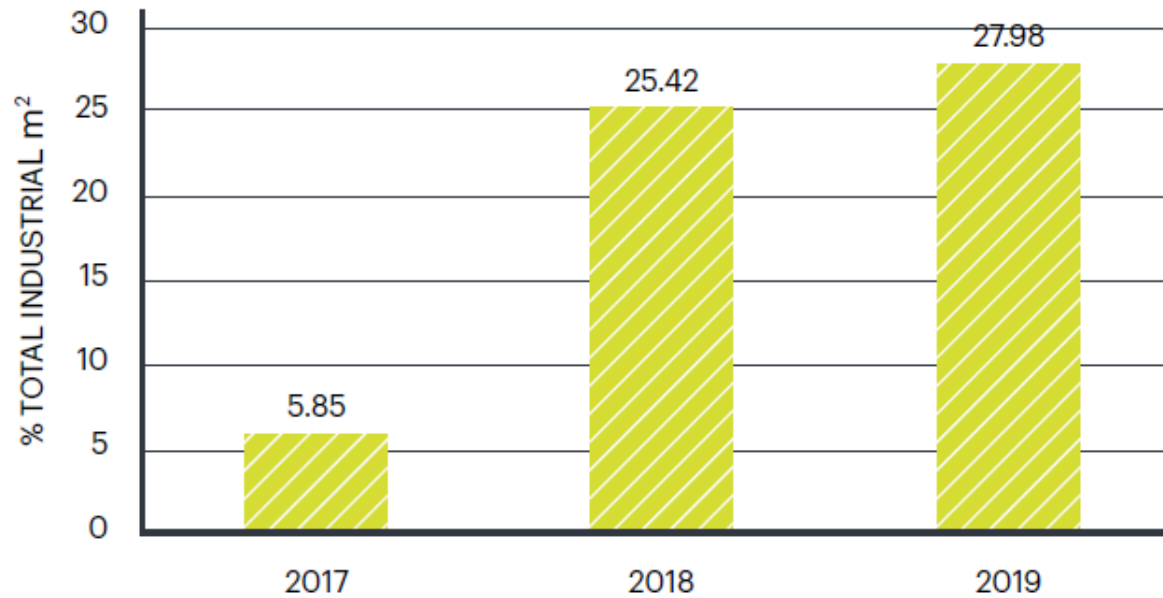
- ❖ Management
- ❖ Indoor environmental quality
- ❖ Energy
- ❖ Transport
- ❖ Water
- ❖ Materials
- ❖ Land use & ecology
- ❖ Emissions
- ❖ Innovation



# Green Star Performance - uptake

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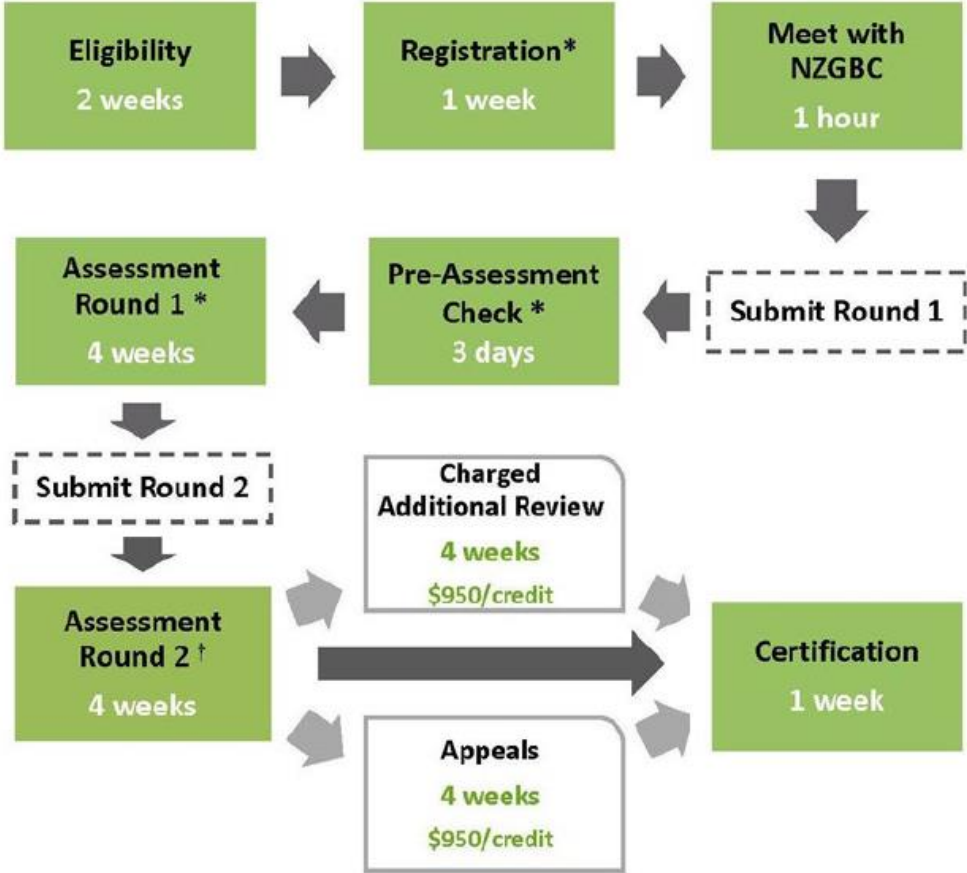
## CERTIFIED WITH GREEN STAR PERFORMANCE



# video: Worms and old tyres - Auckland Council building

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# Green Star Assessment Process



# Assessment Options

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**Single project  
certification**



**Multiple  
project  
certification**



**Common  
Credits  
Assessment  
(Volume  
Certification)**



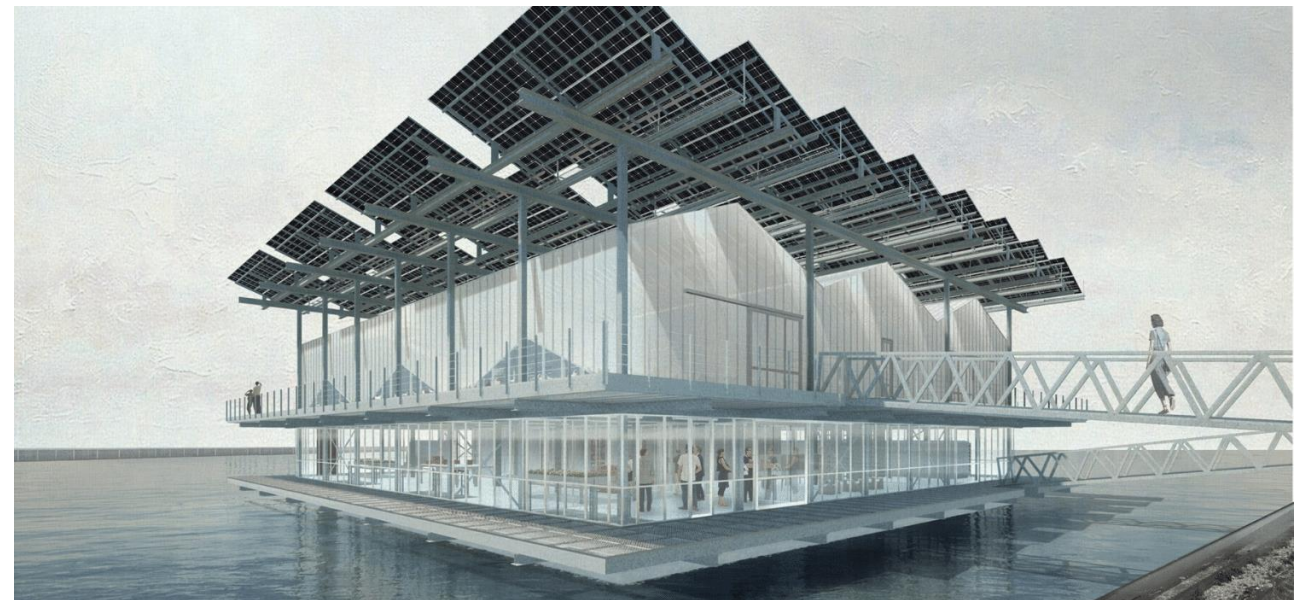
**Portfolio  
Certification**

# Green Star Innovation

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## Types of Innovation:

- Innovative technology/process
- Market transformation
- Improving on Green Star benchmarks
- Innovation challenge
- Global sustainability



# NZGBC Innovation Challenges

Innovation Challenge	Green Star Communities	Green Star Design & As-built	Green Star Interiors	Green Star Performance	Green Star Legacy Tools (v3, 2009)	Homestar V4	Innovation Challenge	Green Star Communities	Green Star Design & As-built	Green Star Interiors	Green Star Performance	Green Star Legacy Tools (v3, 2009)	Homestar V4
<a href="#">Adaptation &amp; Resilience</a>			✓	✓	✓	✓	<a href="#">Local Procurement</a>	✓	✓	✓		✓	✓
<a href="#">Building Air-Tightness</a>		✓		✓	✓		<a href="#">Marketing Excellence</a>	✓	✓	✓	✓	✓	✓
<a href="#">Community Benefits</a>		✓	✓	✓	✓	✓	<a href="#">Material Life Cycle Impacts</a>					✓	✓
<a href="#">Contractor Education</a>					✓	✓	<a href="#">Occupant Engagement</a>		✓	✓		✓	✓
<a href="#">Earthquake Resilience</a>			✓	✓	✓	✓	<a href="#">Smart Precincts</a>	✓					
<a href="#">Energy Efficient Appliances</a>						✓	<a href="#">Social and Affordable Housing</a>	✓			✓		✓
<a href="#">Environmental Product Declaration</a>					✓		<a href="#">Te Aranga Design</a>	✓	✓	✓	✓	✓	✓
<a href="#">Financial Transparency</a>	✓	✓	✓	✓	✓	✓	<a href="#">Total Value Analysis</a>		✓	✓	✓	✓	✓
<a href="#">Heritage Protection</a>		✓	✓	✓	✓	✓	<a href="#">Universal Design</a>	✓	✓	✓	✓	✓	
<a href="#">Integrating Healthy Environments</a>	✓	✓	✓	✓	✓	✓*	<a href="#">Water Efficient Appliances</a>						✓

# INNOVATION CHALLENGE:

## Material Life Cycle Impacts (6 points)

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- ❖ Importance: LCA gaining recognition
- ❖ Aim: reduce life cycle impacts of building materials; develop industry capacity for LCA
- ❖ Requirements: conduct LCA for project, compare with reference, additional criteria
- ❖ Reference Standard: EN 15978
- ❖ Impact categories:
  - Climate change (IPCC AR5, kg CO<sub>2</sub>)
  - Ozone depletion (WMO 1999, kg CFC-11)
  - Acidification potential (CML, kg SO<sub>2</sub>)
- ❖ Peer review: independent LCA



## INNOVATION SUBMISSION TEMPLATE

Please complete one innovation submission template per initiative.

### CONTACT INFORMATION:

INNOVATOR SUBMITTED BY:   
OF:   
CONTACT:   
ON:

### TOOL (Please select):



COMMUNITIES   
DESIGN & AS-BUILT  STANDALONE   
INTERIORS  TERRACED   
PERFORMANCE  APARTMENTS   
LEGACY: v3/ 2009 Base Building   
LEGACY: Office Interiors

### PROJECT INFORMATION:

PROJECT NAME:   
PROJECT NUMBER:   
PROJECT CERTIFICATION STAGE:  
DESIGN   
AS-BUILT   
Green Star Performance & Communities Only:  
INITIAL CERTIFICATION   
RE-CERTIFICATION

### INNOVATION INFORMATION:

NAME OF INNOVATION:   
POINTS CLAIMED:   
TYPE OF INNOVATION SUBMISSION AND DOCUMENTATION PROVIDED:  
PRELIMINARY REVIEW  
Submitted prior to Round 1 Assessment, with no, partial, or complete documentation:  
No documentation provided   
Partial or example documentation provided   
Full documentation provided   
FULL REVIEW  
Submitted with Round 1 or Round 2 Submission, with full documentation  
Full documentation provided   
A 'Preliminary Review' was undertaken for this initiative and the outcome of this review is included at the end of this Submission Template

### TYPE OF INNOVATION (Please select):

Name	Description	Points Available	Points Claimed
A Innovative Technology or Process	The project meets the aims of an existing credit using a technology, process or operational practice that is considered innovative in New Zealand or the world.	1 point for each initiative	<input type="checkbox"/>
B Market Transformation	The project has undertaken a sustainability initiative that substantially contributes to the broader market transformation towards sustainable development in New Zealand or the world.	1 point for each initiative	<input type="checkbox"/>
C Improving on Benchmarks	The project has achieved full points in a Green Star or Homestar credit and demonstrates a substantial improvement on the benchmark required to achieve full points.	Up to 2 points for each credit	<input type="checkbox"/>
D Innovation Challenge	The project meets the requirements of a published Innovation Challenge.	1-5 points, dependent on IC	<input type="checkbox"/>
E Global Sustainability	Demonstrate compliance with an approved credit from another Green Star rating tool or World Green Building Council member rating tool that addresses a sustainability issue that is currently outside the scope of this Green Star/ Homestar rating tool.	1 point for each initiative	<input type="checkbox"/>

### BRIEF DESCRIPTION OF THE INITIATIVE:

### Please now complete:

- the relevant section of this Submission Template based on the type of innovation targeted
- the discussion and declaration section at the end of this template



# Green Innovative technologies

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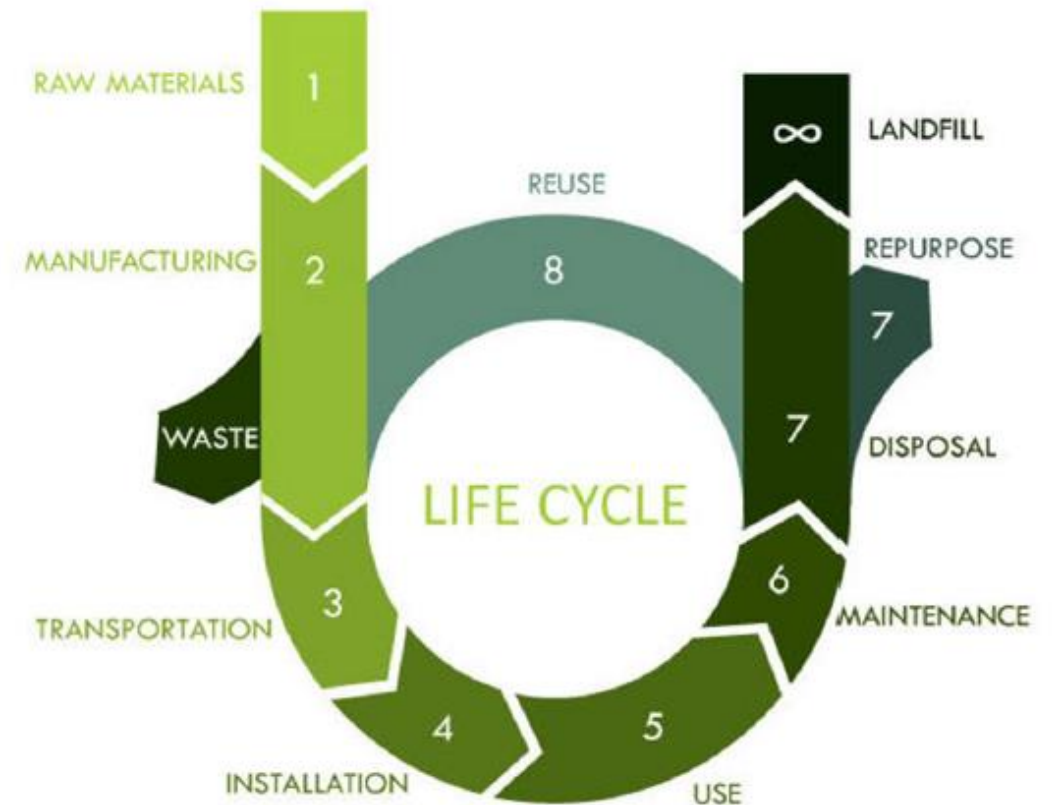
[video: Translucent wood](#)

[video: Modular Bamboo](#)



# Products and Materials

- ❖ Different ways products/materials can be recognized
- ❖ Most common types are EPDs and Eco-Labels
- ❖ GS approval system for materials
- ❖ Products/materials not given GS rating



# Environmental Product Declarations

- ❖ Covered under the **Materials** credit
- ❖ Standard assessment
- ❖ Cradle to gate (at least)
- ❖ ISO 14025 / EN804 compliant
- ❖ Independently audited





# Eco-Labels



## Environmental Choice New Zealand

- Home
- About Us ▾
- Media ▾
- Specifications ▾
- Products & Services
- Our Licensees ▾
- Get Licensed ▾
- Contact

Specifications > (EC-32-17) Furniture, Fittings & Flooring

### (EC-32-17) Furniture, Fittings & Flooring



### Companies Using This Specification

Below is a list of the companies that have products with the Environmental Choice licence in this category of eco-friendly laminates and wood panels including MDF, particleboard, and mouldings.

Company	Product Name
Aspect Furniture Systems	<a href="#">View Products</a>
Bestwood	<a href="#">View Products</a>
Daiken New Zealand Ltd	<a href="#">View Products</a>
Daiken Southland Limited	<a href="#">View Products</a>
Dezignatek	<a href="#">View Products</a>
Furnware	<a href="#">View Products</a>
Kopine	<a href="#">View Products</a>
Laminex New Zealand	<a href="#">View Products</a>
Nelson Pine Industries Ltd	<a href="#">View Products</a>
PrimePanels NZ Ltd	<a href="#">View Products</a>