



Green Building
Council Australia

Driving responsible products in the built environment

Changes to Green Star Buildings and our
strategy for the future

Building a
sustainable
future



Purpose of this paper

This paper serves to outline the strategy and future trajectory for the evolution of the Responsible Products Framework, Green Star Buildings and Green Star Fitouts.

In this paper:

- On the need to transform the supply chain
- How Green Star aims to partner to transform the supply chain
- The Responsible Products Framework and initiatives
- A future roadmap for transformation
- Green Star Buildings Revision B

For more information or feedback, please send an email to greenstar@gbca.org.au with the subject line 'Responsible Products Framework'.

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From GBCA: Jorge Chapa, Taryn Cornell, Nadia Barbov, Emma Bezzina, and Tori Wouters.

With thanks to our Technical Advisory Group, Industry Advisory Group, Products and Materials Expert Reference Panel, and our Early Access Projects and their consultants.

With thanks to our Future Focus Partners

Silver Partners



Technical Partner



Supporting Partners



With thanks to our Circular Economy Partners

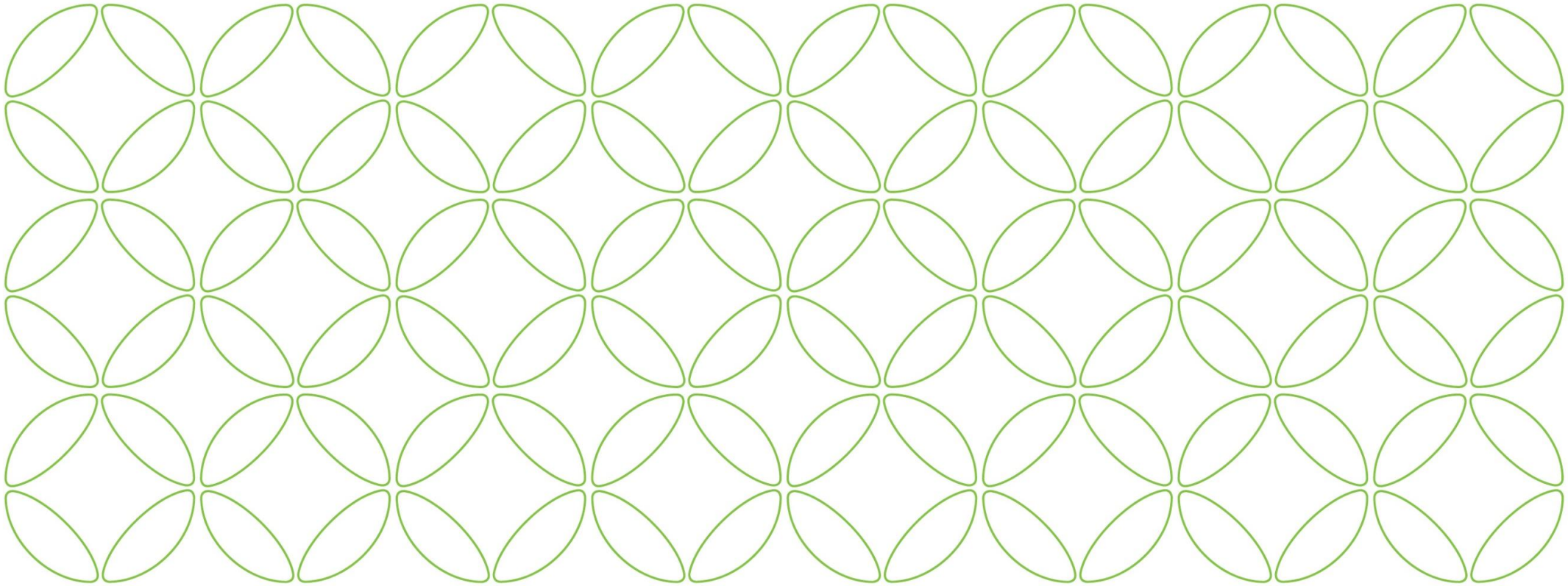
Principal partner



Supporting partner



On the need to transform the supply chain



Impacts of buildings and products worldwide

Climate Action

- Buildings account for ~40% of energy-related global carbon emissions
- ~25% of all building emissions are related to material production and construction

Resource & circularity

- Buildings are responsible for 50% of global material use
- 42.4bn tonnes of materials consumed annually

- Resource prices have become more volatile and are expected to rise over the long term
- Easy-to-access, high-grade stocks of key commodities are dwindling
- Governments are imposing new restrictions on pollution and waste that apply along entire product life cycles
- There is an increased focus on emissions happening today, particularly as energy systems decarbonize

In a resource-constrained world, how we get, use and dispose of materials, and make the most of our current resources, will be key for a successful and sustainable global economy.

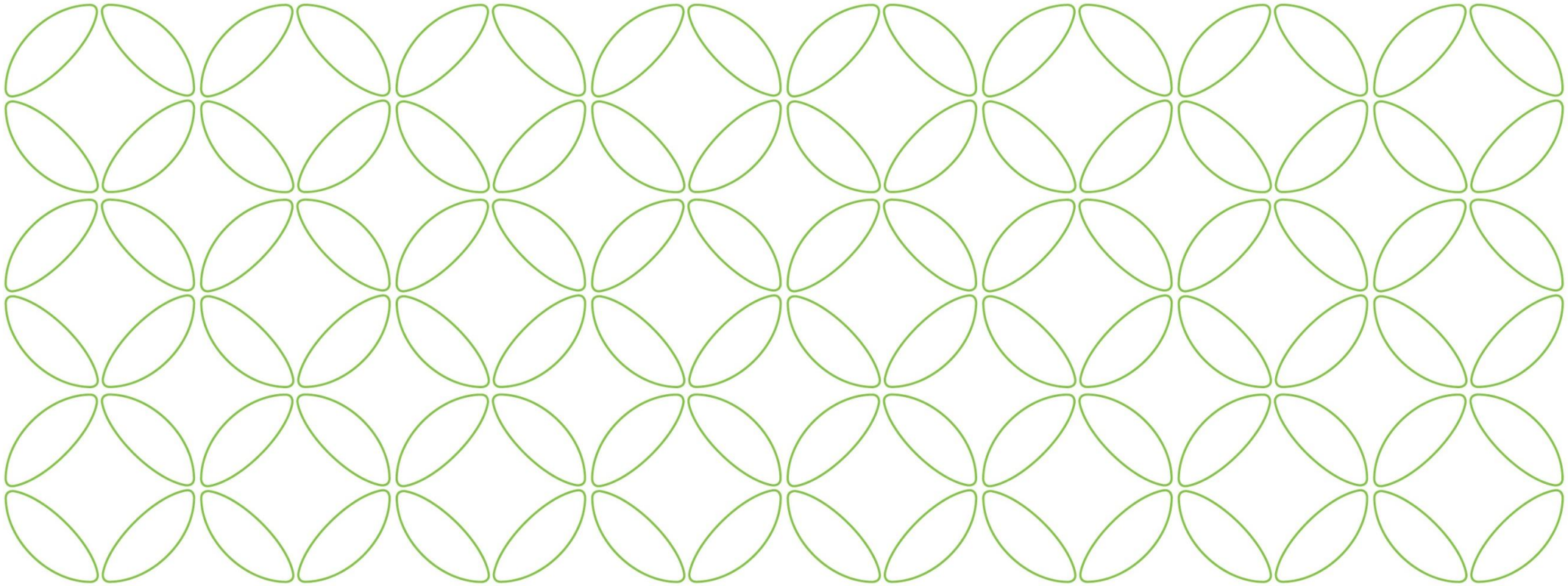
Transforming the supply chain

The building materials sector accounts for 8% of Australia's total emissions. It has an economic value of 70 billion dollars a year. It is the next step in decarbonising our economy.

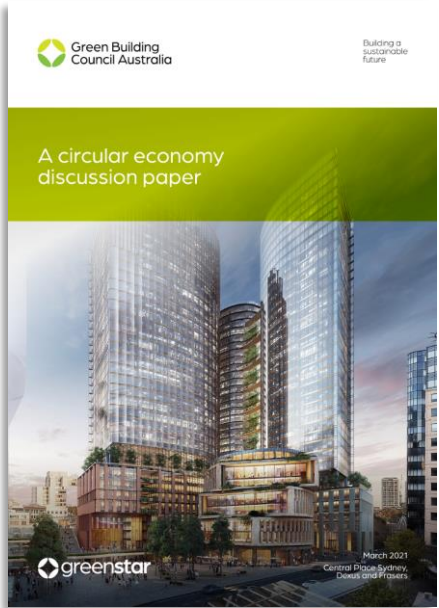
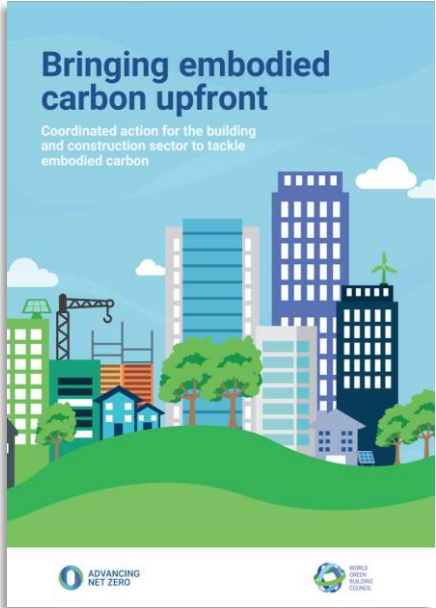
The built environment needs responsible, healthy and positive products that are part of a circular economy, and we need the entire supply chain to help us do it.



How Green Star aims to partner to transform the supply chain



Our work in products and materials over the past three years



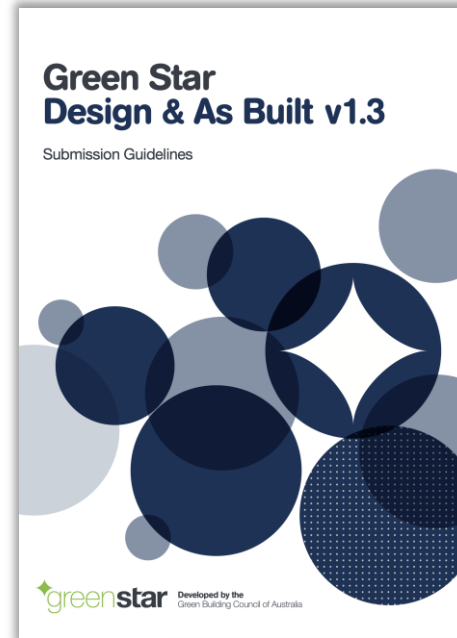
Over the past three years we've laid the groundwork for a more comprehensive advocacy and engagement strategy on products and materials.

Click on each report cover to download.

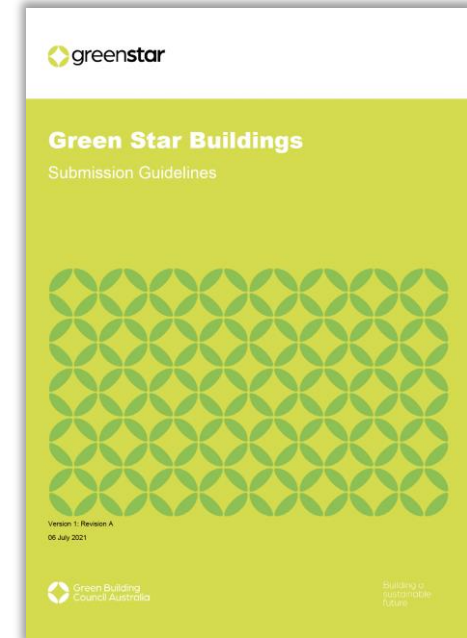
We have evolved Green Star over time



Recognised product certifications schemes and credit requirements for best of class materials
(timber, steel, concrete, PVC)



Recognised product certifications, and life cycle assessment or best of class key materials.
(timber, steel, concrete, PVC, finishes, furniture)



Embodied carbon and responsible products by building function

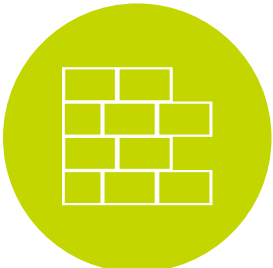
How Green Star Buildings aims to help

Green Star Buildings aims to create market demand for innovative, responsible, and low carbon products.



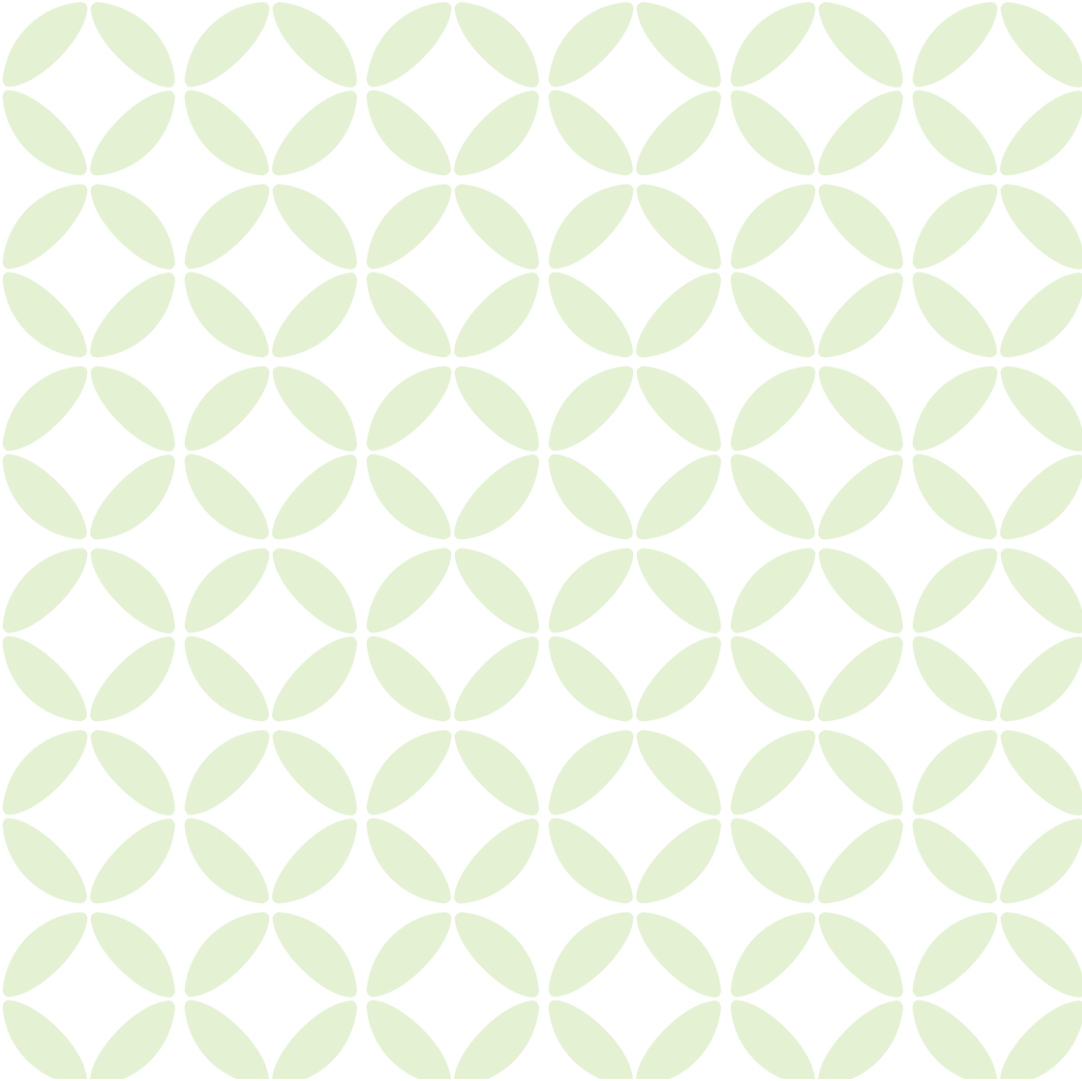
Creates a drive for lowering upfront carbon emissions

Green Star Buildings introduced a new minimum expectation to ensure all buildings are built with good design choices and lower upfront carbon products.



A new definition for responsible products

Our new Responsible Products Framework aims to reward products that have lower environmental impact, are transparent, respect human rights, and are taking action to reduce in carbon content.



Transforming the supply chain

Green Star Buildings features 8 credits and one leadership challenge that directly impact the supply chain. They aim to drive responsible, healthy, positive, and circular products. They represent more than 25% of the points available in the rating tool, the highest ever dedicated to transforming the supply chain.



Responsible

- Industry development
- Responsible construction
- Verification & Handover
- Responsible procurement
- Responsible structure
- Responsible envelope
- Responsible systems
- Responsible finishes



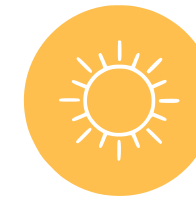
Healthy

- 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 and heritage



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
- Circular Economy

 Supply chain credits impacted by Green Star Buildings and the Responsible Products Framework

 Other credits impacting the supply chain

How the Responsible Products credits work

Each credit, representing a *building element*(1), has two parts that must be met to receive points:

- The *amount*(2) that needs to be in compliance (calculated by cost).
- The *Responsible Product Value (RPV)*(3) that needs to be met or exceeded.

Points are distributed across two performance levels:

- **Credit achievement,**
A portion of the products (*amount*) in the *building element* (e.g. structure) must achieve a good *RPV* score (e.g. 10)
- **Exceptional Performance,**
Upon achieving the above, more products (*amount*) achieve a good *RPV* score, or some of the products (*amount*) have a higher *RPV* score.

Why are the credits set up in this manner?

1. The credits address specific building elements in a manner that reflects both their impact and their replacement timeframes. E.g. Structure is long lasting (50+ years), Finishes are replaced more frequently (~10 years). The credits are trying to influence these elements separately.
2. The *amount* is calculated on cost, as that allows a common way of measuring the amount of compliance with a single measure. While cost is not an indication of impact (e.g. costly materials may have less impact), it is a reasonable measure of coverage when considered across the whole or a significant part of the building. It becomes a simple manner by which we can incentivise more things to be compliant over time.
3. The *RPV* reflects how responsible, healthy, positive, and circular, the product is. The score is currently derived from the initiatives the product complies with, from holistic product certification to environmental product declarations. The current *RPV* reflects best practice. Over time, this value will increase.

Responsible products credits

Responsible Structure

- The structure is defined as load bearing and stability components of a building, including steel, timber, concrete load bearing elements.

Responsible Envelope

- The envelope is defined as the façade, and all façade components such as external shading and insulation, suspended slabs, as well as roofing systems.

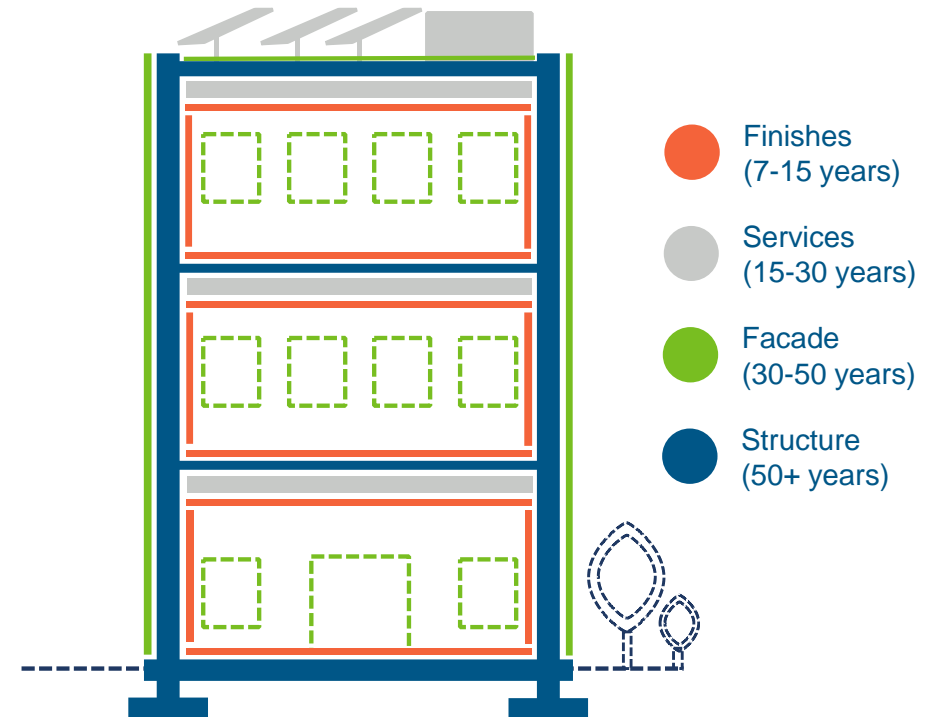
Responsible Systems

- The systems are defined as the mechanical, hydraulic, transportation and electrical systems present in the building. Lighting, security, and fire systems are also included. Products that make up active systems such as pipes, cables, ducts etc are included. Passive systems such as a façade shading device are not included in this credit.

Responsible Finishes

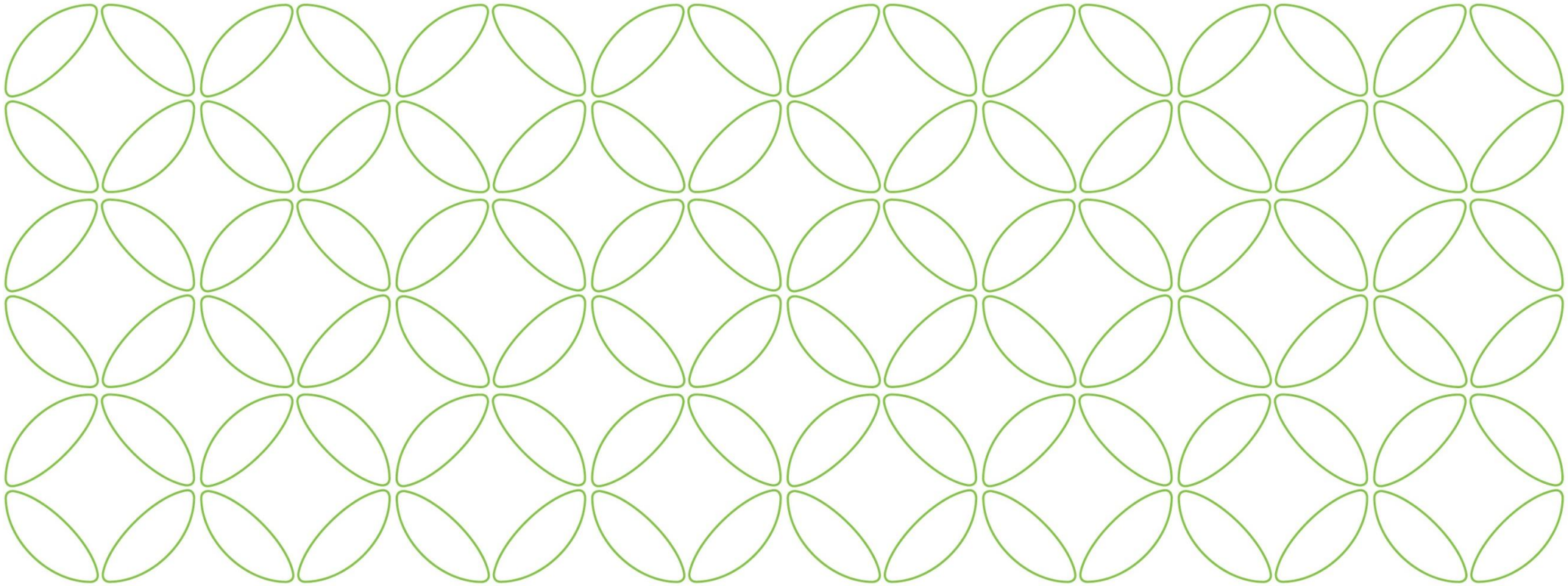
- Internal finishes include flooring, plasterboard, paints, ceilings, partitions, doors, internal windows or similar. Joinery used as part of a wall finish may be counted, e.g., wall panelling or fixed shelving/cupboards that make up a partition. Sealants and adhesives used for finishes are also included. Loose furniture is not included.

More information on the credits can be found in the [Green Star Buildings Submission Guidelines](#)



Adapted from Brand, S., 1994, How Buildings Learn: What Happens After They're Built

The Responsible Products Framework and initiatives



Recognising responsible products

Our new framework encourages action today to create opportunities for future transformation in four distinct building components.



Responsible

Responsible structure

Responsible envelope

Responsible systems

Responsible finishes

Responsible

your product's impacts and content are transparent and meet high standards

Healthy

your product is low or non-toxic and drives valuable social outcomes

Positive

your manufacturing process avoids significant environmental impact, and delivers net zero products

Circular

your product is ready for low-carbon production and the circular economy

Leadership

rewards additional achievement for issues critical to the built environment



Responsible

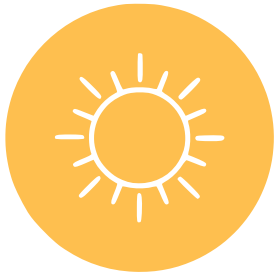
- Environmental Impact Disclosure 3
- Carbon Emissions Disclosure 1
- Health Impacts Disclosure 1
- Ingredient Disclosure 1
- Environmental Management 1
- 7



Healthy

- Reduced Exposure to chemicals of concern 8
- Modern Slavery 2
- Social Accountability 1
- 11

The Circular aspects of the Responsible Products Framework are in development and will be introduced in 2023.



Positive

Carbon Emissions Reduction

3

Low Carbon Trajectory

1

Carbon Neutrality

3

Reduced Impacts to Nature

1

Responsible extraction of material resources

2

Protection of areas of high ecological value

2

Energy Use

1

Water Use

1

Waste Generation

1

Material Extraction

1

Other impact reductions

1

22

How can products achieve a score under the framework

The Responsible Products Framework aims to assess how responsible a product is. However, to verify these outcomes, Green Star relies on industry accepted initiatives and schemes.

An initiative or scheme is defined as a third party verification of a claim that is done in accordance with an industry recognised, well governed standard. Ecolabels, environmental product declarations, ISO 14001 certifications are all types of initiatives and schemes recognised within the Framework.

Therefore, GBCA is in the process of assessing and scoring multiple schemes in detail. The schemes are assessed against the requirements in the Framework, and for assurance around their governance processes.

This assessment is then uploaded to the Responsible Products Framework section of our website. They are also listed in the next page, which include initiatives assessed as of December 2021.

Product manufacturers can claim one or multiple initiatives for a product to meet the RPVs outlined in the Credit Achievement and Exceptional Performance. Some initiatives meet very similar aspects of the framework, so not all initiatives should be paired up together.

To assist manufacturers understand which combinations are acceptable, GBCA has outlined combinations that will let a product claim multiple initiatives for higher RPVs.

What does a product manufacturer need to supply to project teams?

The product manufacturer must provide to the project team either one or multiple certificates, declarations, or similar verified documents that the product complies with.

How can product manufacturers communicate their achievements to project teams, procurement teams, etc?

Currently GBCA is working to develop appropriate language that will enable manufacturers to communicate their Green Star achievements. For now, you should communicate any initiatives you comply with from our approved list to your stakeholders. We also recommend you have an easy to find place in your website where project teams can collect this information from.

Responsible Products Initiatives

The following initiatives have been recognised within the framework as of December 2021.

- Reused products or building components
- Climate Active Carbon Neutral Standard for Products & Services
- Environmental Product Declarations (Industry-wide)
- Environmental Product Declarations (Product-specific)
- Environmental Choice New Zealand
- The Forest Stewardship Council (FSC)
- Global GreenTag International Standard v4 (*Green Rate - Level A*)
- Good Environmental Choice Australia (GECA)
- Literature Review and Best Practice Guidelines for the Life Cycle of PVC Building Products
- Responsible Wood (only timber certified to the upcoming revision to AS4708. For more information on the release contact Responsible Wood).

Other initiatives being reviewed for early next year

- Declare
- Cradle to Cradle
- GEV-Emicode
- Healthrate
- LCA Rate
- AFRDI
- Blue Angel
- ACRS
- Responsible Steel
- RE100
- EP100
- SBTi
- Modern Slavery Declaration
- And others...

If there are other initiatives that should be recognised, or you are an initiative that would like to seek accreditation, please contact us at greenstar@gbca.org.au, subject line "Responsible Product Framework"

For the most up to date list of initiatives, please visit the [GBCA Website](#)

How we aim to help manufacturers, suppliers and project teams.



Responsible Products Framework

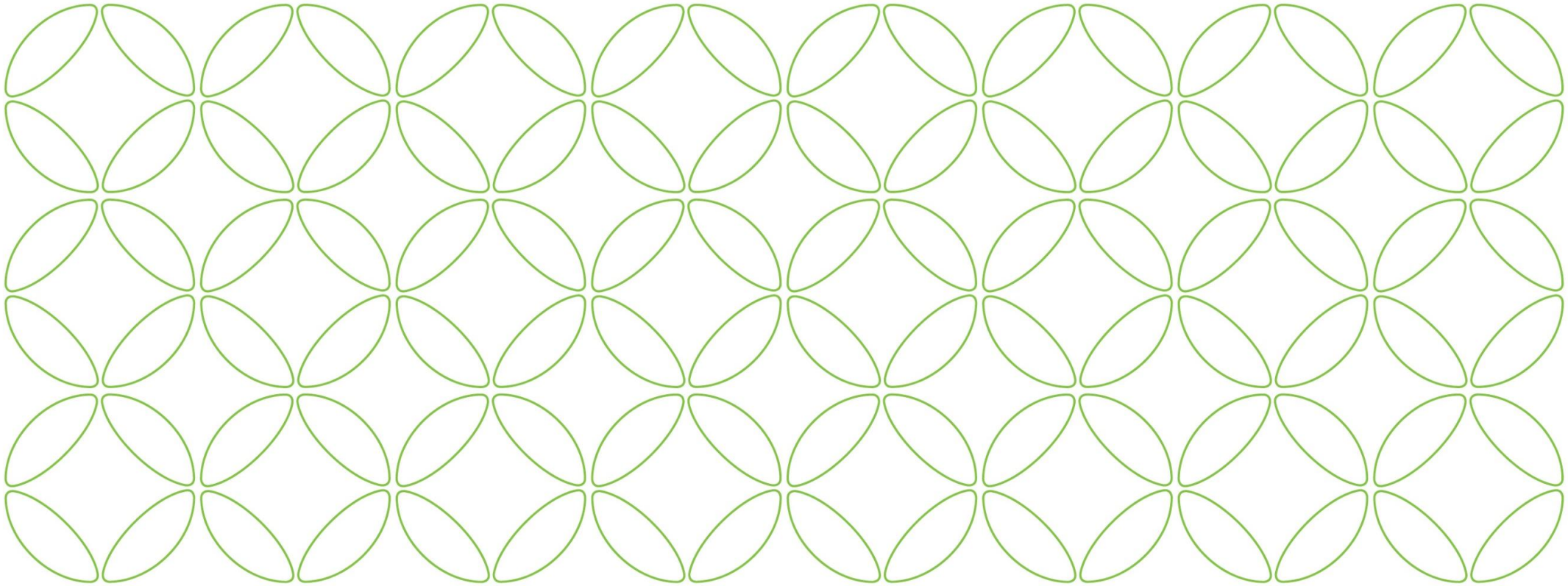
- Recognises how sustainable a product, and does so by a common framework.
- Used by Green Star Buildings and new rating tools. Will be rolled back as an option for legacy.
- Provides a long-term trajectory for product manufacturers and product certification schemes in line with our strategy.
- Will include appropriate marketing material to encourage its adoption.



Responsible Products Database

- Shows the Responsible Products Value of individual products and manufacturers.
- Allows the product supplier to enter and manage their products in their directory.
- Allows the product manufacturer to get statistics of how the product is used in Green Star projects.

A future roadmap for transformation



A Responsible Products Roadmap

As Green Star Buildings evolves, and Green Star Fitouts is introduced, new Responsible Products credits will be delivered, with existing ones increasing in stringency.

	Green Star Buildings	Green Star Fitouts	Today Value - RPV	Future revision* Value - RPV	Latter revision* Value - RPV
Responsible structure	✓		50% at RPV 10	80% at RPV 15	80% at RPV 20
Responsible envelope	✓		30% at RPV 10	60% at RPV 15	80% at RPV 20
Responsible systems	✓		20% at RPV 6	50% at RPV 10	80% at RPV 20
Responsible finishes	✓	✓	40% at RPV 7	60% at RPV 10	80% at RPV 20
Responsible furniture	○	✓	TBD		
Responsible appliances	○	✓	TBD		
Responsible equipment	○	✓	TBD		

The information provided in this page is for information purposes only. In 2022, we will introduce a more detailed roadmap outlining a long-term trajectory for these credits over the next two decades.

A roadmap for industry transformation

Over time, the goal is simple: Responsible, healthy, and positive products that are part of a circular economy. How we get there will require work and ambition, and Green Star will be updated to ensure these outcomes happen.

		Near term	Long term
Responsible	The manufacturer is transparent about its and its product's impacts and contents.	Full transparency from structural and envelope materials	Full transparency in the supply chain
Healthy	The manufacturer's products are low or non-toxic and drive valuable social outcomes.	Zero chemicals of concern in furniture, finishes, fittings	Zero chemicals of concern in the supply chain
Positive	The manufacturer's processes avoids significant environmental impact, and delivers net zero products.	A carbon neutral supply chain, with a 40% reduction in embodied carbon	A decarbonized supply chain
Circular	The manufacturer is ready for low-carbon production and the circular economy.	Reductions in virgin resources	A zero virgin resource supply chain

Our part to play in this transformation

We all have a part to play, as changing the supply chain requires more than just creating demand for better products. Over the next few years, we commit to the following actions to deliver on our joint vision for industry transformation.



We advocate

- Advocate to support industry transition to a low carbon future
- Work with WorldGBC and other rating tool bodies to set global targets for decarbonizing supply chain and removing chemicals of concern



We collaborate

- Partnering with new and existing members for purpose and seek sponsorship
- Work with industry and product certification schemes to set clear roadmaps and targets across carbon, health, and circularity



We educate

- Deliver new courses on sustainability in the product manufacturing space
- Create marketing and comms material for product manufacturers to promote their achievements and their use in Green Star to project teams and others

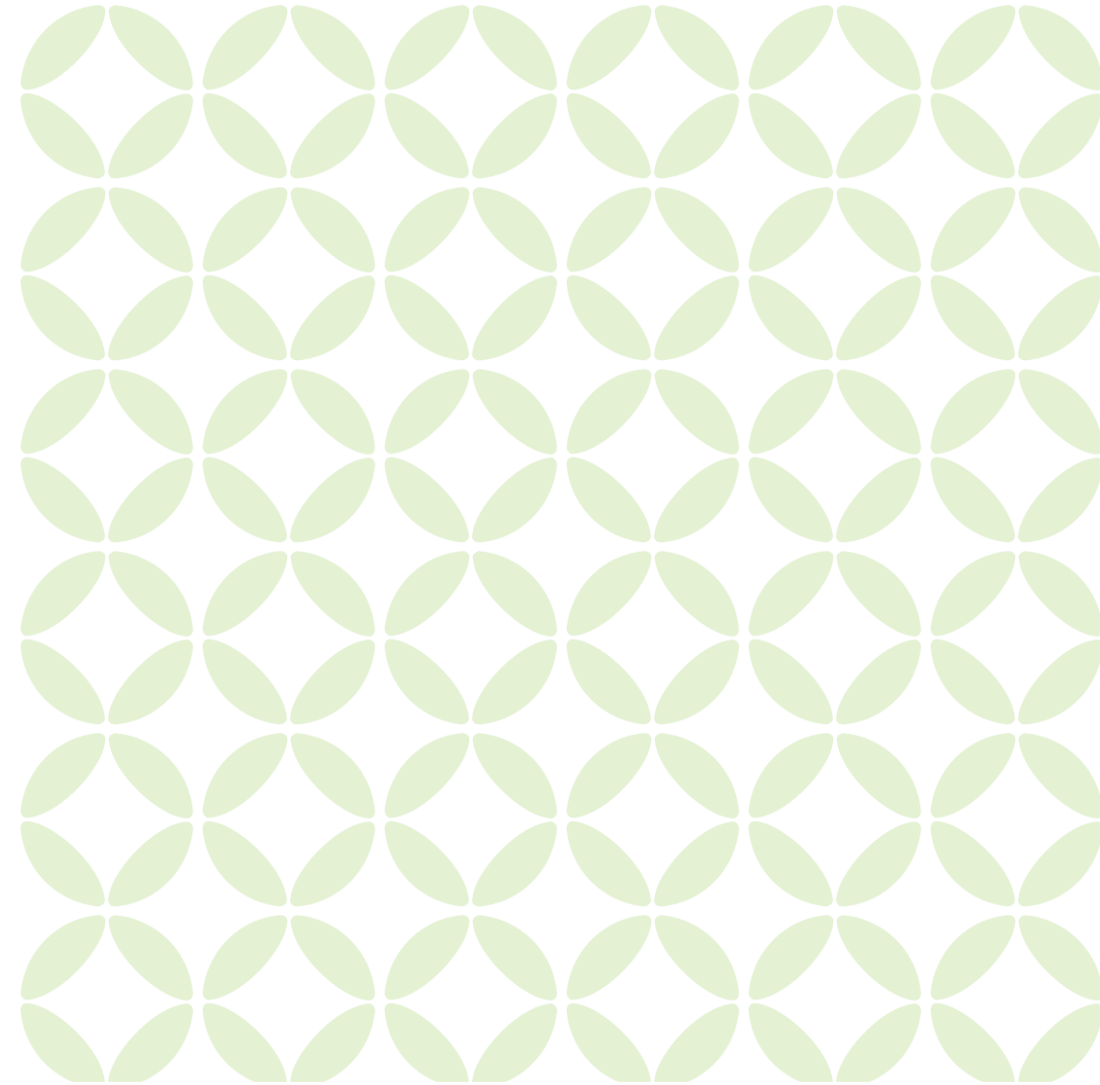


We rate

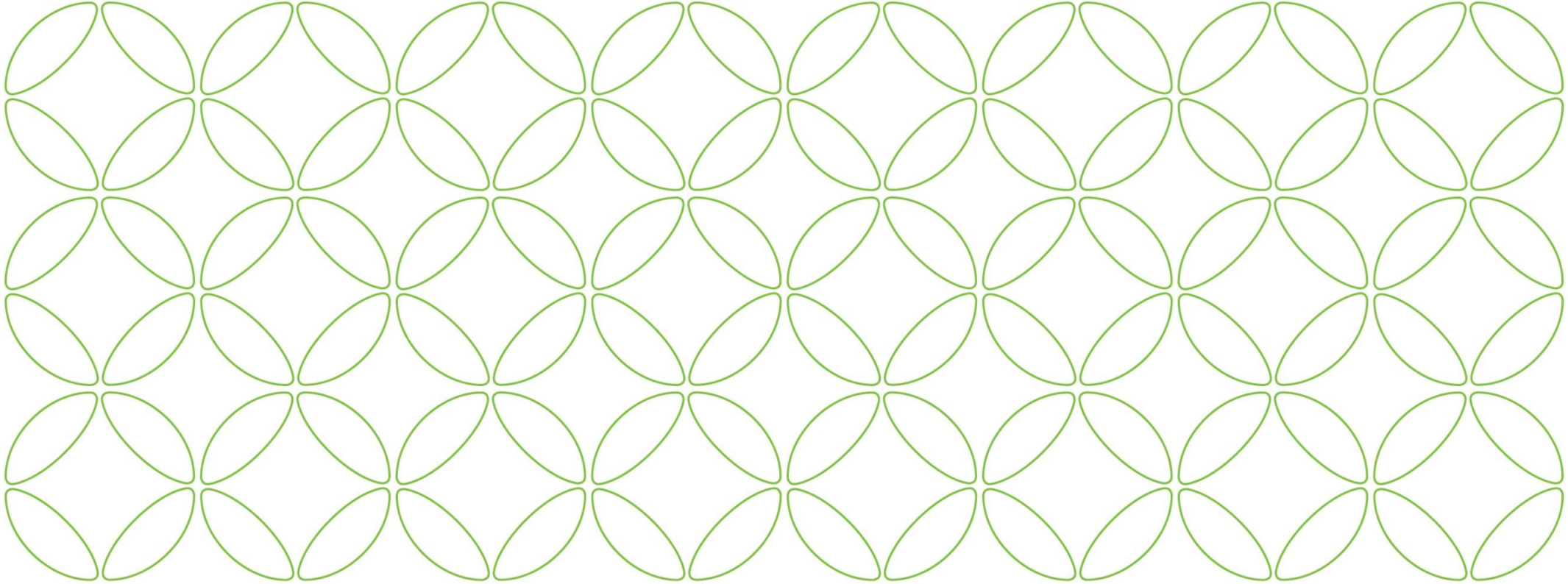
- Develop solutions to engage product manufacturers better through Green Star
- Develop online systems to help product manufacturers promote their solutions to industry

In 2022,

- Continue working with initiative providers and recognising new initiatives.
- Work with product suppliers and manufacturers to develop appropriate marketing material.
- Develop a Green Star Product Directory to help manage product information at the time of submission.
- Produce a Responsible Products Roadmap to help manufacturers get ready for the long-term shift to a healthy, positive, and circular economy.



Green Star Buildings Revision B



Green Star Buildings v1 Revision B

In October 2020, GBCA launched Green Star Buildings, the first rating tool of our Future Focus program. It signaled the biggest overhaul of our sustainability rating system in 18 years.

Since the release of Green Star Buildings, we have worked with product suppliers, manufacturers and certification schemes, and received invaluable industry feedback from our Early Access Projects and projects that have either registered or are working towards registration.

The feedback indicated that the entry point for the Responsible Products credits was too high. Without change, project teams would not engage with these credits, particularly for smaller projects. This would result in reducing their effectiveness in creating demand for better products, thus limiting our capacity to drive change.

Based on this, we made the decision to publish a second maintenance revision of the Green Star Buildings Submission Guidelines. This maintenance update responds to this feedback by reducing the benchmarks and simplifying the pathways in the Responsible Products credits. We have also introduced Leadership Challenge points for projects who achieve all requirements in each credit.

This revision will apply to projects already registered under Green Star Buildings v1 as well as any future registrations.

In addition to amending the benchmarks to change the entry point, the credit has also been modified to reduce the complexity of the Exceptional Performance requirement. Where previously the credit introduced the concept of an average RPV, it has now been shifted to recognize products that pass either a good performance level (RPV 10) or a better performance level (RPV 15).

This also enabled us to introduce a leadership challenge that encouraged the pursuit of both exceptional performance pathways. This results in the overall number of points increasing from within the Responsible Products credits from 13 to 17.

These changes help address the feedback from industry, while also encouraging further adoption and opportunities for high performers within the supply chain.

Green Star Buildings v1 Rev. B benchmark changes

Credit		Credit Achievement	Exceptional Performance	
		Good practice products	Best practice products	Good practice products
Structure (5 points)	Current	80% of products	10% of products	30% of products
		Min RPV 10	Min RPV 15	Average RPV 12
	Proposed	50% of products	10% of products	80% of products
		Min RPV 10	Min RPV 15	Min RPV 10
Envelope (4 points)	Current	60% of products	10% of products	25% of products
		Min RPV 10	Min RPV 15	Average RPV 12
	Proposed	30% of products	10% of products	60% of products
		Min RPV 10	Min RPV 15	Min RPV 10
Systems (2 points)	Current	20% of products	5% of products	15% of products
		Min RPV 6	Min RPV 11	Average RPV 8
	Proposed	20% of products	5% of products	35% of products
		Min RPV 6	Min RPV 11	Min RPV 6
Finishes (2 points)	Current	60% of products	10% of products	20% of products
		Min RPV 7	Min RPV 12	Average RPV 9
	Proposed	40% of products	10% of products	60% of products
		Min RPV 7	RPV 12	Min RPV 7

Leadership Challenge

The leadership challenge requires a project team to show that compliance has been achieved for both Exceptional Performance pathways.

For each credit where both Exceptional Performance pathways are met, the project team can claim an additional point.

Thank you

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