

Green Star
– Making
an impact

Supporting industry
to create sustainable,
healthy places for
everyone

October 2024

Profile Group Hautapu Facility
5 Star Green Star NZ v3
Industrial Built rating

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Building a better Aotearoa



Andrew Eagles
Chief executive, New Zealand
Green Building Council

We believe New Zealanders deserve to live, work, and play in healthy, efficient, sustainable buildings. For more than 15 years Green Star has helped hundreds of New Zealand's new offices, industrial buildings, schools, churches, libraries, and convention centres to reduce their impact on the environment, and provide meaningful, comfortable spaces for our people to thrive in.

Since it was adapted for the New Zealand market in 2007, Green Star has been continuously updated and expanded with the support of the property and construction sector to deliver better outcomes, while the sector has shifted to deliver better, more ambitious projects. Since we celebrated the country's first rating for the design of the Meridian Building in Wellington, we've had more than 320 Green Star certifications. That's more than 320+ projects with teams upskilling in sustainable design and construction. It's 320+ buildings with products, materials and systems chosen for their environmental credentials and performance. With the help of Green Star, thousands of developers, architects, engineers, quantity surveyors, project managers,

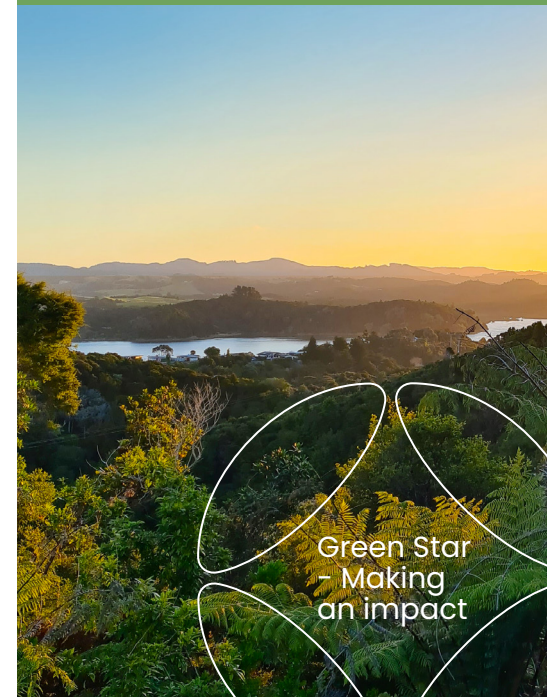
builders have been able to influence supply chains, procurement, tenants, and the wider industry to consider their impact.

There is an expansion to cover existing buildings and communities. Many clients do not build buildings but want to take action. It's great to see the engagement on lower carbon, more sustainable fitouts through the Green Star Interiors tool.

In this, the first Green Star impact report for Aotearoa, we're working to take stock of not just how certification and registration numbers are tracking, but at how our community of members is helping transform the market and instil performance and environmental consideration in New Zealand's construction and property sectors. The opportunity to focus on Green Star, our history and the positive legacy created for New Zealand and New Zealanders demonstrates why we do what we do, and why we think everyone else should get on board too. Thank you to all who have shaped Green Star into what it's become so far, and is to become. The industry is changing, and it's thanks to you and your hard mahi that it's changing for the better.

About NZGBC

Te Kaunihera Hanganga
Tautaiiao | the New Zealand
Green Building Council is
a not-for-profit industry
organisation representing
a community of over 700
members who believe in a
better built Aotearoa. We
advocate for regulatory
and industry-wide change,
provide independent and
trusted sustainable buildings
certification, and support
New Zealand on its path to a
low carbon future.



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**82 Wyndham Street,
5 Star Green Star
Office Built v3 rating
6 star NABERSNZ**

Saatyesh Bhana
Head of Sustainability
Argosy Property



Green Star has been a game changer in providing the industry a framework that concentrates on the specifications that enables a building to be built in a way that minimises its impact on the environment and provides a healthier environment for the occupant. With an industry recognised accreditation we can simultaneously report on our sustainability efforts and Green finance, whilst also supporting our clients and tenants to do the same. Additionally, it's helped focus our attention on performance – helping deliver lower running costs and more productive spaces.

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Introduction from GBCA



Davina Rooney
Chief Executive Officer
Green Building Council of Australia

At the Green Building Council of Australia, we know that Green Star is more than a rating tool – it's a catalyst for industry transformation.

Over the past two decades, Green Star has reshaped how we design, build and operate our built environment, providing the framework that guides the property sector toward a future where sustainability, resilience and efficiency are at the heart of every project.

Green Star's impact is clear on both sides of the Tasman. In both New Zealand and Australia, it has driven the shift to healthier, more energy-efficient and climate-resilient buildings that meet the challenges of today while preparing for tomorrow. While Green Star continues to surge ahead in commercial and industrial spaces, we've seen a swell of interest in social infrastructure – schools, hospitals, art galleries, and more. The sector is innovating to ensure no building is left behind.

Financial institutions globally trust Green Star as a credible standard for green bonds and loans, helping to unlock funding for projects that meet strict sustainability benchmarks. With increasing demand for transparency, climate action, and sustainable practices, Green Star's relevance has never been stronger. As we look forward, Green Star will continue to adapt and evolve, ensuring that sustainability remains central to how we shape the future of our buildings and communities.

Thank you to everyone who has been part of this journey. Your dedication is helping to create a brighter more sustainable future for New Zealand, Australia and beyond.

What is Green Star?



Green Star is Australasia's largest voluntary sustainability rating system for non-residential buildings, fitouts and communities. Created by our friends at Green Building Council Australia in 2003, and adapted for Aotearoa New Zealand, Green Star provides a rating of up to six stars based on a building's key sustainability credentials.

Green Star certification is available for every commercial building type; from schools and hospitals to office buildings, shopping centres, and industrial warehouses throughout its lifecycle. It can even be used for large-scale developments including precincts, industrial estates, and new communities.

Certification works toward:

- ◆ Reducing the impact of climate change
- ◆ Driving better upfront design in material choices and construction practices by considering whole of life carbon and the ongoing operating efficiency once constructed
- ◆ Enhancing our health and quality of life
- ◆ Restoring and protecting our planet's biodiversity and ecosystems
- ◆ Driving resiliency in buildings, fitouts and communities
- ◆ Contributing to market transformation and a sustainable economy.

A large, faint green outline of the Green Star logo, which is a stylized star shape formed by three overlapping, stepped rectangular blocks.

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The Green Star tools



The latest version of Green Star for the sustainable design and construction of non-residential buildings, Green Star Buildings replaces Green Star Design & As Built from June 2025, further defining what it means to create a sustainable building.



The most commonly used Green Star rating, Design & As Built helps guide the sustainable design and construction of any new commercial build or major refurbishment.



Help embed sustainability and health considerations into any interior fitout. Green Star Interiors is for any type of fitout from offices and hotels to schools and retail spaces.



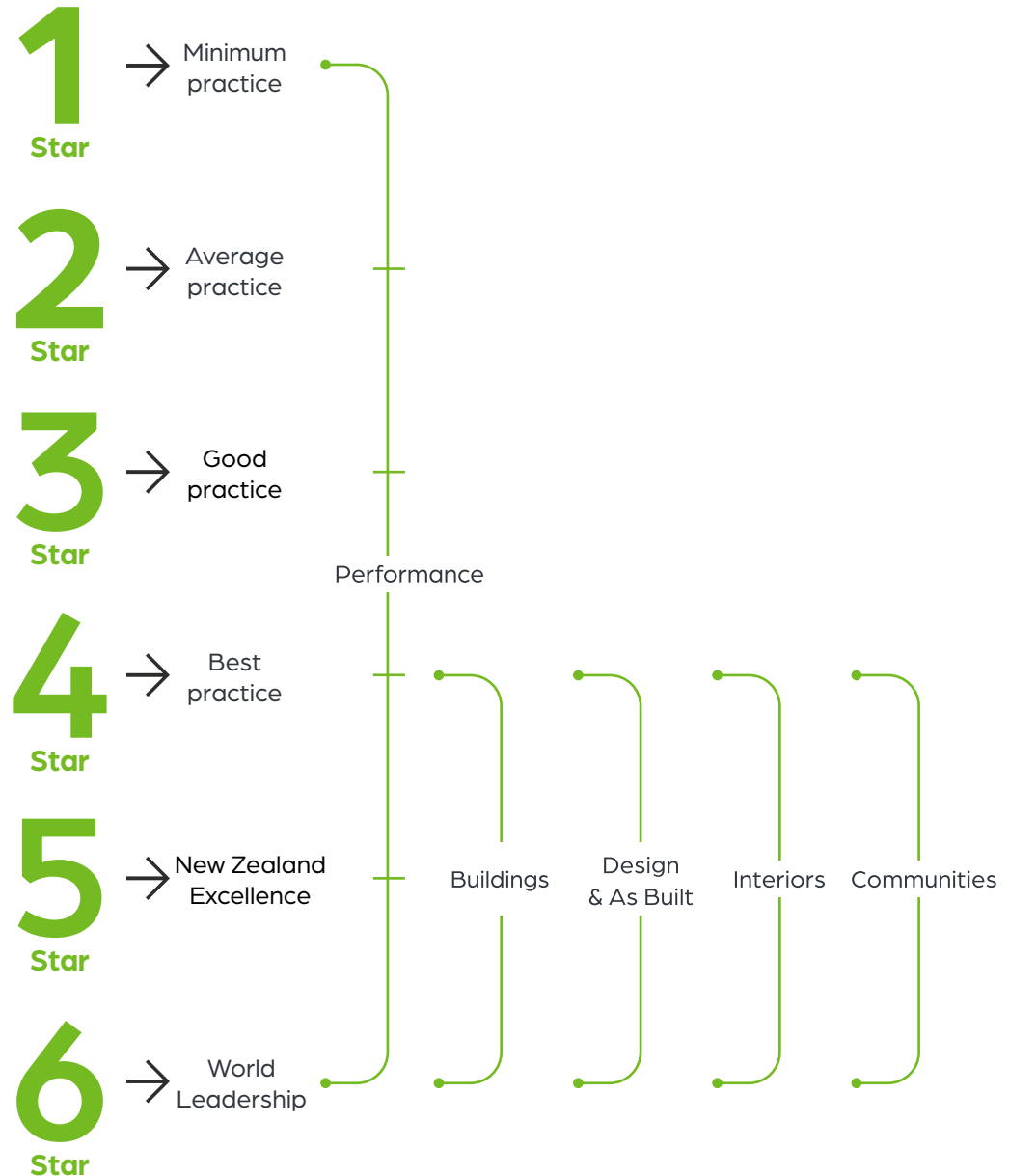
Transforming our neighbourhoods into green, prosperous spaces. Green Star Communities helps guide building and urban design at a neighbourhood, precinct, or community scale including retirement villages and industrial parks.



While most Green Star certification types cover new buildings, Green Star Performance assesses the operational performance of existing buildings, from energy and water use, to procurement, transport options, waste, and indoor air quality.

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Green Star ratings



A history of Green Star



- Green Star NZ for Office Buildings launched.
- Meridian Building in Wellington & 80 Queen St in Auckland first rated projects.



2007

- Green Star Built added for rating construction & design.

2008

- Green Star v2009 launched, includes Education, Industrial, & Office Interiors
- Geyser Building becomes 1st 6 Star Green Star building
- Westpac on Takutai Square is first to receive both Design & Built ratings
- NZI Centre receives first Interiors rating
- Courier Post Building receives first Industrial rating

2009



- First schools rated - Te Kura Kaupapa Maori O Whangaroa in Northland and Ormiston Senior School in Auckland.

2010



- BNZ Harbour Quays gains first 6 Star Office Interiors (2009) rating.

2011

2016

- Green Star Communities launched.

2015

- Green Star version 3 (v3) launched. Improves material, water, and adds innovation categories

2014



- Te Whare Whenua Te Mirumiru in Kawakawa first 6 Star Green Star Education rating
- Forte Health Building in Christchurch first health facility certified, & first Green Star Custom rating
- Milestone: 100 Green Star rated projects

2013



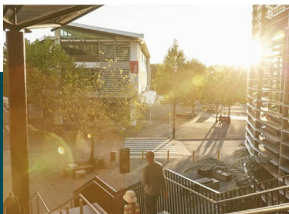
- Te Hononga | Christchurch Civic Building first to achieve 6 Star Green Star Design, Built, and Interiors rating trifecta.
- NABERSNZ Office Energy tool launched for energy efficiency benchmarking.

2017

- Green Star Performance launched.

2019

- First Green Star Communities awarded to Eke Panuku's Poanuku Precinct and Unlock Takapuna programme.
- Version 1.0 of Green Star Design & As Built, and Green Star Interiors launched.



2022

- Green Star Design & As Built NZ v1.1 and Green Star Interiors v1.1 launched.

2024

- Green Star Buildings NZ launched, replacing Green Star Design & As Built v1.1.
- Green Star marks 300 new build and fitout certifications.



Green Star - Making an impact

Transforming the market



Sam Archer
Director of Market Transformation,
New Zealand Green Building Council

In less than two decades New Zealand has gone from having a handful of office buildings certified each year, to dozens of buildings of all types using Green Star to benchmark their operational performance, design and construction.

Crucially, what we expect from our Green Star rated buildings has ramped up considerably and will continue to do so. Green Star Buildings, the latest iteration of the tool released this year, includes a host of vital minimum requirements that if introduced way back in 2007 would have seemed near impossible. We're proud that, thanks to our work together, a step such as measuring and meeting a minimum standard for embodied carbon emissions is not only achievable, but becoming common practice in 2024. That's only possible thanks to changes in supply chains, to increasing demand for climate action and social responsibility, collaboration, and a commitment to better buildings from the industry. There's been a massive shift over the last decade as social and environmental sustainability has leapt up the priority lists of investors,

financiers, buyers, developers, and tenants. As demand has grown, we've broadened Green Star to include Green Star Communities for those doing large-scale community developments, and Green Star Performance for those looking to measure, benchmark and improve the way their existing buildings are used and managed. We've released sectors-specific guidance to support the growth in industrial buildings, as well as for more select projects such as hospitals and aged-care facilities keen to provide healthy, efficient, low-carbon spaces.

This report dives into the measurable impacts Green Star has had on the New Zealand market so far.

It's not all-encompassing, and we hope to expand in future editions as the team embeds new processes and works their way through data buried in old certification documents. However, we know that the way our community is changing, pushing, and delivering outstanding projects is a remarkable shift from 20, 10, even 5 years ago.



The built environment is responsible for around 20% of New Zealand's emissions, yet the impact our sector can have in reducing that is real, and achievable. Thanks to all those who are on the journey with us.



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Green Star in New Zealand



1.48 million

Approximate square metres of new buildings and fitouts built to Green Star

10,904

Students attending schools with Green Star buildings

328

Total certifications (to 30 June 2024)

106,000+

People have stayed in a Green Star certified hotel - The Hotel Britomart

313

Total unique buildings rated (to 30 June 2024)

600,000+

People have attended 2310 events and shows at a Green Star rated theatre [ASB Theatre]

146

Different building owners (to 30 June 2024)

70,000+

New Zealanders shop at Green Star rated Woolworths supermarkets weekly

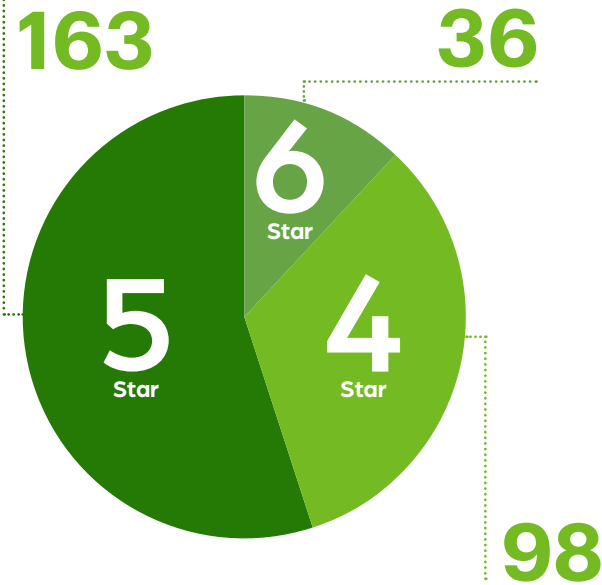


Woolworths Belfast
4 Star Green Star Design & As Built
NZ v1.0 Design rating

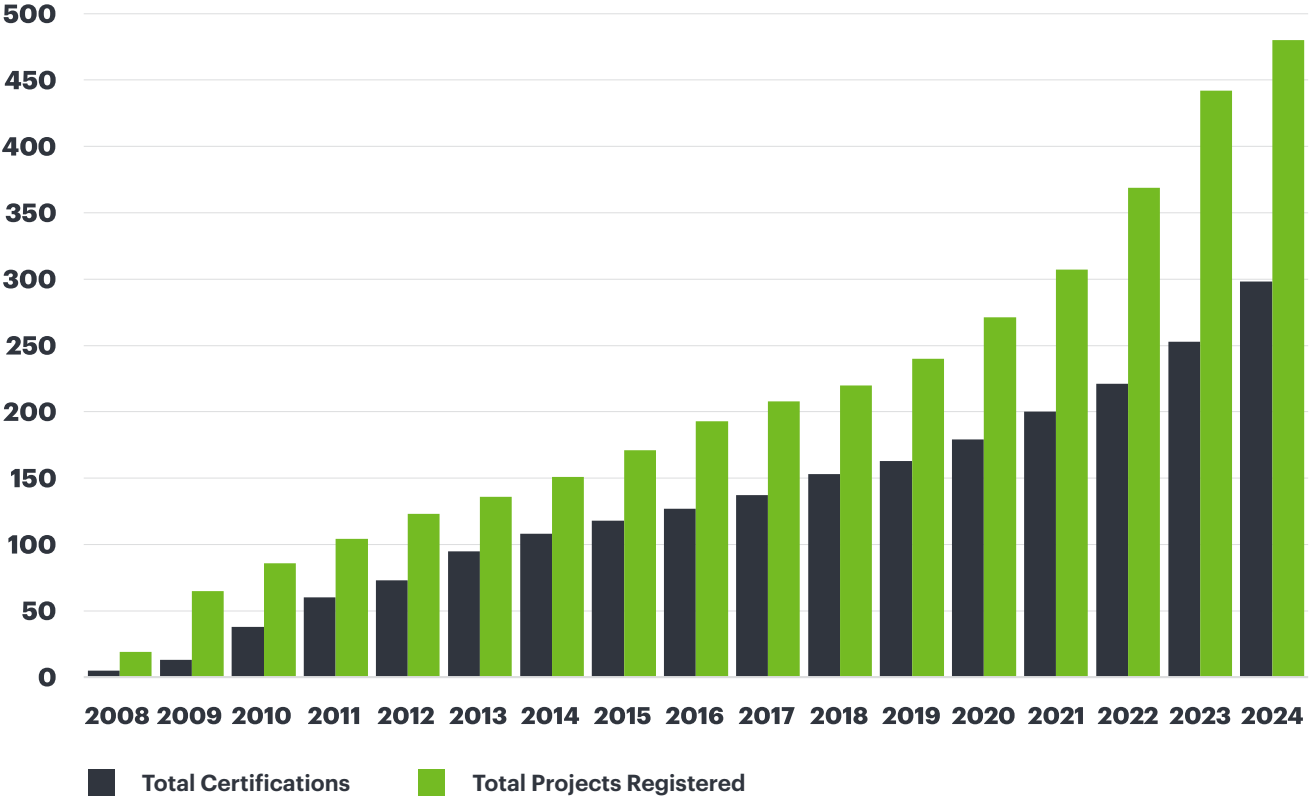
Green Star in New Zealand



Green Star certifications for new builds and fitouts



Green Star certifications and registrations



Green Star certified buildings in Aotearoa New Zealand





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10 Madden Street, Auckland.
5 Star Green Star Custom Design
rating

Reducing environmental impact



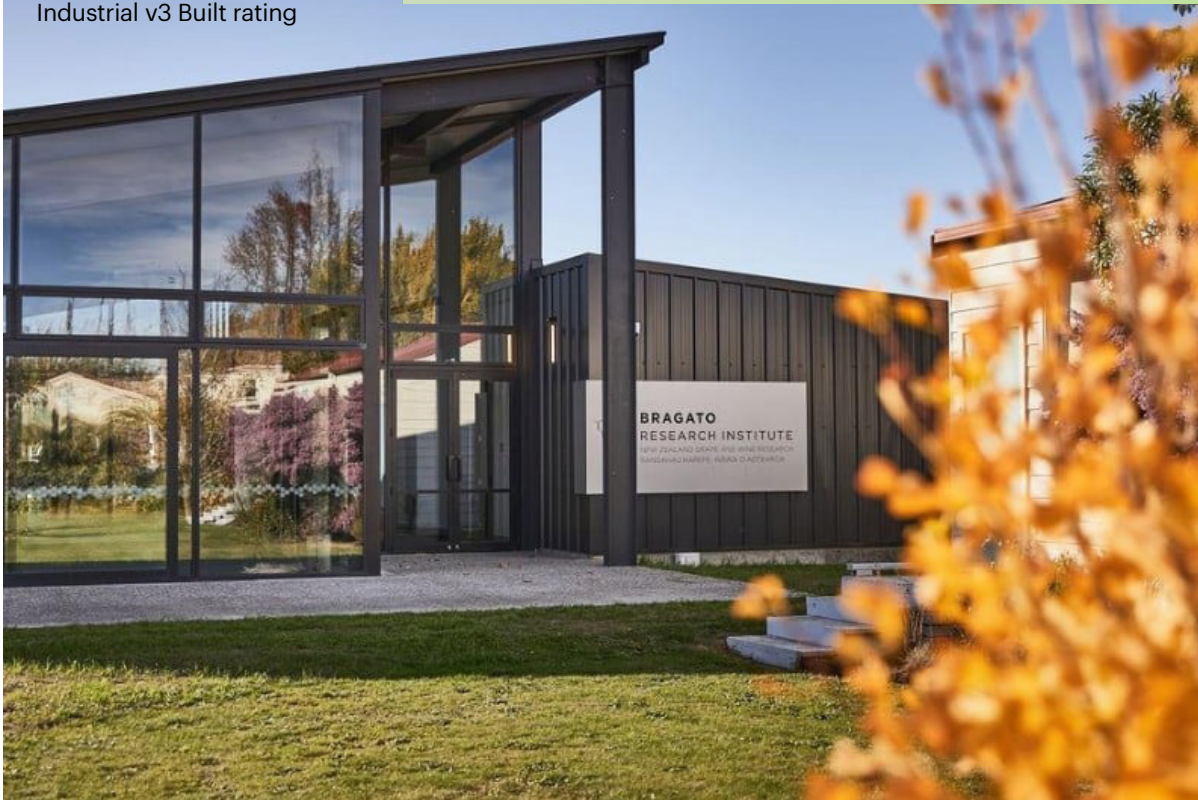
Chris Cooper

Scott Construction senior quantity surveyor. BRI Research Winery



As a direct result of working on a Green Star project we're more thoughtful and considered in our choices. We've had a change of culture and we have better waste management practices and FSC timber is now our first choice.

BRI Research Winery
5 Star Green Star
Industrial v3 Built rating



The built environment is responsible for approximately 20% of New Zealand's emissions. Of that, almost 9% is due to the energy our buildings use, while another almost 9% is from building products. There is a massive opportunity to slash our sector's footprint by simply building better performing buildings, and being more conscious about the products and materials we're using. Green Star aims to support projects to embed best-practice emissions reductions, with more recent versions including compulsory reductions in greenhouse gas (GHG) emissions associated with the use of energy in building operations as well as the upfront emissions associated with product and materials use.

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Green Star Buildings NZ carbon reduction requirements

The latest version, Green Star Buildings NZ, builds on the previous Green Star Design & As Built requirements to reduce emissions even further.

Date registered	Rating targeted	Minimum upfront carbon emission reductions
2024	4 Star	10%
	5 Star	20%
	6 Star	31%
2026	4 Star	15%
	5 Star	31%
	6 Star	45%
2028	4 Star	20%
	5 Star	38%
	6 Star	53%

Leading standardised embodied carbon calculation

In 2022 NZGBC and thinkstep-anz consulted with industry to create a standard methodology for calculating embodied carbon. As the sector started to create various calculators for measuring emissions we found there was no consistent approach, and scope and results fluctuated greatly. So, alongside a calculator for Green Star projects to use, we also released an industry guide to ensure regardless of what calculator is used, there's a consistent and comparable approach to the scope and calculation of embodied carbon.





Green Star provided an opportunity to really explore our design principles in order to address the needs of our aged care residents. It gave us a way of looking inwards and asking ourselves, 'how can we strive for excellence?'

Michael Lisowski
Head of Delivery,
Metlifecare

Weiti Care at Gulf Rise

6 Star Green Star Design & As Built NZ v1.0 Built rating

The three-storey, 2230m² residential aged care facility was the country's first aged care facility to achieve a 6 Star Green Star Built rating.

"Our ambition is to be a transformative industry leader in sustainability and a force for positive impact. Reducing our environmental footprint when

we build villages is a key part of our sustainability focus," says Metlifecare's Head of Delivery, Michael Lisowski.

Embedding biophilic design, pre-fabrication including a cross-laminated timber structure, and significant focus on life cycle assessment (LCA) has helped deliver remarkable results.



Uses **77%** less energy

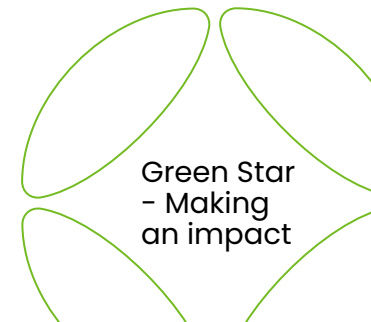


Potable water use reduced **by more than a third.**



We have committed to doing full LCA for all our Green Star projects. A life cycle assessment is like an autobiography of a building. It lets you see the upstream impact of the materials used in a building. We hope LCA will foster a greater reverence by designers for how they select materials and that the widespread use of EPDs (environmental product declarations) will also help designers in their decision-making.

David Fullbrook
Green Star Accredited Professional. Founder and Senior Consultant at eCubed Building Workshop



Green Star - Making an impact

Products and materials



Tūranga Christchurch City Library. 5 Star Green Star Custom Design Rating

It provided us with a platform to educate our supply chain about sustainable construction and material selection. In some cases, we influenced suppliers to seek-out sustainable solutions including material sourcing.



Quin Henderson
CEO of lead contractor Southbase Construction Ltd. Tūranga Christchurch Central Library

Green Star rewards projects that use responsibly sourced building materials. For example, points are awarded if 95% of the building's steel is sourced from a responsible steel maker – meaning they're accredited by the Sustainable Steel Council's Environmental Sustainability Charter. It also encourages sustainability and transparency in product specification, rewarding the use of reused and recycled products, as well as those holding Environmental Product Declarations, third-party certification, or offering stewardship programmes.

The construction industry has reached consensus: It's time to adopt more sustainable practices. But simply choosing wood as a building material isn't enough. Making a real difference means choosing responsibly sourced wood. Rating systems like Green Star play a crucial role in this transition by incentivising the sourcing of FSC-certified materials.



Melanie Robertson
Forest Stewardship Council (FSC) ANZ CEO

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There is absolutely no doubt that Green Star recognition of EPDs as the facilitator of improved environmental decision making in construction has led to the increasing commitment to carrying out LCA and publishing EPDs by manufacturers.

Over the last decade there has been strong growth in trusted, independent product certification, and the industry is increasingly relying on them to showcase their products' environmental impact and credentials. Coming up to EPD Australasia's tenth anniversary this year, New Zealand's 66 EPDs present the detailed environmental impact data of more than 1700 products.

Eco Choice Aotearoa certified products and services generate a combined annual revenue of NZD\$2 billion. The majority of those products and services are used in the building and construction sector.



The Green Star programme provides a strong incentive for manufacturers to pursue third-party environmental certifications like Eco Choice Aotearoa. As a consequence, we've seen businesses make significant changes to their operations in order to minimise their environmental impact and earn the ecolabel. This includes, but is not limited to, committing to responsible and ethical sourcing, reducing waste and emissions, opting for sustainable packaging and implementing effective product stewardship schemes.



John McArthur
Chair EPD Australasia

Laura Gemmell
Chief Executive Officer,
Eco Choice Aotearoa

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Hamish McBeath
Chief Executive,
Building Products,
Fletcher Buildings



Fletcher Building is really passionate about a low carbon construction sector for Aotearoa NZ. Green Star is at the forefront of this. The emphasis on measuring impacts and verification has lead the way on ensuring credible regimes for reducing embodied emissions in building materials. It is great to see the growth of Green Star and the industry respond in delivering lower carbon, more sustainable products.

Photo credit: Sam Hartnett



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**PwC Tower, Commercial Bay,
Auckland. 5 Star Green Star
Office Built (2009) rating.**

Slashing waste



Elaine Morgan
Chief Executive,
Green Gorilla



People often say ‘Build a facility and they will come’ or ‘Who dares wins’ however we prefer ‘Impact comes from action’. Working with NZGBC and our customers on implementing Green Star certification principles has certainly had a huge impact on our businesses and more importantly on our environment as it drives us to seek out new innovative ways to increase landfill diversion rates. Long may that continue.

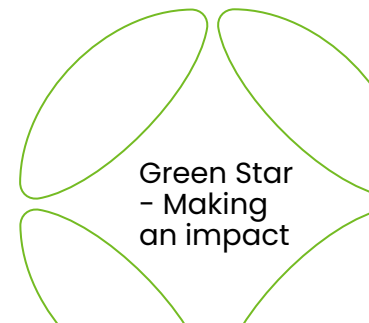
Construction and demolition waste is estimated to contribute 50 percent of New Zealand’s total waste going to landfill. It’s no surprise; for years sites throughout New Zealand have relied on chucking all their rubbish in a single bin with one destination in mind. Over the years the capability of New Zealand’s recycling and waste facilities have greatly improved, making diversion more accessible, financially viable, and sought after.



The **101 projects** that have targeted Green Star’s waste management credit have **diverted 118,162 tonnes of waste from landfill** to date.



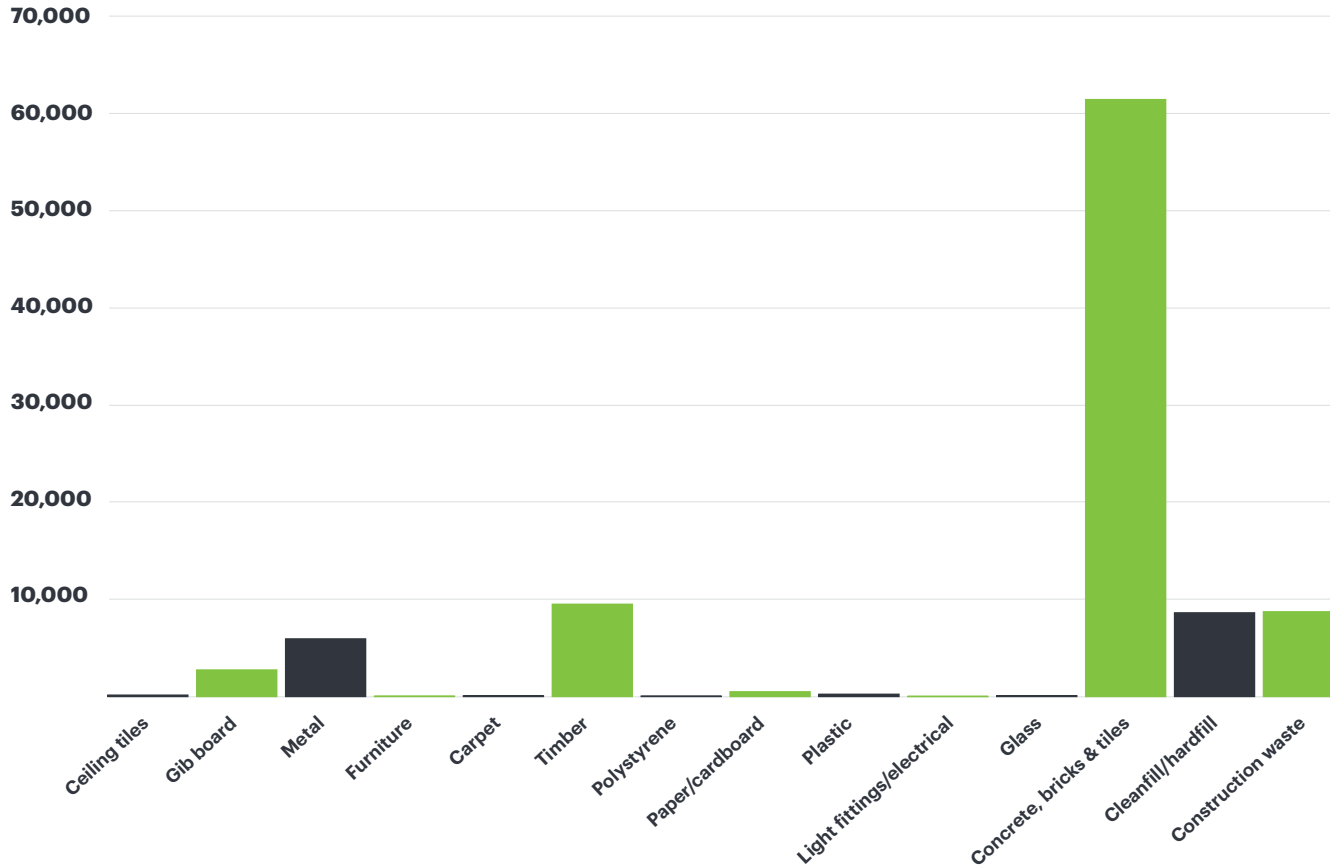
That’s the equivalent of diverting the annual household waste of **160,000 New Zealanders**, or a city the size of Tauranga.



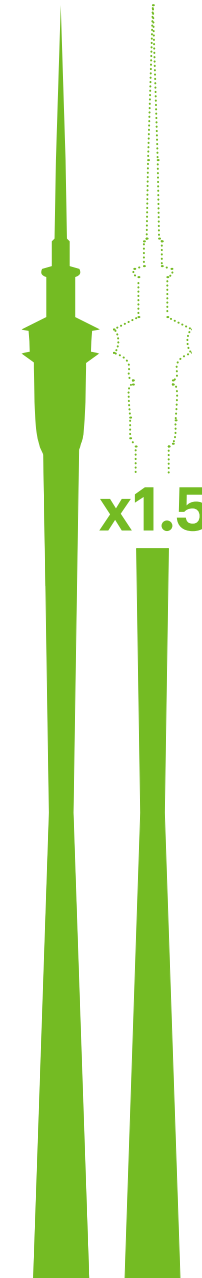
Waste Diversion



Construction waste recycled by Green Star projects (tonnes)



Average Green Star project waste diverted from landfill - **85%**



The amount of concrete recycled by Green Star projects could build the Skytower more than one and a half times



WM New Zealand values the Green Star tool as it promotes separation at source, minimising waste and taking ownership of the waste and emissions generated at multiple phases of a project or development. When WM Sustainability started providing consultancy services for Green Star projects a few years ago, there was a perception that obtaining a Green Star rating was only for the large, blue-chip commercial projects.

We have noticed more sectors and a wider range of different sized projects realising the value of Green Star, and the sustainable, long-term benefits it can provide. We have attained a 5 Star Green Star rating on our new head office, and were the first waste contractor to receive compliance verification for waste reporting.

**WM New Zealand,
Auckland Head Office,
Auckland. 5 Star
Green Star Design &
As Built NZ v1.0 Built
rating**



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Peacocke is one of Hamilton's largest greenfield developments, creating a brand-new vibrant community for over **20,000** Hamiltonians.



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Jonathan Tindall
Watts & Hughes Contracts
Manager. Woolworths
[previously Countdown]
Palmerston North
Distribution Centre



In the past, recycling and reducing waste to landfill was just an optional extra but Green Star really changes your attitude and helps give us that extra push. With Green Star support on a project you can really see what's possible and how a development can minimise environmental impacts and improve sustainability during the build and into the lifespan of the building.

Countdown Palmerston North Regional Distribution Centre

4 Star Green Star
Design & As Built NZv1.0
Design rating



One of the challenges posed by the Palmerston North project was how to recycle over five tonnes of GIB offcuts generated during the build with no GIB waste processing available in Manawatū. The solution developed by the team resulted in achieving an innovation point towards certification.

eCubed Building Workshop Ltd provided Green Star services for the project. "The solution was such a cool initiative. GIB recycling facilities in New Zealand are currently limited to only Auckland and Christchurch

(Green Gorilla depots) but the main contractor Watts & Hughes identified the backload capacity of Woolworths' trucks could transport GIB offcuts back to Auckland for recycling with no additional transport emissions incurred in the process," said project GSAP Ella Osborne.

As a result Woolworths looked to consider other connections in its transport network to help improve waste recovery and recycling for future projects in regions with limited local waste processors.



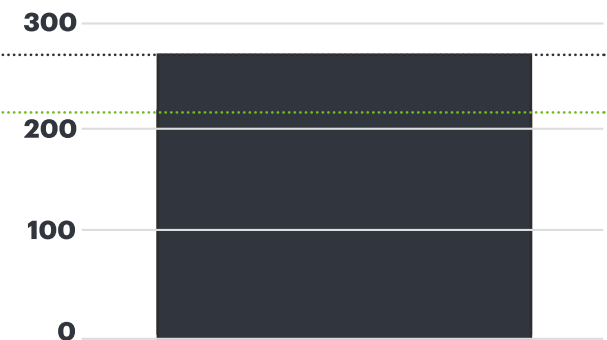


Encouraging sustainable transport

There's a lot we can do encourage New Zealanders to ditch the car and consider more environmentally friendly options. Basic steps such as offering great end-of-trip facilities to make cycling and active transport more attractive and practical for tenants and their employees, through to planning new developments around accessible public transport networks achieve great outcomes for asset owners, local councils and communities.



Of Aotearoa's 274 Green Star design and built ratings, 215 have been awarded points for their end-of-trip facilities.





With around 500 kaimahi/ staff working in the building on a daily basis, transport to meetings and daily commutes are a major contributor to our carbon footprint. We've now got EV charging available and fantastic bike parking, lockers and changing rooms for people to walk, run, cycle or scoot in to work.



Giles Southwell

Director of Corporate and Public Transport Services, Environment Canterbury

Environment Canterbury head office

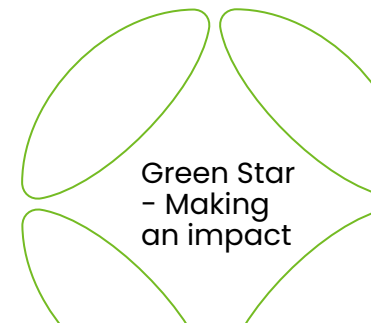
4 Star Green Star Performance v1.2 rating

In 2023, Environment Canterbury became the first organisation in the country to be awarded three certifications for its environmental performance: a 4.5-star NABERSNZ rating, a 4 Star Green Star Performance v1.2 rating, and a Net Zero Buildings – Net Zero Carbon Building Operations.

The Tuam Street office was designed to be energy efficient, such as using a ground-source heat pump and installing a 55-kW solar panel array. They also introduced a raft of initiatives to get staff on board with reducing their climate impact, including an innovative suite of green transport options.



Our triple ratings achievement demonstrates Environment Canterbury's commitment to lead in climate change resilience, and we are very proud of this.



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40 Bowen Street, Auckland.
5 Star Green Star Office Built
v3 rating



Compared to the travel routines in our previous offices which had 205 carparks, we've seen a 50% increase in people taking public transport or using EVs, 102% increase in biking, running, walking or e-scootering to work, 81% of staff have signed up to the public transport subsidy and there are 984 less carbon contributing trips each week (petrol, diesel, motorbike), a reduction of 71%. Staff have collectively reduced carbon emissions by 158t per annum, so far.

Te Kupenga | 155 Fanshawe Street

The former site of a busy Auckland central petrol station, 6 star Green Star rated 155 Fanshawe has 10 rapid charging docks for electric vehicles, 106 bike parks, and ultra-modern end-of-trip facilities.

6 Star Green Star Office Built (2009) rating

For tenant Genesis Energy the move into the 6 Star Green Star rated premises triggered a rethink of workforce transport initiatives.

"The move provided the catalyst to introduce initiatives that would reduce emissions, traffic congestion and enable active and shared travel," Genesis Energy Limited said in its 2021 Annual Report/te pūrongo ā-tau 2021.

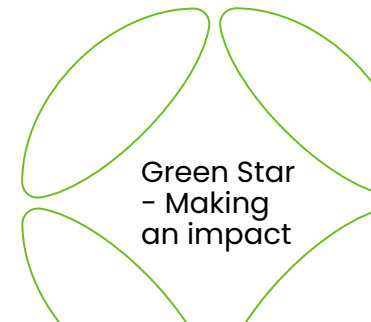
As part of its relocation to Te Kupenga the organisation recognised the location of the building allowed their staff to choose from a wider range of active and passive options for

commuting. As a result, in consultation with staff, it no longer provides staff carparks, has removed company cars from salary packages and replaced its corporate car fleet with an EV car sharing start-up.

The energy company now offers its team a 25 percent subsidy for public transport, car-pool hubs in South and West Auckland, a free shuttle service from the eastern suburbs and Te Kupenga's fantastic end-of-trip facilities encourage staff to ride, run or walk to work.

The building has also verified it operates as well as intended through consistently high NABERSNZ ratings. It was the first building to have its carbon emissions verified with Net Zero Buildings – Net Zero Carbon Building Operations for the second year.

Te pūrongo ā-tau 2021
Genesis Energy Limited



Adaptive reuse – making the most of existing buildings

One of the best ways our sector can reduce our emissions is to reuse and optimise buildings we already have. With construction waste a huge issue, as well as the embodied carbon associated with our building materials, the case for adapting and reusing our existing structures is compelling. In recent years we've seen a number of impressive projects using Green Star to support their reuse projects, and turn structural and seismic retrofits into planet and people-focused building revamps.



Photo credit: Cooper and Company

Hayman Kronfeld, Auckland.
5 Star Green Star Design &
As Built NZ v1.0 rating

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To reduce the embodied carbon of the new façade we considered design options which involved building less and with low carbon materials. The design of the curtain wall system utilised aluminium extrusions sourced in Aotearoa made from 85% recycled content and 60% less carbon emissions than international aluminium. Due to the inherent strength of these lightweight extrusions we could further reduce the quantity of material required.

Chris Scott
Jasmax Principal and Design Lead

Photo credit: Jasmax

University of Auckland B201

New Zealand's highest Green Star scoring building

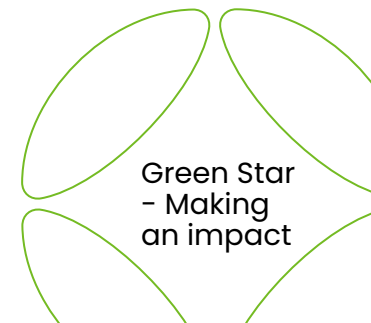
6 Star Green Star Design & As Built NZv1.0 Design rating

Following an initial brief to revamp the 50 year old building for another 15 years use, the University asked the design team to investigate the adaptive reuse of the structural frame and reimagine the B201 building as a flagship sustainable building with at least a fifty year life. The adaptive approach stripped the original L-shaped building back, preserving its core columns and floor.

“By reusing the existing foundations and structural frame rather than starting from scratch, we were able to get the project out of the ground quicker, save nine months on programme, and reduce the amount of demolition waste. This is a good example of how a sustainable approach is beneficial on multiple

fronts; achieving better sustainability outcomes, creating a building with lower embodied and operational carbon, shorter build time, and financial savings,” said University of Auckland Chief Property Officer, Simon Neale.

The project was awarded a 6 Star Green Star Design review rating with a total of 93 points – the highest score awarded since Green Star’s introduction to Aotearoa. Part of that result is the impressive lengths taken to halve the embodied carbon relative to an equivalent building – evidence through the LCA credits in Green Star. Simon Neale says the University was keen to raise the bar, pushing the industry to achieve its vision of a world-leading, low-carbon building.



Improving lives



Green Star promotes and rewards a holistic approach to sustainability that results in multiple benefits. What's good for the planet, is often good for people too. Indoor environment quality is a vital part of what we do, and has become increasingly important to the sector. Not only are we seeing reductions in the pollutants New Zealanders are exposed to indoors, but there's now a greater focus on comfort and well-being initiatives that benefit occupants. Air quality, thermal and acoustic comfort play a huge part in how people can enjoy and thrive in a space.



2019 Post-occupancy research of 12 Mason Bros project showed:



25% drop in absenteeism



8.5% increase in occupant productivity



130% increase in cycling

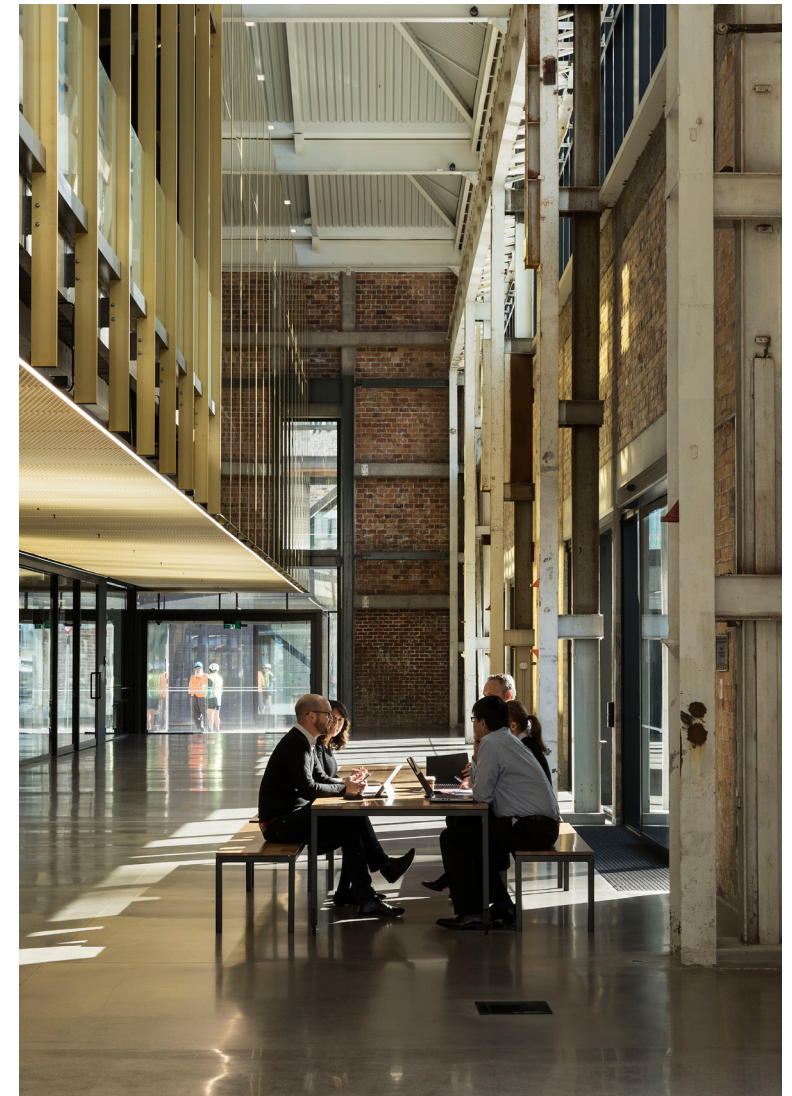


Photo credit: Warren & Mahoney

**Mason Bros, Auckland.
6 Star Green Star Custom
Built rating**



Green Star
- Making
an impact



Sam Winstone
Morton Property
portfolio manager



From the moment you walk into HB Central you feel good. One tenant said they want to live here and that sums up the ethos of the project – that people really want to be here in this authentic environment. Another tenant says they’ve suffered daily headaches at their previous workplace - probably through poor lighting or factors including access to fresh air supply. Now they feel great.



HB Central, 228 Queen Street

**5 Star Green Star Design
& As Built NZv1.0 Design
rating**

“It is no longer just a place to work but it is a place that can improve occupancy health and well-being, and it can attract staff and win clients.”

Sam Winstone believes the quality of our workplaces in Aotearoa is increasingly important, as shown by the demand for buildings like HB Central.

“We virtually fully let the building prior to completing construction at a time when Auckland CBD was really struggling with high vacancy - particularly in mid-town.”

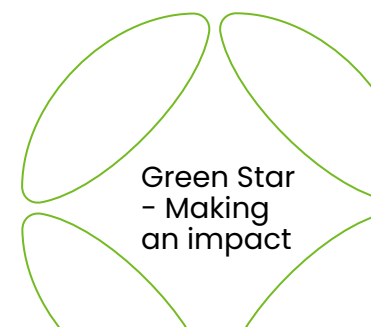
Sam says in a world where we are working from home on a more regular basis, office culture is more important than ever.

“I think it shows us that in an age of digital devices and a myriad distractions pulling us in all directions, we shouldn’t underestimate the power of beautiful green design to promote happiness and wellbeing.”

The 5 star Green Star goal has been positive for the project team overall and a particular highlight has been the Green Star credit for High Quality Staff Support. We championed this initiative with subscriptions for all key staff and subcontractors (100 subscriptions) to the Headspace App. The app helped to reduce stress, increase mindfulness and even improve sleep amongst the team.



James Cotton
LT McGuinness Quantity
Surveyor.



Prioritising performance



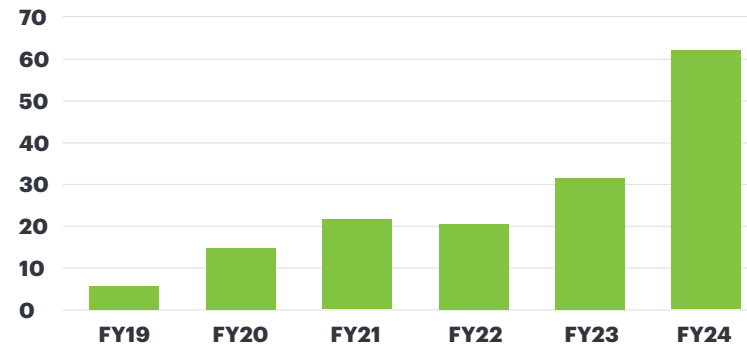
Half our sector's emissions come from the way we operate our buildings. Over the last two decades technology has evolved, and the approach businesses take to measuring and benchmarking their performance has too. Green Star Performance is increasingly used by businesses keen to benchmark their day-to-day operations. For base buildings, it's becoming increasingly common to install metering and accessible monitoring systems to capture vital energy and water use data, and to ditch fossil fuels for electric systems. We've seen pre-build modelling of expected energy performance shape design decisions to help increase the efficiency of the final building, and reduce peak energy demand through efficient systems and technology. Those predictions have then been put to the test with NABERSNZ and Green Star Performance ratings.

There's often a lot to consider in the running of a building, and with it, a lot that can be improved. Fortunately, those improvements can often have further benefits than just lowering emissions, such as reducing energy and water costs.

Since it was introduced there's been strong growth in buildings benchmarking their operations with Green Star Performance. Unlike NABERSNZ, the certification offers a broad snapshot, and is available for a large range of building types. Alongside offices, facilities managers and businesses have benchmarked warehouses and retail stores, supermarkets, even entire stadiums as part of hosting the FIFA Women's World Cup.

Stats from NABERSNZ shows Green Star buildings are on average 28% more energy efficient than non-Green Star buildings, and use half the amount of gas.

No. of buildings currently certified with Green Star Performance NZ



Types of Green Star Performance ratings

- Crematorium
- Supermarket
- Retail
- Sport stadium
- Warehouse
- Shopping centre
- Office



Average NABERSNZ star rating





Shopping centres are vital touchpoints for the local community so it is a great opportunity to show our shoppers how sustainability can be done and raise awareness of its benefits. We know sustainability is important to our shoppers and we are pleased to be able to demonstrate our performance by benchmarking our energy and water efficiency along with many other key initiatives.

Bayfair Shopping Centre

4 Star Green Star Performance v1.2 rating

Tauranga's Bayfair Shopping Centre has long been a hub for dining and shopping in the region. Co-owned by Dexus and Fisher Funds, and managed by Dexus, and has embedded sustainability into their approach, resulting in a 4 Star Green Star Performance rating for Bayfair.

The 440-seat food court demonstrates best practice with a unique operation to manage and divert waste from landfill. There are no customer waste bins in the food court, instead, the food court team collects and sorts 100% of the customer waste generated. This helps divert waste from landfill and reduces recycling contamination,

further increasing the diversion rate to 56%. Other sustainable initiatives include, encouraging alternative transport through coordinating ridesharing, EV charging, access to bike end-of-trip facilities, and sponsoring and supporting the 'Wednesday Challenge' – a point-based system encouraging and rewarding people for ditching their cars in favour of other means of transport. All replacement fittings, fixtures and appliances meet the WELS rating water efficiency standards, and water metering and monitoring throughout the building is used to identify leaks and consumption issues.

Steve Ellingford
Centre Manager of Bayfair Shopping Centre

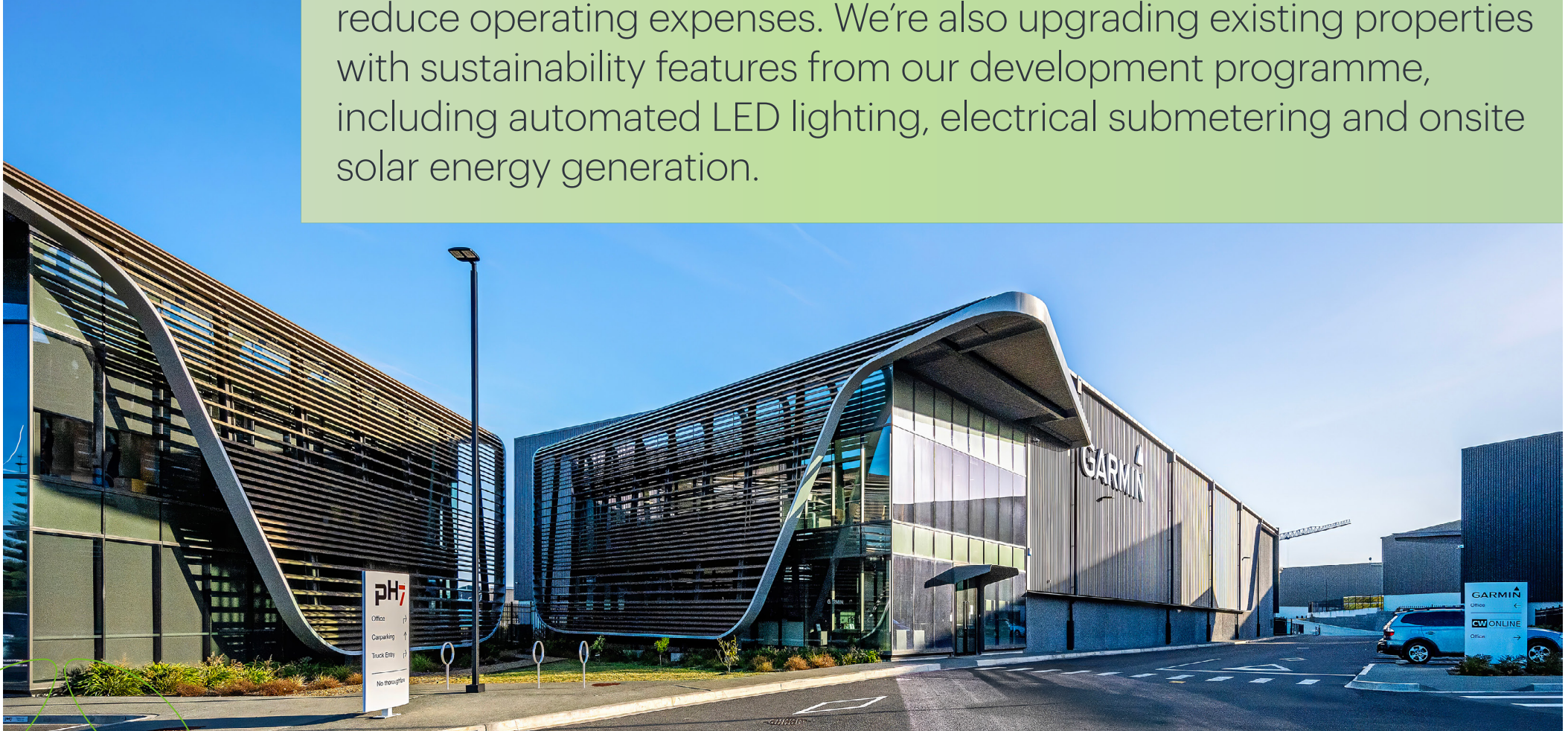


Green Star - Making an impact

Tom Slade
Head of Environmental
Sustainability, Goodman
Property Trust



Sharing Goodman NZ's commitment to sustainability, around 80% of our top customers have public carbon reduction targets. Our Green Star rated developments are providing these businesses with high-quality and resource efficient facilities that help lower emissions and reduce operating expenses. We're also upgrading existing properties with sustainability features from our development programme, including automated LED lighting, electrical submetering and onsite solar energy generation.



Green Star
- Making
an impact

Photo credit: Incredible Images New Zealand

**Tāwharau Lane. 6 Star Green Star
Design & As Built NZv1.0 Built
rating**



Green Star challenged us to think differently and consider the benefits of different energy options. Heating and ventilating our buildings is our primary energy expense. In our last building, we used all-electric heating. In the Daniell Building, we used heat pump technology, and we've seen significant reductions in power usage.

Jonti Rhodes
VP Supply Chain,
Facilities & Sustainability,
Fisher & Paykel Healthcare



Green Star has been an enabler of change.



Fisher & Paykel Healthcare Daniell Building

Fisher & Paykel Healthcare's Daniell Building was awarded a 5 Star Green Star Industrial Built rating for its numerous efforts to reduce emissions and importantly, embed performance right from the design. Optimised passive design with high performance glazing, shading to the façade, and good insulation was matched with highly efficient chillers and heat pumps, as well as programmable LED lighting systems.

5 Star Green Star Industrial Built v3 rating



Embedding climate resilience



With the buildings of today set to stand against the climate of tomorrow, Green Star aims to support our industry to consider and plan for the risks associated with climate change. In the case of new builds, the Adaption and Resilience credit encourages and recognises projects that are resilient to the impacts of a changing climate and natural disasters. From Design & As Built v1.1 projects cannot receive a rating unless they've considered climate change and communicated to the client/building owner the building's exposure to climate change hazards. Projects are rewarded for assessing and communicating the climate change risks early in the design stage, and for creating a Climate Adaptation Plan, including how the project's design and construction specifically address some of those key risks.

In the case of full community developments, Green Star Communities also recognises a project-specific Community Resilience Plan (CRP) to help address preparation, during- and post-disaster communication, safety, and response. This includes initiatives such as nominating emergency shelter locations, providing information on key emergency and community contacts, information on how to develop an emergency plan, and emergency kits for visitors and occupants.

Stantec Building - 105
Carlton Gore Road,
Auckland. 6 Star Green Star
Office Built v3 rating

Green Star
- Making
an impact



The Climate Adaption Plan has been a valuable piece of work that has informed the building’s design in response to projected changing climatic conditions for Auckland.

Peter Bryant
Green Star Accredited Professional (GSAP) and SEEC director



This means onsite business disruption risks from extreme weather events are mitigated. Rainwater harvesting with tank storage of 25,000 litres provides for capturing a portion of the roof run-off for later reuse.

NZ Blood Service

6 Star Green Star Design & As Built NZ v1.0 Design rating

To accommodate the risk of more frequent heavy rain and extreme weather events (causing flooding, strong winds, driving rain) larger gutters and downpipes were installed on the building to cope with the increased peak stormwater flows.

Green Star
- Making
an impact

Transforming industry



Kate McBurney

Senior Design Manager at Metlifecare.
Metlifecare Oakridge Kerikeri

“

One of the most significant benefits of earning a Green Star rating is inspiring others. We hope to see our industry peers pushing for this sort of Green Star rating because the more our industry utilises sustainable design and build mechanisms, the more we can reduce the impact on the planet.



Green Star
- Making
an impact



Increasing awareness and demand

As the urgency for climate action has increased, New Zealanders and businesses are increasingly seeking sustainable alternatives. The growth in Green Star demonstrates the increasing demand for certification to demonstrate environmental credentials.

Demand for better buildings has led to some developers now building exclusively to Green Star. One of the country's most prolific Green Star builders, Mansons TCLM, has committed to 6 star Green Star on all their projects

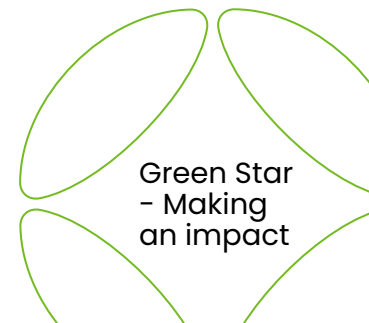


We think our 5 Green Star rating makes the PwC Tower a more desirable place to work and the fact that it's 100% leased reflects this. More people want to work in high-rated Green Star buildings with the amenities they provide. There's also an expectation to deliver this high standard of building from our clients when engaging in leasing discussions.

Green Star is absolutely vital for the industry now and going forward. Often the first request we have from both purchasers and tenants is 'What is the Green Star rating of this property?'

Paul Wilkinson
Mansons TCLM project manager. Te Kupenga, 155 Fanshawe Street

Richard Hilder
Precinct Properties
Chief Financial Officer





Growing sector knowledge and market capability

Each year thousands of New Zealander developers, architects, builders, tradies, contractors, and consultants work to deliver Green Star projects. The community of trained professionals has grown considerably.

With every project targeting certification there are lessons to learn, knowledge to share, and the opportunity to embed sustainable practices more broadly,

Foodstuffs North Island Landing Drive Fitout, Auckland. 6 Star Green Star Built v3 rating and 6 Star Green Star Office Interiors v3 rating

David Fullbrook
Green Star Accredited Professional.
Founder and Senior Consultant at
eCubed Building Workshop



We've been involved with a number of 6 Star Green Star projects along the way and each one moves the dial a bit further as you'd expect.

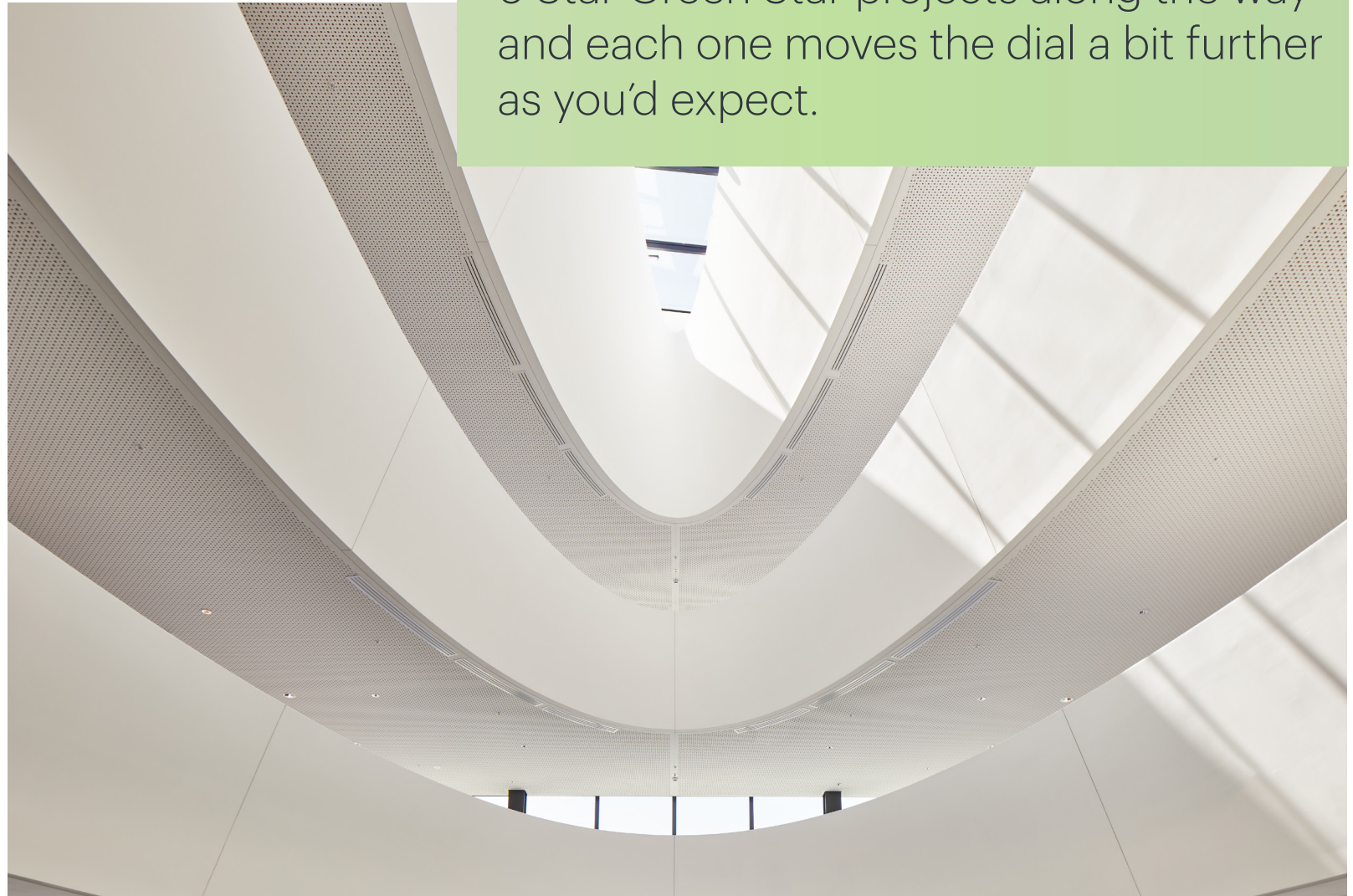


Photo credit: Thomas Seear-Budd



Green Star
- Making
an impact

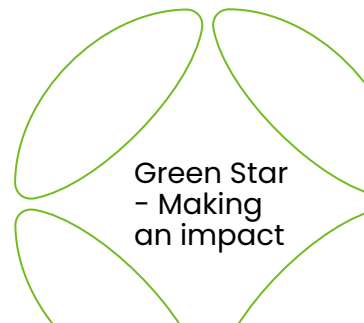
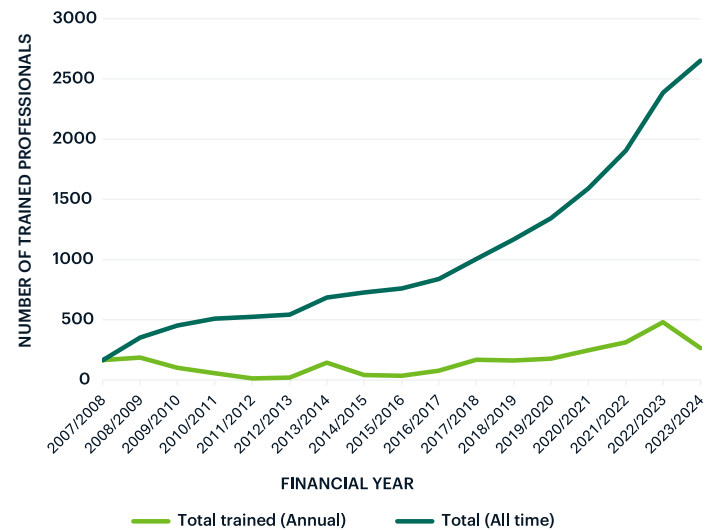


From the beginning, it was really important we shared the same vision and goal and we were committed to educating and upskilling our contractors about Green Star. Our weekly toolbox talks included a focus on morale and sustainability as well as the norms of status, health and safety. We had great buy-in from our wider team, many of whom appreciated the opportunity to do something of benefit to the environment, and I know they came out of the project well-versed on multiple elements of Green Star.

We're now embedding Green Star principles into the way we design, plan and deliver – it's no longer a question. We believe this is a positive shift forward for our team, our clients and the industry.



Trained Green Star professionals





Supporting green finance

As lenders and borrowers increasingly look to cut emissions and support others to do the same, Green Star certification offers an off-the-shelf definition of a green building, and is increasingly trusted as evidence of meeting sustainability targets. For those offering green bonds or green loans as a way of supporting sustainable development, a Green Star certification is recognised as a key KPI for independent verification.

Achieving high Green Star ratings enables us to pursue wider sustainability goals. For example, in 2022, Britomart Group signed a Green Finance agreement with a coalition of key lending partners. Having Green Star accreditation was critical in this significant achievement.



Sarah Hull
Director of Sustainability and Brand at Cooper and Company. Hayman Kronfeld building

Hayman Kronfeld, Auckland.
5 Star Green Star Design & As Built v1.0 rating



Green Star
- Making
an impact



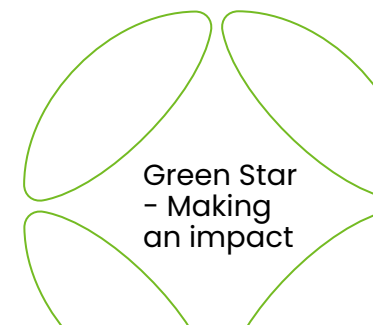
Photo credit: Northern Advocate

Metlifecare has completed a refinancing of its bank loan facilities into Sustainability Linked Loan facilities which are tied to three key social and environmental goals. If we achieve the KPI targets, a lower interest rate will apply. One such KPI is building six new aged care facilities within five years - which will achieve 6 Star Green Star ratings.



Michael Lisowski
Metlifecare's Head
of Delivery

**Metlifecare Oakridge,
Kerikeri, 6 Star Green
Star Design & As Built
NZ v1.0 Design rating**



**Green Star
- Making
an impact**



Improved healthcare outcomes have been a fundamental design principle. This meant that best practice thermal comfort, air-quality, acoustics, daylight and views, and connection with the natural environment became non-negotiables. Targeting great daylight amenity to enhance wellbeing was considered early and informed many aspects of the design from floorplate configurations through to window design and performance specification.

Ben Masters
Project Sustainability Lead, Beca. GSAP.

New East Wing Building at Taranaki Base Hospital



5 Star Green Star Design and As Built NZ v1.0 certified Design Review rating

The first 5 Green Star rated public health building in Aotearoa New Zealand, heralding a new era as all new large-scale public health infrastructure investments are now required to meet 5 Green Star accreditation.

Beca's Project Sustainability lead and Green Star Accredited Professional, Ben Masters, says while a number of other healthcare projects have incorporated sustainability features "this is the first New Zealand public health building to address sustainability so broadly."

Government procurement requirements

Under the Carbon Neutral Government Programme, New Zealand government agencies must gain at least a 5 Star Green Star rating for any new government building with a capital value over \$9 million.¹

The future of Green Star: Green Star Buildings



As part of our push to continuously challenge the sector and ramp up our efforts to meet our climate obligations, what's expected of a Green Star building continues to evolve. In response to the evolution in market expectations, industry improvements and demand for better social outcomes, and after extensive consultation across New Zealand's property and construction sectors, we have launched Green Star Buildings NZ. Replacing Green Star Design & As Built for new builds and major retrofits, the launch follows more than two years of consultation with industry and experts, and works to address the need to drive down embodied carbon, recognise climate adaptation, align with increased demand for independent certification and reporting standards, and support New Zealand's ambitions under the Paris Agreement.

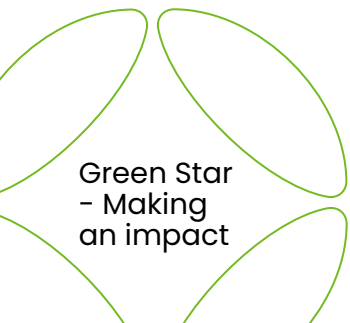
It has been incredibly rewarding to participate and witness the comprehensive engagement and collaboration facilitated by the NZGBC on the evolution of the Green Star tool. We hope this tool will continue to support and facilitate sustainability objectives within the built environment of Aotearoa, New Zealand. NDY are proud to have been part of this process as the technical partners to the NZGBC.



Shelly Thompson
Senior Associate | New Zealand
Sustainability Lead at NDY

Photo credit:
Cooper and Company

Hayman Kronfeld,
Auckland. 5 Star
Green Star Design
& As Built NZ
v1.0 rating



Green Star
- Making
an impact

Green Star Buildings NZ



Tailored for the New Zealand market to localise for the regulatory environment, availability of products and specialised services, and to respect differences in our market, climate and culture, Green Star Buildings NZ aims to:

- ◆ Establish a clear, well-defined entry point for best practice ratings
- ◆ Set new levels of achievement for those committed to the highest possible levels of sustainability.
- ◆ Introduce new categories and credits reflecting issues relevant to our market now and in the future
- ◆ Further prioritising greater reductions in carbon emissions from the built environment
- ◆ Create green building attributes for all Green Star rated buildings, driving wider market awareness and appreciation for the differences and benefits

The biggest shift you'll notice is a change in how we approach our various categories. Like this report, the focus of Green Star is shifting to better reflect the outcomes and impact we aim to deliver.

Green Star Buildings NZ categories

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.



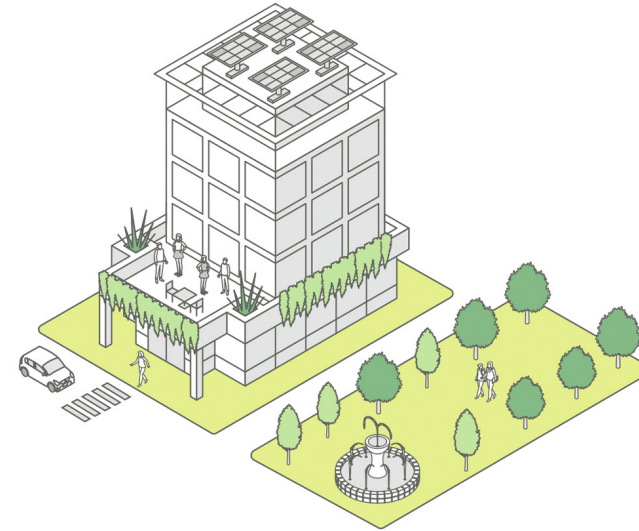
Resilient

Encourages solutions that address the capacity of the building to bounce back from short-term shocks and long-term stresses.



Positive

Encourages a positive contribution to key environmental issues of carbon, water, and the impact of materials.



Places

Supports the creation of safe, enjoyable, integrated and comfortable places.



People

Encourages solutions that address the social health of the community.



Nature

Encourages active connections between people and nature and rewards creating biodiverse 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.



Green Star Buildings NZ introduces 16 minimum requirements that must be achieved by all projects to achieve a Green Star rating. These are aimed at ensuring all Green Star rated buildings meet a basic definition of a green building (energy efficient, water efficient, good healthy spaces, built responsibly, and on sites that are not critical natural areas).

Green Star
- Making
an impact

The people behind Green Star



Simon Wilson
Director RDT Pacific,
Chair Green Star Advisory Committee

Created by the sector, for the sector, Green Star is guided by leading industry professionals to ensure it continues to keep up with the latest sustainability practices, and challenges outstanding results.

The Green Star Advisory Committee and supporting groups of industry experts ensure the Green Star rating system continues as the leading rating tool for the built environment. The advisors challenge Green Star through continuous improvement of the certification process and by representing the property and construction sector, seeking to increase industry participation in Green Star.

Green Star Advisory Committee

- Callum Isherwood – Air New Zealand
- Daniel Bryne – Auckland Airport
- Debbie Wilson – Te Whatu Ora
- Ivan Bartley – Tainui Group Holdings
- Kristen Webster – Eke Panuku Development Ltd
- Lisa Hinde – Precinct Properties
- Nick Alsop – Green Building Council of Australia
- Paola Boarin – The University of Auckland
- Paul Jurasovich – Jasmax
- Tom Slade – Goodman



Green Star rating tools have transformed the Aotearoa New Zealand property market by setting benchmarks for sustainability that inspire innovation and commitment across the building sector. Their adoption by industry leaders underscores a collective movement towards a healthier society and a more resilient environment.

Green Star
- Making
an impact

Expert Reference Panels



Energy and Carbon in Operation

Anthony Calderone – Mott MacDonald
Ben Masters – Beca
Jason Quinn – COR Associates
Josh McGlone – Toitu
Jo Woods – Re/volve Energy
Patrick Arnold – 335 NZ

Products, Materials & Embodied Carbon

Alec Couchman – Brewer Davidson
Alex Reiche – Envirospec
Ferran de Miguel Mercader – Fletcher
Fiona Short – Warren and Mahoney Architects
Jarred Butler – BRANZ
Jeff Vickers – thinkstep ANZ
Katherine Featherstone – GBCA
Laura Gemmell – Eco Choice Aotearoa
Nick Carmen – Mott MacDonald
Ralf Kessel – Concrete NZ
Rick Osborne – Metals NZ
Steve Aschebrock – INZIDE

Health & Wellbeing

Clare Dykes – Acoustic Engineering Services
Hayley Koerbin – NDY
Helen James – Lifemark
Jason Strawbridge – Strawbridge Accessibility
Michael Warwick – MAW Design
Sam Walle – Dark Arts Lighting Studio
Scott Smith – Beca
Tricia Love – Tricia Love Consultants
Warner Brunton – Mott Macdonald

Ecology & Emissions

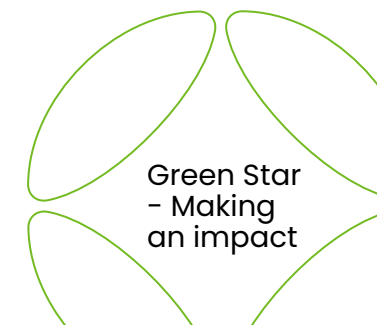
Andrea Jarvis – Holmes Consulting
Caleb Clarke – Morphum
Navin Weeraratne – Awa
Peter Wilder – Boffa Miskell
Robin Mitchell – The Biodiversity Consultancy
Tessa Meyer – Ministry for Primary Industries & NZGBC Future Thinker of the Year 2020
Tom Slade – Goodman

Governance & Places

Alain McKinney – Precinct Properties
Duncan Munroe – Eke Panuku Development
Eloise Blewden – Aurecon & NZGBC Future Thinker of the Year 2022
Jake Kake – Matakoho Architecture + Urbanism
Jesse Prendergast – MRCagney
Matt Wilson – Ecoinsite
Meredith Dale – The Urban Advisory & NZGBC Future Thinker of the year 2021
Saatyesh Bhana – Argosy Property
Vivien Li – Auckland Council

Waste & Construction

Adam Weller – Waste Management
Elaine Morgan – Green Gorilla
Helena Stil – Nikau Demolition
Mark Roberts – Auckland Council



Māori Technical Working Group



The Māori Technical Working Group was established to help integrate Mātauranga Māori into Green Star Buildings NZ. After extensive kōrero and collaboration, we have created the Tohu Mauri Ora credit – a significant step in our journey to honouring Te Tiriti o Waitangi as an organisation. We are incredibly grateful to the Māori Technical Working Group for their time, wisdom, collaboration and guidance. We look forward to continuing to work with them in the future as we look to update further tools to encompass Mātauranga Māori.



Jade Kake and Tyrone Newson
At Green Property Summit 2024 speaking about the new Tohu Mauri Ora credit within Green Star Buildings NZ

Tyrone Newson, Director Te Kuaka, Chief Executive Officer at Ngāti Awa Group Holdings.

Anahera Rawiri, Principal - Kaihautū at Jasmax.

Jade Kake, Director at Matakohe Architecture + Urbanism, Senior Lecturer at AUT Huri Te Ao School of Future Environments.

Ngata Tapsell, Principal at Beca, Chair of Te Arawa Management Limited, Chair of Pukaingataru B18, Chair and Panellist of the Auckland Urban Design Panel, Panellist of the Tauranga Urban Design Panel, Advisor to Huri Te Ao, Auckland University of Technology.

Lucy Tukua, Kaihautū Whakarito (Technical Director Regenerative Outcomes) at Mott MacDonald.

Amanda Yates, Associate Professor at AUT and Director of ORA, regenerative action-lab.

Pierre Tohe, General Manager Engagement at Tainui Group Holdings.

Mike Conlon, Head of Project Delivery at Tainui Group Holdings.

Samantha McGavock, Kaihautū, Director at DONE Project Planning + Delivery.



The NZGBC Green Star team



Sam Archer
Director of Market
Transformation,
Green Star



Bhumika Mistry
Senior Technical Coordinator



Bobby Shen
Business Development Manager
Existing Buildings



Brad Crowley
Senior Manager,
Buildings and Communities



James Woods
Technical Coordinator



Alex Goryachev
Senior Technical Coordinator



Joe Quad
Manager – Buildings and
Communities



Josefin Bloom
Technical Coordinator



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