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New Zealand Institute of Quantity Surveyors Report to PAQS Sustainability Committee

By Barry Calvert, MNZIQS, Reg.QS
November 2018

New Zealand signed the Paris Agreement on 22 April 2016 and formally ratified this important decision six months later. We are now committed to taking action on climate change and to meeting our targets for emissions reduction.

After the general elections in September 2017, New Zealand welcomed its first ever authentic coalition government led by the NZ Labour party. The coalition includes the NZ Green party who share a number of key environmental and social policy viewpoints with Labour. No doubt this partnership has encouraged the move away from our reliance on fossil fuels towards more public transport and electric vehicles.

The New Zealand Green Building Council (NZGBC) have been very proactive with their submissions to central government, gaining the attention of five cabinet ministers including ministers for construction, housing and climate change. As a result we have seen a number of key improvements in the way we build in NZ.

NZGBC successes over the last 12 months are:

a) Over 80% of all new commercial buildings currently under construction in the Auckland CPD will be 4 or 5 Greenstar (4 = Best Practice, 5 = NZ Excellence).
b) There is a commitment from the new government to build a good percentage of new social housing that complies with 6 Homestar.
c) One of NZ's largest commercial real estate agents Bayleys released a report late 2017 documenting the benefits for landlords and commercial developers of building green – report attached. This has received some attention from both private sector tenants and government agencies looking to lease office space.
d) The Green Building Council of Australia today confirmed that Panuku (Auckland city's urban re-development agency) has been pre-awarded

credits under Green Star – Communities for their efforts to provide liveable, healthy, resilient communities.

The New Zealand Institute of Quantity Surveyors (NZIQS) is encouraged by the momentum created from NZGBC's efforts and is partnering with them on a number of initiatives.

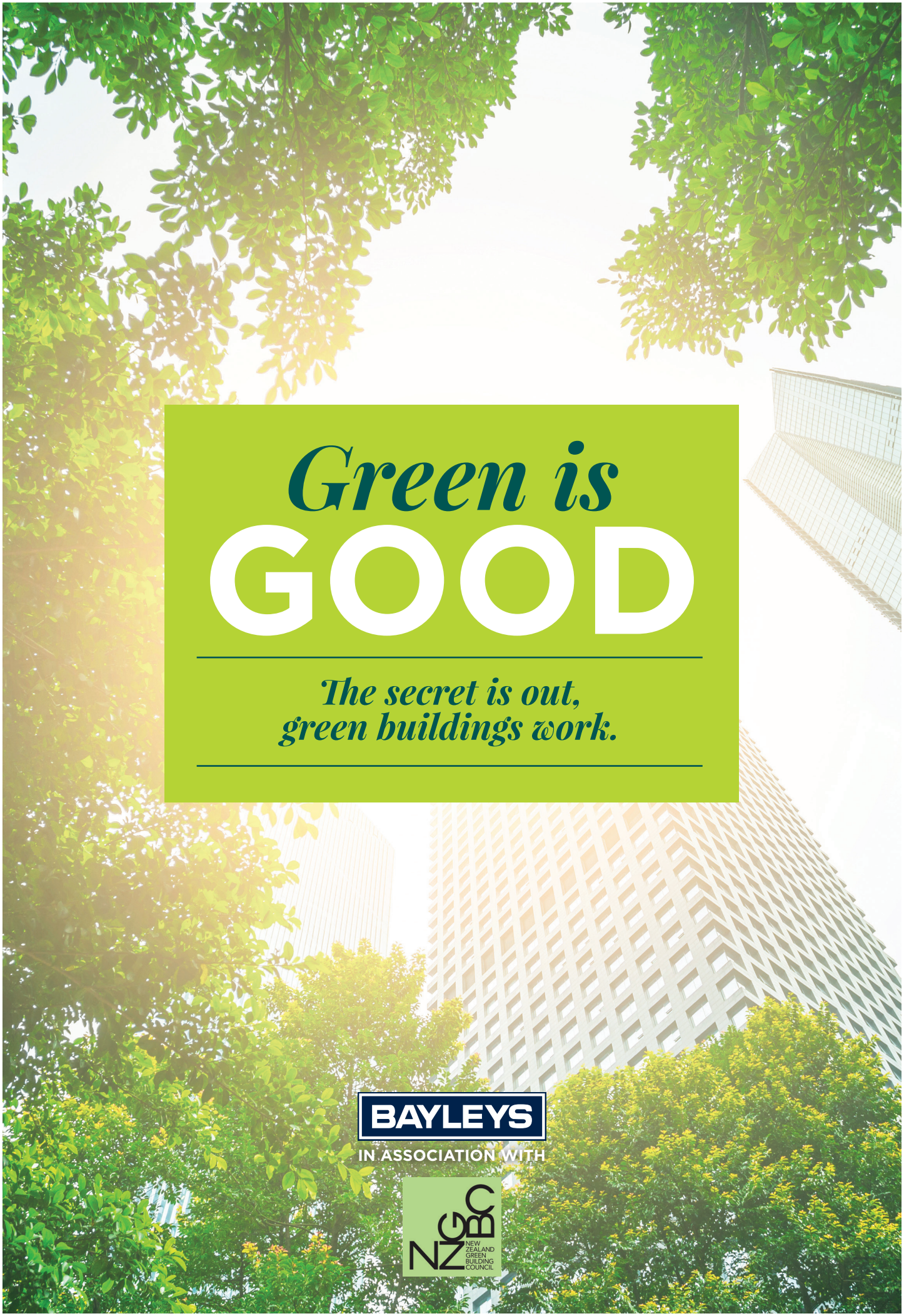
We are also building a relationship with members of the international Passive House (PH) movement, thanks to Rob Bernhardt, the CEO of Passive House Canada who we met at PAQS 2017. Rob agreed to speak at our national conference in June of this year and has introduced us to his PH colleagues in NZ. I will be attending their conference in Wellington next March.

NZIQS have been actively seeking green build cost data from our members nationally. We recently became aware of a study from one of NZ's larger QS consulting firms which outlines the cost premium of building residential housing that complies with NZGBC's Homestar rating tool. I have attached a copy of this study, which is now publicly available. It makes interesting reading and shows that building a 6 Homestar dwelling can be achieved with very little additional cost (over building to NZ building code minimums), which is very encouraging, especially in the light of similar data coming out of the United States and Canada.

In summary, this has been a good year for New Zealand in the area of sustainable building practices. We look forward to the next 12 months with anticipation of even more progress.

Yours sincerely,

Barry Calvert
NZIQS President


Green is
GOOD
The secret is out,
green buildings work.
BAYLEYS
IN ASSOCIATION WITH
NZGBC
NEW ZEALAND GREEN BUILDING COUNCIL

SUSTAINABLE BUILDING DEVELOPMENT IS ON THE RISE GLOBALLY

And for good reason as it becomes clear that green rated buildings deliver a multitude of benefits. From addressing climate change, to creating healthier, more engaging work environments as well as improving the financial metrics of buildings.

ENVIRONMENTAL IMPACT EXTREME

Despite representing just 3% of the world's landmass, the built environment:

- uses 40% of the world's energy
- emits 30% of the world's carbon footprint
- uses 14% of the world's drinking water

Overlay this with the fact that the world's urban population is:

- increasing by around 70 million per year, and
- by 2050 almost 70% of the world's 9.7 billion population will live in cities

This means more buildings will be needed along with increased sustainable building management.

In short, the future of buildings and the future of sustainability are becoming inextricably linked.

CLEAN GREEN NZ JOINS THE MOVEMENT

The recent green construction movement had its origins in the 1990s, initially as a fringe activity but increasingly, over the past two decades, it has gained main-stream status.

The UK and US were the first to lead the charge with momentum growing more rapidly amongst other OECD countries in the 2000s and beyond.

In NZ the movement really kicked up a gear in 2005 with the formation of the NZ Green Building Council (NZGBC) and in 2006 NZGBC became the 6th member of the World Green Building Council (currently 100 members). NZGBC began offering 4 to 6 Green Star ratings in 2007 for "design", 2008 for "built" and 2009 for "interior" projects. From 2018 the NZGBC plans to streamline the process further and phase out "design" certifications, focusing instead on "built" and "interior' certifications.

Seen as a third party quality-assurance to owners and added value to buildings, the adoption of green building standards in NZ has been market led rather than regulation driven as in some European countries and other parts of the world.

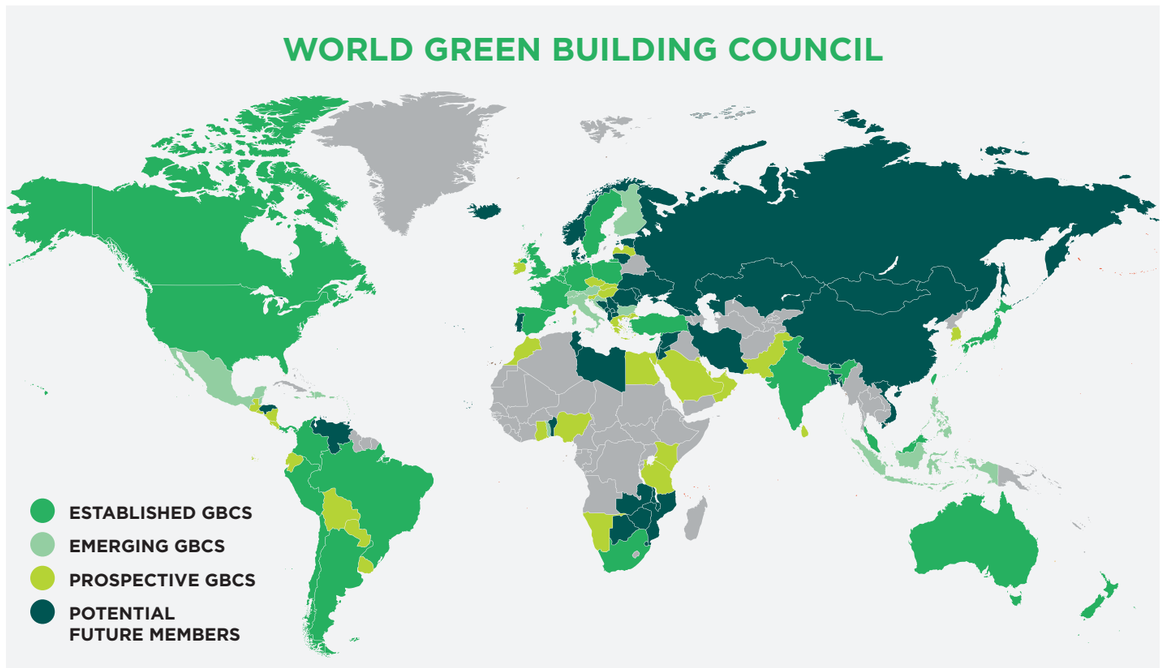
NZ GREEN STAR RATING SYSTEM

- A building can achieve a rating of:

  4 star – Best Practice

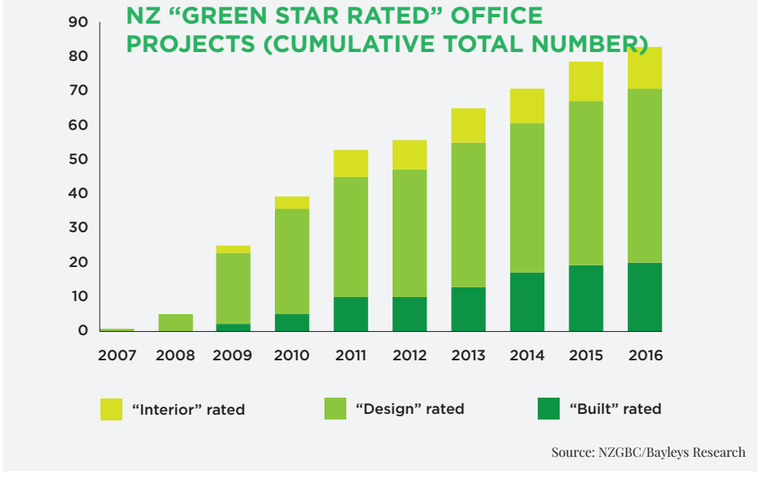
  5 star – NZ Excellence

  6 star – World Leadership
- Currently a Green Star assessment can be undertaken in both the Design and Built phases of a project. Design ratings occur earlier in the project, and are followed by Built ratings after completion to confirm the project has been constructed to meet its Green Star standard rating.
- To rate a building's overall environmental impact, the tool awards points across nine categories: energy, water, materials, indoor environment quality (IEQ), transport, land use & ecology, management, emissions, and innovation.



GROWTH IN GREEN STAR RATED OFFICE BUILDINGS IN NZ

Since 2007 there has been steady growth in green star certified office buildings. NZ wide there are currently 20 "built", 51 "design" and 12 "interior" rated office buildings with most located in Auckland (57%). Wellington has 19%, Christchurch 13% and the rest of the country another 11%.



Source: NZGBC/Bayleys Research

OFFICE BUILDINGS 2016	GREEN "BUILT" RATED NO.	GREEN "DESIGN" RATED NO.	GREEN STAR "INTERIOR" RATED NO.
Auckland	15	26	7
Wellington	2	11	3
Christchurch	2	7	2
Rest of NZ	2	8	0

Source: NZGBC, Bayleys Researh

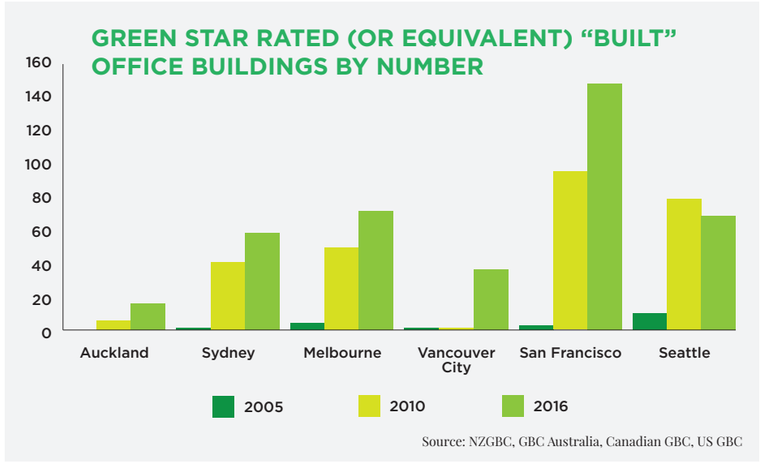
In Auckland almost half the green Star rated office buildings are located in the CBD and the other half spread across the broader metro area. The nine CBD "built" rated buildings total 132,000m² and represent around 10% of total CBD Stock (and 22% of prime grade stock). The Auckland CBD is currently in the midst of a new development cycle with five office projects totalling around 80,000m² currently under construction. To date four out of five projects have been registered for either Green "design" and/or "built" rating status. Unlike the previous construction cycle where a construction cost premium was attached to green features, this has all but disappeared as environmental features increasingly become standard.

HOW GREEN IS AUCKLAND VS OTHER PACIFIC-RIM CITIES?

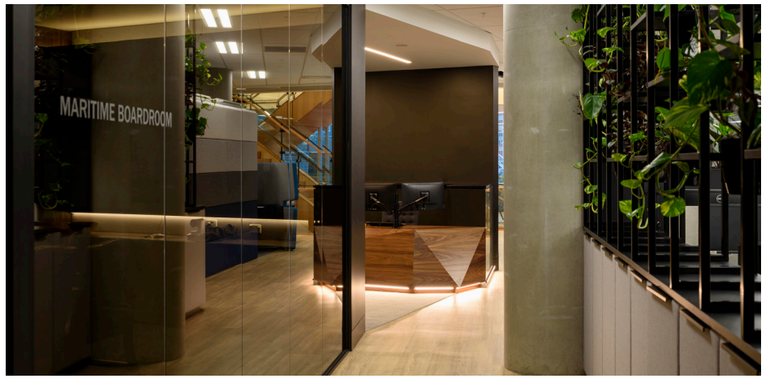
A growing number of global cities are embracing the move to green rated buildings.

This growth has been particularly strong over the past 10 years with momentum continuing to build as more cities commit to the certification process.

Auckland is definitely tracking in the right direction but still has some way to go when compared to other leading Pacific Rim cities. This is probably a reflection of differences in the timing and scale of development cycles and the size of each cities population and total office sotck. In terms of stand-out's San Francisco appears to be the flag bearer for green office buildings with 145 "built" rated.



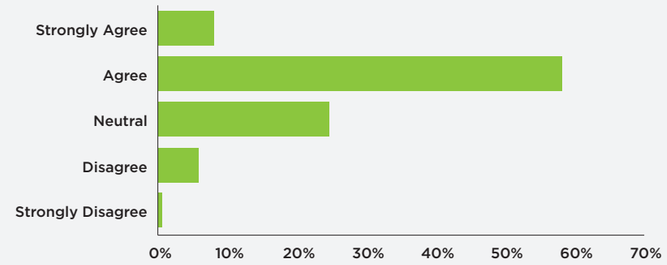
Source: NZGBC, GBC Australia, Canadian GBC, US GBC



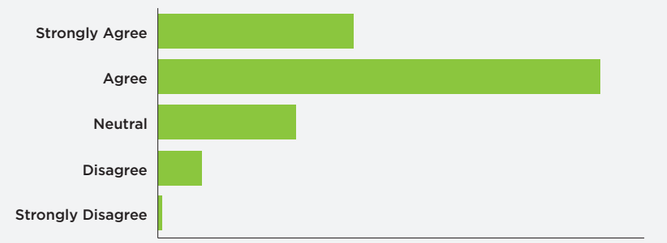
SURVEY RESULTS

Bayleys Research in conjunction with NZGBC conducted two surveys in order to gauge the views of owners, occupiers and other key stakeholders on the short and long term benefits of green building features and design. Encouragingly both surveys strongly support the continued push towards making the built environment greener. Rating tools, such as Green Star and NABERSNZ, were seen as important drivers in this process, providing checks on building quality and ensuring sustainability criteria are met in the future.

RATING TOOLS HAVE HAD A POSITIVE IMPACT ON THE QUALITY OF BUILDING IN NZ IN THE LAST 10 YEARS



RATING TOOLS ARE FUNDAMENTAL TO IMPROVING THE SUSTAINABILITY OF BUILDINGS IN THE FUTURE



SURVEY 1: NZGBC MEMBERS SURVEY

NZGBC SURVEY

Summary: Respondents felt the most important shift in NZ's built environment over the next decade will be an increased focus on building performance and whole of life costs. The key barrier to improving building quality was seen as a focus on costs rather than benefits.

QUESTIONS	STRONGEST RESPONSES
Choose the most important shift to NZ's built environment in the next 10 years?	32% – increased focus on building performance and whole of life costs
	20% – better standard for NZ homes
	14% – increased focus on upgrading existing building stock
What do you think will most impact NZ building designs of the future?	30% – innovation in building design and systems
	18% – availability of land for development
	12% – changes in demographics
	12% – changes to how people work eg. co-working
What do you see as the most important aspect/s of a sustainable building?	45% – health and well-being of occupants
	39% – whole of life costs
	34% – lower energy consumptions
Which option do you feel is the main barrier to improving the quality of buildings in NZ?	48% – focus on costs rather than benefits
	18% – minimum building code requirements

BAYLEYS

SURVEY 2: SURVEY OF AUCKLAND OFFICE OCCUPIERS FROM BAYLEYS TENANT DATABASE

BAYLEYS OCCUPIER SURVEY	
Summary: A majority of respondents felt a buildings Green Star rating would be moderately to very important at their next move. By comparison most overwhelmingly felt retro-fitting older buildings to improve energy efficiency was a good idea (even though most did not link these improvements to potential opex savings). Opinions varied regarding the benefits of occupying a green building, the most supported views included the ability to attract and retain better calibre staff, a reduction in staff downtime and also better engagement between staff members.	
QUESTIONS	**STRONGEST RESPONSES**
How important will a buildings Green Star rating be in determining what space your business commits to at its next move?	35% – just one of a number of considerations
	28% – somewhat important
	20% – very important
Do you think it is a good idea for landlords to retro-fit older office buildings to improve energy efficiency?	86% – yes
Which one or combination of the following do you believe occupying a Green Star building would result in	69% – ability to attract and retain better calibre of staff
	61% – reduce staff downtime ie. less sick days
	43% – better engagement between staff members
	35% – increased staff output
When you think "Green Buildings" do you automatically think "potential for opex savings"?	54% – No

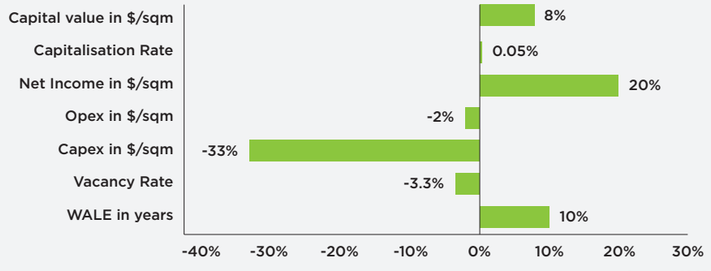
BEING GREEN IMPROVES PERFORMANCE

A growing body of research globally is pointing to the financial benefits for owners and occupiers of Green certified buildings.

In the US a report released by Morgan Stanley[1] last year suggested that "a typical office building that integrates sustainable practices could help reduce building expenses by 3% to 30%, creating US$3.5 billion to US$34.9 billion of asset value in the top 10 US markets in the process".

Closer to home, the latest Australian MSCI analysis (Dec 2016) comparing Australian 4 to 6 Green Star office buildings with the broader Australian "All Office" market shows Green buildings outperforming on a number of key financial and market metrics. In particular, the numbers point to lower capex, longer lease terms and better rental and value premiums.

AUS: GREEN STAR VS ALL OFFICE RESULTS FOR QUARTER ENDING DEC 2016



Source: MCCI

GREEN STAR + NABERSNZ INCREASES SAVINGS

In 2013 the NZ Green Building Council began administering NABERSNZ, an adaptation of Australia's "National Australian Built Environment Rating System" (NABERS) model. Unlike Green Star which is used during the design and construction of new builds/major refurbishments and covers a comprehensive 9 category rating system, NABERSNZ looks solely at the energy performance of buildings. It is used once buildings are occupied and operating for a year or more provides a clear view of how well a building or tenanted space is using energy.

In NZ, commercial buildings use just over 20% of the country's electricity and cost businesses around NZ$800 million a year, so improving a building's energy performance is an area where some of the largest sustainability gains and cost efficiencies can be made. On average, a building's energy performance can be improved by up to 25% along with corresponding cost savings.

The ease and simplicity of NABERSNZ has seen its popularity grow in NZ especially amongst owners of existing properties who are seeking to retro-fit and show tangible improvements in energy performance both for occupiers and owners.

Argosy's use of the NABERSNZ system at their recent Te Puni Kokiri office upgrade at 143 Lambton Quay in Wellington saved the occupier around $80,000 per year in energy costs and also reduced their carbon footprint. In Auckland, Precinct Properties instigation of NABERSNZ at Zurich House led to a significant 45% improvement in energy performance over the last 3 years.

NEBERS is now mandatory in Australia for all buildings over 1,000m²

SPOTLIGHT: BAYLEYS MOVE TO 5 GREEN STAR "DESIGN" RATED BUILDING

Bayleys recent move to the newly built Bayleys House at 30 Gaunt St, Auckland CBD (Wynyard Qtr) has led to opex savings in the order of 19%.

This, despite occupying a similar amount of space for a similar number of staff.

Along with the expected energy savings from advanced energy monitoring, LED lighting, a double glazed façade and low-flow water fittings further significant air-conditioning savings were made due to the open-plan layout and use of flexible office pods.

RESPONSIBLE INVESTING[2] EMBRACING GREEN MOVEMENT

The big end of town, namely large corporates (as occupiers) and institutional investors (as owners), each with increasingly comprehensive Environmental, Social and Governance (ESG) policies, are driving the green push. They are actively supporting developers and property groups with a strong commitment to more sustainable outcomes.

Currently more than 90%[3] of the world's largest 250 companies produce sustainability reports and in many cases reducing their real estate carbon footprint is a key area of focus. In NZ companies like Air New Zealand have developed a set of robust Sustainable Building Guidelines to guide corporate decision making.

AIR NZ'S SUSTAINABLE BUILDING GUIDELINES	
• Green Star (or equivalent) building ratings	• Hero Elements
• Integrated Design Process	• Lease Partnerships
• Seismic Standards	• Energy and waste

In Australia almost half of all investments – totalling a significant A$633 billion[4] – were invested responsibly in 2016, with consumer demand being a major driver of this rise. Within Australia's hugely influential A$2.2 trillion superannuation sector a majority of funds (70%[5]) have some form of Responsible Investment commitment.

In NZ Responsible Investing in 2016 totalled NZ$78.7bn[6], up 28% from a year earlier and is also being actively supported by our largest superannuation funds including NZ Super and the ACC. With KiwiSaver assets under management expected to grow from a current NZ$28 billion to NZ$69 billion[7] by 2020 we can expect an even greater focus on responsible investing.

All of NZ's largest listed property groups have formal sustainability policies as do the larger listed and unlisted property developers. Encouragingly a growing number of these groups are adopting a 'portfolio' approach towards rating measurements such as NABERSNZ.

FUTURE GREEN TRENDS

NET ZERO ENERGY BUILDINGS

The drive towards net zero energy buildings (i.e. buildings which produce enough renewable energy to completely off-set the energy they use) took a major step forward following the Paris Climate Change Conference in 2015 where world leaders agreed to limit global warming to 2 degrees by the second half of the century. In order to meet that timeframe the building sector globally needs to achieve almost zero fossil fuel CO_2 emissions by about 2050 which implies a rapid shift in building design, construction and operations.

The World Green Building Council and its associates globally are spearheading a push towards Net Zero (carbon) Emissions for all buildings by 2050. It's a hugely ambitious task which will involve significant commitment from the private sector as well as governments to safely arrest global warming.

RETRO-FITTING EXISTING BUILDINGS

Existing buildings make up the largest segment of the built environment so retro-fitting to improve energy management, water usage and waste will go a long way in reducing a buildings overall environmental footprint (as well as providing some attractive operating cost savings along the way). The success of NABERS in Australia and its growth in NZ under NABERSNZ could well be the catalyst to drive further sustainable gains. NZBC is due to launch a new Green Star tool called Green Star Performance in September 2017. This includes all the same categories as a new build Green Star rating but focusing on operational performance rather than as built performance.

References

1 Morgan Stanley Institute for Sustainable Investing "Bricks, Mortar and Carbon – How Sustainable Buildings Drive Real Estate Value 2016"
2 "Responsible investing" is also known as ethical investing, sustainable investing and socially responsible investing.
3 KPMG Survey of Corporate Responsibility reporting 2015
4 Responsible Investment Benchmark Report 2016 Australia
5 Superfund Responsible Investment Benchmark Report 2016
6 Responsible Investment Benchmark Report 2016 New Zealand
7 NZ Treasury – Review of the Kiwisaver Fund Manager Market Dynamics and allocation of assets 2015 (base case projections)
8 Extract from "World Green Building Council – Building the Business Case: Health, Wellbeing and Productivity in Green Offices" – October 2016

WHAT MAKES FOR HEALTHIER AND GREENER OFFICES[8]

1. Indoor air quality and ventilation – Healthy offices have low concentrations of CO_2, VOCs and other pollutants, as well as high ventilation rates

WHY Increase in cognitive scores for workers in a green, well ventilated office

2. Thermal comfort – Healthy offices have a comfortable temperature range which staff can control

WHY Fall in staff performance when offices are too hot and 4% if too cold

3. Daylight and Lighting – Healthy offices have generous access to daylight and self-controlled electrical lighting

WHY Improved night-time sleep for workers in offices near windows

4. Noise and Acoustics – Healthy offices use materials that reduce noise and provide quiet spaces to work

WHY Reduced staff performance as a result of distracting noise

5. Interior Layout and Active Design – Healthy offices have a diverse array of workspaces, with ample meeting rooms, quiet zones, and stand-sit desks, promoting active movement within offices

WHY Flexible workspaces help staff feel more in control of their workload and engenders loyalty

6. Look and Feel – Healthy offices have colours, textures and materials that are welcoming, calming and evoke nature

WHY Visual appeal is a major factor in workplace satisfaction

7. Location and Access to Amenities – Healthy offices have access to public transport, safe bike routes, parking |and showers, and a range of health food choices

WHY Savings through cutting absenteeism

BAYLEYS Thank you to our contributors NZGBC, Warren & Mahoney, Argosy, Green Gorilla, Air NZ, BNZ, Stride and IAG

COST OF HOMESTAR REPORT

FOR

NEW ZEALAND GREEN BUILDING COUNCIL

REVISED

11 May 2018

RAWLINSONS

WSUN170

CONTENTS

Prepared by:	*Signed:* *For Rawlinsons*	Trish Enright	*Date:*	11 May 2018
Approved by:	*Signed:* *For Rawlinsons*	Patrick Hay	*Date:*	11 May 2018

GENERAL

1.1 Introduction

As requested we have completed an estimate of the additional costs to achieve a 6, 7 and 8 star house in Auckland, Wellington and Christchurch.

The study adopted use of a 'baseline' dwelling design against which to assess quantity-based costs. This design was identified as representing a typical market product with the following attributes:
- A two-storey 180m2, three bedroom, two bathroom house with double garage on a relatively flat site.
- Timber frame construction with 90mm external walls.
- EPS waffle-pod ground floor slab. Please note that an EPS waffle-pod slab is not always required for Building Code Compliance. The cost to upgrade from a standard reinforced concrete ground floor slab to an EPS waffle-pod is $3,700 for this house.
- A mix of brick and weatherboard external walls, solid aluminium frame double-glazed windows with no gas fill or special coatings, and long-run corrugated roofing.
- Electrical, mechanical and plumbing required to meet the Building Code including entry level instantaneous gas water heater.

1.2 Changes in this Revision

The 8 star option has been included for each city.

We were additionally asked to provide an estimated cost for underfloor heating using heatpump as hot water source.

1.2 Key Results

The estimated additional cost over standard construction to achieve each star rating is:

Key Results	Auckland	Wellington	Christchurch
6 star	$ 5,552.00	$ 6,920.00	$ 6,780.00
7 star	$ 19,765.00	$ 27,115.00	$ 26,900.00
8 star	$ 24,115.00	$ 36,895.00	$ 55,370.00

The additional cost for underfloor heating is approximately $27,000. Any allowance for a hi-wall heatpump or HW heatpump could then be deducted.

The additional costs have been compared against two "off the peg" houses with a similar floor area - a "one-off" house would cost approximately $500,000.

A1 house - BH172 173 m2	$ 325,586	$ 306,707	$ 298,307
6 star	1.71%	2.26%	2.27%
= m2 of floor area	2.95	3.90	3.93
7 star	6.07%	8.84%	9.02%
= m2 of floor area	10.50	15.29	15.60
8 star	7.41%	12.03%	18.56%
= m2 of floor area	12.81	20.81	32.11

G J Gardiner - Nikau Grove 177 m2	$ 430,000	$ 400,000	$ 430,000
6 star	1.29%	1.73%	1.58%
= m2 of floor area	2.29	3.06	2.79
7 star	4.60%	6.78%	6.26%
= m2 of floor area	8.14	12.00	11.07
8 star	5.61%	9.22%	12.88%
= m2 of floor area	9.93	16.33	22.79

All costs are inclusive of GST

HOMESTAR

ADDITIONAL COST FOR 6, 7 & 8 STAR

AUCKLAND HOUSE

		TOTAL 61.1			TOTAL 70.4			TOTAL 80		
AUCKLAND										
Baseline - New Zealand Building Code compliant	**Homestar v4 - 6 Homestar**	**Points**		**Additional Cost**	**Homestar v4 - 7 Homestar**	**Points**		**Additional Cost**	**Homestar v4 - 8 Homestar**	**Points**	**Additional Cost**
Electric panel heater in living / dining / kitchen	Electric panel heater in living / dining / kitchen	3.9	$	-	Upgrade to Hi-wall heat pump in living / dining / kitchen	5	$	3,000.00	Upgrade to Hi-wall heat pump in living / dining / kitchen	5	3,000.00
180L (2-3 people) electric storage tank, one element, mains pressure, 50mm rigid insulation	180L (2-3 people) electric storage tank, one element, mains pressure, 50mm rigid insulation	4.2	$	-	Upgrade to HW Heat pump - Rinnai hotflow EHP32; storage tank as before (no element)	4.9	$	2,800.00	Upgrade to HW Heat pump - Rinnai hotflow EHP32; storage tank as before (no element)	6	2,800.00
All lighting LED	All lighting LED	1.5	$	-	All lighting LED	1.5	$	-	All lighting LED	1.5	-
R3.2 ceiling insulation (Auckland and Wellington), R3.6 (Christchurch)	Upgrade to R4.0 ceiling insulation	12	$	362.00	Upgrade to R6.0 ceiling insulation	15	$	1,955.00	Upgrade to R6.0 ceiling insulation	16	1,955.00
90mm frame	90mm frame		$	-	90mm frame		$	-	90mm frame		-
R2.0 wall insulation (Auckland and Wellington), R2.2 (/Christchurch)	Upgrade to R2.4 wall insulation		$	780.00	Upgrade to R2.8 wall insulation		$	2,850.00	Upgrade to R2.8 wall insulation		2,850.00
Standard aluminium frame R0.26 window	Clear double glazing in Aluminium frame		$	-	Clear double glazing in Aluminium frame with low E glass		$	2,800.00	Clear double glazing in Aluminium frame with low E glass, argon filling and thermally broken		9,950.00
Concrete ground floor	Concrete ground floor including EPS waffle pods, no edge insulation		$	-	Concrete ground floor including EPS waffle pods, 30mm XPS edge insulation		$	500.00	Concrete ground floor including EPS waffle pods, 30mm XPS edge insulation		500.00
No washing line provided	Wall mounted fold out washing line frame, mounted externally in general garden area.	1	$	300.00	Wall mounted fold out washing line frame, mounted externally in general garden area.	1	$	300.00	Wall mounted fold out washing line frame, mounted externally in general garden area (E.g DayTak Single line), plus a smaller single line in the garage (e.g. Wattle Single Line)	1	350.00
Shower head with 12L/min maximum flow rate	Upgrade to shower head with 9L/min maximum flow rate	3.5	$	-	Upgrade to shower head with 7.5L/min maximum flow rate	4	$	-	Upgrade to shower head with 7.5L/min maximum flow rate	4	-
6/3L dual flush WC	Upgrade WC to WELS 4 star - 4.5L/3L dual flush - eg Robertson Heron Close Coupled WC or equivalent	2	$	-	Upgrade WC to WELS 4 star - 4.5L/3L dual flush - eg Robertson Heron Close Coupled WC or equivalent	2	$	-	Upgrade WC to WELS 4 star - 4.5L/3L dual flush - eg Robertson Heron Close Coupled WC or equivalent	2	-
Kitchen WELS 4 star (7.5L/minute) - eg Caroma / Dorf "Balance V" mixers	Kitchen WELS 4 star (7.5L/minute) - eg Caroma / Dorf "Balance V" mixers	0.5	$	-	Upgrade Kitchen taps to WELS 5 star (6L/minute) - eg VCBC Crystal range mixers or Euroware TAP-CP-F0037 and TAP-CP-F0041	1	$	-	Upgrade Kitchen taps to WELS 5 star (6L/minute) - eg VCBC Crystal range mixers or Euroware TAP-CP-F0037 and TAP-CP-F0041	1	-
Bathroom WELS 4 star (6 L/minute) - eg Caroma / Dorf "Balance V" mixers	Bathroom WELS 4 star (6 L/minute) - eg Caroma / Dorf "Balance V" mixers	1	$	-	Upgrade basin taps to WELS 6 star (4.5L/minute) - eg Pacific Tapware 2000 series mixers	1.5	$	-	Upgrade basin taps to WELS 6 star (4.5L/minute) - eg Pacific Tapware 2000 series mixers	1.5	-
No rainwater harvesting	No rainwater harvesting		$	-	2000L above ground rainwater harvesting tank plumbed into WC and garden irrigation	1	$	1,050.00	Commissioning of mechanical ventilation	1	200.00
No site waste management plan	Implement a site waste management plan in accordance with REBRI guidelines	1	$	1,000.00	Implement a site waste management plan in accordance with REBRI guidelines	1	$	1,000.00	Implement a site waste management plan in accordance with REBRI guidelines	1	1,000.00
No waste diversion	60% of waste diverted for recycling, or less than 10kg/sqm sent to landfill	1	$	-	70% of waste diverted for recycling, or less than 10kg/sqm sent to landfill	2	$	-	70% of waste diverted for recycling, or less than 15kg/sqm sent to landfill	2	-
No waste sorting bin	10L, 2 compartments sorting bin within kitchen - eg Hideaway KC30H, or Easy Recycling Double Bins HH2	1	$	-	10L, 2 compartments sorting bin within kitchen - eg Hideaway KC30H, or Easy Recycling Double Bins HH2	1	$	-	10L, 2 compartments sorting bin within kitchen - eg Hideaway KC30H, or Easy Recycling Double Bins HH2	1	-
No window restraints etc	Window security restraints / stays to all windows.	0.5	$	-	Window security restraints / stays to all windows.	0.5	$	-	Window security restraints / stays to all windows.	0.5	-
No owners manual provided	document, designers drawings and installers manuals. Assume 2 hours of professional time at $100 / hr	2	$	200.00	Time to compile owners manual, based on template document, designers drawings and installers manuals. Assume 2 hours of professional time at $100 / hr	2	$	200.00	Time to compile owners manual, based on template document, designers drawings and installers manuals. Assume 2 hours of professional time at $100 / hr	2	200.00
Resene/Dulux paint, Polyester ceiling insulation (Autex Greenstuf).	Resene/Dulux paint, Polyester ceiling insulation (Autex Greenstuf), FSC timber framing, Gib lining.	7.5	$	1,910.00	Contractor Environmark Gold, with Environmental Management Plan, or EcoPlumber, IAONZ, EcoSmart Electrician Resene/Dulux paint, Polyester ceiling insulation (Autex Greenstuf), FSC timber framing, Gib lining.	7.5	$	1,910.00	Contractor Environmark Gold, with Environmental Management Plan, or EcoPlumber, IAONZ, EcoSmart Electrician Insulation with ECNZ certification - Pink Batts Ultra, Bradford Gold, Knauff)	1 2	- -

AUCKLAND

Baseline - New Zealand Building Code compliant	Homestar v4 - 6 Homestar	Points	Additional Cost	Homestar v4 - 7 Homestar	Points	Additional Cost	Homestar v4 - 8 Homestar	Points	Additional Cost
Floor coverings to CIAECS level 4 Eg Godfrey Hirst, Feltex, Cavalier Bremworth,	Floor coverings to CIAECS level 4 Eg Godfrey Hirst, Feltex, Cavalier Bremworth,	2	$ -	Floor coverings to CIAECS level 4 Eg Godfrey Hirst, Feltex, Cavalier Bremworth,	2	$ -	Floor coverings to CIAECS level 4 Eg Godfrey Hirst, Feltex, Cavalier Bremworth,	3	-
Low VOC coatings - eg Resene / Dulux range	Low VOC coatings - eg Resene / Dulux range	1	$ -	Low VOC coatings - eg Resene / Dulux range	1	$ -	Low VOC coatings with eco-label - eg Resene / Dulux/ Wattyl range	3	-
Low VOC adhesives - eg Bostik range	Low VOC adhesives - eg Bostik range	1	$ -	Low VOC adhesives - eg Bostik range	1	$ -	Low VOC adhesives - eg Bostik range	1	-
Low VOC carpet - eg Cavalier Bremworth, Heritage carpets ECNZ range, Feltex,	Low VOC carpet - eg Cavalier Bremworth, Heritage carpets ECNZ range, Feltex,	1	$ -	Low VOC carpet - eg Cavalier Bremworth, Heritage carpets ECNZ range, Feltex,	1	$ -	Gib Linings (Wall and Ceiling)	1.5	-
Standard MDF, LVL, plywood and engineered timber	Any particle board, MDF, LVL, plywood and other engineered timber is low-formaldehyde to relevant AS/NZ standards. Eg Laminex Lakepine MDF, Nelson Pine Super E0 MDF, Laminex Superfine particleboard,CHH Kopine particleboards, CHH Ecoply, all CHH LVL products manufactured in NZ,	1	$ -	Any particle board, MDF, LVL, plywood and other engineered timber is low-formaldehyde to relevant AS/NZ standards. Eg Laminex Lakepine MDF, Nelson Pine Super E0 MDF, Laminex Superfine particleboard,CHH Kopine particleboards, CHH Ecoply, all CHH LVL products manufactured in NZ,	1	$ -	Any particle board, MDF, LVL, plywood and other engineered timber is low-formaldehyde to relevant AS/NZ standards. Eg Laminex Lakepine MDF, Nelson Pine Super E0 MDF, Laminex Superfine particleboard,CHH Kopine particleboards, CHH Ecoply, all CHH LVL products manufactured in NZ,	1	-
Long run steel roof ECNZ certified, e.g. colorsteel endura	Long run steel roof ECNZ certified, e.g. colorsteel endura	2	$ -	Long run steel roof ECNZ certified, e.g. colorsteel endura	2	$ -	Long run steel roof ECNZ certified, e.g. colorsteel endura	2	-
	75% permeable site beyond roof footprint. No additional cost assumed for grass.	1	$ -	75% permeable site beyond roof footprint. No additional cost assumed for grass.	1	$ -	75% permeable site beyond roof footprint. No additional cost assumed for grass.	1	-
	25% of site area (excluding under roof) planted with native species mix suitable for domestic garden. 4 plants per sqm, pb5 and pb8 mix. Offset cost against saving in seeded lawn. Auckland species.	0.5	$ 700.00	25% of site area (excluding under roof) planted with native species mix suitable for domestic garden. 4 plants per sqm, pb5 and pb8 mix. Offset cost against saving in seeded lawn. Auckland species.	0.5	$ 700.00	Concrete has a Declare label (Firth ready mix)	0.5	-
	All external lights fitted with motion sensors/daylight cut off	1	$ -	All external lights fitted with motion sensors/daylight cut off	1	$ -	All external lights LED, security lights fitted with motion sensors/daylight cut off	1	-
	2m2 vegetable garden (raised bed)	1	$ 300.00	2m2 vegetable garden (raised bed)	1	$ 300.00	2m2 vegetable garden (raised bed)	1	300.00
				Four fruit-producing trees, pb8.	1	$ 400.00	Four fruit-producing trees, pb8.	1	400.00
							4 garage cycle mountings (e.g. Crawford Bike Rack Flip Up)	2	110.00
							Higher grade bathroom extract fan designed to run continuously	2.5	500.00
			$ 5,552.00			$ 19,765.00			24,115.00

HOMESTAR

ADDITIONAL COST FOR 6, 7 & 8 STAR

WELLINGTON HOUSE

WELLINGTON

		TOTAL	61.1			TOTAL	70.4			TOTAL	80	
Baseline - New Zealand Building Code compliant	**Homestar v4 - 6 Homestar**	**Points**	**Additional Cost**		**Homestar v4 - 7 Homestar**	**Points**	**Additional Cost**		**Homestar v4 - 8 Homestar**	**Points**	**Additional Cost**	
Electric panel heater in living / dining / kitchen	Electric panel heater in living / dining / kitchen	3.9	$ -		Upgrade to Hi-wall heat pump in living / dining / kitchen	5	$ 3,000.00		Upgrade to Hi-wall heat pump in living / dining / kitchen	5	3,000.00	
180L (2-3 people) electric storage tank, one element, mains pressure, 50mm rigid insulation	180L (2-3 people) electric storage tank, one element, mains pressure, 50mm rigid insulation	4.2	$ -		Upgrade to HW Heat pump - Rinnai hotflow EHP32; storage tank as before (no element)	4.9	$ 2,800.00		Upgrade to HW Heat pump - Rinnai hotflow EHP32; storage tank as before (no element)	6	2,800.00	
All lighting LED	All lighting LED	1.5	$ -		All lighting LED	1.5	$ -		All lighting LED	1.5	-	
R3.2 ceiling insulation (Auckland and Wellington), R3.6 (Christchurch)	Upgrade to R5.0 ceiling insulation	12	$ 1,230.00		Upgrade to R6.0 ceiling insulation	15	$ 1,955.00		Upgrade to R2.6 insulation between rafters and R3.2 insulation laid on top of rafters	16	$ 4,345.00	
90mm frame	90mm frame		$ -		140mm frame		$ 7,700.00		140mm frame		7,700.00	
R2.0 wall insulation (Auckland and Wellington), R2.2 (/Christchurch)	Upgrade to R2.4 wall insulation		$ 780.00		Upgrade to R3.2 in 140mm frame		$ 1,800.00		Upgrade to R4.0 wall insulation in 140mm frame		$ 3,305.00	
Standard aluminium frame R0.26 window	Clear double glazing in Aluminium frame		$ -		Clear double glazing in Aluminium frame with low E glass and argon filling		$ 3,500.00		Clear double glazing in Aluminium frame with low E glass, argon filling and thermally broken		9,950.00	
Concrete ground floor including EPS waffle pods	Concrete ground floor including EPS waffle pods, 30mm XPS edge insulation		$ 500.00		Concrete ground floor including EPS waffle pods, 30mm XPS edge insulation		$ 500.00		Concrete ground floor including EPS waffle pods, 30mm XPS edge insulation and 50mm EPS fully under slab		$ 2,735.00	
No washing line provided	Wall mounted fold out washing line frame, mounted externally in general garden area.	1	$ 300.00		Wall mounted fold out washing line frame, mounted externally in general garden area.	1	$ 300.00		Wall mounted fold out washing line frame, mounted externally in general garden area (E.g DayTak Single line), plus a smaller single line in the garage (e.g. Wattle Single Line)	1	350.00	
Shower head with 12L/min maximum flow rate	Upgrade to shower head with 9L/min maximum flow rate	3.5	$ -		Upgrade to shower head with 7.5L/min maximum flow rate	4	$ -		Upgrade to shower head with 7.5L/min maximum flow rate	4	-	
6/3L dual flush WC	Upgrade WC to WELS 4 star - 4.5L/3L dual flush - eg Robertson Heron Close Coupled WC or equivalent	2	$ -		Upgrade WC to WELS 4 star - 4.5L/3L dual flush - eg Robertson Heron Close Coupled WC or equivalent	2	$ -		Upgrade WC to WELS 4 star - 4.5L/3L dual flush - eg Robertson Heron Close Coupled WC or equivalent	2	-	
Kitchen WELS 4 star (7.5L/minute) - eg Caroma / Dorf "Balance V" mixers	Kitchen WELS 4 star (7.5L/minute) - eg Caroma / Dorf "Balance V" mixers	0.5	$ -		Upgrade Kitchen taps to WELS 5 star (6L/minute) - eg VCBC Crystal range mixers or Euroware TAP-CP-F0037 and TAP-CP-F0041	1	$ -		Upgrade Kitchen taps to WELS 5 star (6L/minute) - eg VCBC Crystal range mixers or Euroware TAP-CP-F0037 and TAP-CP-F0041	1	-	
Bathroom WELS 4 star (6 L/minute) - eg Caroma / Dorf "Balance V" mixers	Bathroom WELS 4 star (6 L/minute) - eg Caroma / Dorf "Balance V" mixers	1	$ -		Upgrade basin taps to WELS 6 star (4.5L/minute) - eg Pacific Tapware 2000 series mixers	1.5	$ -		Upgrade basin taps to WELS 6 star (4.5L/minute) - eg Pacific Tapware 2000 series mixers	1.5	-	
No rainwater harvesting	No rainwater harvesting		$ -		2000L above ground rainwater harvesting tank plumbed into WC and garden irrigation	1	$ 1,050.00		Commissioning of mechanical ventilation	1	200.00	
No site waste management plan	Implement a site waste management plan in accordance with REBRI guidelines	1	$ 1,000.00		Implement a site waste management plan in accordance with REBRI guidelines	1	$ 1,000.00		Implement a site waste management plan in accordance with REBRI guidelines	1	1,000.00	
No waste diversion	60% of waste diverted for recycling, or less than 10kg/sqm sent to landfill	1	$ -		70% of waste diverted for recycling, or less than 10kg/sqm sent to landfill	2	$ -		70% of waste diverted for recycling, or less than 15kg/sqm sent to landfill	2	-	
No waste sorting bin	10L, 2 compartments sorting bin within kitchen - eg Hideaway KC30H, or Easy Recycling Double Bins HH2	1	$ -		10L, 2 compartments sorting bin within kitchen - eg Hideaway KC30H, or Easy Recycling Double Bins HH2	1	$ -		10L, 2 compartments sorting bin within kitchen - eg Hideaway KC30H, or Easy Recycling Double Bins HH2	1	-	
No window restraints etc	Window security restraints / stays to all windows.	0.5	$ -		Window security restraints / stays to all windows.	0.5	$ -		Window security restraints / stays to all windows.	0.5	-	
No owners manual provided	document, designers drawings and installers manuals. Assume 2 hours of professional time at $100 / hr	2	$ 200.00		Time to compile owners manual, based on template document, designers drawings and installers manuals. Assume 2 hours of professional time at $100 / hr	2	$ 200.00		Time to compile owners manual, based on template document, designers drawings and installers manuals. Assume 2 hours of professional time at $100 / hr	2	200.00	
			$ -		Contractor Environmark Gold, with Environmental Management Plan, or EcoPlumber, IAONZ, EcoSmart Electrician		$ -		Contractor Environmark Gold, with Environmental Management Plan, or EcoPlumber, IAONZ, EcoSmart Electrician	1	-	
Resene/Dulux paint, Polyester ceiling insulation (Autex Greenstuf).	Resene/Dulux paint, Polyester ceiling insulation (Autex Greenstuf), FSC timber framing, Gib lining.	7.5	$ 1,910.00		Resene/Dulux paint, Polyester ceiling insulation (Autex Greenstuf), FSC timber framing, Gib lining.	7.5	$ 1,910.00		Insulation with ECNZ certification - Pink Batts Ultra, Bradford Gold, Knauff)	2	-	

WELLINGTON

Baseline - New Zealand Building Code compliant	Homestar v4 - 6 Homestar	Points	Additional Cost	Homestar v4 - 7 Homestar	Points	Additional Cost	Homestar v4 - 8 Homestar	Points	Additional Cost
Floor coverings to CIAECS level 4 Eg Godfrey Hirst, Feltex, Cavalier Bremworth,	Floor coverings to CIAECS level 4 Eg Godfrey Hirst, Feltex, Cavalier Bremworth,	2	$ -	Floor coverings to CIAECS level 4 Eg Godfrey Hirst, Feltex, Cavalier Bremworth,	2	$ -	Floor coverings to CIAECS level 4 Eg Godfrey Hirst, Feltex, Cavalier Bremworth,	3	-
Low VOC coatings - eg Resene / Dulux range	Low VOC coatings - eg Resene / Dulux range	1	$ -	Low VOC coatings - eg Resene / Dulux range	1	$ -	Low VOC coatings with eco-label - eg Resene / Dulux/ Wattyl range	3	-
Low VOC adhesives - eg Bostik range	Low VOC adhesives - eg Bostik range	1	$ -	Low VOC adhesives - eg Bostik range	1	$ -	Low VOC adhesives - eg Bostik range	1	-
Low VOC carpet - eg Cavalier Bremworth, Heritage carpets ECNZ range, Feltex,	Low VOC carpet - eg Cavalier Bremworth, Heritage carpets ECNZ range, Feltex,	1	$ -	Low VOC carpet - eg Cavalier Bremworth, Heritage carpets ECNZ range, Feltex,	1	$ -	Gib Linings (Wall and Ceiling)	1.5	-
Standard MDF, LVL, plywood and engineered timber	Any particle board, MDF, LVL, plywood and other engineered timber is low-formaldehyde to relevant AS/NZ standards. Eg Laminex Lakepine MDF, Nelson Pine Super E0 MDF, Laminex Superfine particleboard,CHH Kopine particleboards, CHH Ecoply, all CHH LVL products manufactured in NZ,	1	$ -	Any particle board, MDF, LVL, plywood and other engineered timber is low-formaldehyde to relevant AS/NZ standards. Eg Laminex Lakepine MDF, Nelson Pine Super E0 MDF, Laminex Superfine particleboard,CHH Kopine particleboards, CHH Ecoply, all CHH LVL products manufactured in NZ,	1	$ -	Any particle board, MDF, LVL, plywood and other engineered timber is low-formaldehyde to relevant AS/NZ standards. Eg Laminex Lakepine MDF, Nelson Pine Super E0 MDF, Laminex Superfine particleboard,CHH Kopine particleboards, CHH Ecoply, all CHH LVL products manufactured in NZ,	1	-
Long run steel roof ECNZ certified, e.g. colorsteel endura	Long run steel roof ECNZ certified, e.g. colorsteel endura	2	$ -	Long run steel roof ECNZ certified, e.g. colorsteel endura	2	$ -	Long run steel roof ECNZ certified, e.g. colorsteel endura	2	-
	75% permeable site beyond roof footprint. No additional cost assumed for grass.	1	$ -	75% permeable site beyond roof footprint. No additional cost assumed for grass.	1	$ -	75% permeable site beyond roof footprint. No additional cost assumed for grass.	1	-
	25% of site area (excluding under roof) planted with native species mix suitable for domestic garden. 4 plants per sqm, pb5 and pb8 mix. Offset cost against saving in seeded lawn. Auckland species.	0.5	$ 700.00	25% of site area (excluding under roof) planted with native species mix suitable for domestic garden. 4 plants per sqm, pb5 and pb8 mix. Offset cost against saving in seeded lawn. Auckland species.	0.5	$ 700.00	Concrete has a Declare label (Firth ready mix)	0.5	-
	All external lights fitted with motion sensors/daylight cut off	1	$ -	All external lights fitted with motion sensors/daylight cut off	1	$ -	All external lights LED, security lights fitted with motion sensors/daylight cut off	1	-
	2m2 vegetable garden (raised bed)	1	$ 300.00	2m2 vegetable garden (raised bed)	1	$ 300.00	2m2 vegetable garden (raised bed)	1	300.00
				Four fruit-producing trees, pb8.	1	$ 400.00	Four fruit-producing trees, pb8.	1	400.00
							4 garage cycle mountings (e.g. Crawford Bike Rack Flip Up)	2	110.00
							Higher grade bathroom extract fan designed to run continuously	2.5	500.00
			$ 6,920.00			$ 27,115.00			$ 36,895.00

HOMESTAR

ADDITIONAL COST FOR 6, 7 & 8 STAR

CHRISTCHURCH HOUSE

		TOTAL 64.1			TOTAL 70.4			TOTAL 80.5		
CHRISTCHURCH										
Baseline - New Zealand Building Code compliant	**Homestar v4 - 6 Homestar**	**Points**	**Additional Cost**		**Homestar v4 - 7 Homestar**	**Points**	**Additional Cost**		**Homestar v4 - 8 Homestar**	**Points**	**Additional Cost**
Electric panel heater in living / dining / kitchen	Electric panel heater in living / dining / kitchen	3.9	$ -		Upgrade to Hi-wall heat pump in living / dining / kitchen	5	$ 3,000.00		Upgrade to Hi-wall heat pump in living / dining / kitchen	5	3,000.00
180L (2-3 people) electric storage tank, one element, mains pressure, 50mm rigid insulation	180L (2-3 people) electric storage tank, one element, mains pressure, 50mm rigid insulation	4.2	$ -		Upgrade to HW Heat pump - Rinnai hotflow EHP32; storage tank as before (no element)	4.9	$ 2,800.00		Upgrade to HW Heat pump - Rinnai hotflow EHP32; storage tank as before (no element)	6	2,800.00
All lighting LED	All lighting LED	1.5	$ -		All lighting LED	1.5	$ -		All lighting LED	1.5	-
R3.2 ceiling insulation (Auckland and Wellington), R3.6 (Christchurch)	Upgrade to R5.0 ceiling insulation	15	$ 1,090.00		Upgrade to R6.0 ceiling insulation	15	$ 1,740.00		Upgrade to R2.6 insulation between rafters and R6.0 insulation laid on top of rafters	16	$ 7,675.00
90mm frame	90mm frame		$ -		140mm frame		$ 7,700.00		140mm frame		7,700.00
R2.0 wall insulation (Auckland and Wellington), R2.2 (/Christchurch)	Upgrade to R2.4 wall insulation		$ 780.00		Upgrade to R3.2 in 140mm frame		$ 1,800.00		Upgrade to R4.0 wall insulation in 140mm frame		$ 3,305.00
Standard aluminium frame R0.26 window	Clear double glazing in Aluminium frame		$ -		Clear double glazing in Aluminium frame with low E glass and argon filling		$ 3,500.00		Clear double glazing in Aluminium frame with low E glass, argon filling and thermally broken		9,950.00
Concrete ground floor including EPS waffle pods	Concrete ground floor including EPS waffle pods, 30mm XPS edge insulation		$ 500.00		Concrete ground floor including EPS waffle pods, 30mm XPS edge insulation		$ 500.00		Concrete ground floor including EPS waffle pods, 30mm XPS edge insulation and 100mm EPS fully under slab		$ 3,180.00
No washing line provided	Wall mounted fold out washing line frame, mounted externally in general garden area.	1	$ 300.00		Wall mounted fold out washing line frame, mounted externally in general garden area.	1	$ 300.00		Wall mounted fold out washing line frame, mounted externally in general garden area (E.g DayTak Single line), plus a smaller single line in the garage (e.g. Wattle Single Line)	1	350.00
Shower head with 12L/min maximum flow rate	Upgrade to shower head with 9L/min maximum flow rate	3.5	$ -		Upgrade to shower head with 7.5L/min maximum flow rate	4	$ -		Upgrade to shower head with 7.5L/min maximum flow rate	4	-
6/3L dual flush WC	Upgrade WC to WELS 4 star - 4.5L/3L dual flush - eg Robertson Heron Close Coupled WC or equivalent	2	$ -		Upgrade WC to WELS 4 star - 4.5L/3L dual flush - eg Robertson Heron Close Coupled WC or equivalent	2	$ -		Upgrade WC to WELS 4 star - 4.5L/3L dual flush - eg Robertson Heron Close Coupled WC or equivalent	2	-
Kitchen WELS 4 star (7.5L/minute) - eg Caroma / Dorf "Balance V" mixers	Kitchen WELS 4 star (7.5L/minute) - eg Caroma / Dorf "Balance V" mixers	0.5	$ -		Upgrade Kitchen taps to WELS 5 star (6L/minute) - eg VCBC Crystal range mixers or Euroware TAP-CP-F0037 and TAP-CP-F0041	1	$ -		Upgrade Kitchen taps to WELS 5 star (6L/minute) - eg VCBC Crystal range mixers or Euroware TAP-CP-F0037 and TAP-CP-F0041	1	-
Bathroom WELS 4 star (6 L/minute) - eg Caroma / Dorf "Balance V" mixers	Bathroom WELS 4 star (6 L/minute) - eg Caroma / Dorf "Balance V" mixers	1	$ -		Upgrade basin taps to WELS 6 star (4.5L/minute) - eg Pacific Tapware 2000 series mixers	1.5	$ -		Upgrade basin taps to WELS 6 star (4.5L/minute) - eg Pacific Tapware 2000 series mixers	1.5	-
No rainwater harvesting	No rainwater harvesting		$ -		2000L above ground rainwater harvesting tank plumbed into WC and garden irrigation	1	$ 1,050.00		Commissioning of mechanical ventilation	1	400.00
No site waste management plan	Implement a site waste management plan in accordance with REBRI guidelines	1	$ 1,000.00		Implement a site waste management plan in accordance with REBRI guidelines	1	$ 1,000.00		Implement a site waste management plan in accordance with REBRI guidelines	1	1,000.00
No waste diversion	60% of waste diverted for recycling, or less than 10kg/sqm sent to landfill	1	$ -		70% of waste diverted for recycling, or less than 10kg/sqm sent to landfill	2	$ -		70% of waste diverted for recycling, or less than 15kg/sqm sent to landfill	2	-
No waste sorting bin	10L, 2 compartments sorting bin within kitchen - eg Hideaway KC30H, or Easy Recycling Double Bins HH2	1	$ -		10L, 2 compartments sorting bin within kitchen - eg Hideaway KC30H, or Easy Recycling Double Bins HH2	1	$ -		10L, 2 compartments sorting bin within kitchen - eg Hideaway KC30H, or Easy Recycling Double Bins HH2	1	-
No window restraints etc	Window security restraints / stays to all windows.	0.5	$ -		Window security restraints / stays to all windows.	0.5	$ -		Window security restraints / stays to all windows.	0.5	-
No owners manual provided	Time to compile owners manual, based on template document, designers drawings and installers manuals. Assume 2 hours of professional time at $100 / hr	2	$ 200.00		Time to compile owners manual, based on template document, designers drawings and installers manuals. Assume 2 hours of professional time at $100 / hr	2	$ 200.00		Time to compile owners manual, based on template document, designers drawings and installers manuals. Assume 2 hours of professional time at $100 / hr	2	200.00
			$ -		Contractor Environmark Gold, with Environmental Management Plan, or EcoPlumber, IAONZ, EcoSmart Electrician		$ -		Contractor Environmark Gold, with Environmental Management Plan, or EcoPlumber, IAONZ, EcoSmart Electrician	1	-
Resene/Dulux paint, Polyester ceiling insulation (Autex Greenstuf). R4.0	Resene/Dulux paint, Polyester ceiling insulation (Autex Greenstuf), FSC timber framing, Gib lining.	7.5	$ 1,910.00		Resene/Dulux paint, Polyester ceiling insulation (Autex Greenstuf) R4.0, FSC timber framing, Gib lining.	7.5	$ 1,910.00		Insulation with ECNZ certification - Pink Batts Ultra, Bradford Gold, Knauff)	2	-

CHRISTCHURCH

Baseline - New Zealand Building Code compliant	Homestar v4 - 6 Homestar	Points	Additional Cost	Homestar v4 - 7 Homestar	Points	Additional Cost	Homestar v4 - 8 Homestar	Points	Additional Cost
Floor coverings to CIAECS level 4 Eg Godfrey Hirst, Feltex, Cavalier Bremworth,	Floor coverings to CIAECS level 4 Eg Godfrey Hirst, Feltex, Cavalier Bremworth,	2	$ -	Floor coverings to CIAECS level 4 Eg Godfrey Hirst, Feltex, Cavalier Bremworth,	2	$ -	Floor coverings to CIAECS level 4 Eg Godfrey Hirst, Feltex, Cavalier Bremworth,	3	-
Low VOC coatings - eg Resene / Dulux range	Low VOC coatings - eg Resene / Dulux range	1	$ -	Low VOC coatings - eg Resene / Dulux range	1	$ -	Low VOC coatings with eco-label - eg Resene / Dulux/ Wattyl range	3	-
Low VOC adhesives - eg Bostik range	Low VOC adhesives - eg Bostik range	1	$ -	Low VOC adhesives - eg Bostik range	1	$ -	Low VOC adhesives - eg Bostik range	1	-
Low VOC carpet - eg Cavalier Bremworth, Heritage carpets ECNZ range, Feltex,	Low VOC carpet - eg Cavalier Bremworth, Heritage carpets ECNZ range, Feltex,	1	$ -	Low VOC carpet - eg Cavalier Bremworth, Heritage carpets ECNZ range, Feltex,	1	$ -	Gib Linings (Wall and Ceiling)	1.5	-
Standard MDF, LVL, plywood and engineered timber	Any particle board, MDF, LVL, plywood and other engineered timber is low-formaldehyde to relevant AS/NZ standards. Eg Laminex Lakepine MDF, Nelson Pine Super E0 MDF, Laminex Superfine particleboard,CHH Kopine particleboards, CHH Ecoply, all CHH LVL products manufactured in NZ,	1	$ -	Any particle board, MDF, LVL, plywood and other engineered timber is low-formaldehyde to relevant AS/NZ standards. Eg Laminex Lakepine MDF, Nelson Pine Super E0 MDF, Laminex Superfine particleboard,CHH Kopine particleboards, CHH Ecoply, all CHH LVL products manufactured in NZ,	1	$ -	Any particle board, MDF, LVL, plywood and other engineered timber is low-formaldehyde to relevant AS/NZ standards. Eg Laminex Lakepine MDF, Nelson Pine Super E0 MDF, Laminex Superfine particleboard,CHH Kopine particleboards, CHH Ecoply, all CHH LVL products manufactured in NZ,	1	-
Long run steel roof ECNZ certified, e.g. colorsteel endura	Long run steel roof ECNZ certified, e.g. colorsteel endura	2	$ -	Long run steel roof ECNZ certified, e.g. colorsteel endura	2	$ -	Long run steel roof ECNZ certified, e.g. colorsteel endura	2	-
	75% permeable site beyond roof footprint. No additional cost assumed for grass.	1	$ -	75% permeable site beyond roof footprint. No additional cost assumed for grass.	1	$ -	75% permeable site beyond roof footprint. No additional cost assumed for grass.	1	-
	25% of site area (excluding under roof) planted with native species mix suitable for domestic garden. 4 plants per sqm, pb5 and pb8 mix. Offset cost against saving in seeded lawn. Auckland species.	0.5	$ 700.00	25% of site area (excluding under roof) planted with native species mix suitable for domestic garden. 4 plants per sqm, pb5 and pb8 mix. Offset cost against saving in seeded lawn. Auckland species.	0.5	$ 700.00	Concrete has a Declare label (Firth ready mix)	0.5	-
	All external lights fitted with motion sensors/daylight cut off	1	$ -	All external lights fitted with motion sensors/daylight cut off	1	$ -	All external lights LED, security lights fitted with motion sensors/daylight cut off	1	-
	2m2 vegetable garden (raised bed)	1	$ 300.00	2m2 vegetable garden (raised bed)	1	$ 300.00	2m2 vegetable garden (raised bed)	1	300.00
				Four fruit-producing trees, pb8.	1	$ 400.00	Four fruit-producing trees, pb8.	1	400.00
							4 garage cycle mountings (e.g. Crawford Bike Rack Flip Up)	2	110.00
							Whole-house mechanical Zhender MVHR ventilation. Unit in ceiling space with ducting and terminals to all habitable rooms	3	15,000.00
			$ 6,780.00			$ 26,900.00			$ 55,370.00