# New Zealand green bonds and infrastructure 2019



August 2019



### A global example on climate leadership

Since our 2018 report, New Zealand has continued its global leadership on climate action. Despite its small size, its policies and climate targets see New Zealand remain in the vanguard of high ambition nations.

#### Zero Carbon Bill 2019

In May 2019, the Government introduced draft legislation to cut net emissions to zero by 2050. The Zero Carbon Bill proposes to set up an independent climate change commission to review and set emissions budgets on a 5-yearly basis.<sup>1</sup>

The Bill does not have any regulatory teeth at this stage. One criticism of the Bill is that methane emissions from waste and agriculture are not included in the target but have a separate target of 24-47%, below 2017 levels by 2050.

Despite any shortcomings, the Bill sets a clear direction for industrial, economic, and other relevant policies for greenhouse gas (GHG) emissions. This Bill is just one of New Zealand's many climate policies as one of only a handful of countries in the world with a strong focus on climate change.

#### New offshore O&G drilling ruled out

In 2018, the New Zealand government ruled out new offshore oil and gas (O&G) drilling exploration as part of its vision of a carbon-neutral future.<sup>2</sup>

While onshore drilling will continue, it sends a strong message to both fossil fuel and renewable energy sectors.

#### Acknowledgements

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Australia and New Zealand Bank, Commonwealth Bank of Australia, Bank of New Zealand, Westpac and supporting sponsor KPMG It has created a negative outlook for the O&G industry, causing developers to look more closely at renewable energy generation – particularly wind and solar given that the best geothermal and hydro sites have mostly been developed already.

#### Improvements to ETS proposed

Changes have been proposed to the Emissions Trading Scheme (ETS) to improve effectiveness and provide certainty, flexibility and incentives. Changes may include:

- a phase down of industrial allocations,
- coordinating decision on supply over a oyear rolling period (i.e. a cap),
- developing a price ceiling to replace the current fixed price (implemented through auction),
- introducing auctioning units to align the NZ ETS with climate change targets,
- limiting use of international units through international carbon markets,
- revised forestry rules.<sup>3</sup>

#### New Sustainable Finance Forum

In early 2019, the New Zealand Sustainable Finance Forum was established under the Aotearoa Circle to deliver a sustainable finance roadmap.<sup>4</sup>

Proponents include banks, insurance companies, corporates, civil society and academia.

It aims to present a set of recommendations and a roadmap for action by mid-2020.

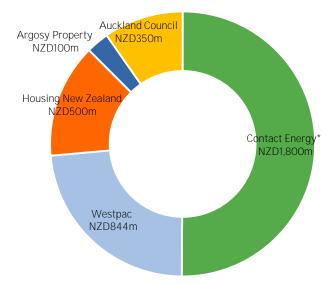
#### Climate Leaders Coalition launched

In July 2018, the Climate Leaders Coalition was launched to promote business leadership and collective action on climate change.

As of now, 113 Chief Executives have joined by committing to taking voluntary action on climate change.

This includes measuring and reporting GHG emissions, setting an emissions reduction target and working with their supply chains to reduce emissions.

#### Green and sustainability debt from NZ entities has reached NZD3.7bn



\*Note: This figure reflects the initial value of the Green Borrowing Programme at execution. The June 2019 value of the portfolio is NZD1.4bn.

# Momentum on green bonds is arowing

While the New Zealand green bond market remains small, in comparison with the size of its overall bond market it's well placed.

New Zealand's exchange, NZX, is supporting green bond market development, stating that in the future, it may also: a) have a separate segment for green bonds that meet certain criteria, b) develop green bond listing guidelines, c) support green bond indices, and d) promote market education.

Since our previous report, there have been four new green bonds issued by New Zealand issuers, including two new issuers (Argosy Property and Westpac New Zealand). The current market is made up of four green bond issuers, of which three have accessed the NZD market and one has accessed the offshore market. A further NZD500m sustainability bond has been issued to finance social and affordable housing and green buildings.

Argosy Property issued its first green bond in March 2019. The bond was well received by the market and reached the maximum subscription of NZD100m, up from NZD75m initially offered. The bond finances buildings and upgrades that target or obtain 4-Star ratings under the New Zealand Green Building Council (NZGBC) Green Star certification scheme.

Westpac New Zealand made its first foray into the green bond market with a EUR500m deal in June 2019 under its Euro Medium Term Note funding programme.<sup>5</sup>

Westpac has been an active issuer in the Australian market, but this was the first time its New Zealand arm has issued a green bond. The bond will finance a range of project types, as summarised below.

Contact Energy's Green Borrowing Programme was established in 2017. It created an opportunity for lenders and investors to invest in a broad range of Certified green debt instruments including US Private Placement Notes, retail and wholesale bonds, commercial paper and bank debt facilities.

At the time of execution, it was the largest programme to be Certified under the Climate Bonds Standard (NZD1.8bn at execution, NZD1.4bn as of 30 June 2019).

The proceeds are earmarked against Contact's renewable generation assets initially comprising assets that meet the Sector Criteria for Geothermal Energy.

Auckland Council, **New Zealand's first** green bond issuer followed up with a second Certified Climate Bond in July 2019 under the Low Carbon Transport Criteria. Auckland is now a programmatic issuer under the Climate Bonds Standard, indicating there may be more green transactions to come.

The market also saw its first-ever sustainability bond from Housing New Zealand in 2019. It will finance social, green and affordable housing and is indicative of an ESG market looking for a wider array of investments.

#### Green loans offer growth potential

While market growth has been encouraging to date, given the small size of the New Zealand bond market and limited number of potential issuers, green loans could be a potential area of future market growth.

This market segment has been gaining some traction internationally, including New Zealand where Contact Energy's Green Borrowing Programme which comprises of green loans. Most green loans are not traded but are labelled to demonstrate the credentials of the borrower, who may not be able to tap the green bond market. Green-labelled loans can also help lenders to easily identify portfolios for their green bonds.

Discussion is growing around how borrowers might receive preferential rates based on the greenness of their assets. There are early signs of this being offered at the retail level through green mortgage products and, at a much larger scale, in China where the performance of green loans may be incorporated into the macroprudential assessment framework, so that banks with more green loans have a better score.<sup>6</sup>

We expect the New Zealand green bond and green loan market to continue to grow as potential issuers such as cities, local governments and corporates respond to the government's climate action plan. Some of the candidates for issuance are identified and explored in this report.

#### New Zealand green bonds

Issuer	Deal format	Amount issued	Deals	Use of proceeds	External review
Westpac New Zealand	Senior unsecured bond	EUR500m	1	Projects include energy, pollution prevention, transport, green buildings, adaptation, water and wastewater	Second Party Opinion
Argosy Property	Senior secured bond	NZD100m	1	Green buildings	Assurance
Contact Energy	Including bank facilities, commercial paper, retail bonds USPP Notes.	NZD1.8bn*	11	Energy (geothermal energy generation)	Certified Climate Bond
Auckland Council	Debenture	NZD350m	2	Low carbon transport, electric trains & cycle ways.	Certified Climate Bond

<sup>\*</sup>Note: This figure reflects the initial value of the Green Borrowing Portfolio at the time of Certification. The value of the outstanding debt, as of 30 June 2019 is NZD1.4bn. 7

#### New Zealand sustainability bond

Issuer	Deal format	Amount issued	Deals	Use of proceeds	External review
Housing New Zealand	Sustainability bond	NZD500m	1	Social and affordable housing, green buildings	Second Party Opinion

### Green infrastructure provides investment opportunities

The New Zealand Treasury estimates that NZD129bn is required to be spent on capital projects from 2019 through 2029 to keep up with population growth and aging infrastructure.

Auckland will be a major focus of investment. It is already three times larger than New Zealand's next largest city and the population is expected to grow almost 50% by 2030. Projected capital spending between 2015-2025 is NZD18.7bn.

# National infrastructure plan and strategy

In early 2019, the establishment of the New Zealand Infrastructure Commission was announced to ensure quality infrastructure is provided to improve long-term economic performance and social wellbeing. It is due to commence activities in October 2019 as a new independent body which will work with government, the private sector and other stakeholders to develop a 30-year infrastructure strategy. It is unclear at this stage how this will tie in with the existing New Zealand Infrastructure Plan.

The existing Thirty-year New Zealand Infrastructure Plan was published in 2015 and outlines the major investment priorities through to 2045. One of the strategic concerns underpinning the plan is that the climate is changing and resources are under pressure. Resilience planning will also play a role, with flooding outlined as the most frequent natural disaster, currently costing the economy over NZD50m per year. <sup>9</sup> The Plan has implications for all infrastructure sectors discussed below.

# National fund to support private sector investment

New Zealand Green Investment Finance Ltd. (GIF) has been established to support New Zealand's transition towards net zero emission by 2050. The NZD100m fund is intended to stimulate new private sector investment in low-emissions industries. Returns are expected to pay back the Government's investment and see it stand on its own commercial footing in time. <sup>10</sup> Initial focus will be on transport – in particular electric vehicles (EVs), manufacturing, commercial buildings and agriculture. Energy is not expected to be a priority given that renewable energy already supplies 85% of New Zealand's electricity. <sup>11</sup>

#### Green infrastructure pipeline

This section builds on the inaugural Green Infrastructure Investment Opportunities Australia and Zealand report released in August 2018. It provides updated content specifically for New Zealand to help meet the growing demand for green investment opportunities, including green bonds, as well as to support the country's transition to a low-carbon economy. It is intended for a wide range of stakeholders in New Zealand, including domestic superannuation funds and asset managers and their global counterparts, potential issuers, infrastructure owners as well as relevant government ministries.

The pipeline highlights over 80 projects across renewable energy, clean transport, sustainable water and waste management and buildings.

#### Updates on 2018 case studies

The Te Mihi Geothermal Power Plant, featured under Renewable Energy, was completed in 2014 and no changes have been made.

**Auckland's electric trains project** was completed in 2019 with the delivery of 15 3-car trains delivered in 2019.

In November 2018, the preferred bidder for the Central Interceptor water project was selected. The contract was signed in March 2019 with construction expected to commence in August 2019.

Commercial Bay Tower, featured under Green Buildings, is still under construction with opening dates delayed to March-April 2020.

This is about being on the right side of history. Do you want to be a leader that looks back in time and say that you were on the wrong side of the argument when the world was crying out for a solution? It's as simple as that

Jacinda Ardern
Prime Minister of New Zealand

#### Methodology

This report is a summary of an extensive pipeline of infrastructure projects that has been compiled for New Zealand (available on Climate Bonds website) as drawn from public sources. The main sources of information are the Australia and New Zealand Infrastructure Pipeline (ANZIP), the National Infrastructure Unit, New Zealand Infrastructure Commission, New Zealand Wind Energy Association and the New Zealand Green Buildings Council.

The pipeline considers five key sectors: renewable energy, low-carbon transport, sustainable water management, sustainable waste management and green buildings.

To narrow the scope and volume of projects the following filters were also applied:



Renewable energy: generation capacity >50MW



Low-carbon transport: >NZD100m



Sustainable water management: >NZD50m



Sustainable waste management: >NZD50m



Green buildings: 6-star rated Green Star certified under the New Zealand Green Building Council (NZGBC) Green Star certification scheme

There are various ways for an investor to gain exposure to a specific project, asset or portfolio. The possible investment pathways will vary depending on the asset ownership structure, the stage in the asset's financing lifecycle, and the investor's mandate. This can vary between projects with public and private funding. Accordingly, further metrics were used to classify the green infrastructure investment opportunities by status:

- Completed projects: high profile, recently completed;
- Projects under construction: major projects that are under construction; and
- Planned projects: major projects that have not yet begun construction but have been announced and/or have undergone business case planning and/or have been allocated budget.

The extensive list of green projects from public pipelines is available as a supplement on the report webpage on the Climate Bonds website.



Energy generation, transmission or storage technology that has low or zero carbon emissions. This can include solar, wind and geothermal energy, bioenergy, hydropower, marine energy or any other renewable energy source.

#### Sector overview

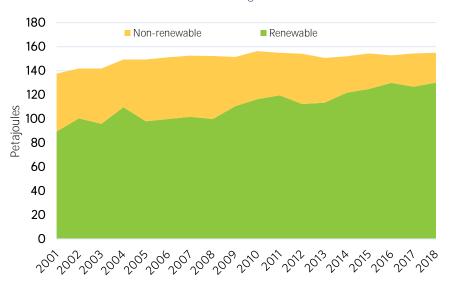
Renewable energy accounts for over 80% of electricity generation in New Zealand, with the majority of that coming from hydropower (60% in 2018), geothermal power (17%) and wind power (4.7%). Solar capacity is much smaller (<0.5%) but growing.<sup>12</sup>

While there are limited opportunities to expand hydro and geothermal power generation, wind power generation has grown strongly over the past decade. Total wind power generation was less than 2PJ prior to 2006 and in 2018 generated over 7PJ (total electricity generation is over 150PJ).

Transpower, the state-owned transmission grid operator, estimates that electricity demand will double by 2050. In all of its planning scenarios solar and wind will account for the majority of new generation.<sup>13</sup>

Changing weather patterns may require an additional focus on wind and solar generation if hydropower resources become more unreliable. In 2016-17 lower than average rainfall reduced the amount of electricity generation possible from hydro plants, and natural gas backup had to be used in its place, with implications for emissions from the electricity generation sector.

# Renewable energy dominates electricity generation and continues to grow



#### Funding pathways

The majority of renewable energy projects in New Zealand are financed by developers using bank lending. Potential pathways for green bonds could include:

- Green bonds issued by banks to increase renewable energy lending. Large banks already have the expertise and track record as traditional bond issuers which could easily be extended to the green bond market.
- Green bonds issued to finance grid connections to renewables or smart grid

enhancements to facilitate new investment in renewables.

renewable energy generators identified in the infrastructure pipeline. While not all regular issuers of bonds, some renewable energy generators do tap the non-green bond market and may utilise the green bond market to refinance recently developed wind and solar projects. They may also label their loans as green and grow the green loan market in New Zealand.

#### Energy case study: Waverly Wind Farm

Proponent	Tilt Renewables	
Location	South Taranaki	
Status	Final development activities are being completed. Final investment decision is expected to be made by the end of 2019 with construction beginning shortly thereafter.  Renewable energy, wind	
Classificatio n	Renewable energy, wind	
Description	The Waverley Wind Farm received resource consents in July 2017. It is currently undertaking wind farm and transmission line design. Construction is due to begin at the end of 2019 with the construction time frame estimated to be 18 months. Once complete, it will produce enough clean energy each year to power about 70,000 homes and save the emission of roughly 350,000 tonnes of carbon.	
Output	48 turbines connected to the transmission network via 13km of transmission line.	
Cost	NZD300m	
Financial structure	The final investment decision has yet to be made. Tilt Renewables is debt funded by a combination of bank facilities in New Zealand and Australia. In May 2019, it agreed a 20-year offtake agreement with Genesis for Waverly Wind Farm. <sup>14</sup>	



### Low-carbon transport

Transportation modes and ancillary infrastructure that produce low or zero direct carbon emissions. This can include national and urban passenger rail and freight rail networks; Bus Rapid Transit (BRT) systems; electric vehicles; and, bicycle transport systems. It does not include the building of road networks.

Capital mobilisation for low-carbon transport continues to target the use of energy-efficient transportation and the development of projects that reduce carbon emissions.

#### Sector overview

The transport sector accounts for about 20% of New Zealand's GHG emissions, the majority of which come from road transport emissions, which increased 93.4% from 1990 to 2017. To reduce transport emissions will clearly require substantial investment in public transport, rail assets and Electric Vehicles (EVs).

USD18bn of investment is required in New **Zealand's** rail infrastructure alone between 2016 and 2040, according to Global Infrastructure Hub estimates. The business-as-usual investment trend indicates that USD8bn will go towards rail by 2040 leaving a USD8-10bn gap.<sup>16</sup>

Around 40% of all of New Zealand's infrastructure pipeline identified in ANZIP are rail projects including Auckland Light Rail, City Rail Link and other projects. Government priorities all indicate a strong emphasis on public transport infrastructure across all plans, particularly in Auckland and other urban areas.

The Ministry of Transport announced its Government Policy Statement on transport in 2018. Its 12 funding priorities include: public transport, walking and cycling improvements, rapid transit and transitional rail – all key parts of a low carbon transport system. Funding scenarios, however, still indicate that the majority of budget will be allocated to road projects. Road projects are not eligible under the Climate Bonds Taxonomy given their role in enabling the growth of personal and internal combustion engine vehicles. This may change in the future as electric vehicles become a larger proportion of the vehicle mix.

The 2018-2021 National Land Transport Program sets out how land transport funding will be used for the next three years and forecasts a total of NZD16.9bn transport investment. This includes NZD3.1bn in public transport of which NZD468m will be invested in rapid transit projects and NZD376m in transitional rail.<sup>17</sup>

New transport investment will be focused on Auckland and Wellington where large-scale transport infrastructure is required to meet growing populations.

The Ministry of Transport's climate change work programme includes an EV program to increase their uptake in New Zealand and is targeting 64,000 EVs on the road by 2021.

#### Funding pathways

The majority of large transport projects, especially rail, are funded using government balance sheets. PPPs are also used for large infrastructure projects but currently the majority of these are for road transport.

To date, only one green bond issuer has issued green bonds to finance transport assets in New Zealand: Auckland Council.

Green bonds issued by local governments remain the primary opportunity for green bonds within the transport sector.

#### Transport case study: Auckland Light Rail

Proponent	NZ Transport Association				
Location	Auckland				
Status	Proposed				
Classification	Low carbon transport/ Rail				
Description	The light rail network is expected to comprise two major lines within the next decade to 2028.	GIAN COCK, MATERIAL STATE OF THE STATE OF TH			
	The first line will link the CBD to Auckland Airport.				
	The second line is a North-Western line which will run between the City Centre and Waimauku.				
	The NZ Government has committed to constructing the line within the next 10 years.	Source: New Zealand Transport Agency			
Output	2 major light rail lines				
Cost	Full details are yet to be announced. Estimates range up to NZD6bn.				
	In April 2018, the Auckland Transport Alignment Projeboth lines.	ect report proposed that \$1.8 bn would be allocated to developing			
Financial	To be announced				
structure	In 2017, the NZ Government announced it would consider utilising a PPP to deliver the light rail project				
In 2018, the Government received an unsolicited proposal to design, build and operate the project fr including the NZ Superannuation Fund and CDPQ.		osal to design, build and operate the project from a consortium			



### Sustainable water management

Assets that do not increase greenhouse gas emissions or aim at emissions reduction over the operational lifetime of the asset, address adaptation, and increase the resilience of surrounding environments.

This could include water capture and collection, water storage, water treatment (with methane emissions treatment), flood defence, drought defence, stormwater management, and ecological restoration/ management, covering built, as well as nature-based water infrastructure.

#### Sector overview

New Zealand's wastewater and storm water systems are valued at over NZD20bn, including over 300 publicly owned wastewater treatment plants. Much of this infrastructure is aging, with over half using technologies that are out of date compared to modern technologies. Even without population and climate change impacts, water infrastructure will require substantial investment over the medium-term.

The Global Infrastructure Hub estimates that USD17bn in water investment is required up to 2040, which is in line with current investment trends. 18

#### The government's freshwater agenda for

the next two years has set three key objectives for the New Zealand water industry. It aims to stop degradation and loss, reverse past damage and address water allocation issues.

The Three Waters Review began in 2017 as a cross agency initiative to review how to improve the regulation and supply arrangements of drinking water, wastewater and stormwater. In July 2019, the Government approved a number of regulatory reforms to ensure safe drinking water and deliver improved environmental outcomes from New Zealand's wastewater and stormwater systems<sup>19</sup>. The new regulatory framework will include:

- stronger obligations on water suppliers and local authorities to manage risks to sources of drinking water,
- requirements for wastewater and stormwater operators to report annually on national environmental performance measures,
- national good practice guidelines for the design and management of wastewater and stormwater networks.

The need to increase resilience will place additional strain on the sector in the future. With New Zealand's large coastline and high percentage of population living within 50km of the coast, the resilience of water infrastructure will be critical to its climate adaptation. Local government intends to allocate over NZD850m to flood protection and coastal protection across more than 100 projects, although these capital investment plans are yet to be approved.<sup>20</sup> Many such projects could be eligible under the Climate Bonds Water Infrastructure Criteria, which

cover a number of water-related areas such as flood defence and storm water management.

#### Financing pathways

Some of the larger water utilities are regular borrowers and could use green loans to finance water infrastructure upgrades and other related projects.

Local council debt programmes may use green bonds to raise finance for larger infrastructure projects.

The water sector in New Zealand is publicly owned with wastewater treatment plants and facilities operated by water utilities that are appointed by local councils. The largest of these is Auckland's Watercare, which derives all its funding from service charges (water bills), infrastructure growth charges (levies) and borrowing.<sup>21</sup>

#### Water case study: Northern Interceptor

Proponent	Watercare / Auckland Council
Location	Auckland
Status	Under construction
Classification	Water, water treatment
Description	The Interceptor will transfer wastewater from north-western parts of Auckland to the Rosedale Wastewater Treatment Plant in Albany. The project involves seven kilometres of wastewater pipe and four kilometres of watermain, with a causeway widening and two to three pipe bridges.
	The first phase of the project will take place between 2017 and 2020.
	Construction began in January 2019.
Output	Wastewater pipeline to service Auckland
Cost	NZD538m
Financial structure	Local Council funding



Source: ANZIP



# Sustainable waste management

The efficient use of resources to cut down on waste production, coupled with collection and disposal systems that promote reuse and recycle, thereby minimising residual waste going into waste-to-energy facilities. Where waste must go to landfill, there are gas capture systems installed to minimise emissions as well as measures to minimise run-off and other negative impacts on surrounding environments

#### Sector overview

Waste contributes approximately 5% of New Zealand's GHG emissions and, despite high recycling rates, is one of the highest per capita waste producers in the world.

The New Zealand waste sector is characterised by low overall volumes, even though per capita waste generation is high. Beside landfills, low volumes mean that large-scale infrastructure projects are not economically viable and as a result no waste projects were identified in the pipeline that meet the minimum threshold of NZD50m. Within local government capital intentions plans, over 64 solid waste projects are reported (not all approved). The largest is a NZD20m organic waste processing facility.<sup>22</sup>

Ongoing volatility in the global market for recyclable materials has continued since the China ban on the import of many recyclables in 2018. Other countries, including Vietnam, Malaysia, Indonesia and Thailand, have put similar restrictions in place. The ban, while being a short-term challenge, is likely to have positive long-term impacts by driving more ambitious regulation and lead to better onshore processing capacity with positive implications for jobs.

New Zealand's National Resource Recovery Taskforce was set up in 2018 to respond to China's ban. In February 2019, it submitted recommendations to the Ministry of Environment, which included undertaking feasibility studies to see how to increase onshore plastic and fibre reprocessing capacity. The focus has been on small-scale social enterprises such as recovery centres which have been successful in reducing waste to landfill (up to 75% diversion rate) and have been supported by local councils.

Large Waste to Energy projects have been mooted but the likelihood remains low due to low waste volumes, poor public perception of incineration and no federal government support. The focus will remain on recycling and waste minimisation.<sup>23</sup>

Auckland has stated that it aspires to be zero-waste by 2040 which could act as a

driver for new waste-related infrastructure. As part of its action plan, it intends to create a network of 12 community recycling centres.<sup>24</sup> Other details are not yet clear.

#### Financing pathways

Waste infrastructure projects are financed, owned and operated by a mix of local and private sector entities. New projects are likely to be financed by small and large private sector entities or social enterprises, often with government support.

Local government waste projects are, in part, funded by a waste levy which is charged on all waste going to landfill. Half of the revenue gathered through the levy goes to local governments to help them achieve their waste management and minimisation plans while the other half goes toward Waste Minimisation Fund (WMF).

The WMF provides one avenue for financing assistance for waste projects. It collects NZD10-12m per year which is allocated to small- to medium-sized waste minimisation projects. Recipients include a commercial and industrial waste sorting facility and a tyre recovery and recycling plant.

The primary opportunity for green finance within the waste sector is for local councils to issue green bonds relating to recycling or other waste minimisation facilities.

### Green Buildings

Commercial and residential buildings, new or upgraded, operating with low-carbon emissions. The low-carbon credentials and emissions performance of the buildings are demonstrated through an accepted rating or 'green' assessment process, e.g. Green Star certification.

#### Sector overview

Emissions from construction in New Zealand have risen by 60% over the past decade. 25 While not all related to buildings, New Zealand has experienced a construction boom with bank lending to the sector at its highest since the financial crisis. 26

Green buildings are also a part of this construction boom, and there are a number of drivers behind the growth in this sector:

- Government tenants are demanding more efficient buildings and, while there are no official requirements yet, a natural next step for governments is to support higher levels of building certification and through policy and legislation.
- Bank loans on favourable terms may incentivise green building construction or energy efficiency upgrades. ANZ, has

- advertised lower home loan rates for homes with a 6 Homestar rating through its Healthy Home Loan package.<sup>27</sup>
- Data is supporting certification. As higher levels of building certifications become more common, the data to support the economics of certification is becoming clear.
- Increased interest form District Health Boards in green building certification with at least 3 large hospitals to be built to be 5 Green Star certified.

Potential changes to the housing code are on the horizon although nothing is final as of yet. According to the NZGBC, a core aim of the changes is allowing for the code to ratchet up every three years towards zero carbon by 2030. Whether or not this will be approved is uncertain but there is general consensus that the current building code is unambitious and will need to be changed.

The opportunities for growth of the green buildings market cut across a number of sectors and actors. Local governments currently have over NZD3.2bn outlined in their capital intentions plans for social housing and community projects many of which will include buildings, which could be upgraded to meet Green Star criteria.

#### Financing pathways

Financing for buildings is highly dependent on the nature of the developer and owner. Large projects, such as Commercial Bay Tower, are usually funded through bank loan facilities. Government buildings and upgrades are usually funded through local or federal government balance sheets.

With the huge increase in certification, buildings represent a significant opportunity for green bonds and loans particularly from the following actors:

- Commercial property developers and owners or asset managers for large projects. Some property companies are already non-green bond issuers.
- Government entities such as local governments or District Health Boards building new or upgrading existing public buildings.
- Banks raising finance for loans to developers and owners of green buildings. Banks have been a major driver of the growth in green finance around the world given the important role they play in initial financing of infrastructure.

#### End notes

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#### Main Sponsors









#### Supporting sponsor



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