Te pūrongo ā-tau a te Puka Here Kākāriki 2020/2021

Green Bond Annual Report 2020/2021

AUCKLAND COUNCIL

Ngā ihirangi

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He kupu mai i te Tumu Whakarae

Green Bond Annual Report 2020/2021

From the chief executive

Auckland Council's green bond programme has seen another successful year in 2020/2021 and I am proud to share with you our third Green Bond Annual Report.

In 2021, Auckland Council issued its third green bond against an asset pool of 14 different assets that include Auckland Council's energy rated buildings, City Rail Link and the Hunua watermain pipeline. Our total green asset pool is now over $2 billion.

Adopting sustainable finance mechanisms like green bonds is one way the council is actively responding to climate change. The adoption of Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan on 21 July 2020 reiterated the urgency of climate action. It commits the region to halving its emissions by 2030, reaching net zero emissions by 2050 and taking a precautionary approach to planning for climate change. Sustainable finance mechanisms, such as our green bond programme, are critical to achieving these goals by ensuring our funds are directed towards achieving our climate and broader sustainability outcomes.

The council also acknowledges it has a key role to play in supporting New Zealand's broader transition to a low-carbon, resilient economy. As a founding member of the Aotearoa Circle, the council is committed to the vision set out by the Circle's Sustainable Finance Forum of a "financial system that plays its role in delivering on the critical sustainability agenda and the transition to a low-emissions, resource efficient, just and inclusive economy". The ongoing development and improvement of our green bond programme, and its ability to influence the New Zealand finance system more broadly, is one mechanism through which we are seeking to deliver on this vision.

I look forward to continuing to share our expanding green bond programme and our continued contribution towards the growth of New Zealand's green bond market.

Jim Stabback
Chief Executive

Kupu whakataki

Introduction

Auckland Council is the territorial authority for the Auckland region, responsible for enabling democratic local decision-making and action, by and on behalf of communities. This includes promoting the social, economic, environmental and cultural well-being of Auckland communities.

The Auckland Council Group (the council) is made up of Auckland Council and the five substantive Council-controlled organisations (CCOs) that include Auckland Transport Limited, Watercare Services Limited, Regional Facilities Auckland, Eke Panuku Development Auckland, and Auckland Unlimited Limited. Auckland Council is responsible for funding the CCOs.

The council recognises that climate change is one of the most important issues we face as a group and a region.

In June 2019, the council declared a climate emergency, committing the group to take the necessary action to manage and mitigate climate-related risks, while taking advantage of the opportunities created by climate change.

Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan (the climate plan) sets out our path to net zero emissions. The plan has two core goals:

- reduce greenhouse gas (GHG) emissions by 50 per cent by 2030 and achieve net zero emissions by 2050
- adapt to the impacts of climate change by ensuring we plan for the changes we face under our current emissions pathway.

Green bonds are a continuation of our commitment to these goals and allow us to align our funding streams to our climate response and support the broader shift to a more sustainable financial system.

To acknowledge that the financial system has a key role to play in supporting the delivery of our climate goals and achieving broader co-benefits, the council has committed to 'redirecting capital towards sustainability outcomes, improving how we value social and environmental impacts and building awareness and capacity in the financial sector broadly' through the climate plan.

The council has been active in the green bond market for three years, with a total of $850 million raised in green bonds since 2018.

Green bonds allow the council to channel our capital into projects that support our climate and sustainability goals, such as water and transport infrastructure, to support our growing region. We recognise that in future, most of our debt will be funded through sustainable finance mechanisms such as green bonds and we will continue to expand our eligible asset list to support this growth.

In recognition of the financial risk climate change presents, the council has also committed to disclose our climate-related financial risks and opportunities under the Taskforce on Climate-related Financial Risk Disclosures (TCFD) framework. In addition to proactively addressing investors demand for climate-related information, disclosing our climate risks under the TCFD framework will help the group bring the future nature of climate risk to the present, leading to more informed strategic and financial planning.

This report provides investors with a detailed update of our green bond activities, use of proceeds and impact reporting for our eligible assets, covering the 12-month period from 1 July 2020 to 30 June 2021.

Tā mātou hīkoi ā-tahua pūtea tokonga roa
Our sustainable finance journey

2015

Auckland joins the C40 Cities Climate Leadership Group

Auckland joins the C40 Cities Climate Leadership Group. C40 membership enhances and resources Auckland's ability to work with and learn from leading cities facing similar climate challenges around the globe.

2016

Auckland signs the Paris Pledge for Action

in support of the objectives in the Paris Agreement to limit global temperature rise to less than 2 degrees Celsius and raise ambition before the agreement takes effect in 2020.

2017

New Zealand's National Institute for Water and Atmospheric Research (NIWA) is commissioned to model

impacts of climate change on the Auckland Region to 2110. This research allows us to better understand the risks, vulnerabilities and opportunities associated with our changing climate so we can better plan, invest and build for the future.

2018

April 2018

Auckland Council establishes its Green Bond Framework (changed in 2020 to a Sustainable Finance Framework).

June 2018

Auckland Council issues its first green bond, raising $200 million to fund electric trains and associated infrastructure.

Auckland Council becomes a member of the Climate Leaders Coalition

committing to alignment with the Paris Agreement, public transparency on emissions, setting targets for emissions reductions and influencing emissions reductions in supply chains.

2019

Auckland Council becomes a founding member of the Aotearoa Circle

June 2019

Auckland Council publishes its first Green Bond Annual Report.

June 2019

Auckland declares a Climate Emergency which includes the requirement to include climate impact statements in all Auckland Council committee reports.

July 2019

Auckland Council issues its second green bond and $150 million is raised to fund electric trains and cycleways.

2020

July 2020

Auckland Council adopts Te Tāruke-ā-Tāwhiri, Auckland's Climate Plan.

September 2020

The Auckland Council Group issues $500 million of unsubordinated 30-year fixed rate green bonds.

September 2020

Auckland Council Group publishes its inaugural climate-related risk disclosure.

The Mayor signs the Global Green New Deal

reaffirming Auckland's commitment to protecting our environment, strengthening our economy and building a more equitable future.

2021

February 2021

Auckland Council commits to C40's Leadership Standards for 2021-2024, a new global benchmark for climate ambition and leadership.

August 2021

Auckland Council becomes a signatory to the C40 Divest/Invest Declaration.

Te whakamahi i ngā moni whiwhi

Use of proceeds

The council has allocated proceeds of the green bonds to financing planned projects and assets with positive environmental and social outcomes which conform to the eligibility criteria set out below
(see eligible assets table), or to refinancing corporate debt that supports eligible assets. The proceeds of green bonds have been allocated across several eligible sectors described in our Sustainable Finance Framework (efficient buildings, energy efficiency, sustainable land use, low-carbon transportation and sustainable water management).

Limited assurance was carried out against the International Capital Market Association (ICMA) Green Bond Principles (GBP), Climate Bond Standards (CBS), criteria and the eligible asset schedule.

Impact reporting has been provided for the eligible assets listed in the eligible assets table below (see page 14).

The eligible assets have been mapped against the relevant United Nations Sustainable Development Goals (UN SDGs).

Te uaratanga o ngā rawa māraurau

Value of eligible assets at 30 June 2021

No.	Eligible asset	Eligible asset details	Eligible sector (see Auckland Council's sustainable finance framework)	Climate bond initiative (CBI) criteria/GBP alignment	UN SDG alignment	Asset value (book value) NZ$m	Asset value (project cost) NZ$m	Future spend (project cost) NZ$m*
1	Electric multiple unit	Original rolling stock of electric trains (started operating in 2014)	Low carbon transport	GBP: Clean transportation CBI: Transport, public passenger transport, trains - rolling stock and vehicles for electrified public transport, such as electrified rail, trams, trolleybuses and cable cars		$386.6	N/A	None
2	Electric multiple unit	Retrofitting of existing electric multiple units (started in 2019)	Low carbon transport	GBP: Clean transportation CBI: Transport, public passenger transport, trains - rolling stock and vehicles for electrified public transport, such as electrified rail, trams, trolleybuses and cable cars		$17.7	N/A	None
3	Electric multiple unit	New rolling stock of electric trains (started in 2017)	Low carbon transport	GBP: Clean transportation CBI: Transport, public passenger transport, trains - rolling stock and vehicles for electrified public transport, such as electrified rail, trams, trolleybuses and cable cars		$137.8	N/A	$265.0

Value of eligible assets cont.

No.	Eligible asset	Eligible asset details	Eligible sector (see Auckland Council's sustainable finance framework)	Climate bond initiative (CBI) criteria/GBP alignment	UN SDG alignment	Asset value (book value) NZ$m	Asset value (project cost) NZ$m	Future spend (project cost) NZ$m*
4	Public cycleway assets	Public cycling and walking infrastructure (started construction in 2012)	Low carbon transport	GBP: Clean transportation CBI: Transport, public passenger transport, infrastructure - public walking and cycling infrastructure and cycling schemes		N/A	$145.9	None
5	City Rail Link	New rail tunnel and stations to enhance network and enable high electric rail use (started construction in 2016)	Low carbon transport	GBP: Clean transportation CBI: Transport, public passenger transport, infrastructure - dedicated infrastructure for electrified public transport		N/A	$1,069.3	$1,181.0
6	Wiri Electric train depot	Maintenance depot for electric trains to improve reliability of network and enable higher electric train use (commenced construction in 2012)	Low carbon transport	GBP: Clean transportation CBI: Transport, public passenger transport, infrastructure - dedicated infrastructure for electrified public transport		$81.0	N/A	$138.0
7	Manukau bus interchange	Transfer station connecting bus users to the rail network and other buses (commenced construction in 2016)	Low carbon transport	GBP: Clean transportation		$27.4	N/A	None

Value of eligible assets cont.

No.	Eligible asset	Eligible asset details	Eligible sector (see Auckland Council's sustainable finance framework)	Climate bond initiative (CBI) criteria/GBP alignment	UN SDG alignment	Asset value (book value) NZ$m	Asset value (project cost) NZ$m	Future spend (project cost) NZ$m*
8	Street lighting LED upgrade	LED upgrade to reduce energy consumption (stage 1 completed 2018, stage 2 delivery started 2019)	Energy efficiency	GBP: Energy efficiency		$22.4	N/A	$17.0
9	Bledisloe House Customer Service Centre	24 Wellesley Street West, Auckland (4-star NABERSNZ rated refurbishment completed in 2014)	Efficient buildings	GBP: Green buildings		$44.6	N/A	None
10	Auckland Council head office	135 Albert Street, Auckland (4-star NABERSNZ rated upgrade completed in 2015)	Efficient buildings	GBP: Green buildings		$223.0	N/A	None
11	Manukau Civic Building	31 Manukau Station Road, Auckland (4-star NABERNZ rated refurbishment completed in 2009)	Efficient buildings	GBP: Green buildings		$35.7	N/A	None

Value of eligible assets cont.

No.	Eligible asset	Eligible asset details	Eligible sector (see Auckland Council's sustainable finance framework)	Climate bond initiative (CBI) criteria/GBP alignment	UN SDG alignment	Asset value (book value) NZ$m	Asset value (project cost) NZ$m	Future spend (project cost) NZ$m*
12	Fred Thomas Drive	Wastewater storage and pumping station (commenced construction in 2016)	Sustainable water management	GBP: Sustainable water and wastewater management		$26.2	N/A	None
13	Hunua water main pipeline	New watermain infrastructure able to providing uninterrupted, high-quality water supply to growing Auckland region (commenced construction in 2012)	Sustainable water management	GBP: Sustainable water and wastewater management		$349.2	N/A	None
14	Rehabilitation of Puketutu Island	Rehabilitation of the Puketutu Island using treated biosolids from Mangere Wastewater Treatment Plant (commenced in 2013)	Sustainable land use	GBP: Environmentally sustainable management of living natural resources and land use		$132.4	N/A	None
15	Rosedale floating solar array	2,700 solar panels floating on the Rosedale Wastewater Treatment Plant in Albany, generating a quarter of the energy needed by the plant (operating from 2020)	Renewable energy	GBP: Renewable energy		$2.2	N/A	None
Total CBI sector eligible criteria assets (asset numbers 1-6)						**$623.1**	**$1,215.2**	$1,584.0
Green bond eligible assets (book value, project cost and future spend asset numbers 1-15)						**$1,486.1**	**$1,215.2**	$1,601.0
Total green bond eligible assets (sum of book value and project cost)							**$2,701.3**	

*Future spend values have not been audited.

Te uaratanga o ngā Puka Here Kākāriki i te wā ka puta

Value of green bonds on issue

Date of issue	Maturity date	Bond details	Bond face value (NZ$m)
27 June 2018	27 June 2023 (5 years)	3.17% unsubordinated, CBI certified, fixed rate retail bonds in NZ$	200
10 July 2019	10 July 2025 (6 years)	2.013% unsubordinated, CBI certified, fixed rate retail bonds in NZ$	150
28 September 2020	28 September 2050 (30 years)	2.95% unsubordinated, fixed rate retail bonds in NZ$	500
Total (NZ$m)			850

Te whakaū i tā mātou tohatoha o ngā moni whiwhi me te takoha taurite a ngā Puka Here Kākāriki

Confirmation of our allocation of proceeds and green bonds' relative contribution

	CBI certified	Total
Total green bonds outstanding (NZ$m)	350	850
Total eligible asset value (NZ$m)	1,838	2,701
Total green bonds outstanding to eligible assets (%)	19	31

The council confirms that the value of the eligible assets is greater than the face value of the green bonds outstanding and there are no unallocated proceeds.

Te tirohanga whānui o te kaupapa Puka Here Kākāriki

Overview of green bond issue

In September 2020, the council issued its third green bond, strengthening its position in the sustainable finance market and reinforcing its commitment to sustainability.
The offer was for $500 million unsubordinated 30-year fixed rate green bonds, maturing on 28 September 2050.

This was the first 30-year senior bond issued by any New Zealand issuer. It was the largest, with the longest tenor of any green bond issued in New Zealand to date.
This bond issuance has received several awards including:

The KangaNews Awards 2020

- New Zealand Dollar Rates Bond Deal of the Year
- New Zealand Sustainability Deal of the Year

INFINZ Awards 2021

- Guardian Trust – NZ Debt Market Issue of the Year

Key terms of the September 2020 green bond issue are shown in the table below.

Issue rating	AA Stable (S&P Global Ratings) / Aa2 Stable (Moody's Investors Service)
Instrument	Secured, unsubordinated, fixed rate bonds
Green bond principles assurance	Assurance from EY confirming that the council's green bond programme continues to meet the requirements of ICMA Green Bond Principles
Tenor	30 years
Issue date	28 September 2020
Maturity date	28 September 2050
Issue amount (NZ$m)	500
Coupon	2.95%
ISIN	NZAKCDT52OC6
NZX code	AKC130 – GREEN

Te whakaaweawe o ā mātou Puka Here Kākāriki

Impact of our green bonds

Funds raised through green bonds to date have been used to finance and refinance debt that funded assets such as the rehabilitation of Puketutu Island, City Rail Link, and water and wastewater infrastructure. The impact assessment below details the assets' contribution towards reducing greenhouse gas emissions and achieving broader benefits. We have used appropriate metrics for each category where the measurement of greenhouse gas emissions is not applicable.

Ngā tikanga kawekawenga waro-pāpaku

Low-carbon transportation

Ngā tikanga kawe pāhihi tūmatanui

Public transport

Ngā ara pahikara tūmatanui

Public cycleways

New cycleways have partly enabled the rapid growth of bicycle movements and distances travelled by bicycle in recent years (see Figure 1 on page 16). With better network links to public transport hubs, cycling and walking is becoming an easier and more accessible choice, enabling Aucklanders to switch their mode of travel from private vehicles to public transport. Auckland Transport (AT) has not only been maintaining and upgrading existing cycleways but also investing in many new projects to support travel by bicycle as a safe mode of transport (see **Auckland Transport's Cycling and Walking Programme**).

Eligible asset	**Eligible asset details**	**Eligible sector** (see Auckland Council's sustainable finance framework)	**CBI criteria/GBP alignment**
Public cycleway assets	Public cycling and walking infrastructure	Low carbon transport	GBP: Clean transportation CBI: Transport, public passenger transport, infrastructure - public walking and cycling infrastructure and cycling schemes

Ngā hua whānui

Broad benefits

Introducing cycleways has helped Aucklanders safely reach their destinations such as work, school, friends, recreation and healthcare. Since financial year 2013, the use of Auckland's cycleways has increased from 1.4 million to 5.1 million movements in financial year 2021 [1] , and the distance travelled by people on bikes has increased from 36.5 million km in 2012 to 111 million km in financial year 2021.

The expansion of Auckland's cycleway network delivers the following benefits:

- GHG emissions by substituting all or part of motorised travel with bicycle
- increased accessibility and safety for people on bicycles
- encouragement of more people to be more active, improving well-being
- reduced air and noise pollution when people on bicycles substitute motorised trips
- reduced household cost; research shows households that use one less car could save around $10,000 a year in household costs[2]
- increased space on the road from fewer vehicles, reducing congestion
- greater range of travel options in the city
- improved connections by creating a network of cycleways across the city.

1. Auckland Transport collects the number of cycle movements at sites across the region using permanent, automated cycle monitoring equipment
2.https://at.govt.nz/media/1974167/auckland-cycling 10 year-plan-july 2017.pdf

Te whakaiti i ngā whakaputanga hau kino whare-karaehe
Reduction of greenhouse gas emissions

This year AT assessed the level of avoided GHG emissions from the shift to travel by bicycle. Figure 1 shows an estimate of the avoided GHG emissions from cycling in Auckland since 2012. Due to the unavailability of data for all years, we used trend lines to estimate the missing data. From June 2012 to June 2021, the cycling trips in Auckland added up to 674 million km, avoiding about 180 ktCO2-e (kiloton of Carbon dioxide equivalent) of GHG emissions, had this distance been taken using private vehicles.

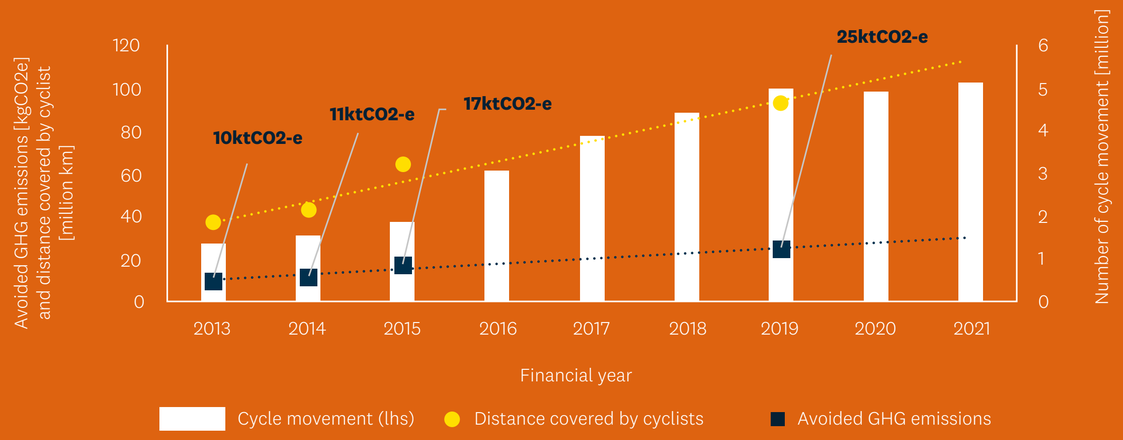

Figure 1: An indicative contribution of avoided GHG emissions due to public cycleways in Auckland.

Te hātepe
Methodology

Data for kilometres travelled on Auckland's cycleways is not available, so the impact on GHG emissions has been estimated for all cycling trips in Auckland[3]. Data from the Ministry of Transport (MoT) household travel survey is used to estimate the kilometres travelled each year, with estimates made for years where data is unavailable.

The GHG avoided due to the region's cycleways have been calculated by assuming bicycles were used instead of light vehicles. Light vehicles are the most common form of travel in Auckland, so the most likely alternative to bicycles – see the MoT survey.

Therefore, if 92.6 million km were travelled by bicycle in the financial year 2019, the emissions avoided would be 25 ktCO2e. Extending the trend, 111 million km were travelled by bicycle in the financial year 2020 approximately avoiding 29 ktCO2e (assuming the alternative is a petrol-driven light vehicle)[4] .

This methodology uses estimations until we can collect data more accurately. Due to the level of uncertainty, Toitū Envirocare has carried out a review of our methodology and issued an assurance statement (see Appendix 2).

3. Our cycleway counters are on many points along the cycleway network and are likely to count a single cyclist multiple times, exaggerating GHG emission reductions.
4. https://environment.govt.nz/publications/measuring emissions-summary of emission-factors-2020/

Ngā tereina hiko
Electric trains

In 2011, Auckland Transport (AT) embarked on a project to design, manufacture and deliver 57 three-car Electric Multiple Units (EMUs), switching its train fleet from diesel to electric. The project was a key element in the region's Integrated Transport Programme to boost capacity and use of the rail network. The rollout of electrified rail lines from Papakura in the south to Swanson in the west included the purchase of 57 new EMUs for services along these lines.

The first of the electric stock was in passenger service in April 2014 and all 57 by 2015. These trains are currently being retrofitted due to obsolescence with a new European Train Control System (ETCS). This upgrade will help reduce travel time and energy consumption and improve reliability and network capacity. It also leads to increased fleet use and speed recovery after incidents. In 2017, AT bought another 15 EMUs increasing the electric train fleet to 72 to increase frequency and passenger capacity. These 15 new trains are arriving from Spain with the new ETCS system already installed.

Eligible asset	**Eligible asset details**	**Eligible sector** (see Auckland Council's sustainable finance framework)	**CBI criteria/GBP alignment**
Electric multiple unit	Original rolling stock of 57 electric trains	Low carbon transport	GBP: Clean transportation CBI: Transport, public passenger transport, trains - rolling stock and vehicles for electrified public transport, such as electrified rail, trams, trolleybuses and cable cars
Electric multiple unit	Retrofitting of existing Electric Multiple Units	Low carbon transport	GBP: Clean transportation CBI: Transport, public passenger transport, trains - rolling stock and vehicles for electrified public transport, such as electrified rail, trams, trolleybuses and cable cars
Electric multiple unit	New rolling stock of electric trains	Low carbon transport	GBP: Clean transportation CBI: Transport, public passenger transport, trains - rolling stock and vehicles for electrified public transport, such as electrified rail, trams, trolleybuses and cable cars

Ngā hua whānui
Broad benefits

Since financial year 2013, patronage across Auckland's commuter rail network has increased from 10 million a year to 21.4 million in financial year 2019. COVID-19 reduced the patronage to 17.4 and 11.2 million in financial year 2020 and 2021 respectively. In financial year 2021, train services accounted for 17.4 per cent of public transport trips and 4.4 per cent of public transport related GHG emissions. The shift of Auckland's commuter rail fleet to mostly electric has resulted in significant GHG emission reductions. In addition, this shift will deliver the following benefits:

- a faster, more frequent service, including the ability to carry more people per train and to double the length of trains from three to six-car trains
- reduced air quality impacts due to the absence of exhaust fumes from the trains' operation
- reduced noise impacts, both inside and outside the train, which benefits passengers as well as Aucklanders living and working near the rail network
- greater levels of customer comfort, information and safety, with international best-practice passenger information systems that ensure audio and visual information is easy to understand. This includes journeys on the diesel trains that still operate between Papakura and Pukekohe, where electrification of the track has not yet been completed.

Broader benefits include:

- improved accessibility, including wider doors, automatic ramps for the mobility impaired and lower floors for pushchairs or people with luggage
- sliding plug-type doors providing a weather and soundproof seal, while open gangways between cars allow movement from one end of the train to the other
- reduced travel time and increased reliability, reduced energy consumption, and increased network capacity without track upgrade
- improved fleet use and improved recovery after incidents due to integration of driver assistance system
- a range of safety improvements, such as cameras that allow the driver to see all of the train, on-board CCTV that operates continuously in all cars, and emergency call points throughout the train that allow passengers to communicate directly with the crew in an incident.

Te whakaiti i ngā whakaputanga hau kino whare-karaehe
Reduction of greenhouse gas emissions

This year, AT assessed the GHG emissions reductions that have resulted from the shift to mostly electric trains. Figure 2 on page 20 shows the reduction in GHG emissions from the train network since electric trains started operating in 2014. Note that some services continue to be serviced by diesel trains as not all tracks are electrified (full electrification is planned for 2024).

The net reduction of emissions was estimated by comparing a baseline scenario (continued full service by a diesel-only fleet) with actual emissions. The net emissions reduction was estimated to be 20,000 tCO2-e in financial year 2019. Train services have been severely hampered by COVID-19 and track maintenance work in 2021 resulting in the decrease in the net emissions reduction compared to last year's report.

Figure 2: An indicative contribution of GHG emissions reduction due to transition to electric trains.

Te hātepe
Methodology

In financial year 2013, AT's diesel-only fleet consumed an average of 2.96 litres of diesel per kilometre travelled, with each litre of diesel emitting 2.72 kgCO2-e. Electric trains were introduced to the fleet in 2014, gradually replacing existing diesel trains. To estimate the actual GHG emissions associated with AT's train fleet, both diesel and electricity based GHG emission factors have been applied, based on the diesel and electricity consumed by respective trains.

The GHG emissions saving for each year can be calculated as:
GHG emissions saving = baseline GHG emissions – actual GHG emissions.

Ngā hanganga matua ā-tikanga kawekawenga
Transport infrastructure

Te Hongonga Rere Raro Whenua
City Rail Link

City Rail Link is a 3.45km underground twin-tunnel underground rail link up to 42 metres below the Auckland city centre. It will enable the rail network to at least double rail capacity.

City Rail Link has made significant progress as a project and changed beyond recognition, in just 12 impressive months.

New Zealand's largest transport infrastructure project is now production with construction forging ahead at pace to build a transformational and world-class rail system for Auckland. The highlight of the construction year has been the arrival from China of its mechanical 'flagship', the Tunnel Boring Machine named in honour of Māori champion, Dame Whina Cooper, and its start of tunnel excavation.

The project successfully managed the impacts of the COVID-19 pandemic. New protocols were introduced at all sites to keep workers safe, and the project collaborated with the wider industry to get skilled workers from overseas into the country.

City Rail Link's contribution to a more vibrant and sustainable Auckland included the delivery of work at the lower end of Albert Street with its people-friendly improvements, the opening of Te Komititanga, the vehicle-free public meeting place in lower Queen Street, and the re-opening of the restored heritage-listed Chief Post Office as part of the Britomart Transport Hub.

Eligible asset	**Eligible asset details**	**Eligible sector** (see Auckland Council's sustainable finance framework)	**CBI criteria/GBP alignment**
City Rail Link	New rail tunnel and stations to enhance network and enable high electric rail use	Low carbon transport	GBP: Clean transportation CBI: Transport, public passenger transport, infrastructure - dedicated infrastructure for electrified public transport

Ngā hua whānui
Broad benefits

Progressive Employment Programme

CRL has accepted its third intake of rangatahi (young people) for its Progressive Employment Programme (PEP). The 16-week-long programme has a simple bottom line – to help young Māori and Pasifika transition into rewarding fulltime work while recognising them in context of their whānau and communities. Interns receive training, mentoring, pastoral care and exposure to various jobs while being paid. After graduating they are offered fulltime roles. Interns say PEP enables them to contribute to their households, create a sense of pride through their work, and lead a new pathway for their whānau.

Social procurement outcomes

The project is committed to providing supply chain opportunities for small and medium-sized Māori and Pasifika businesses. To date, almost 20 contracts ranging from catering to building deconstruction, labour hire, and traffic management have been awarded to Māori and Pasifika businesses.

Mana Whenua partnership

Eight Auckland Iwi and City Rail Link Limited are partners in the project's Mana Whenua Forum. The forum is a fundamental part of the project allowing Iwi to contribute mātauranga (knowledge) and cultural values that deliver better sustainability, environmental, health and safety outcomes. One striking outcome from the partnership is the public meeting place in lower Queen Street, Te Komititanga. The name, meaning to mix or merge, was gifted by Mana Whenua. Te Komititanga features over 137,000 basalt pavers, laid to incorporate Mana Whenua narratives that reflect both the area's connection with water – nearby Waitematā Harbour and an historic stream that flowed into it – and a woven harakeke (flax) mat.

Ngā hua whānui
Broad benefits

Heritage

Project construction has uncovered some of Auckland's pioneer past: a bluestone seawall in lower Queen Street, a brick barrel drain and several beautiful glass and clay bottles. The restored heritage-listed Chief Post Office has re-opened as part of the Britomart Station after being closed by CRL for several years. The historic 139-year-old bluestone wall along the eastern side of Albert Street has been removed temporarily, block by block, to make room for the project. It will be restored, but one metre further east from its original location.

Future benefits

- When CRL is built, the capacity of Auckland's rail network will double. Train services will be more frequent and there will be considerable savings in travel times.
- The number of people within 30 minutes by train from central Auckland – New Zealand's biggest employment hub – will double.
- Providing a world-class rail network will reduce reliance on cars.
- At peak times, up to 54,000 people will come and go from the new CRL stations – that is the equivalent to another 16 lanes of motorway or three more Auckland Harbour bridges.

Te whakaiti i ngā whakaputanga hau kino whare-karaehe
Reduction of greenhouse gas emissions

Reducing resource consumption is one of five key focus areas for the City Rail Link (CRL). The two most common materials used on CRL – concrete and steel – contain high levels of embodied carbon. Because of the large volumes of both required to build the CRL, they also provide the greatest opportunity to reduce the project's embodied carbon footprint.

The use of materials and energy is being optimised across the entire lifecycle of the project from design through to operation. To track the project's success, an estimate, or base case, was first created for each construction contract. This measures the total amount of energy – materials and water, and the carbon emissions resulting from these – that would be used to build and operate the CRL if business-as-usual occurred without sustainability interventions.

Throughout the project, the team has continued to measure progress to minimise materials, energy usage and the resulting carbon emissions against the original base case calculations. Innovations to reduce materials use and emissions have included measures such as using recycled concrete as backfill, switching from a steel to concrete vehicle deck and replacing diesel generators with electricity from the grid.

See link to CRL sustainability reports https://www.cityraillink.co.nz/sustainability-vision

Contract 1
15% reduction in construction and operational energy related carbon
12% reduction in embodied carbon of construction materials
Contract 2
27% reduction in construction and operational energy related carbon
33% reduction in embodied carbon of construction materials
Contract 3
23% reduction in embodied carbon of concrete

**All figures shown are for the period June 2016 – June 2020.*

Te hātepe
Methodology

GHG emissions savings achieved in comparison to the base case have been calculated using the Infrastructure Sustainability Council of Australia (ISCA) credit requirements using the ISCA materials calculator. With the % GHG emissions saved based on the difference between Actual GHG emissions and the Base Case GHG emissions.

Toitū Envirocare has carried out a review of CRL's impact assessment and the methodology used to calculate the GHG emission savings associated with the project (see appendix 2).

Te Tauranga Tereina Hiko o Wiri
Wiri Electric Train Depot

Wiri's Electric Train Depot is a maintenance and stabling facility for electric trains. The site is located next to the South-Western Expressway in Wiri and is bordered by Roscommon and Wiri Station Roads. Its proximity to the Main Trunk Northern Line makes it well suited for access purposes.
The purpose-built facility has been developed over 4.4 hectares and comprises a maintenance building of 7,650 sqm, six km of rail track sidings, seven maintenance berths (some of them are electrified) and stabling for 28 trains. There is also a locally operated points system so that all train movements can be controlled on-site.

The depot building comprises three distinct areas:

- the main maintenance hall, where servicing of the trains takes place
- the ground floor, housing offices for the train supplier
- the first floor, housing the depot control office, the train operator, Transdev, and staff amenities.

The building includes under-floor lifts, overhead gantries and jacking systems to lift the body of the train.

Eligible asset	Eligible asset details	Eligible sector (see Auckland Council's sustainable finance framework)	CBI criteria/GBP alignment
Wiri Electric Train Depot	Maintenance depot for electric trains to improve reliability of network and enable higher electric train use	Low carbon transport	GBP: Clean transportation CBI: Transport, public passenger transport, infrastructure - dedicated infrastructure for electrified public transport

Ngā hua whānui
Broad benefits

As well as providing a dedicated service and maintenance facility for electric trains, the Wiri Electric Train Depot also provides the following benefits:

- ensures smooth operation of the electric trains in the network
- provides overhead gantries to lift heavy equipment on and off the trains
- houses permanent train jack systems to lift the body of the train up to remove the bogies (Wheel chassis) for maintenance
- wheel lathe and underfloor pits to enable easy access to the electric trains
- an automatic train wash and covered platform to facilitate cleaning of the inside of the vehicles.

Te Teihana Pahi o Manukau
Manukau Bus Station

The Manukau Bus Station is strategically positioned within the Manukau central business district with Manukau Train Station at the west and Manukau Civic Building at the east. The station is part of the Manukau transport interchange and is critical infrastructure in realising the full potential of the upgraded public transport services on the southern network. The station comprises 23 bus bays with future-proofed facilities to enable slot management as service numbers increase to provide flexibility between urban and inter-regional services.
The station also includes five retail facilities, a customer service centre, real-time information signage and an AT HOP ticket vending and reload device.
The station assists in economic development, providing additional capacity for future growth and contributes towards improved service frequency on the public transport network. The station is a crucial hub in the overall southern transport network, serving several key catchments – residential, commercial, and industrial.

The station has been beneficial to all road users, improving communities' connectivity to business, employment, education, and recreational institutions and facilities via public transport. Manukau bus interchange, as well as the electric train depot, contributes towards Auckland's goal of 'a low-carbon, safe transport system that delivers social, economic and health benefits for all' as detailed in Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan by making travel by public transport faster, more frequent and reliable over a wider network.

Eligible asset	**Eligible asset details**	**Eligible sector** (see Auckland Council's sustainable finance framework)	**CBI criteria/GBP alignment**
Manukau Bus Interchange	Transfer station connecting bus users to other buses and the rail network	Low carbon transport	GBP: Clean transportation

Ngā hua whānui
Broad benefits

Manukau Bus Station provides several benefits, from supporting a high-quality regional public transport network to increased comfort and customer experience on public transport (PT).

Broader benefits include:

- integrated operation of the Manukau bus station with the Manukau rail station
- increased public transport patronage by improving frequency, quality and reliability of buses
- reduced congestion in the CBD by relocating the inter-regional services to Manukau and in turn providing more space for sustainable transport infrastructure to support urban public transport, pedestrians and cyclists in the city centre
- enhanced level of service, security and shelter required by passengers throughout the year, especially from early in the morning to late at night
- increased PT mode share options
- increased comfort and customer experience of PT
- increased spatial coverage of public transport to Auckland's population, consequently increasing availability and access of PT services
- decreased travel time to many bus routes that connect to the Manukau bus station
- improved passenger transfer between bus-to-bus and bus-to-rail services.

Te tōtika o te tiaki ngao
Energy efficiency

Te whakapainga ake o ngā rama LED i ngā huarahi
Street lighting LED upgrade

Streetlights are an essential piece of city infrastructure and are required for lighting public roads and accessways for traffic and pedestrian safety purposes. Most of the region's streetlights have been changed from golden yellow light to white light. International experience has shown that white light is a factor in crime prevention; it delivers greater comfort and security, and improves visibility and reaction times for drivers and pedestrians, resulting in fewer vehicle crashes and injuries.

The streetlight phase-1 retrofit programme began in May 2015, at this time there were 106,580 lights on the network. These streetlights illuminate both pedestrian predominant (P-category) and Vehicle predominant (V-category) roads across Auckland. The network has grown by approximately 2,650 LED lights per year, mainly due to new subdivisions. The phase-1 of the retrofit programme converted all 44,000 high-pressure sodium (HPS) lights on the P-category roads to LED over three years.

The phase-2 of the retrofit programme began in financial year 2019 and aimed to replace a further 49,000 HPS on V-category roads. As of June 2020, there are 122,500 lights on the network (87% LED lights). The operational cost of streetlights has reduced from $14.10 million in financial year 2015 to $9.0 million in financial year 2021 despite the growth and increased electricity tariff.

Eligible asset	**Eligible asset details**	**Eligible sector** (see Auckland Council's sustainable finance framework)	**CBI criteria/ GBP alignment**
Street lighting LED upgrade	LED upgrade to reduce energy consumption	Energy efficiency	GBP: Energy efficiency

Ngā hua whānui
Broad benefits

In addition to reducing overall energy consumption and associated GHG emissions, the street lighting LED upgrade has delivered the following benefits:

- renewal of an ageing street lighting network
- introduction of LED white lights which is internationally recognised as providing a safer environment for pedestrians and vehicles at lower electricity use
- reduced light spill onto neighbouring properties
- reduced the amount of existing maintenance spend
- reduced upward waste light.

Te whakaiti i ngā whakaputanga hau kino whare-karaehe
Reduction of greenhouse gas emissions

Figure 3 shows the reduction in GHG emissions from the streetlight network since the retrofit programme started in financial year 2016. Note that there is a growth of an average of 2,650 new lights in the streetlight network each year.

Due to the intervention of the retrofit programme, the proportion of LED increased to 35% in financial year 2018 and 62% in financial year 2020. The intervention reduced GHG emissions associated with streetlights from 6,922 tCO2-e in financial year 2018 to 4,287 tCO2-e financial year 2021.

The net reduction of emissions was estimated by comparing a baseline emissions scenario (operating streetlight network without LED retrofitting) with actual emissions with retrofitting. The net emissions reduction was 2,665 tCO2-e in financial year 2021. Since financial year 2018, the retrofit programme has contributed towards the avoidance of 5,917 tCO2-e GHG emissions.

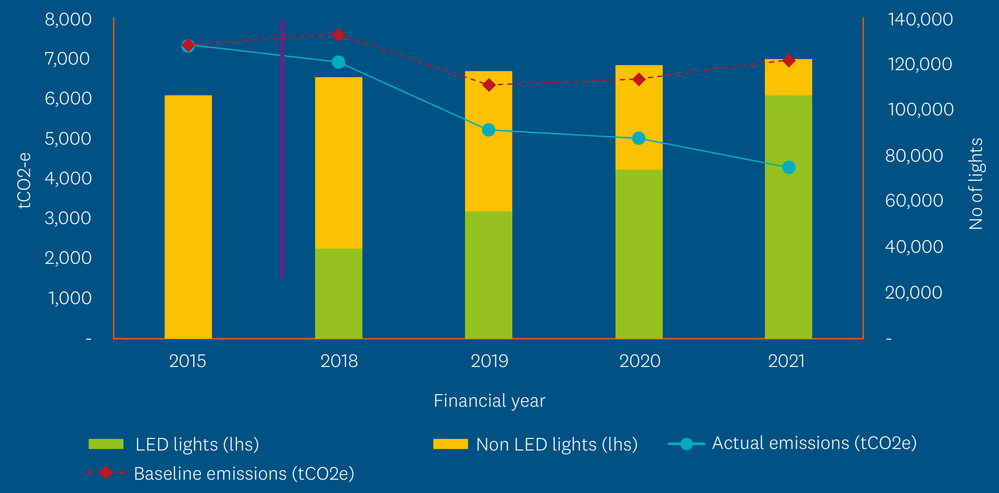

Figure 3: An indicative contribution of GHG emissions reduction due to LED retrofit.

Te hātepe
Methodology

By deducting the actual GHG emissions from baseline GHG emissions for the respective year, we can calculate the GHG emissions avoided for that particular year.

GHG emissions saving = Baseline GHG emissions – Actual GHG emissions.

He whare tōtika

Efficient buildings

For many organisations their buildings represent a very tangible symbol of their values, and this is why Auckland Council's green building strategy, particularity for Te Wharau o Tāmaki (Auckland House) as the council's head office, is a priority.

The council's green building strategy contributes towards the organisational target of reducing GHG emissions by 50% by 2030. Our corporate buildings are currently on track to achieve a 50% reduction well before 2030. The key to ensuring we meet this target is having our buildings NABERSNZ[5] rated and, where applicable, green star rated.
NABERSNZ ratings are based on the energy performance of a building and is obtained once buildings are occupied and have been operating for a year or more. NABERSNZ ensures buildings are performing at a high standard and provides a benchmark to track progress as energy efficiency measures are implemented.

Eligible asset	**Eligible asset details**	**Eligible sector** (see Auckland Council's sustainable finance framework)	**CBI criteria/GBP alignment**
Bledisloe House Customer Service Centre	24 Wellesley Street West, Auckland (4-star NABERSNZ rated refurbishment completed in 2014)	Efficient buildings	GBP: Green buildings
Auckland Council Head Office (Te Wharau o Tāmaki)	135 Albert Street, Auckland (4-star NABERSNZ rated upgrade completed in 2015)	Efficient buildings	GBP: Green buildings
Manukau Civic Building	31 Manukau Station Road, Auckland (4-star NABERNZ rated refurbishment completed in 2009)	Efficient buildings	GBP: Green buildings

5. NABERSNZ is a system for rating the energy efficiency of office buildings. It is an independent tool, backed by the New Zealand government https://www.nabersnz.govt.nz/

Ngā hua whānui
Broad benefits

Although each building has differing levels of energy efficiency, our buildings are almost all double glazed, have LED lighting, afterhours shut off and building managment system (BMS) controls on HVAC. We have also continued to improve our environmental performance with the refurbishment of Auckland House lifts, which has resulted in a 50% increase in energy efficiency. We are also currently working with BECA consultants on the optimisation of building management and air-conditioning systems, which will help us to accurately measure and drive greater efficiencies.

As well as improving energy efficiency, the council is also looking at how the use of our buildings can be optimised to achieve environmental benefits. Through our corporate property strategy, we're right-sizing our properties to support a more modern, agile and digitally enabled workforce.

Via this programme, we are planning to reduce our corporate property real estate footprint from around 106,000 m2 to 68,000 m2 or 36%. As a result, our carbon emissions are estimated to reduce by 45% plus (or 1,166,109 kg CO2 annually). Reducing the size of our portfolio has also resulted in reductions to our vehicle fleet, corporate office operational costs, and office support services, such as online mail and printing.

A reduction in emissions is being driven by less space, active recycling of capital back into held properties to improve performance, and procuring office premises to high green building standards. Our new northern office hub (Munroe Place), currently under construction, will be 5-star Greenstar rated and 5-star NABERSNZ rated. This is an example of how our procurement is aligned to key values of green stewardship. Munroe Place, once finished, will be the council's most operationally energy efficient building.

Te whakaiti i ngā whakaputanga hau kino whare-karaehe
Reduction of greenhouse gas emissions

The following graph shows a steady decrease in the GHG emissions associated with electricity consumption for Bledisloe House, Auckland Council Head Office, and Manukau Civic Buildings from 2017. From financial year 2017 to financial year 2021, GHG emissions associated with electricity usage have decreased by 245.7 tCO2-e.

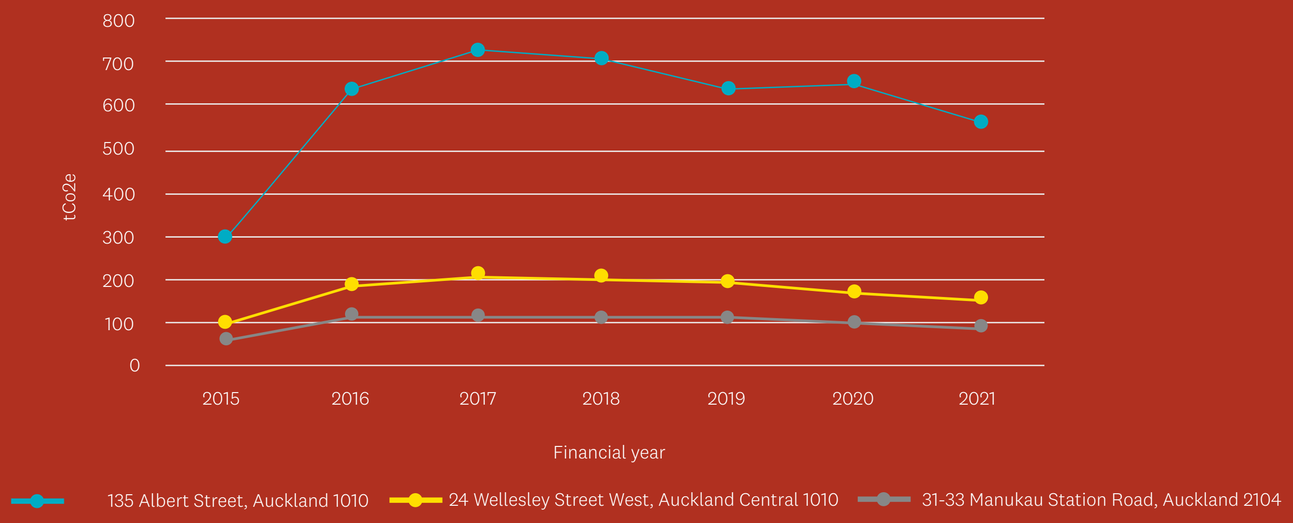

Figure 4. tCO2e Derived from Electricity Usage in Auckland Council Buildings.

Te hātepe
Methodology

Electricity data provided by suppliers is directly auto forwarded into the council's utility management system, e-bench. The utility management system has a robust auditing process to ensure data is loaded efficiently and accurately against the correct account/ICP.

The data which is provided in kWh has been converted to tCO2e using MFE 2020 emission factors workbook and reported in Figure 4.

Te tokonga roa o te whakahaere tikanga wai
Sustainable water management

Te Huarahi o Fred Thomas
Fred Thomas Drive

The Fred Thomas Drive pump station upgrade is delivering sustainable wastewater management for the local area. The project serves many purposes, with the dual benefit of catering for growth in the region as well as reducing overflows during storm events. The project upgraded the previous Barry's Point Road pump station, which was built in the 1960s.

The old pumping station had a pumping capacity of 325 litres per second and storage of 520,000 litres. By comparison, the new station has a pumping capacity of 500 litres per second and a storage capacity of 3.5 million litres. Increased capacity is required to service the changing population in the local Devonport peninsula and east Takapuna areas. The population that the asset services is expected to increase from 25,400 in 2015, when the project was initiated, to more than 40,000 by 2050.

Integral to the project is a new storage tank. It has the capacity of 1.5 Olympic swimming pools but will only fill to the brim in storm conditions, which means a reduction in wet-weather overflows during heavy rain into Shoal Bay, Northcote. Infrastructure that can reduce overflows is vital to keeping Auckland's beaches clean, a legacy that, so far, has been well upheld in the North Shore.

Eligible asset	**Eligible asset details**	**Eligible sector** (see Auckland Council's sustainable finance framework)	**CBI criteria/GBP alignment**
Fred Thomas Drive	Wastewater storage and pumping station	Sustainable water management	GBP: Sustainable water and wastewater management
Hunua water main pipeline	New watermain infrastructure able to provide uninterrupted, high-quality water supply to growing region	Sustainable water management	GBP: Sustainable water and wastewater management

Ngā hua whānui
Broad benefits

The project caters for the growth of Auckland whilst also replacing ageing infrastructure that was at the end of its design life.
An additional benefit of the project is reduced overflows of sewage to the natural environment during extreme weather events.
On average this was occurring six times per annum before the construction of the storage tank. Without intervention, overflows were also expected to become more frequent due to population growth – and therefore increased sewage volumes – and more extreme weather events due to climate change.

Ngā ine ngahuru
Metrics

2,047,925m3 of water passed through the Fred Thomas Drive pump station in financial year 2021.

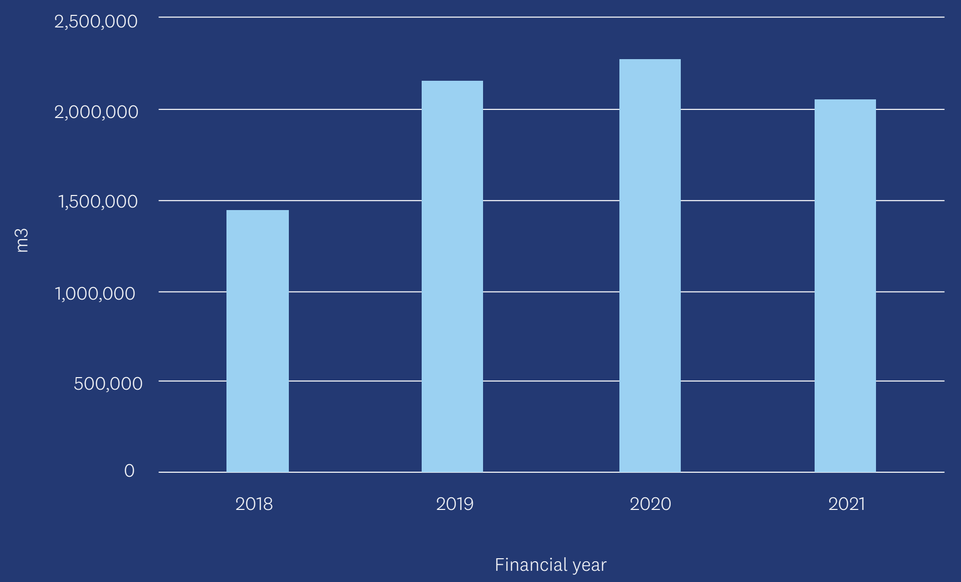

Figure 5. Annual volume of wastewater pumped (Fred Thomas Drive).

Te hātepe
Methodology

Wastewater from this site is pumped through a flow meter. Watercare Services Limited's (Watercare) SCADA (supervisory control and data acquisition) software captures and stores this data.

The data shared was extracted on 19 July 2021 and exported to a spreadsheet which presents this data.

Te kūtere wai o Hunua
Hunua Water Main

Hunua 4 is 31km of a 1.9 meter by 1.6 meter waterpipe that runs from Watercare's Reservoirs at Redoubt Road North in Manukau to the edge of the CBD to reservoirs at Khyber Pass Road.
Its purpose is to provide water to high growth areas of the city such as Manukau City Centre, Flat Bush/East Tāmaki and Auckland Airport. It will support growth in all regions of the city over the next 50 years. In addition, it provides resilience to the other large transmission mains in the event of outages or natural disaster.
This water main can distribute up to 240 million litres of water per day, which is almost half the daily demand for Auckland.

Ngā hua whānui
Broad benefits

The benefits of the project include:

- ensuring that, as demand for water grows, a high-quality water supply can be provided uninterrupted
- providing resilience in the event of a natural disaster
- allowing Watercare to maintain the assets without major disruption to the water supply.

Through the construction of the project there were additional benefits that were also delivered:

- the final section of the pipeline, from Epsom to Khyber Pass, follows major arterial routes. The design team reviewed their standard approach to come up with this solution so that disruption was reduced for road users and businesses by using tunnelled instead of trenched construction methods
- this project also sourced a large percentage of materials from around the local Auckland region. In particular the aggregate was local, and the steel pipe was made close by in the suburb of Onehunga with steel from Glenbrook.

Te whakamahi whenua tokonga roa
Sustainable land use

Te Motu o Puketutu
Puketutu Island

Puketutu Island – known as Te Motu a Hiaroa to Mana Whenua – is sacred to the people of Te Kawerau ā Maki, Te Waiohua and Waikato-Tainui in the Tāmaki Makaurau region. It was the first permanent home of the crew of the Tainui waka in Aotearoa. In the 1950s, the island was quarried for projects including the expansion of the nearby Auckland Airport. Thousands of tonnes of scoria and basalt rock were removed, and the island's volcanic cones disappeared. Many years ago, Watercare bought a long-term lease on the island and then transferred its ownership to a trust with 12 iwi trustees.

We are now rehabilitating the island by filling the former quarry with biosolids from the Mangere Wastewater Treatment Plant. At the end of the project – not until 2049 – the natural landscape will be restored, and four small hills will be created to replicate the scoria cones that were quarried in the 1950s. The area is to become a public amenity for the people of Auckland and will be cherished by the local community.

Eligible asset	**Eligible asset details**	**Eligible sector** (see Auckland Council's sustainable finance framework)	**CBI criteria/GBP alignment**
Rehabilitation of Puketutu Island	Rehabilitation of Puketutu Island using treated biosolids from Mangere Wastewater Treatment Plant	Sustainable land use	GBP: Environmentally sustainable management of living natural resources and land use

Ngā hua whānui

Broad benefits

- The project will significantly reduce waste to landfill. Over the lifetime of the project approximately 4.4 million tonnes of bio solids will have been used to restore the quarry. The current alternative would be for these to go to landfill.
- The long-term goal is for the island to serve as a recreational reserve for everyone in Auckland to enjoy.
- It will restore a culturally significant site to replicate its former state.

The project creates the foundations of what in 30 years will become four hills to replicate the scoria cones quarried in the 1950s. The contours of the hills are based on photos from the early 1900s and the community's recollections of the island. The shape of these hills went through 52 iterations with the community and iwi to ensure they accurately reflect their previous glory. The site has immense cultural, spiritual, historical and ancestral significance to the people of Te Kawerau ā Maki, Te Waiohua and Tainui, who are recognised as the kaitiaki (guardians) of the island.

Upon its completion in the early 2040s, Puketutu Island will be touted as Auckland's only inner-city regional park with coastal views. The island will be a premium park gifted back to the people of Tāmaki Makaurau – Auckland.

Te reo placeholder

Metrics

112,729.8 tonnes of waste have been diverted from landfill during financial year 2021 and used to restore the quarry.

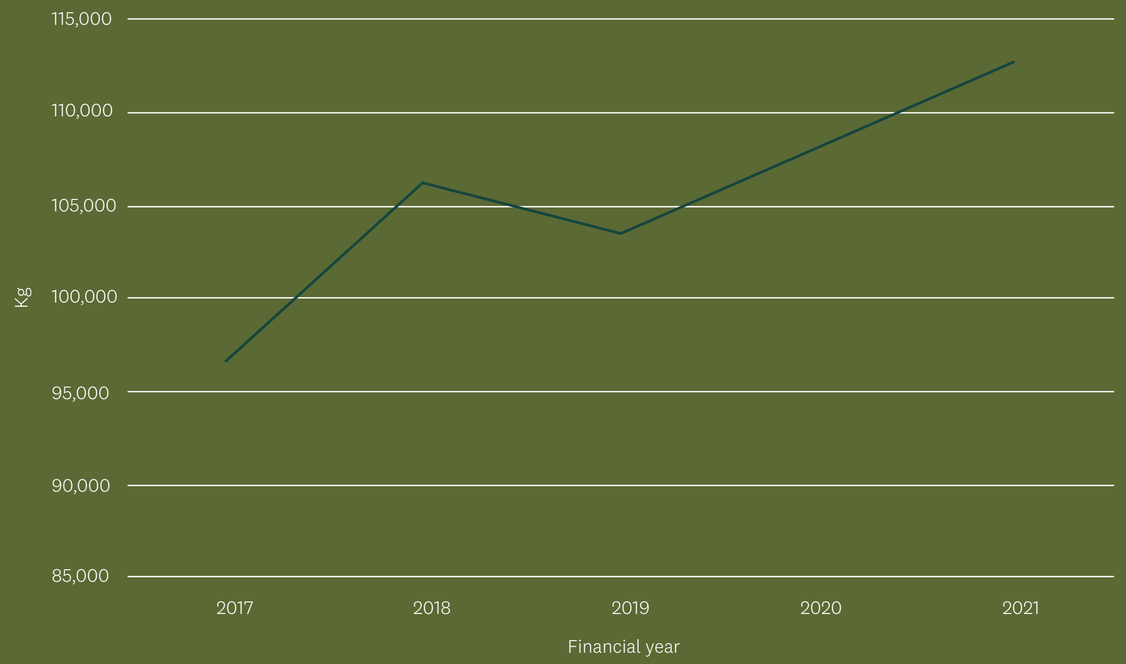

Figure 6. Bio Solids Diverted from Landfill (Puketutu Island).

Te hātepe
Methodology

Weighbridge data for the site is collected daily. This data includes a lime additive which has been removed from this data to ascertain volume diverted from landfill.

Āpitihanga 1
Appendix 1

Building a better working world

Independent Limited Assurance Report to the Management of Auckland Council

Assurance conclusion

Based on our limited assurance procedures, as described in this statement as of 27 September 2021, nothing has come to our attention which causes us to believe that Auckland Council's Green Bond Programme does not continue to meet the requirements of the Climate Bonds Standard v3.0 and Green Bond Principles (2021), and relevant Criteria in all material respects.

Scope

We have performed a limited assurance engagement in relation to Auckland Council's Green Bonds Programme, in order to provide a conclusion as to whether anything has come to our attention that causes us to believe that the subject matter detailed below does not meet the criteria as presented below as at 27 September 2021.

Subject Matter and Criteria

The subject matter and associated criteria for this limited assurance engagement are set out in the table below:

Subject Matter	Criteria
Auckland Council's Green Bonds issuance process, as described in Auckland Council's Green Bond Documentation, including its Sustainable Finance Framework and Use of Proceeds Statement that sets out: ▸ Use of Proceeds ▸ Project selection criteria and management of proceeds details of the Green Bond ▸ Internal systems and processes used to manage the proceeds and report on the Green Bond. Auckland Council's Green Bonds documentation including the Sustainable Finance Framework.[1]	The Climate Bonds Standard v3.0, including the Land Transport Criteria version 2[2] The Green Bond Principles (June 2021) requirements on: ▸ Use of Proceeds ▸ Process for Project Evaluation and Selection ▸ Management of Proceeds ▸ Reporting[3]
Technical details of the assets identified as 'green' ('eligible assets') and their values as at 30 June 2021 in the Green Bond Eligible Assets Schedule	Auckland Council's Sustainable Finance Framework

[1] Auckland Council Sustainable Finance Framework https://www.aucklandcouncil.govt.nz/about-auckland-council/investor-centre/information-for-investors/Pages/green-bonds.aspx
[2] Climate Bonds Standard: https://www.climatebonds.net/files/files/climate-bonds-standard-v3-20191210.pdf
Climate Bond Standard – Low Transport Criteria: https://www.climatebonds.net/files/files/CBI%20Transport%20Criteria%20document_Apr2021.pdf
[3] Green Bond Principles (2021): https://www.icmagroup.org/assets/documents/Sustainable-finance/2021-updates/Green-Bond-Principles-June-2021-100621.pdf

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Management Responsibility

The management of Auckland Council is responsible for the collection, preparation, and presentation of the Subject Matter in accordance with the criteria and for maintaining adequate records and internal controls that are designed to support the Green Bond programme.

Assurance Practitioner's Responsibility

Our responsibility is to express a limited assurance conclusion as to whether the subject matter is presented in accordance with the criteria, in all material aspects. Our assurance engagement has been planned and performed in accordance with the International Standard on Assurance Engagements (New Zealand) 3000: *Assurance Engagements Other than Audits or Reviews of Historical Financial Information* (ISAE (NZ) 3000).

Level of Assurance

A limited assurance engagement consists of making enquiries and applying analytical, appropriate testing, and other evidence-gathering procedures sufficient for us to obtain a meaningful level of assurance as the basis for providing a negative form of conclusion and, as such, do not provide all the evidence that would be required to provide a reasonable level of assurance. The procedures performed depend on the assurance practitioner's judgement including the risk of material misstatement of the specific activity data, whether due to fraud or error. While we considered the effectiveness of Management's internal controls when determining the nature and extent of our procedures, our review was not designed to provide assurance on internal controls. We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our conclusion.

Our Approach

Our assurance procedures performed included, but were not limited to:

- Reviewing any changes to policies and procedures established by Auckland Council related to the issuance of the Bonds, to assess whether they were aligned to the requirements of the Climate Bonds Standard Version 3.0 and the Green Bond Principles (2021)
- Confirming the eligibility of assets included in Auckland Council's Green Bond Programme against Auckland Council's Sustainable Finance Framework
- Checking reported use of proceeds back to evidence on asset values and refinancing arrangements
- Interviewing selected business units and group level personnel to understand key issues related to Auckland Council's relevant policies and procedures
- Reviewing selected green performance information for eligible assets, and documentation supporting assertions made in the Subject Matter
- Checking the accuracy of asset valuations
- Obtaining and reviewing evidence to support key assumptions and other data
- Seeking management representation on key assertions.

Limitations

There are inherent limitations in performing assurance – for example, assurance engagements are based on selective testing of the information being examined – and it is possible that fraud, error, or non-compliance may occur and not be detected. There are additional inherent risks associated with assurance over non-financial information including reporting against standards which require information to be assured against source data compiled using definitions and estimation methods that are developed by the reporting entity. Finally, adherence to ISAE (NZ) 3000 is subjective and will be interpreted differently by different stakeholder groups.

Our assurance was limited to the Auckland Council's Green Bond Programme and did not include statutory financial statements. Our assurance is limited to policies and procedures in place as of 27 September 2021. The firm performs other Advisory engagements for Auckland Council. Other than these Advisory engagements the firm has no other relationships with, or interests in, Auckland Council.

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Use of Report

Our responsibility in performing our assurance activities is to the Management of Auckland Council only and in accordance with the terms of reference for this engagement as agreed with them. We do not therefore accept or assume any responsibility for any other purpose or to any other person or organisation, with the exception of the Climate Bonds Initiative. Any reliance any such third party may place on the Auckland Council's Green Bond Programme is entirely at its own risk. No statement is made as to whether the criteria are appropriate for any third-party purpose.

Our Independence and Assurance Team

In accordance with APES 110 *Code of Ethics for Assurance Practitioners*, the firm and all professional personnel involved in this engagement have met the independence requirements of New Zealand or International professional ethical requirements. Our team has the required competencies and experience for this assurance engagement.

Observations on particular aspects of our engagement:

We provide selected observations aligning to the Climate Bonds Standard v3.0 and Green Bond Principles (2021) core components, to provide the reader with further understanding on how this Green Bond meets the criteria. These observations are not intended to detract from our conclusion provided above.

Use of Proceeds:

- Proceeds from this Green Bond will be used for financing and refinancing purposes
- Proceeds support the value of rolling stock, vehicles and infrastructure for electrified public transport (including the City Rail Link project), and public walking and cycling infrastructure, owned or expected to be owned by Auckland Council, that meet the Climate Bonds Standard ('CBS') Low Carbon Land Transport Criteria, and the Green Bond Principles (2021)
- Proceeds also support the value of Auckland Transport assets for improving the safety and reliability of Auckland's public transport system, green buildings, and various Watercare assets for improving the capacity and efficiency of Auckland's wastewater system, owned or expected to be owned by Auckland Council, that meet the Green Bond Principles (2021) but are not certified under the Climate Bonds Standard
- The value of the refinanced eligible assets is based on the net book value. If during the tenor of the Green Bond, the value of total eligible assets falls below the Green Bonds' total face value, Auckland Council may obtain market valuation of assets if net book values are significantly different from the fair value
- The value of new eligible assets is based on contracts for the purchase of new assets and actual payments made by the Council to contracted parties, as confirmed through accounting systems and foreign currency hedging arrangements
- The CBS Land Transport Criteria was developed by the Climate Bonds Initiative, an international, investor-focused not-for-profit organisation aiming to develop tools to mobilise the bond market for climate change solutions. The primary objective is to ensure that any land transport projects or assets certified by the CBS would contribute to meeting an emissions trajectory consistent with limiting global temperature rises to 2° Celsius
- The use of proceeds of the bonds toward electrified public transport trains and equipment, the CityRail Link, and the Manukau Bus interchange aligns with the Green Bond Principles' project category "clean transportation (such as electric, hybrid, public, rail, non-motorised, multi-modal transportation, infrastructure for clean energy vehicles and reduction of harmful emissions)"
- The use of proceeds of the bonds towards the LED upgrade of streetlighting aligns with the Green Bond Principles' project category "energy efficiency (such as in new and refurbished buildings, energy storage, district heating, smart grids, appliances and products)"
- The use of proceeds of the bonds towards the green building retrofits of Auckland Council community buildings aligns with the Green Bond Principles' project category "green buildings that meet regional, national or internationally recognised standards or certifications for environmental performance"
- The use of proceeds of the bonds towards the Fred Thomas Drive wastewater pump station and storage, the Hunua 4 watermain and the Puketutu restoration project aligns with the Green Bond Principles' project category "sustainable water and wastewater management (including sustainable infrastructure for clean and/or drinking water, wastewater treatment,

Building a better working world

sustainable urban drainage systems and river training and other forms of flooding mitigation)"

- The use of proceeds of the bonds towards the Rosedale floating solar array aligns with the Green Bond Principles' project category "renewable energy (including production, transmission, appliances and products)"

Process for Project Evaluation and Selection

- Auckland Council has developed a Sustainable Finance Framework that outlines the environmental objective of the bonds, eligibility criteria for determining green projects and the process for project selection and evaluation.

Management of Proceeds

- Auckland Council has implemented processes to manage initial funds received from the Green Bonds and to monitor the on-going use of proceeds. These processes include:
    - An ear-marking process through existing systems to designate the proceeds received
    - A process for deploying any unallocated proceeds to temporary cash equivalent investments
    - A monthly process for monitoring the on-going use of proceeds and value of eligible assets
    - Annual Use of Proceeds reporting and reporting on the environmental performance of the bonds.

Reporting

Auckland Council has publicly reported on the Use of Proceeds of Green Bonds and will continue to do so annually, which will include as a minimum: a list of eligible assets, the value of the eligible assets, and the environmental performance of eligible assets.

Ernst & Young Limited

Pip Best
EY Climate Change and Sustainability Services Partner
27 September 2021

Āpitihanga 2
Appendix 2

TOITŪ
ENVIROCARE

REVIEW OF IMPACT ASSESSMENT EMISSIONS

For organisation:

AUCKLAND COUNCIL

Date: 26th July 2021

Auckland Council has drafted content within an Impact Assessment section of their Green Bond Annual Report FY2021, which provides details on the contribution that selected asset developments contribute towards a reduction or avoidance in greenhouse gas emissions.

Toitū Envirocare reviewed* the relevant section of the report for accuracy of data transfer from the calculation files, and for general readability. The review checked the work flow and workbook design, with a focus on the following components: Activity data, Assumptions, Formula calculations, Emissions factors.

Results of the review were articulated back to Auckland council in the form of a short review report, and which concludes the calculations are robust enough for the scope and intent of the measurements performed.

Toitū considers the methodology appropriate and the workings sufficient for the purpose of the impact communications being made.

Assets reviewed included: Electric trains, Public Cycleway Assets, City Rail Link, Street Lighting LED Upgrade, Bledisloe House Customer Service Centre; Auckland Council head Office; Manukau Civic Building

**File version: Annual Green Bond Report FY21 for Review v1.docx*

Disclaimer: the service provided was a review and limited to the files and procedures listed and outlined above. This document should not be considered as a verification assurance statement and no assurance was provided as part of this review.

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