



Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan

# Progress Indicators Baseline Report

November 2022



Auckland Council (2022). Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan Progress Indicators Baseline Report

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# **Executive Summary**

Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan sets out Auckland's long-term approach to climate action for the Auckland region. It outlines the priority action areas to deliver our goals to reduce emissions and adapt to the impacts of climate change.

The plan was adopted in July 2020 and included a list of indicative indicators to track progress against the priorities. Te Puāwaitanga ō te Tātai, as a principle-based priority, did not include specific indicators at the time of the plan's adoption.

This report is the baseline report for all indicators and confirms the 33 indicators (and the datasets) that will be used for ongoing monitoring. The closest date to the plan's adoption (where appropriate) has been selected as the baseline for the indicators.

10 headline indicators are reported annually in the Te Tāruke-ā-Tāwhiri Annual Progress Report in September each year. All indicators are reported every three years as part of a more in-depth analysis of progress and trends.

As more data are available over time, the set of indicators will be reviewed to ensure the most relevant and appropriate information is used to track progress.

# **Baseline summary**

# Natural environment priority

PROGRESS INDICATOR	BASELINE (YEAR)	DATA SOURCE
Urban forest canopy cover (Headline) Average tree canopy cover in the urban area.	18% (2018)	Auckland Council
<b>Air quality (Headline)</b> Concentration of NO <sub>2</sub> (ug/m <sup>3</sup> ) on Queen Street	36.8 (2020)	Auckland Council
<b>State and quality of locally, regionally and nationally significant environments</b> Proportion of Aucklanders who value biodiversity	78% (2020)	Auckland Council
Marine water quality Marine water quality indicators that are excellent and good	29% (2020)	Auckland Council
<b>Freshwater quality</b> Freshwater quality indicators that are excellent and good	15% (2020)	Auckland Council

# **Built environment priority**

PROGRESS INDICATOR	BASELINE (DATE)	DATA SOURCE
Housing close to Rapid Transit Network (RTN) Stations (Headline)		
Percentage of annual dwelling consents within 1,000m of a train or busway station (rapid transit network stations)	17% (2020)	Auckland Council
Water consumption Average consumption of drinking water (litres per person per day)	269 (2020)	Watercare

# Transport priority

PROGRESS INDICATOR	BASELINE (DATE)	DATA SOURCE
Petrol and diesel sales (Headline)	Petrol: 1012 (2019)	NZTA
Annual fuel sales (Mega Litres)	Diesel: 643 (2019)	
Public transport trips per capita (Headline)		
Average public transport boardings per capita per year (ending 30 June)	60 (2019)	Auckland Transport / Stats NZ
Public transport trips total		
Public transport boardings per year (ending 30 June)	100.8m (2019)	Auckland Transport
Electric and hybrid vehicles		
Number of electric/hybrid vehicles in the light vehicle fleet	44,436 (2020)	NZTA
Cycling trips	2.0	
Cycle counts in selected sites	3.8m (2019)	Auckland Transport
Cycling mode share		
Percentage of cycling mode share (people 15 years and over cycling to work)	1.0% (2018)	Stats NZ
Walking mode share		
Percentage of walking mode share (people 15 years and over walking to work)	4.3% (2018)	Stats NZ

# **Economy priority**

PROGRESS INDICATOR	BASELINE (DATE)	DATA SOURCE
<b>Waste to landfill (Headline)</b> Total solid waste (kg per capita per annum)	147 (2020)	Auckland Council
<b>Emissions from businesses</b> Number of companies measuring and/or verifying its GHG emissions	9% (2021)	Tātaki Auckland Unlimited
Average wage Mean annual earnings	\$69,833 (2020)	Stats NZ
<b>Emissions intensity per unit of GDP</b> Percentage change in tonnes of CO <sub>2</sub> -equivalent (tCO2e) per million \$NZ GDP (year on year)	-7% (2018)	Auckland Council

# Communities and coast priority

PROGRESS INDICATOR	BASELINE (DATE)	DATA SOURCE
Low carbon living (Headline)		
Number of Aucklanders engaged in low carbon lifestyle	48,816 (2021)	Auckland Council
Schools engaged in sustainable education (Headline)	60% (2021)	Auckland Council
Percentage of schools engaged in sustainability programmes		
Coastal adaptation	1 (2020)	Auckland Council
Number of Shoreline Adaptation Plans completed		
Community Climate Action	F (0000)	Auckland Council
Number of local board climate action Plans completed	5 (2020)	
Aucklanders aware and concerned about climate change	50% (2020)	Quality of life survey
Percentage of respondents who are worried/very worried about climate change		

# Food priority

PROGRESS INDICATOR	BASELINE (DATE)	DATA SOURCE
Proportion of domestic food waste going to landfill (Headline) Percentage of domestic food waste as proportion of total domestic waste going to landfill	45% (2016)	Auckland Council
<b>Food scraps diverted from landfill (Headline)</b> Tonnes of domestic food scraps collected by Auckland Council food scrap collection service	1,144 (2021)	Waste solutions
<b>Domestic food waste going to landfill</b> Tonnes of domestic food waste going to landfill	106,541 (2016)	Auckland Council
<b>Domestic plant-based diet</b> Respondents aged 18 and above who always / mostly go meat-free	15% (2020)	Better futures survey

# Energy and industry priority

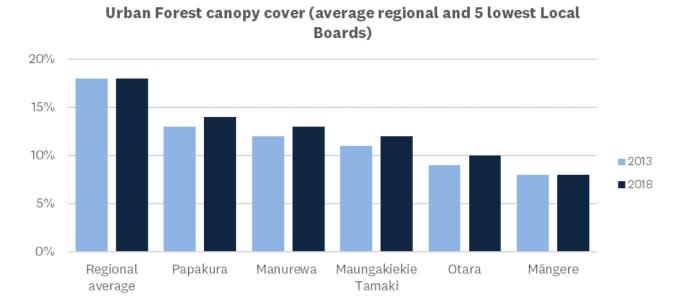
PROGRESS INDICATOR	BASELINE (DATE)	DATA SOURCE
Emissions from electricity consumption (Headline) Total emissions from electricity consumption (kt CO2e)	1,253(2019)	Auckland Council
Emissions from stationary fuel consumption (Headline) Total emissions from stationary fuel consumption (kt CO2e)	2,327 (2019)	Auckland Council
<b>Renewable energy</b> Percentage of grid electricity generated from renewable sources	82.7% (2019)	Ministry of Business Innovation & Employment
<b>Decentralised renewable energy</b> Installed generation capacity from local and regional decentralised renewable energy solutions (MW)	62 (2019)	Electricity Authority
<b>Electricity usage</b> Total stationary energy use (consumption in June)	3,971 GWhr (2019)	Electricity Authority
<b>Peak electricity usage</b> Peak electricity use (consumption in June)	1,219 GWhr (2019)	Electricity Authority

### Priority Taiao māori



# Natural environment

#### Headline indicator. Urban forest canopy cover



#### Data

Percentage urban forest canopy cover - this includes Auckland's overall urban forest canopy cover, and the five local boards with lowest canopy cover.

#### Source

Auckland Council LiDAR survey

#### Frequency

Three yearly, however, only two LiDAR surveys have been completed in the last 10 years.

#### Relevance

Tree canopy cover is an important moderator of urban temperatures and increasing tree cover will be a key part of Auckland's adaptation to increasing urban temperatures.

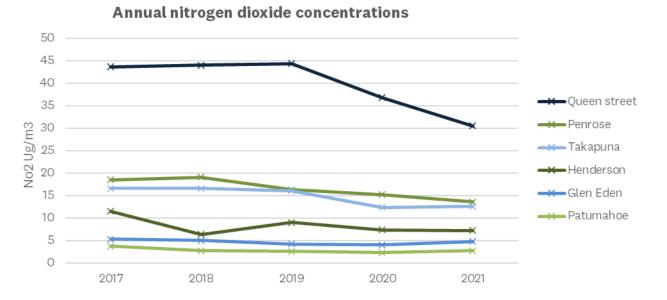
#### Baseline (2018)

Regional average urban forest canopy cover of 18%

### Priority Taiao māori

# Natural environment

#### Headline Indicator. Air Quality



#### Data

Nitrogen dioxide (NO $_{\!2})$  monitored in accordance with National Environmental Standards for Air Quality

#### Source

Auckland Council, Air Quality - Annual data report

#### Frequency

Annually. Data is collected continuously and averaged over a calendar year.

#### Availability

Auckland Council

#### Note

The annual mean  $NO_2$  concentration for Auckland in 2021 is the lowest recorded since 2006. The annual mean concentration significantly decreased by 16.7% compared to 2020. The decreases in 2020 and 2021 are connected to a reduction in vehicle traffic during the COVID-19 lockdowns.

#### Relevance

Healthy communities are more resilient to the impacts of climate change and reduce the burden on the health system. Many climate actions designed to reduce GHG's also improve air quality such as those targeting vehicle emissions, which are a primary source of  $NO_2$  in urban environments.

#### Baseline (2020)

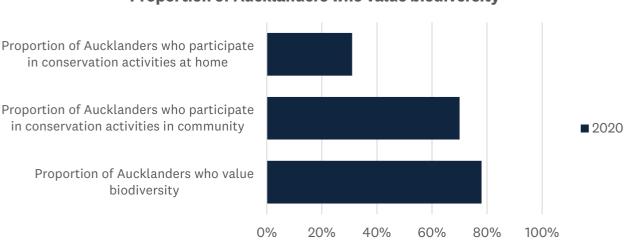
Concentration of  $NO_2$  (µg/m<sup>3</sup>) on:

- Queen Street (36.8)
- Penrose (15.2)
- Takapuna (12.4)
- Henderson (7.4)
- Glen Eden (4)
- Patahumahoe (2.3)

# Priority Taiao māori **Natural environment**



# Progress Indicator. State and quality or locally, regionally, and nationally significant environments



#### **Proportion of Aucklanders who value biodiversity**

#### Data

Mean score from survey respondents who expressed a "pro-ecological" world view utilising the New Ecological Paradigm Scale.

#### Source

Auckland Council, Environmental Services. The Auckland Council Natural Environment Portfolio Social Outcome Monitor 2020 report is available on <u>www.knowledgeauckland.org.nz</u>.

#### Frequency

Every two years

#### Note

This measure utilises the revised New Ecological Paradigm (NEP) scale. This is a globally recognised method to indicate endorsement of a pro-ecological worldview. It consists of 15 statements, some that align to a "pro-ecological" world view and some aligned to a contrary world view. A mean score for each statement response that indicates a "pro-ecological" world view is calculated and then averaged across all 15 questions.

#### Relevance

People's world view informs their choices and behavior, people with a "pro-ecological" world view are more likely to be stewards of the natural environment and make sustainable choices.

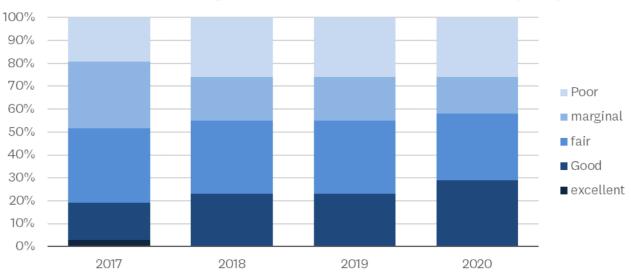
#### Baseline (2020)

78% of survey respondents stated they value biodiversity.

### Priority Taiao māori

# Natural environment

#### Progress indicator. Marine water quality



Percentage of sites (marine water) in each water quality class

#### Data

The water quality Index (WQI) represents the deviation from reference coastal or estuarine conditions in the Auckland region, rather than indicating whether the water quality is suitable for a particular purpose or activity. Records percentage of monitored sites in each water quality index class over a rolling time periods (n = 31). For the 2020 result the rolling average was from 2018 to 2020.

#### Source

Auckland Council water monitoring programme. Coastal and estuarine water quality in Tāmaki Makaurau / Auckland: 2020 annual data report.

#### Frequency

Annual

#### Relevance

This gives an overview of water quality status across the region, and shows general changes in state over time. Healthy ecosystems are more resilient to the impacts of climate change.

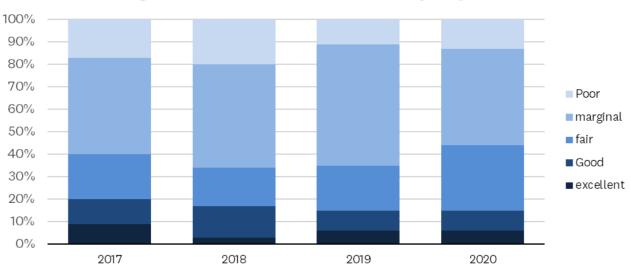
#### Baseline (2020)

29% of marine water quality indicators that are excellent and good.

### Priority Taiao māori



#### **Progress indicator. Freshwater quality**



#### Percentage of site (fresh water) in each water quality class

#### Data

The freshwater quality index (WQI) represents the deviation from reference, or non-human influenced, conditions as evidenced by monitored reference sites in the Auckland region, rather than indicating whether the water quality is suitable for a particular purpose or activity.

#### Source

Auckland Council water monitoring programme. River Water Quality in Tāmaki Makaurau / Auckland 2020 Annual Reporting and National Policy Statement for Freshwater Management Current State Assessment

#### Frequency

Annual

#### Note

Nearly 60% of monitored sites had water quality that was 'marginal' to 'poor'.

#### Relevance

This gives an overview of water quality status across the region and shows general changes in state over time. Healthy ecosystems are more resilient to the impacts of climate change.

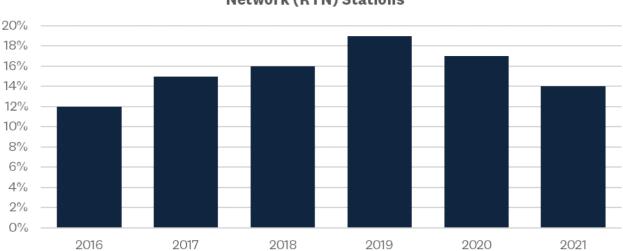
#### Baseline (2020)

15% of freshwater quality indicators that are excellent and good.

# Priority Taiao māori **Built environment**



### Headline indicator. Housing close to Rapid Transit Network Stations



Percentage of dwellings consented within 1000m of Rapid Transit Network (RTN) Stations

#### Data

Percentage of annual dwelling consents within 1000m of Auckland's rapid transit network (RTN) stations. The rapid transit network is made up of rail corridors (southern, western, eastern) and busways e.g. northern busway + eastern busway (in development).

#### Source

Auckland Monthly Housing update. Monthly building consent information is sourced from Statistics New Zealand's InfoShare online portal and mapped to properties by Auckland Council's Research Investigations & Monitoring Unit. The report is available on Auckland Council's Knowledge Auckland website.

#### Frequency

Monthly

#### Relevance

New housing development within walking distance of RTN stations reduces the need for car travel, hence reducing GHG emissions.

#### Baseline (2020)

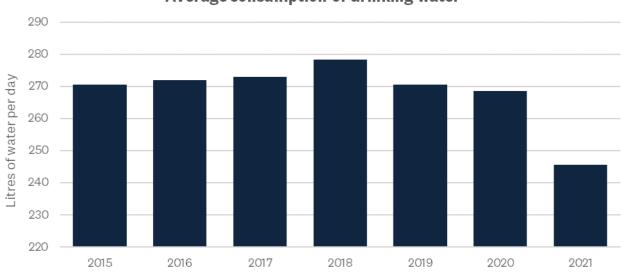
17% of dwellings consented within 1,000m of a train or busway stations (rapid transit network stations)

# Priority Taiao māori

# **Built environment**



#### **Progress indicator. Water consumption**



#### Average consumption of drinking water

#### Data

Average consumption of drinking water (litres per person per day)

#### Source

Watercare Annual Report

#### Frequency

Annual

#### Relevance

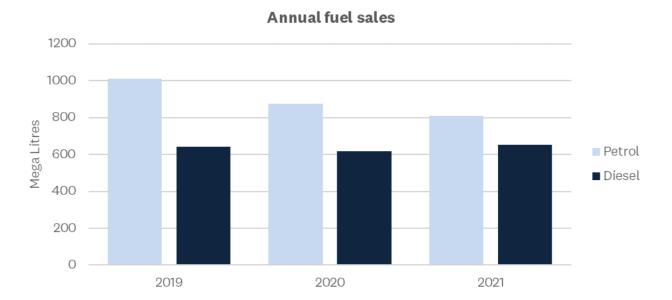
Changing rainfall patterns in Auckland will result in more frequent and longer periods of drought. Reducing water consumption will provide greater resilience during times of drought and reduce the need to seek new water sources in the future.

#### Baseline (2020)

Water consumption at 269 litres per person per day

# Transport





#### Data

Sales of petrol and diesel in Auckland region

#### Source

Auckland Transport

#### Frequency

Quarterly

#### Relevance

Transport is the major source of GHG emissions in Auckland. This indicator tracks both the move away from car travel and replacement of fossil fuel vehicles with low carbon alternatives.

#### Note

It is assumed that the drop in petrol use in 2020 and 2021 is related to the COVID-19 lockdowns, while diesel use remained relatively stable due to ongoing freight trips during this time.

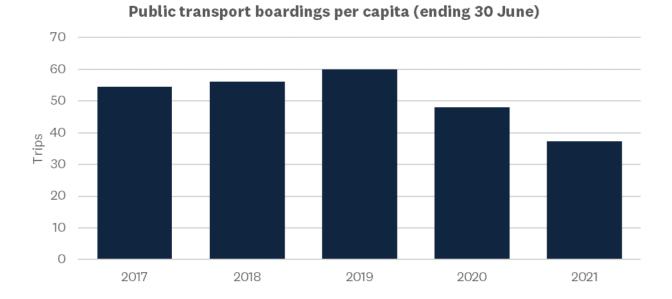
#### Baseline (2019)

Annual sales of petrol at 1012 ML and diesel at 643 ML





#### Headline Indicator. Public transport trips per capita



#### Data

Public transport boardings per capita per year

#### Source

Auckland Transport and Stats NZ

#### Frequency

Monthly/annually

#### Relevance

Increasing use of public transport, walking and cycling, while shifting away from private car use is essential to meet Auckland's GHG emissions reduction targets. This indicator removes the effect of an increasing population and allows a comparison to other cities.

#### Note

Reduction in public transport boardings in 2020 is attributed to COVID-19 lockdowns.

#### Baseline (2019)

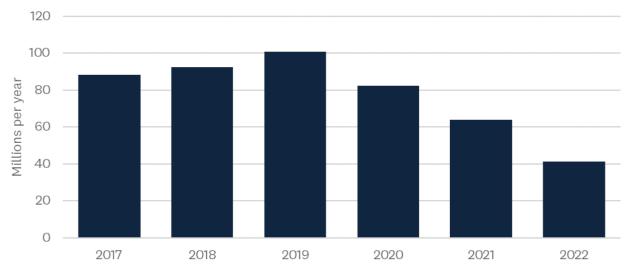
60 public transport trips per capita per year

# Transport



#### Progress Indicator. Public transport trips total

#### Public transport boardings (ending 30 June)



#### Data

Public transport boardings for Auckland in millions per year

#### Source

Auckland Transport

#### Frequency

Annually

#### Relevance

Increasing use of public transport, walking and cycling, while shifting away from private car use is essential to meet Auckland's GHG emissions reduction targets.

#### Notes

Significant reduction in public transport boardings from 2020 to 2022 is attributed to COVID-19 lockdowns.

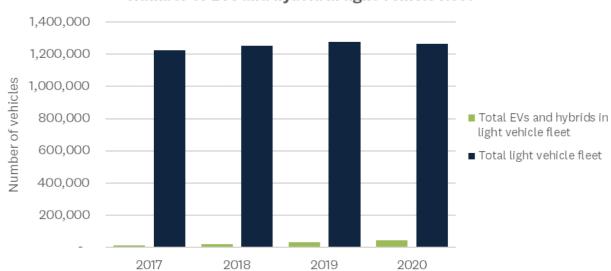
#### Baseline (2019)

100.8m public transport boardings

# Transport



#### Progress Indicator. Electric or hybrid vehicles in the light vehicle fleet



#### Number of EVs and hybrid in light vehicle fleet

#### Data

Number of electric or hybrid vehicles in Auckland's light vehicle fleet

#### Source

Waka Kotahi New Zealand Transport Agency (NZTA) – Annual fleet statistics

#### Frequency

Annual

#### Relevance

Light vehicles are responsible for about 80% of on-road GHG emissions in the Auckland region

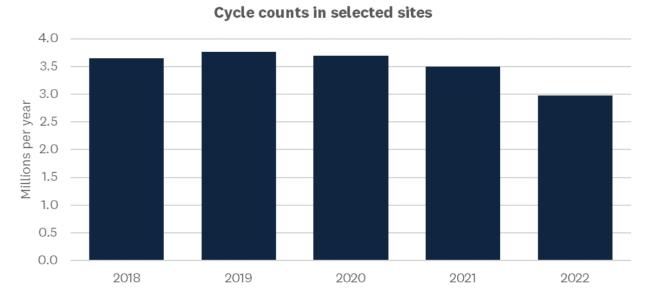
#### Baseline (2020)

44,436 (3.5%) electric and hybrid in the light vehicle fleet

# Transport



#### **Progress Indicator. Cycling trips**



#### Data

Cycle counts in millions at selected urban sites

#### Source

Auckland Transport

#### Frequency

Annually

#### Note

Auckland Transport reports on 26 cycle counters located in the Auckland urban area.

#### Relevance

Increasing use of public transport, walking and cycling, while shifting away from private car use is essential to meet Auckland's GHG emissions reduction targets.

#### Baseline (2019)

3.8m cycle counts in selected sites

# Transport



#### Progress Indicator. Cycling Mode Share



#### Data

Main means of travel to work, usually resident population count aged 15 years and over

#### Source

Stats NZ Census

#### Frequency

Every five years

#### Relevance

Increasing mode share of public transport, walking and cycling, while shifting away from private car use is essential to meet Auckland's GHG emissions reduction targets.

#### Baseline (2018)

1% of those aged 15 and over cycled to work

# **Transport**



#### Progress Indicator. Walking mode share



#### Data

Main means of travel to work, usually resident population count aged 15 years and over

#### Source

Stats NZ Census

#### Frequency

Every five years

#### Relevance

Increasing mode share of public transport, walking and cycling, while shifting away from private car use is essential to meet Auckland's GHG emissions reduction targets.

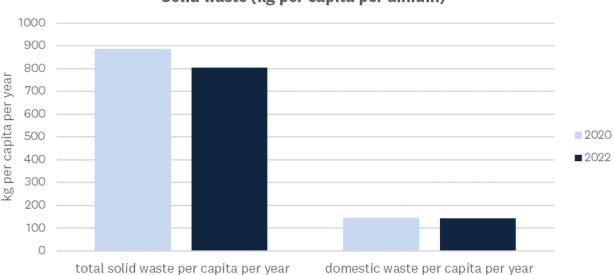
#### Baseline (2018)

4.3% of those aged 15 and over walked to work

### Priority <mark>Ōhanga</mark>







#### Solid waste (kg per capita per annum)

#### Data

Total waste to landfill (kg per capita per annum)

#### Source

Auckland Council

#### Frequency

Annual

#### Relevance

Waste materials sent to landfill represent wasted resources and GHG emissions generated in the production or manufacture of those materials. Preventing waste in the first instance by using resources more efficiently, or turning waste into a resource where it can be reused, repurposed or recycled, reduces the demand for virgin materials and hence reduces GHG emissions. Also, some materials, such as organics, produce methane when they break down in landfill.

#### Baseline (2020)

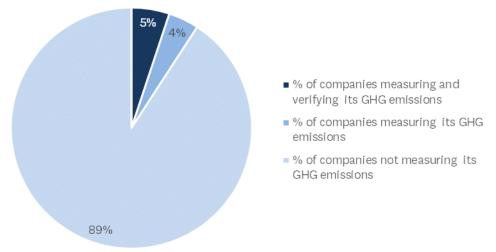
147kg per person per year of domestic kerbside refuse

### Priority <mark>Ōhanga</mark>



#### Progress Indicator. Emissions from businesses

#### **Business measuring GHG emissions**



#### Data

Percentage of Auckland companies measuring greenhouse gas emissions

#### Source

Tātaki Auckland Unlimited Business Survey

#### Frequency

Annual

#### Relevance

Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan is a plan for the whole of Auckland and all sectors of the economy need to make changes to reduce their GHG emissions. Businesses, small, medium and large, have a critical role to play through reducing emissions and preparing for climate change in their own operations, as well as enabling staff to make the transition to low carbon lifestyles, and influencing up and down their value chains.

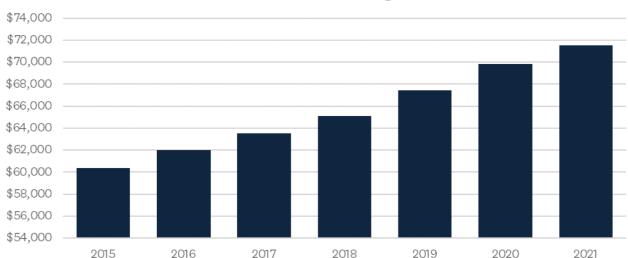
#### Baseline (2021)

9% of survey respondents stated that measure and/or verify its GHG emission

### Priority <mark>Ōhanga</mark>



#### Progress Indicator. Average wage



#### Mean annual earnings

#### Data

Mean annual earnings in NZ\$

#### Source

Infometrics website, Regional economic profile, living standard, mean annual earnings.

#### Frequency

Annual

#### Relevance

This indicator reflects the need for Auckland's economy to transform while also providing quality jobs with long term security that lead to better social outcomes.

#### Baseline (2020)

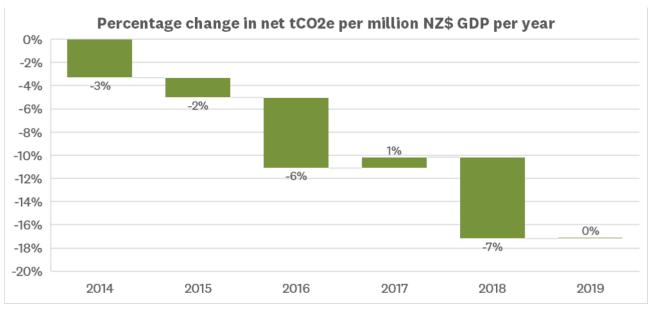
\$69,833 mean annual earnings (3.5% increase in mean average wage from previous year)

### Priority Ōhanga





#### Progress indicator. Emissions intensity per unit of GDP



#### Data

Percentage change in Auckland's net tonnes of CO<sub>2</sub>-equivalent (tCO<sub>2</sub>e) per GDP in million NZ\$

#### Source

Auckland's Greenhouse Gas Inventory

#### Frequency

Annual

#### Note

While Auckland's GDP and GHG emissions are increasing, there seems to be a decreasing trend for  $tCO_{2e}$  per unit GDP. The percentage change is calculated from previous years' values and Auckland's GHG inventory.

#### Relevance

This indicator tracks the rate of change of decarbonisation of business activity, in other words, the decoupling of emissions from GDP e.g. GDP increases while emissions decrease, or overall business activity has lower GHG emissions intensity.

#### Baseline (2018)

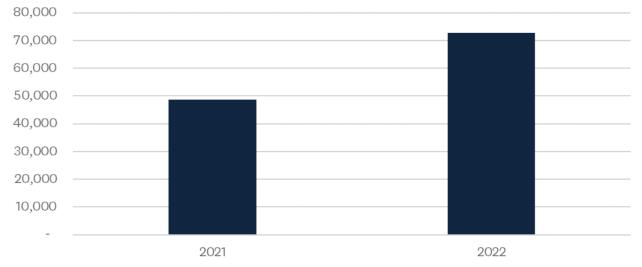
7% decrease in net tCO2e from previous year



# Headline Indicator. Low carbon living

**Communities and coast** 

### Number of Aucklanders engaged in low carbon living



#### Data

Number of Aucklanders engaged in low carbon living (took part in Future Fit, Live Lightly and Bike Hub programmes)

#### Source

Auckland Council

#### Frequency

Annual

#### Relevance

Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan is a plan for the whole of Auckland and all sectors of society need to make changes to reduce their GHG emissions. Aucklanders have an important role to play in creating a low carbon future by reducing our carbon footprint through the everyday choices we make such as how we travel, what we consume and how much we waste.

#### Baseline (2021)

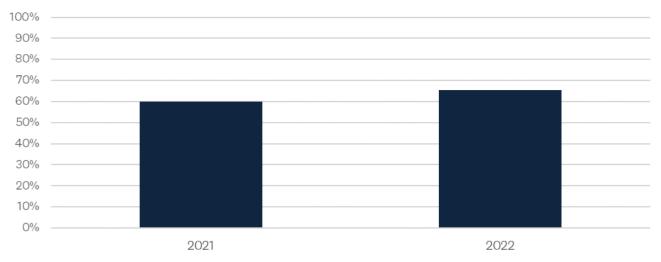
48,816 Aucklanders were engaged in low carbon living





#### Headline Indicator. Schools engaged in sustainable education

#### Schools engaged in sustainable education



#### Data

Percentage of schools engaged with sustainability

#### Source

Auckland Council

#### Frequency

Annual

#### Relevance

Communities and individuals need be aware of our changing climate and how to reduce their carbon footprint. We need to educate communities, so they have the skills, knowledge and energy to build community resilience to the impacts of climate change.

#### Baseline (2020)

Percentage of schools with Auckland council supported sustainability programmes:

- Enviroschools
- Wai care
- Experience centres
- Other advisor lead programmes

# **Communities and coast**



**Progress indicator. Coastal adaptation** 



#### Data

Number of shoreline adaptation plans completed

#### Source

Auckland Council

#### Frequency

Annual

#### Relevance

Auckland's coastlines will be increasingly impacted by climate change through sea level rise, erosion and flooding. It is therefore essential that we prepare for the future management of Auckland Council owned land and assets on the coast. These plans will set out a sustainable, systems-based approach to the management of Auckland's shoreline over the next 100 years.

#### Baseline (2021)

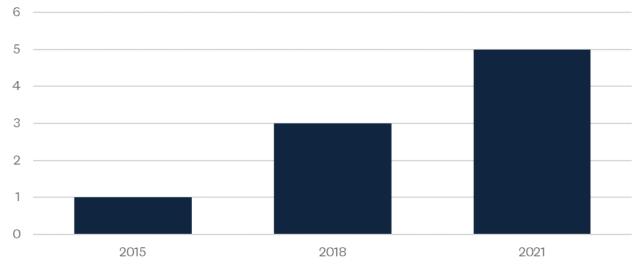
1 Shoreline Adaptation Plan completed (Whangaparāoa pilot)





#### **Progress Indicator 6. Community climate actions**

#### Number of Local Board Climate Action Plans completed



#### Data

Number of local board climate action plans completed

#### Source

Auckland Council

#### Frequency

Annual

#### Relevance

Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan is a road map for a net zero emissions, climate resilient Auckland. To achieve these goals will take action from a range of stakeholders and partners, including central government, businesses, mana whenua, and communities. Local board climate action plans represent the localised implementation of Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan.

#### Baseline (2020)

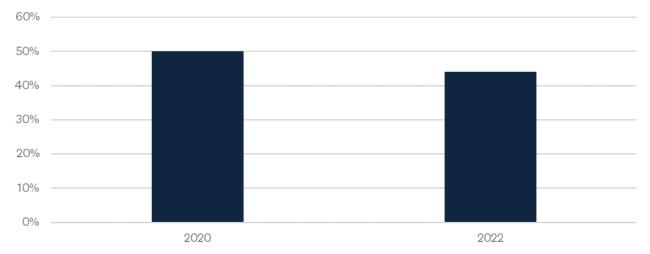
Five Local Board Climate Action Plans completed





#### Progress indicator. Aucklanders aware of and concerned about climate change

Percentage of respondents are worried/very worried about climate change



#### Data

Percentage of respondents "worried/very worried about climate change"

#### Source

Quality of life survey

#### Frequency

Annual

#### Relevance

There is a need to engage and educate communities and industries to raise awareness of and prepare for current and future climate risks.

#### Baseline (2020)

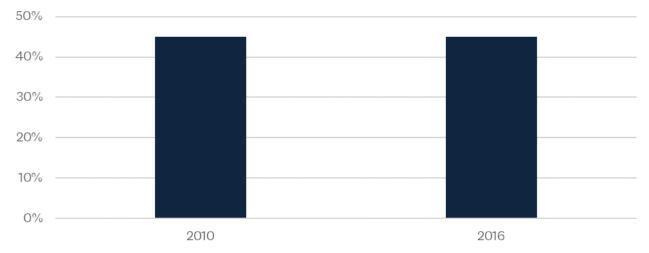
50% of respondents stated they are worried or very worried about climate change





#### Headline Indicator. Proportion of domestic food waste going to landfill

Percentage of food waste as proportion of total domestic kerbside waste going to landfill



#### Data

Percentage of food waste in domestic kerbside waste

#### Source

Auckland Council

#### Frequency

Every six years - next due to be undertaken in 2022

#### Relevance

Food waste is typically disposed to landfill and has potential to generate methane emissions.

#### Baseline (2016)

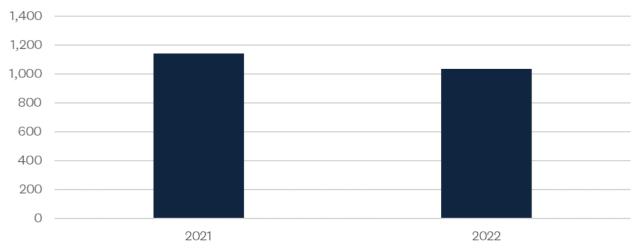
45% of domestic food waste as proportion of total domestic waste going to landfill per year





#### Headline indicator. Food scraps diverted from landfill

#### Tonnes of domestic food scraps collected by Auckland Council food scrap collection service



#### Data

Tonnes of domestic food scraps collected

#### Source

Auckland Council

#### Frequency

Monthly

#### Note

This data was collected as part of a kerbside food collection and digestion trial

#### Relevance

Food waste is typically disposed to landfill and has potential to generate methane emissions. Any emission of methane from digester are collected and burnt to produce heat for a greenhouse also waste material can be recycled as fertiliser.

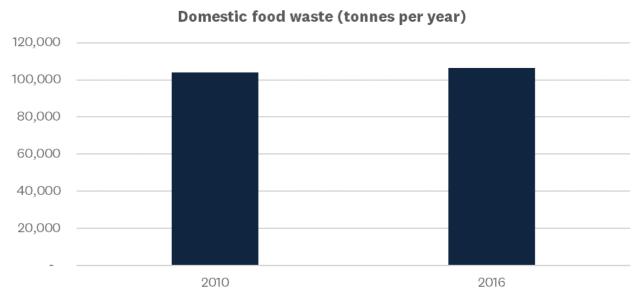
#### Baseline (2021)

1,144 tonnes of domestic food scraps collected by Auckland Council food scrap collection services

Food



#### Progress indicator. Domestic food waste going to landfill



#### Data

Domestic food waste going to landfill

#### Source

Auckland Council

#### Frequency

Every six years - next due to be undertaken in 2022

#### Relevance

Food waste is typically disposed to landfill and has the potential to generate methane emissions.

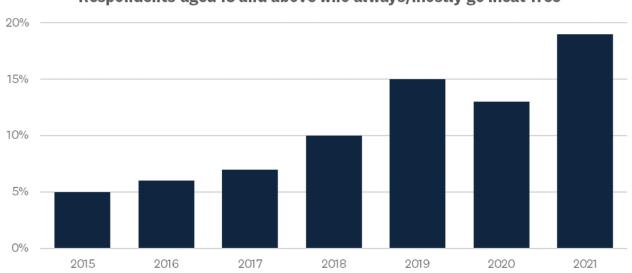
#### Baseline (2016)

106,541 tonnes of domestic food waste per year going to landfill





#### Progress indicator. Domestic plant-based diet



#### Respondents aged 18 and above who always/mostly go meat-free

#### Data

Respondents aged 18 and above who always / mostly go meat-free

#### Source

Colmar Brunton annual better futures survey

#### Frequency

Annual

#### Relevance

Plant-based foods such as vegetables, fruits, legumes and grains have a lower carbon footprint than meat and dairy products.

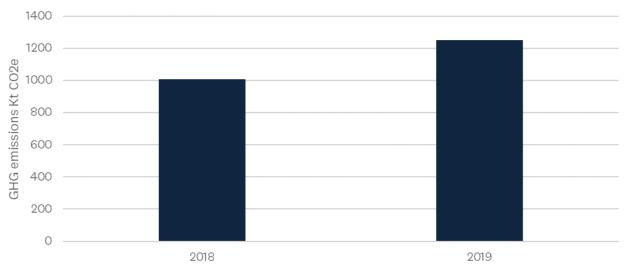
#### Baseline (2020)

13% of respondent aged 18 and above who always/mostly go meat-free

# Energy and industry

#### Headline indicator - Emissions from electricity consumption

#### Total emissions from electricity consumption



#### Data

Total GHG emissions attributed to electricity consumption in Auckland

#### Source

Auckland's Greenhouse Gas Inventory

#### Frequency

Annual

#### Availability

Auckland Council

#### Relevance

The stationary energy sector contributes 28% to Auckland's gross emissions. Electricity use produces approximately 35% of all emissions from the stationary energy sector. In addition, peak electricity is generally provided by fossil fuel powered generation plants.

#### Baseline (2019)

1,253 kt CO2e of emissions from electricity consumption

# **Energy and industry**

#### Headline Indicator. Emissions from stationary fuel consumption

# 

#### Data

Total GHG emissions attributed to stationary fuel combustion in Auckland

#### Source

Auckland's Greenhouse Gas Inventory

#### Frequency

Annual

#### Availability

Auckland Council

#### Relevance

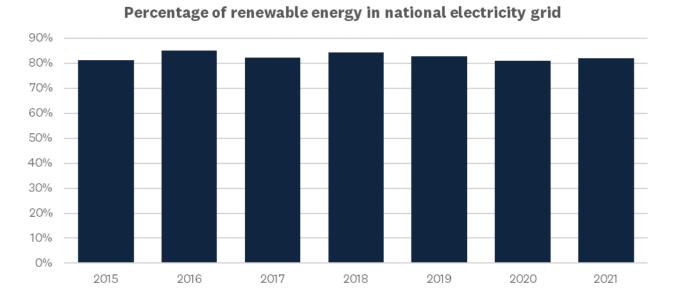
The stationary energy sector contributes 28% to Auckland's gross emissions. The use of fossil fuel produces approximately 65% of all emissions from the stationary energy sector e.g. the use of natural gas, coal and LPG to generate energy.

#### Baseline (2019)

2,327 kt CO2e of emissions from stationary fuel consumption

# **Energy and industry**

#### Progress indicator. Renewable energy



#### Data

Percentage of renewable energy in the national electricity grid

#### Source

Ministry of Business Innovation & Employment (MBIE) - Annual electricity generation and consumption

#### Frequency

Annual

#### Relevance

Increasing the percentage of electricity generated from renewable sources, such as hydro, geothermal, wind and solar, reduces the GHG emissions associated with electricity use.

#### Baseline (2019)

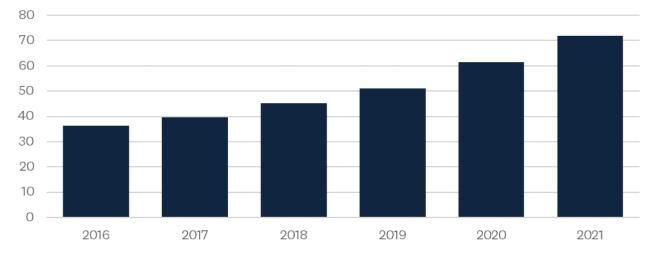
82.7% of grid electricity generated from renewable sources

# **Energy and industry**



#### Progress Indicator. Decentralised renewable energy

Installed generation capacity from local and regional decentralised renewable energy solutions (MW)



#### Data

Total megawatts (MW) of renewable generation installed in Auckland

#### Source

EMI (Electricity Authorly web site) - installed distributed generation

#### Frequency

Annual

#### Relevance

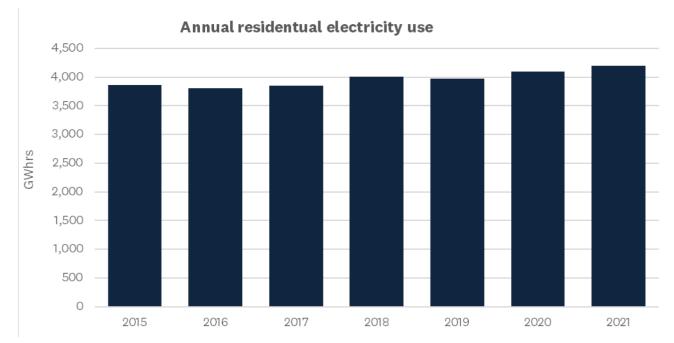
Local and regional renewable energy generation can reduce GHG emissions associated with electricity use and improve energy resilience.

#### Baseline (2020)

62MW installed generation capacity from local and regional decentralised renewable energy solutions

# **Energy and industry**

#### **Progress Indicator. Electricity usage**



#### Data

Total stationary energy use in the Auckland region, based on consumption in June

#### Source

EMI (Electricity Authority web site) residential consumption in GWhr

#### Frequency

Annual

#### Relevance

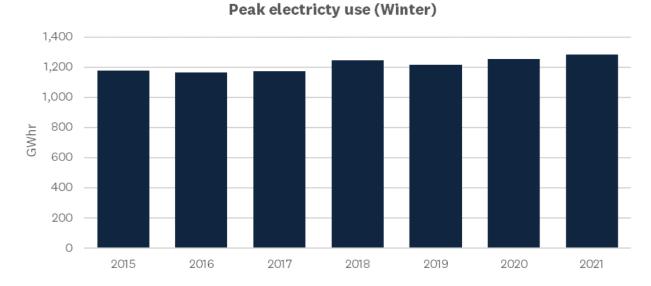
A measure of the electricity consumed by residential housing in Auckland. The energy efficiency of housing is one of the factors influencing this measure.

#### Baseline (2019)

Stationary energy use 3,971 GWhr

# Energy and industry

#### Progress Indicator. Peak electricity usage



#### Data

Auckland's peak residential electricity use (using the winter months -June, July and August to represent the highest electricity use)

#### Source

EMI (Electricity Authorly web site) residential consumption in GWhr

#### Frequency

Annual

#### Relevance

A measure of the peak electricity in residential housing in Auckland. The energy efficiency of housing is one of the factors influencing this measure.

#### Baseline (2019)

Peak Winter electricity use 1,219 GWhr

#### 45

