Climate Action Investment Options

Purpose

1. Provide options for investment to accelerate Auckland Council's response to climate change.

Context – Rationale for change

2. Tāmaki Makaurau / Auckland is in a climate emergency. We have less than a decade to make major changes to avoid the worst impacts of climate change. Auckland Council is committed to taking action to combat climate change.
3. Our region is already experiencing the effects of a changing climate. Over the last decade, Auckland felt the impacts of heavy rain events, storm surges and coastal inundation, extreme heat events, and droughts. These climate impacts are expected to increase in frequency and severity.
4. In June 2019, Auckland Council unanimously declared a climate emergency, recognising our region's role in limiting global temperature rise to 1.5 degrees Celsius.
5. In response to this declaration, two core goals were established for our region through Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan to:
    - reduce regional greenhouse gas emissions by 50 per cent by 2030 and achieve net zero emissions by 2050
    - prepare for climate change impacts by ensuring we consider the implications of our current emissions pathway in our planning.
6. These goals cannot be achieved by any one individual or organisation. They require bold and ambitious action by individuals, communities, businesses, mana whenua and government. The broad cross-sectoral and region-wide actions required to reach the goals are set out in Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan.

We are not starting from scratch – but there is still more to do

7. Auckland Council is already making some contribution to reaching these goals. For example, we have already committed over $10 billion of investment into improving public transport, walking and cycling infrastructure through our Regional Land Transport Plan 2018-2028. This will contribute to reducing emissions from land transport. We have also invested over $300 million, through Watercare, into making our water infrastructure more resilient to droughts and extreme weather events.
8. Despite this significant investment, we know that a business as usual approach will not achieve our climate goals. We also know Council's ability to directly reduce regional emissions through our own actions is limited.
9. For example, in the transport sector Auckland Transport recently calculated the emissions savings all planned and likely transport interventions that do not require new legislation or central government leadership could achieve. This included transitioning to a low-emissions bus fleet, completing scheduled bus, cycle and rail projects, creating low-emissions vehicle zones and education about walking and cycling. These interventions would reduce regional emissions by less than 5 per cent by 2030.

Status quo – Current levels of investment

10. Under the status quo, Auckland Council is making a relatively limited investment into some key activities that are relevant to achieving our climate goals.

11. Key outcome areas include:

    - Zero emissions bus fleet – Under current budgets Auckland Transport will likely need to add more diesel buses to their fleet up until 2025. Diesel buses will then slowly be replaced by clean electric and hydrogen buses – making 26 per cent of the fleet zero emissions by 2030 and delivering a fully zero emissions bus fleet by 2040. This has a cost of $16 million up to 2030 (additional to the normal running costs of the bus fleet).
    - Coastal change – Over the next eight years we will invest around $200,000 per year into developing coastal management plans, a crucial tool to help us manage the impacts of coastal inundation and storm surges on our 1,800 kms of coastline. Current investment levels will enable us to develop eight of 15 required coastal plans by 2028. While we have a budget to renew existing coastal assets, there will be no new funding to respond to coastal erosion.
    - Zero Waste Auckland – We have made a significant investment into developing our network of 12 Community Recycling Centres, but our provision of operational funding to keep these centres running will stop in 2023.
    - Community action – Household emissions, (including transport) are growing and make up 71 per cent of New Zealand's consumption emissions. Our programmes to support Aucklanders to reduce their emissions reach only 30,000 or two per cent of Aucklanders per year.
    - Growing our ngahere (forests) – Despite a number of established planting programmes in our regional and local parks, including the Mayor's 1.5 Million Trees initiative, we know that canopy cover is only eight or nine per cent in some southern local boards and our forests are shrinking in some parts of Auckland.

12. There are also activities Auckland Council undertakes that are adding to our organisational and regional greenhouse gas emissions and are leaving us more exposed to the impacts of climate change.

13. In summary, a "business as usual" approach will not enable Auckland Council to play our part in reducing regional emissions. Our modelling shows that under the business as usual scenario, without additional action to reduce emissions across all sectors, regional emissions will increase by 19 per cent by 2050.

14. Significantly more investment is also required to support our natural environment, communities and infrastructure to be resilient to the impacts of climate change.

Option One – Moderately accelerate Auckland Council's climate action

15. Option One would provide $152 million of additional financial investment to accelerate Council's contribution to our regional climate goals. Key outcomes of programmes included in Option One are summarised in Attachment A.

Reducing emissions

16. Option One will allow council to moderately accelerate our climate action work programme. Various enabling programmes will be introduced, such as requiring climate compatibility assessment for all new Council developments and infrastructure to promote low carbon development. Council will establish a cross-sectoral leadership group and regional partnerships to implement Te Tāruke-ā-Tāwhiri: Auckland's Climate

Plan and partner with businesses and central government to identify solutions to our biggest emissions challenges.

17. Council will also act to directly reduce emissions in some key areas. For example, by investing $34 million into our bus fleet, we can ensure that no more diesel buses are added to our fleet from 2021 and provide 600 clean electric and hydrogen buses by 2030. This means 40 per cent of the bus fleet will be zero emissions by 2030, saving 90,000 tonnes of CO2 equivalent over ten years.
18. We will invest $10 million into the operational costs of expanding our resource recovery network. This will ensure that we can unlock $28 million of central government funding which we expect to receive from the waste levy when this is increased. This will mean we can expand our Zero Waste Auckland programme, establishing nine more community recycling centres, two resource recovery parks and a deconstruction hub to divert over 140,000 tonnes of waste a year from landfill by 2030.
19. Investing $14 million into growing our urban and rural forests will mean we can plant around 11,000 more street-trees. Some trees will be planted in all local boards, with the highest priority given to local boards that currently have the lowest canopy cover. We will also partner with the community to establish a nursery and produce 200,000 more native seedlings a year to support community and marae planting.
20. A key area of feedback on the climate plan was that Aucklanders want the council to support them to take action to prevent climate change. By investing $12 million into supporting community climate action we can provide 45,000 Aucklanders per year on average with advice and tools that enable them to make changes to the way they live. This will reduce household emissions and build resilience to climate impacts.
21. Council will also invest $17 million into tactical interventions, delivered in consultation with local businesses and residents, to progress a zero emissions area in the Queen Street valley and some projects to support low emissions streets in other areas.
22. Finally, we will invest $10 million into reducing emissions from our council buildings and facilities such as our stadium, making these more energy efficient and installing renewables on some buildings. 200 hectares of native forest will also be planted in our regional parks to offset our organisational emissions.
23. The direct emissions reduction from this option is expected to be around 460,000 to 790,000 tonnes of CO2 equivalent over ten years. However, this does not include the emissions reductions from some enabling actions, such as the regional partnerships programme or climate compatibility assessments for new developments. These emissions reductions are expected to be more significant but also have more uncertainty so cannot be quantified.

Adapting to change and increasing resilience to climate impacts

24. Option One allows a limited investment into planning for adaptation and supporting community resilience. Under this option we will invest $14 million into working with Māori to enhance their resilience to climate change, engaging 20 marae and their associated kura in a climate resilience programme. We will also establish a rangatahi Māori leadership group and support delivery of Māori-led projects to increase resilience to climate change. These will focus on key areas of significance such as indigenous food sovereignty and restoring te mauri o te wai.

25. Council will also be able to increase our planning for how to respond to coastal change, delivering 15 coastal management plans for all 1,800 kilometres of our coastline by 2026 and a Coastal Asset Management Plan. Our ability to support Aucklanders to respond to natural hazards that will be worsened by climate change, such as landslides and cliff erosion, will also be enhanced.

26. This option allows us to provide some targeted support to communities in need to access affordable, low carbon food and reduce their energy usage through investing $5 million over ten years. This includes some targeted support and engagement with Pasifika communities. Research and engagement to understand how climate change will impact on Aucklanders with disabilities and what support they might need in future will also be delivered.

Option Two – More significantly accelerate Auckland Council's climate action

27. Option Two will support all the actions included in Option One and allow council to more significantly accelerate our climate action work programme in some areas.

Reducing emissions

28. By scaling up some of the programmes included in Option One we would significantly increase our ability to directly reduce emissions. For example, we would invest $110 million to replace over 1,500 diesel buses in our fleet with clean electric and hydrogen buses, achieving a 100 per cent zero-emissions bus fleet by 2030.

29. This will reduce emissions from the bus fleet by 400,000 tonnes of CO2 equivalent, four times as much as Option One.

30. Option Two would also amplify our efforts to encourage community climate action and reduce household consumption emissions, investing $20 million to reach 94,000 Aucklanders on average per year with advice and tools and develop more extensive community networks to respond to climate change.

31. The number of street trees we can plant would also be significantly increased as we invest $27 million into growing our rural and urban forests – meaning we can plant 29,000 street trees - 18,000 more than in Option One.

32. In addition to our investment in Option One into making our existing facilities more energy efficient, in Option Two we would invest $19 million into a Sustainable Asset Standard for our community facilities, such as libraries and community centres. This would provide higher quality public venues for Aucklanders to use and ensure that the large new community facilities we build do not add to our carbon footprint. [1]

33. The direct emissions reduction from Option Two are expected to be around 920,000 to 1,350,000 tonnes of CO2 equivalent over ten years, so roughly twice as much as Option One. As in Option One this does not include the emissions reductions from some enabling actions, such as the climate partnerships programme, which are more significant but also have more uncertainty so cannot be meaningfully quantified.

Adapting to climate change impacts and building resilience

34. This option would also enable the council to do more to adapt to climate impacts. In particular, we would increase our ability to protect our coastal assets, investing $26 million into protecting four of the council's 85 closed coastal landfills from failure due to impacts of climate change such as sea level rise and extreme weather events. This

[1] Introducing a Sustainable Asset Standard will also require the Council to adopt a Sustainable Assets Standard Policy. This will be considered by Council's governing body if funding for this programme is confirmed through the Long-term Plan process.

programme is intended to be a pilot that would potentially enable partnerships with central government in future to protect more of our closed landfills in the coastal or marine area.

35. We would also invest $19 million into responding to coastal erosion, capturing coastal hazard data on property records in the first years of the 10-year budget and then carrying out some physical works to manage coastal erosion hot spots from 2026 once our coastal management plans are complete.
36. Our ability to increase community resilience would also be amplified through investing $6 million more, enabling us to engage more marae and Māori-immersion educational facilities (kura, kōhanga reo and hāpori) in a climate change resilience programme.

Comparison of options against climate outcomes

37. Overall, both options enhance Auckland Council's ability to respond to climate change, but Option Two would double our ability to directly reduce emissions in the short-term.
38. It would also significantly increase our chances of successfully reducing regional emissions in future, through encouraging more extensive understanding and support across Auckland for future change.
39. Option Two would also enable us to begin physical works to protect critical coastal assets, such as our closed landfills, and respond to the impacts of coastal erosion on public assets in the coastal area.
40. Having said that, neither option would fully achieve the regional goals of Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan, as these are beyond the scope of any one organisation to deliver alone and require action and collaboration across all sectors.
41. Under both options, our ability to directly reduce Auckland's regional emissions remain limited. More work is urgently needed, both by central government and Auckland Council, to reduce transport emissions and support a more compact, low carbon urban form.
42. Significant investments will also be required to adapt to climate impacts and make infrastructure across Auckland more resilient to climate change. Because the scale of investment required is so large, this will require support from central government through national funding mechanisms.
43. Auckland's businesses and communities, who are also being impacted by the negative effects of COVID-19, will need significantly more support from the council and central government to become resilient to the impacts of climate change.
44. The proposed options for accelerating climate action will allow Auckland Council to carry out pilots and test solutions to our major emissions and adaptation challenges. This will create potential for us to partner with central government and other sectors to deliver larger programmes of work in future years.

ATTACHMENT A: OPTIONS FOR INVESTMENT IN CLIMATE ACTION

Outcome Areas – Climate Plan		Option One: Moderately accelerate climate action	Option Two: More significantly accelerate climate action	Status quo: No further investment
Investment ($ million)		Current + additional $15m/annum	Current + additional $32m/annum	Current only
Effective cost per average residential property		$21 per year	$44 per year	No additional cost
	**Climate impact**	• Accelerate more significant reductions in emissions in the long-term through regional partnerships and innovation • Directly reduce **460,000 to 790,000 tonnes** of CO2e emissions over 10 years • Increase ability to proactively plan for change and support communities in need.	• Accelerate more significant reductions in emissions in the long-term through regional partnerships and innovation • Directly reduce **920,000 to 1,350,000 tonnes** of CO2e emissions over 10 years • Demonstrate leadership by **halving all corporate emissions by 2030** • Increase our ability to proactively plan for change, invest in protecting key coastal assets and increase support for Māori resilience.	• Auckland's climate goals become less achievable. • Opportunities to reduce emissions through innovation and regional partnerships are not realised. • Direct emissions reductions within Council's control do not occur or occur at a much smaller scale. • Auckland is less resilient to the impacts of climate change with increased exposure to risks such as more frequent extreme weather events, change in rainfall patterns, biodiversity loss and infrastructure failure
	**Transport**	• Invest $35 million to ensure only zero-emissions buses are procured, providing **600 clean electric or hydrogen buses** and **making 40 per cent of the bus fleet zero-emissions by 2030**, saving an estimated **90,000 tonnes of CO2e over ten years** and improving air quality	• Invest $110 million to provide **1,500 clean electric or hydrogen buses** and achieve a **100 per cent zero-emissions bus fleet by 2030**, saving an estimated **400,000 tonnes of CO2e over ten years** and delivering more air quality improvements	• There is a risk that diesel buses will need to be purchased up until 2025. Only 26 per cent of our fleet will be zero emissions by 2030 and we will not achieve a zero-emissions bus fleet until 2040
		• Invest $17 million to demonstrate low-emissions, integrated and people-centric transport solutions through **trials and tactical interventions for a Zero Emissions Queen Street valley** and support other tactical interventions for encouraging **low emissions streets** across the region.		• No funding to advance Zero Emissions Area in Queen Street Valley until 2024/2025 • Limited funding available for tactical interventions for low emissions streets elsewhere
	**Economy**	• Invest $10 million of operating costs to support resource efficiency and re-use through an expanded network of **24 resource recovery facilities** (21 community recycling centres, 2 resource recovery parks and a deconstruction hub) diverting **145,000 tonnes of waste** a year and saving an estimated **225,000 tonnes of CO2e/year over ten years** • Invest $22 million to carry out research, establish a cross-sectoral leadership group and form regional partnerships to tackle our biggest emissions challenges involving businesses, academia and government		• Limited network of **12 community recycling centres** diverts around **5,400 tonnes of waste** from landfill per year • Insufficient resources to accelerate regional climate action or form effective partnerships
	**Built environment**	• Require assessment of climate impacts for all major new Council developments and infrastructure	• Option One plus, build model best practise through constructing new Community Facilities to a Sustainable Asset Standard	• Limited integration of climate impacts and emissions reduction in development activities
	**Community and coast**	• Invest $12 million to ensure more Aucklanders (**45,000 people a year on average**) are actively engaged in reducing emissions, through community action and lifestyles changes, saving an estimated **100,000 tonnes of CO2e over ten years**	• Invest $20 million to ensure significantly more Aucklanders (**94,000 people per year on average**) are actively engaged in reducing emissions, through more extensive community action and lifestyle changes, saving an estimated **300,000 tonnes of CO2e over ten years**	• Few Aucklanders (**30,000 people per year**) engaged by Council in reducing emissions
		• Invest $4 million to accelerate planning for coastal change for the whole region. • Invest $11 million to create increased ability to plan for and respond to natural hazards	Option One plus: • Invest $19 million into coastal erosion, including physical works to protect key coastal hot spots from 2026 • Invest $26 million to protect four critical coastal landfills from failure due to sea level rise and extreme weather events	Funding to renew existing coastal assets but limited resources to respond to coastal change and natural hazards made worse by climate change.

Outcome Areas – Climate Plan		Option One: Moderately accelerate climate action	Option Two: More significantly accelerate climate action	Status quo: No further investment
		Invest $5 million to increase resilience by supporting communities that will be most impacted, including: • targeted engagement with Pasifika to identify priorities and reduce inequitable outcomes. Research and support for disabled communities to respond to climate impacts as appropriate • opening **four more community food hubs** in South and West Auckland • reduced energy hardship for **500 low-income households/year**		• No targeted support for communities in need to respond to climate change
	Energy	• Invest $10 million to ensure Council emissions from **existing buildings and stadiums are halved by 2030, saving an estimated 26,000 tonnes of CO2e over ten years.** Footprint continues to grow from new community facilities	• Invest $29 million and demonstrate leadership by **halving Council emissions by 2030, saving an estimated 36,000 tonnes of CO2e over ten years** • Introduce a Sustainable Asset Standard to ensure large new community facilities achieve a sustainability certification and do not increase our carbon footprint	• **30 per cent reduction** in Council emissions by 2030 through funded activities such as replacing gas boilers in our aquatic centres with clean heat pumps
	Te Puawaitanga o te Tātai	• Invest $8 million to increase Māori resilience and leadership by engaging **20 marae and their associated kura** and providing **seed funding for Māori-led climate initiatives**	• Invest $14 million to strongly increase Māori resilience and leadership by engaging **24 marae and 80 kura and kohanga reo** and provide **seed funding for Māori-led initiatives**	• Māori poorly supported to engage in climate action with no Māori-led climate projects
		• Invest $6 million in establishing a **Rangatahi Māori leadership group** to drive action and work with Māori to deliver practical projects to restore te mauri o te wai, promote indigenous food sovereignty and restore our whenua		
	Natural environment	• Invest $14 million to plant **11,000 street trees**, focusing on areas with lowest canopy cover. • Establish nursery growing **200,000 seedlings per year**	• Invest $27 million to plant **29,000 street trees**, focusing on areas with lowest canopy cover. • Establish nursery growing **200,000 seedlings per year** and increase capacity of marae and community nurseries.	• Our urban and rural (ngahere) forest is as low as **eight or nine per cent** in some local boards and is shrinking in some places.
		• Plant **200 hectares of native forest** in regional parks to offset emissions		