

# Health New Zealand's Emissions Reduction Plan

**FY24/25 – FY26/27**

**May 2025**

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**Health New Zealand**  
**Te Whatu Ora**

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# Foreword

Environmental sustainability and responding to climate change are very important to Health New Zealand | Te Whatu Ora (Health NZ). As an organisation that supports health and wellbeing, we recognise our pivotal role in addressing the impacts of climate change on health. Climate change is widely acknowledged as the greatest threat to human health and wellbeing, threatening the fundamentals of good health – clean air, safe drinking water, nutritious and secure food supply and safe shelter. In New Zealand we have seen already the impacts of weather events on people's health and wellbeing becoming more frequent, highlighting the urgency and need for our leadership to play our part on emissions reduction.



The public health system is one of the Government's largest contributors to emissions. We know that reducing emissions can support health, through reducing environmental impacts and air pollution. We understand the importance of continuing to drive health promotion and illness prevention to support keeping New Zealanders happy and healthy. As part of our focus on achieving health and mental health targets we will continue to look to leverage opportunities to improve patient experience and comfort through a lens of emissions reduction. And we recognise the importance of aligning emissions reduction opportunities with cost savings and maximising the opportunity to replace aging assets and plant with energy and cost-efficient solutions.

This Emissions Reduction Plan celebrates the momentum we have already achieved, a 14% reduction of total measured emissions within a single year. Maintaining this progress is going to require consistent and persistent effort, but our dedicated and passionate kaimahi have and will continue to drive progress. Their efforts have been instrumental in achieving these gains and I acknowledge and thank you all for your efforts.

The opportunity we have to continue to reduce emissions is clear through the reduction pathway in this plan. And I am excited to see its implementation and the gains for health, patients, staff and the environment.

**Jason Power**

**Acting National Director - Planning, Funding and Outcomes**

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## Glossary

Term	Definition
<b>Carbon Neutral Government Programme (CNGP)</b>	Carbon Neutral Government Programme – launched in December 2020 by the Government to accelerate the reduction of emissions within the public sector.
<b>Category one emissions</b>	Category one emissions are direct greenhouse gas emissions and removals. It includes sources such as fuels (natural gas and coal used in our boilers, or petrol in our fleet vehicles), refrigerants and medical gases.
<b>Category two emissions</b>	Category two emissions are indirect greenhouse gas emissions from purchased energy such as all electricity and any heat or steam from boilers owned by others.
<b>Category three emissions</b>	Category three emissions are indirect greenhouse gas emissions from transportation. It includes sources such as business travel and accommodation.
<b>Category four emissions</b>	Category four emissions are indirect greenhouse gas emissions from products that an organisation uses. It includes sources such as transmission and distribution losses, water supply and wastewater, and waste disposal.
<b>Commissioned services</b>	Refers to health services that are planned, funded, and monitored by Health NZ. These services are often provided by various organisations, including public sector agencies, community groups, and private entities, to meet specific health needs and improve health outcomes for the population.
<b>Continuing Medical Education (CME)</b>	Continuing Medical Education refers to educational activities that help medical professionals maintain, develop, or increase their knowledge, skills, and professional performance.
<b>Crown Entities Act 2004</b>	Clarifies the accountability relationships between Crown entities, their board members, responsible Ministers and the House of Representatives.
<b>Determinants of health</b>	Factors that impact the health of individuals and communities, many of which have direct and indirect links to and impacts from climate change, such as paid employment, and warm and dry housing.



Term	Definition
<b>End-of-trip facilities</b>	Places or rooms that support people who actively travel to work by biking, scootering or walking. They include secure bike parking, lockers and showers and may also include other facilities such as bike repair kits, e-scooter charging, hairdryers and drying rooms.
<b>Energy Transition Programme</b>	The Energy Transition Programme is a co-funded programme with the Energy Efficiency and Conservation Agency (EECA) to transition and decarbonise across the Health NZ facilities. It includes transitioning fossil fuel boilers to lower emission fuels and plant such as heat pumps, replacing inefficient lighting with LEDs and supporting onsite renewable energy generation.
<b>GHG emissions or Greenhouse gases (referred to as emissions)</b>	Gases such as carbon dioxide, methane, nitrous dioxide and fluorinated gases, when released into the Earth's atmosphere through combustion or direct release, which drives climate change and global warming.
<b>Government Policy Statement on Health 2024-2027 (GPS)</b>	The public statement of what the Government expects the health system to deliver and achieve, and how success will be measured, monitored, and reported.
<b>Global Warming Potential (GWP)</b>	Global warming potential is the potency of a greenhouse gas relative to carbon dioxide, taking into account how long it remains active in the atmosphere.
<b>Guaranteed ride home programmes</b>	A guaranteed ride home programme ensures that if one participant in a carpool is unable to go home using their carpool (because of an emergency or being asked to work overtime for example), they will receive a voucher or company car or other means of getting home.
<b>Models of care</b>	Outlines how health services are delivered to patients to reflect best practice healthcare and service delivery and reduce unwarranted variation.
<b>NABERSNZ</b>	A collaboration between the National Australian Built Environment Rating System and EECA that provides an energy rating system for public hospitals.
<b>New Zealand Health Plans</b>	Health NZ's multiyear work plans to transform New Zealand's health system to improve the health and wellbeing of all New Zealanders.



Term	Definition
<b>Offsets / offsetting</b>	Carbon offsetting is the investment in projects that remove carbon emissions, to balance out the emissions created. An example includes paying another organisation to plant trees.
<b>Pae Ora Act (2022)</b>	The Pae Ora (Healthy Futures) Act 2022 establishes a set of health system principles and provides for the public funding and provision of services for public healthcare in New Zealand.
<b>Paris Agreement</b>	The Paris Agreement is a legally binding international treaty on climate change that was adopted at the UN Climate Change Conference (COP21) in December 2015 and came into force on 4 November 2016. Its overarching goal is to keep the increase in the global average temperature to well below 2°C above pre-industrial levels and pursue efforts to limit the temperature increase to 1.5°C.
<b>RMOs</b>	Resident Medical Officers.
<b>Science based target</b>	Defines the level of emissions reduction required to provide a contribution to limiting global warming to 1.5-degrees Celsius from pre-industrial levels in line with the Paris Agreement goals.
<b>SMOs</b>	Senior Medical Officers.
<b>tCO<sub>2</sub>e, tonnes of carbon dioxide equivalent</b>	Tonnes of carbon dioxide equivalent is used to convert all types of greenhouse gases to the same unit so their emissions potentials can be compared more easily.
<b>Telehealth</b>	The provision of healthcare remotely by means of phone or video conference and can include approaches such as remote monitoring.
<b>Whole-of-life approach</b>	Rather than just considering the initial cost of a product, a whole-of-life approach includes considering the cost of a product over its lifetime including maintenance, repair and end-of-use disposal.

# Executive summary

Climate change is a significant threat to human health and wellbeing, as air pollution, rising temperatures, and extreme weather all impact health. Reducing our emissions, as part of domestic and global efforts, is not only crucial for environmental sustainability but also for enhancing public health. Lower emissions lead to improved air quality, which directly benefits respiratory and cardiovascular health. This creates a virtuous cycle where healthier populations contribute to reducing our emissions.

Actions by Health New Zealand | Te Whatu Ora (Health NZ) to reduce emissions have yielded significant co-benefits for patients. By adopting sustainable practices, healthcare facilities have created healthier and more comfortable environments for patients and staff. These improvements have led to better patient experiences and outcomes, demonstrating that environmental sustainability and high-quality healthcare are mutually reinforcing goals.

This Emissions Reduction Plan (ERP) (FY24/25 – FY26/27) aligns closely with the key principles outlined in the Pae Ora Act, the Government Policy Statement (GPS) on Health (2024-27), and key priorities such as timely access to quality care for all. Through the synergies of these principles, emissions reduction is not only environmentally sound but also supports health and is congruent with equity of access and health outcomes.

Health NZ has already made significant progress, achieving a 14% reduction in emissions between FY22/23 and FY23/24. This milestone has been achieved through partnership with the Energy Efficiency and Conservation Agency (EECA), front line staff driving behaviour change and through “spend to save” activities. Removing coal use from our sites, replacing ageing and inefficient energy plant, evolving clinical practice to reduce reliance on the most emissions intensive gases and electrifying our fleet have all contributed to this significant step change in our emissions profile. It is also important to acknowledge the progress that was made through District Health Boards (DHBs) that built a downward trajectory for emissions. It is also essential to recognise the challenges that lie ahead. Continued efforts supported with innovative and transformative solutions will be necessary to maintain this momentum.

Achieving significant emissions reductions requires a comprehensive, whole-of-organisation approach. This involves engaging all levels of the organisation, from leadership to frontline staff. By fostering a culture of environmental responsibility, Health NZ can empower every department and individual to contribute to the overarching goal of reducing emissions.

The actions and modelling undertaken by Health NZ provides a clear pathway to continue to reduce emissions. The pathway shows that it is feasible to reduce total measured emissions by ~30% by the end of FY29/30 and achieve our targets:

- 25% reduction in Category 1 and 2 emissions between FY22/23 and FY24/25
- A science based 24% reduction in total measured emissions between FY22/23 and FY26/27

This is based on currently funded activity, behaviour change, the ability to secure more funding, and prudent financial allocation to support more spend to save projects. The

modelling highlights the effectiveness of specific strategies and guides decision-making processes, ensuring that efforts are targeted, effective and efficient. It is estimated that associated annual costs savings of at least \$16 million can be derived from implementing the actions in this Plan.

While significant progress has been made, further work is required to map out the long-term direction of emissions reduction efforts out to 2030. This involves setting a FY29/30 target, identifying potential future opportunities and solutions to further reduce emissions. By planning for the future, Health NZ can ensure sustained progress and continued alignment with national and international sustainability goals.

## Related reports

This Emissions Reduction Plan should be read in conjunction with the two previous years Greenhouse Gas Emissions Inventory Reports, which provide detailed assumptions and estimations related to the underlying emissions data.

FY22/23 Health New Zealand | Te Whatu Ora Greenhouse Gas Emissions Inventory Report (Baseline year):

**<https://www.tewhatauora.govt.nz/publications/greenhouse-gas-inventory-report-2022-23>**

FY23/24 Health New Zealand | Te Whatu Ora Greenhouse Gas Emissions Inventory Report:

**<https://www.tewhatauora.govt.nz/publications/greenhouse-gas-emissions-inventory-report-fy202324>**

# Introduction

# Introduction

Climate change is and will continue to impact health and wellbeing<sup>1</sup>. Reducing emissions is essential to avoid the most severe impacts of climate change. With national coverage and focus on providing quality care and support to New Zealanders, Health NZ has the opportunity to support and facilitate emissions reduction efforts directly and indirectly. It is important to acknowledge that the challenges ahead are significant as Health NZ undergoes a financial reset, so focusing on actions that reduce climate impact, costs and improve patient outcomes and experience is vital. Globally healthcare is at least 4% of all emissions<sup>2</sup>, demonstrating the opportunity to show leadership and tackle climate change domestically to have a global impact.

This is Health NZ's first national Emissions Reduction Plan FY24/25 – FY26/27 (ERP). Developing an ERP is a mandatory requirement of the Carbon Neutral Government Programme (CNGP).

This ERP sets out:

- the scope of the plan,
- Health NZ's baseline emissions and progress since the baseline,
- the emissions reduction targets for the organisation,
- the actions and pathway to progress Health NZ towards achieving the set targets and the CNGP level of ambition.

Health NZ's ERP covers the period 1 July 2024 – 30 June 2027 (FY24/25 – FY26/27). It builds on the 14% emissions reduction already achieved between FY22/23 and FY23/24, which is a significant achievement for an organisation of this size and complexity. This has been achieved through a number of actions such as removing a number of coal boilers, electrifying the fleet and continued good practice in relation to reduction in use of emissions intensive medical gases and anaesthetic vapours. The modelled actions in this ERP demonstrate a potential pathway to reduce the total measured emissions from Financial Year 2024/25<sup>i</sup> (FY24/25) by a further estimated 46,350 tCO<sub>2</sub>e (a combined reduction of ~30% of the baseline emissions) by the end of FY26/27.

This plan outlines how Health NZ will provide leadership, as part of its wider commitment to embed sustainability across the organisation and contribute towards a low emission, climate resilient future.

<sup>i</sup> Health NZ's financial years are 1 July to 30 June, financial years will be stated following this example FY22/23 for 1 July 2022 to 30 June 2023

## Scope

This plan has been developed for and by Health NZ to show how emissions will be reduced over the next three financial years.

This ERP reflects the breadth of Health NZ's emissions - both the 'Footprint' and 'Footprint Plus' components. 'Footprint' emissions are emission sources mandated to be measured under the CNGP. 'Footprint Plus' emission sources are harder to measure, have lower quality or availability of consistent data but are important due to leakage (movement of emissions) between the 'Footprint' and 'Footprint Plus' and to demonstrate the actions already in place to reduce them (Table 1).

The focus of this ERP is on material or significant emissions reduction opportunities within the 'Footprint' emissions.

**Table 1 Description of Footprint and Footprint Plus emission sources**

Theme	Emissions group	Description / emissions category
<b>Footprint</b>  Mandated emissions sources that must be reported annually (CNGP). Health NZ is required to set science-based targets against these sources.	Energy, water, and waste	Day to day emissions from operating hospitals and offices; Category 1 emissions from gas, coal, and diesel for heating and hot water. This also includes refrigerants in heating and cooling plant. Category 2 emissions from any purchased energy such as electricity. Category 4 emissions from waste management, water and wastewater.
	Business travel, fleet, and funded patient transport	The movement of staff and patients is an important aspect to access healthcare support. Emissions sources include petrol for fleet vehicles (Category 1) and funded patient travel, ambulance and air transfers between sites, and business travel for staff (Category 4)
	Medical gases and vapours	Mainly within surgical and midwifery settings, medical gases and vapours are an essential part of providing care. These are Category 1 emissions.
<b>Footprint Plus</b>  Emissions sources that are not currently quantified but are	Patient and visitor private travel	Travel to access health care is essential to provide New Zealanders with quality care. Most patient travel falls under this group and is travel by their own means.
	Staff commute	Staff travelling to and from home and work by car, public and active transport.



Theme	Emissions group	Description / emissions category
likely to be significant. In many cases Health NZ has much less control over these emissions but has an influence role. Health NZ is not required to set a reduction target against these sources.	Supply chain and commissioned services	Supply chain emissions arise from the extraction, processing, transport, and manufacture of goods that Health NZ purchases such as medical supplies, laptops, cloud computing services and pharmaceuticals. Emissions also arise through the health services funded by Health NZ that are provided by third parties (such as General Practitioners) to further support health outcomes.
	Infrastructure	Also known as embodied emissions these arise from the manufacture and transport of building materials to build new or repair and refurbish existing health care sites.

The potential value and feasibility of robustly including 'Footprint Plus' emissions sources in 'Footprint' reporting will be periodically reviewed aligned to Health NZ's Emissions Reporting Framework<sup>3</sup>.

## Targets

In response to the requirements under the CNGP<sup>4</sup>, Health NZ set a gross emissions reduction target in the New Zealand Health Plan, aiming to reduce measured Category 1 and 2 emissions by 25% between the baseline year FY22/23 and FY24/25. This is equivalent to avoiding 36,000 tCO<sub>2</sub>e compared to the baseline by the end of FY24/25.

This ERP also sets a midpoint science based aligned target to reduce total measured emissions by 24% by end of FY26/27. This is equivalent to avoiding 57,100 tCO<sub>2</sub>e compared to the baseline by the end of FY26/27.

These targets are ambitious and cannot be achieved through the purchase of offsets.

The CNGP guidance also sets a level of ambition for all tranche one and two entities, such as Health NZ, to reduce emissions by 42% by end of FY29/30 across all mandatory emission sources. This is equivalent to avoiding 99,900 tCO<sub>2</sub>e compared to the baseline by 2030.



### Targets

Health NZ has set two targets to reduce:

- Category 1 and 2 emissions by 25% between baseline (FY22/23) and end of FY24/25.
- Total measured emissions by 24% between baseline (FY22/23) and end of FY26/27, which is aligned to the CNGP science-based methodology.

## Health New Zealand's baseline emissions

Establishing an emissions baseline provides a basis for identifying emissions reduction priorities and developing impactful reduction actions that align with Health NZ's strategic priorities. The baseline also provides the basis for measuring success.

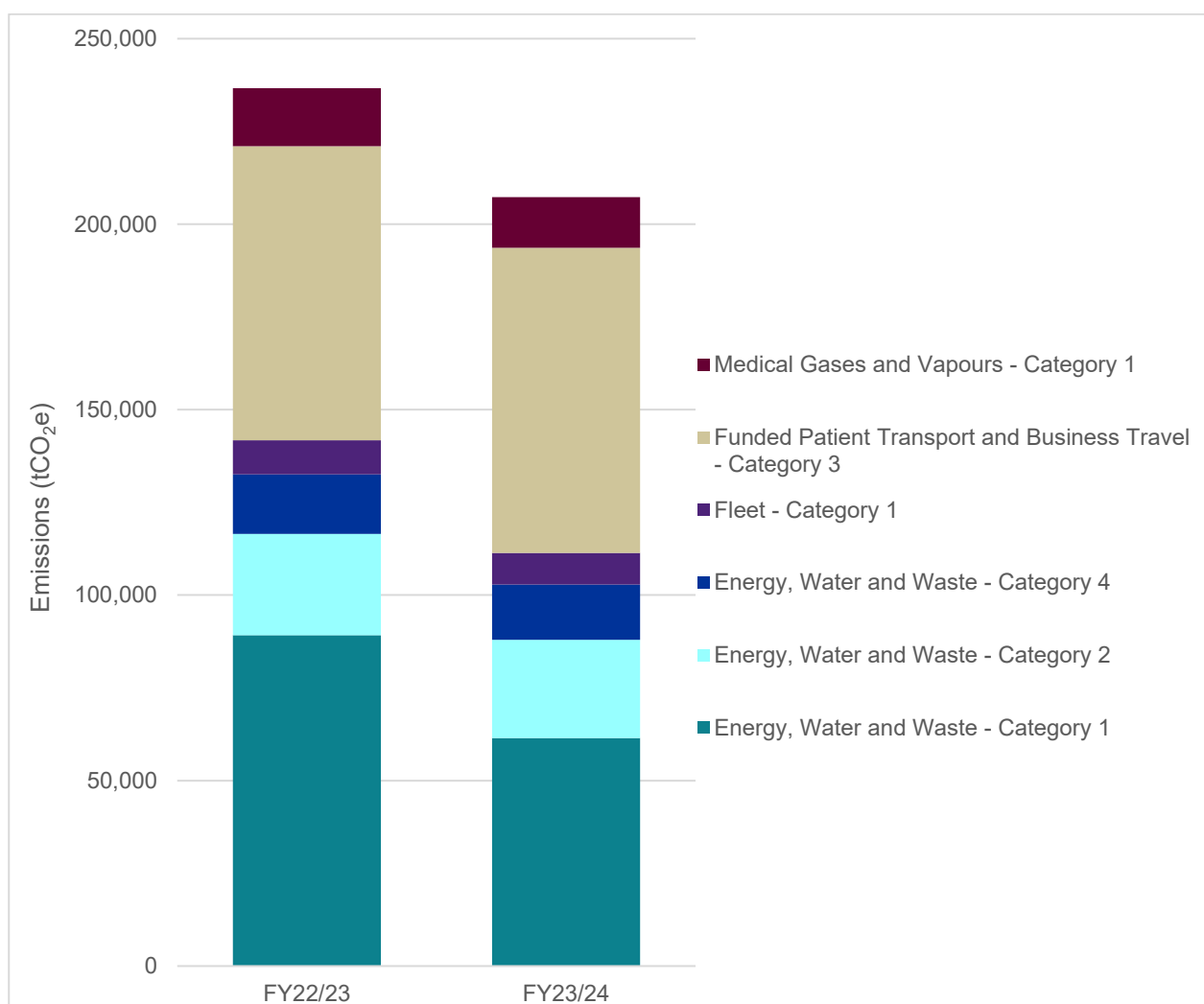
For the purposes of emissions reduction planning, and to ensure alignment with CNGP obligations, FY22/23 has been set as Health NZ's baseline, the first full year since Health NZ's establishment. Health NZ's baseline emissions for the 'Footprint' totalled 237,822 tCO<sub>2</sub>e<sup>5</sup>. The second inventory year, FY23/24<sup>6</sup> in which emissions totalled 205,275 tCO<sub>2</sub>e (Table 2 and Figure 1), serves to mark progress in achieving CNGP aligned decarbonisation activities, such as the removal of coal as an energy source, and signal priorities for this ERP.

**Table 2 Emissions reduction progress since baseline by emissions group**

Emissions group	Emissions source (Category)	FY2022/23 GHG emissions (tCO <sub>2</sub> e)	FY2023/24 GHG emissions (tCO <sub>2</sub> e)	% Change (+/-)
<b>Energy, Water and Waste</b>	Natural gas (1)	52,909	48,972	-7
	Coal (1 & 2)	34,828	8,304	-76
	Electricity (2)	27,367	26,418	-3
	Waste (4)	6,294	6,370	+1
	Energy other (1,2, & 4)	7,976	5,857	-26

Emissions group	Emissions source (Category)	FY2022/23 GHG emissions (tCO <sub>2</sub> e)	FY2023/24 GHG emissions (tCO <sub>2</sub> e)	% Change (+/-)
	Wastewater treatment (4)	1,651	2,712	+64
	Refrigerants (1)	1,424	2,011	+41
	Water (4)	120	210	+75
<b>Funded Patient Transport</b>	Staff air travel (3)	48,412	52,415	+8
	Patient air travel (Emergency-medical plane and helicopter) (3)	12,838	11,219	-13
	Fleet fuels (1)	9,214	8,493	-8
	Patient travel by road (non-emergency NTA) (3)	7,728	8,070	+4
	Ambulances (3)	4,540	4,910	+8
	Patient air travel (non-emergency) (3)	4,534	4,082	-10
	Patient Accommodation (4)	1,167	1,553	+33
<b>Medical Gases and Vapours</b>	Medical gases - mainly Nitrous Oxide/Entonox but also CO <sub>2</sub> , CH <sub>4</sub> and Acetylene (1)	15,097	13,144	-13
	Anaesthetic vapours: Desflurane,	599	534	-11

Emissions group	Emissions source (Category)	FY2022/23 GHG emissions (tCO <sub>2</sub> e)	FY2023/24 GHG emissions (tCO <sub>2</sub> e)	% Change (+/-)
	Isoflurane and Sevoflurane (1)			
Sources no longer measured	Rental vehicles (3) and business travel staff accommodation (4)	1,124		N/A
<b>Total</b>		<b>237,822</b>	<b>205,275</b>	<b>-14</b>



**Figure 1 Comparison of FY22/23 and FY23/24 Emissions**

## Emissions reduction progress to date

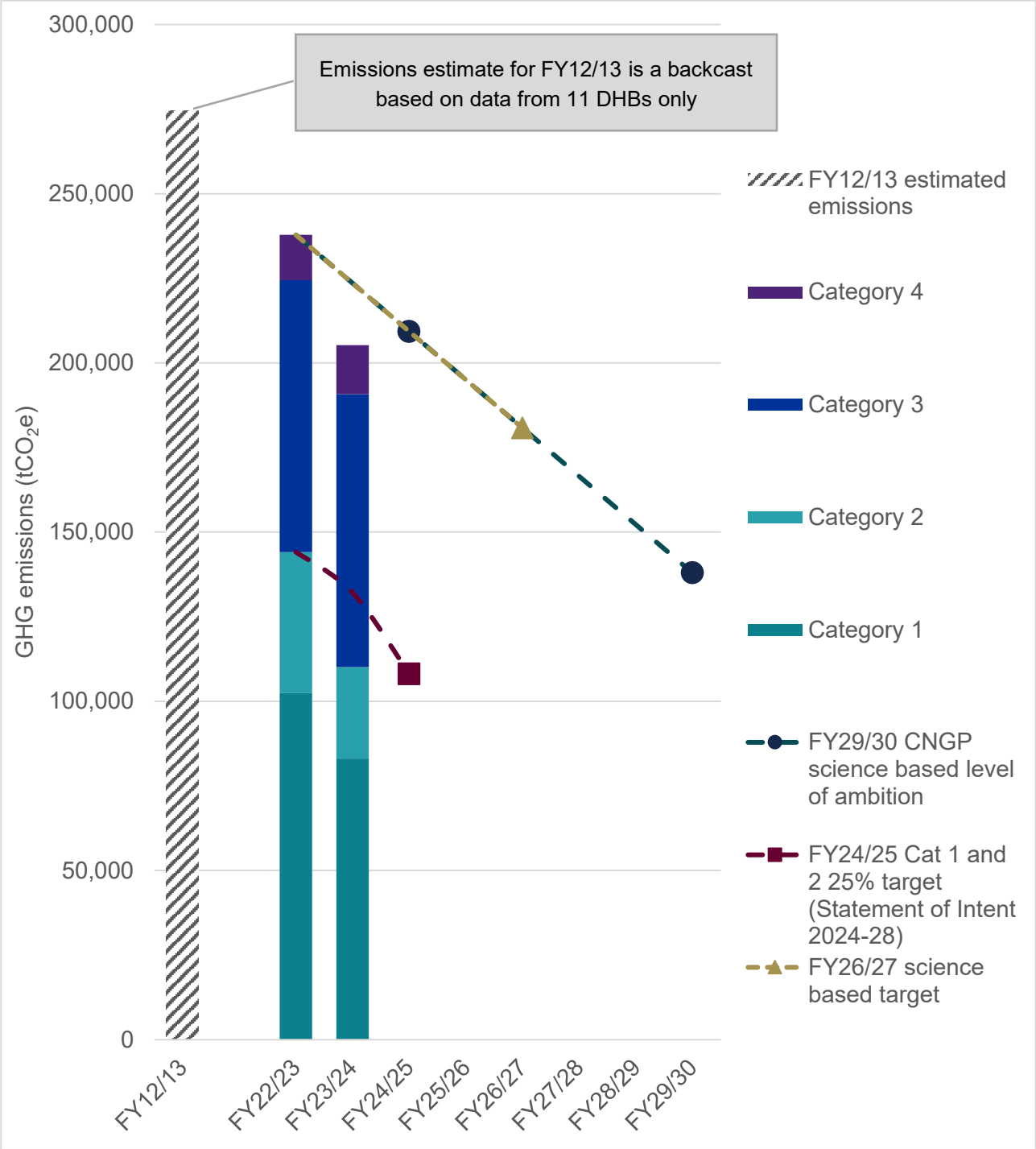
Between the baseline year and FY23/24 emissions are estimated to have reduced by ~32,000 tCO<sub>2</sub>e (14%); which is greater than the total gross emissions reduction expected under the CNGP science-based target requirements by FY24/25. Reductions of 24% have been achieved across Category 1 and 2 emissions, from the baseline of this subset of emissions, as shown in Table 3. There are many aspects within and outside of Health NZ's control that may impact meeting the FY24/25 levels of ambition, but progress to date provides a valuable foundation.

**Table 3 Emissions progress to date by level of ambition**

Level of ambition	Emissions in scope	FY22/23 Baseline (tCO <sub>2</sub> e)	Reduction %	By end of when	Gross reduction in tCO <sub>2</sub> e to achieve target	FY23/24 Emissions actual (tCO <sub>2</sub> e)	% reduction against baseline
<b>FY24/25 New Zealand Health Plan target</b>	Category 1 and 2 only	144,120	25%	FY24/25	36,000	110,101	24%
<b>CNGP FY24/25 – science-based ambition</b>	All measured emissions (Categories 1-4)	237,822	12%	FY24/25	28,500	205,275	14%
<b>FY26/27 Health NZ science-based target</b>			24%	FY26/27	57,100		
<b>CNGP FY29/30 – science-based ambition</b>			42%	FY29/30	99,900		

## Progress before Health New Zealand

It is important to acknowledge the progress already made across the health system prior to the transition to Health NZ on 1 July 2022. Many of the previous District Health Boards (DHBs) measured greenhouse gas emissions with various degrees of coverage, assurance and timescales. By amalgamating the data from the districts that were measuring emissions, the data shows that collectively 11 DHBs reduced at least 36,750 tCO<sub>2</sub>e emissions annually. This is equivalent to a 15% reduction already made by kaimahi in the public funded health system between 2013 and 2022 (Figure 2). Many of these opportunities, such as removing major coal usage from hospital sites especially across Te Waipounamu included “low hanging fruit”, meaning the next tranches of emissions reduction may be more challenging.



**Figure 2 Emission progress since Health NZ’s baseline, target, level of expectations and back-casted emissions to FY12/13**





### Key Points box

- This is Health NZ's first Emissions Reduction Plan and covers 2024 - 2027.
- Between the baseline position and the most recent measurement (FY23/24), Category 1 and 2 emissions are 24% lower, providing a solid foundation to achieve the FY24/25 target.
- Total measured emissions are 14% lower compared to the baseline over the same period.

## Oversight

Health NZ's sustainability function will be responsible for oversight and coordination of ERP implementation, monitoring, reporting and review.

Given the varied nature of ERP actions, project governance is likely to be integrated within existing governance and steering group structures and project management activities undertaken by respective business units where appropriate.

Bespoke programme/project reporting will align to the quarterly reporting cycle, with any significant risks that cannot be addressed at the project management level escalated to the Health NZ Executive Leadership Team (ELT).

## Monitoring and reporting

Effective monitoring and reporting processes are important components of the ERP and actions are set out in Table 4.

### Monitoring

Monitoring of achieved emissions reductions will be required. Projects identified in this ERP have been modelled to estimate the likely derived emissions savings, and monitoring of realised emissions reductions will provide accurate information to support the intended programme-wide ERP emissions reduction pathway.

Monitoring arrangements will be determined on a case-by-case basis for each project in collaboration with the responsible business unit. For actions that entail ongoing delivery regular (monthly or quarterly) monitoring will be appropriate. Monitoring of actions with specific step-change milestones will more likely be linked to post-completion phases.

## Reporting

Reporting of emissions reduction outcomes are and will continue to be integrated into Health NZ's public quarterly sustainability reporting, demonstrating specific emission reduction outcomes including those related to energy, fleet, and waste.

ERP progress reporting will be provided to ELT on a six-monthly basis to support identification of where further focused support is needed to implement outcomes.

**Table 4 Monitoring and reporting actions**

Ref	Action	Objective	Responsibility	By when
MR1	Prepare, audit and publish an annual emissions inventory for Health NZ	Track projected modelled emissions against actual emissions.	Sustainability Function	December (Annually)
MR2	Prepare and publish Quarterly Sustainability Reports for Health NZ incorporating emissions data	Report in-year progress on emissions reduction.	Sustainability Function	Quarterly
MR3	Establish project-specific governance and monitoring arrangements with respective business units	Clear and agreed implementation responsibilities.	Sustainability Function	July 2025
MR4	Prepare six-monthly ERP progress reports for ELT	Effective programme delivery and remedial action.	Sustainability Function	Six monthly
MR5	Complete an annual ERP review to determine if an update to the ERP is required. And at least, develop a full updated ERP for the period 2027-30	ERP emissions reduction pathway aligned to agreed targets and national direction.	Sustainability Function	December (Review annually)  ERP 2027-30 published in early 2027

Ref	Action	Objective	Responsibility	By when
MR6	Update and review every two years Health NZ's Emissions Reporting Framework	Set timeframes for when 'Footprint Plus' emissions sources are estimated and if included in Health NZ's emissions inventory.	Sustainability Function	October 2025

## Strategic alignment

Climate change is a public health issue and is widely regarded as the single biggest threat to, and opportunity for human health and wellbeing<sup>7</sup>. For this reason, creating a low emission and climate resilient publicly funded health system is critical. Low emissions outcomes must be viewed as a dimension of quality care.

### Drivers

The need to reduce emissions and consider climate impacts through Health NZ's strategic approach and decision making is highlighted in Table 5.

**Table 5 Strategic drivers for emissions reduction**

Driver	Description
<b>Pae Ora (Health Futures) Act<sup>8</sup></b>	The Pae Ora (Health Futures) Act sets out the importance of the health sector protecting and promoting people's health and wellbeing, including by adopting population health approaches that prevent, reduce, or delay the onset of health needs; as well as by undertaking promotional and preventative measures to address the wider determinants of health, including climate change, that adversely affect people's health. Health NZ reducing its own emissions, working collaboratively and providing a path for others to do the same all supports better health outcomes for New Zealanders.

Driver	Description
<b>Government Policy Statement on Health 2024-2027 (GPS)</b>	The GPS states the importance of prevention and responding to the broader determinants of health with specific reference to climate change and “ensuring we have a sustainable and resilient health system” <sup>9</sup> . It refers to a particular focus on “accelerating action to address five non-communicable diseases: cancer, cardiovascular disease, respiratory disease, diabetes and poor mental health”. Cardiovascular disease, respiratory diseases and poor mental health are all linked to the impacts of climate change.
<b>New Zealand Health Plans</b>	The New Zealand Health Plan is refreshed every 2-3 years and is a multiyear document that sets out key aspects of Health NZ’s approach to health promotion and illness prevention which has the opportunity to reduce our emissions. The plan also sets out principles for timely access to quality care. Doing this right and on a timely basis provide an opportunity to at least delay if not reduce emissions. The Health Plan also sets out Health NZ’s commitments on sustainability and climate change.

Further to this, Aotearoa New Zealand has national and international commitments relating to climate mitigation or emissions reduction as shown in Table 6;

**Table 6 Aotearoa New Zealand commitments**

Commitment	Description
<b>Paris Agreement</b>	Aotearoa New Zealand as a signatory to the Paris Agreement, (November 2016) sets out a national commitment to avoid more than a 1.5°C rise in global warming above pre-industrial levels.
<b>Alliance for Transformative Action on Climate Change and Health (ATACH)</b>	The New Zealand Government is a signatory to the World Health Organisation alliance.
<b>United Nations Sustainable Development Goals</b>	In the context of the ERP specifically, Goal 3: Good health and Wellbeing and Goal 13: Climate Action; noting the interdependencies across the 17 goals.

Commitment	Description
<b>The Climate Change Response Act (2002) (CCRA)</b>	The CCRA sets statutory targets for national emissions reduction and processes to support achieving these targets. The development of National Emissions Budgets and National Emissions Reduction Plans are requirements under the CCRA.
<b>Carbon Neutral Government Programme (CNGP)</b>	<p>The CNGP was announced in December 2020 to accelerate the reduction of emissions within the public sector. In pursuit of this goal agencies are required to:</p> <ul style="list-style-type: none"> <li>• Measure, verify, and report their emissions annually.</li> <li>• Set gross science-based emissions reduction targets and longer-term reduction plans.</li> <li>• Introduce a plan to reduce their organisation's emissions.</li> <li>• Offset remaining gross emissions from 2025 to achieve carbon neutrality<sup>ii</sup></li> <li>• As well as specific requirements on vehicle fleet optimisation and transition, undertake energy ratings of our larger office buildings and replace our largest coal boilers.</li> </ul>
<b>Government Targets: Target 9</b>	<p>In April 2024, the Government confirmed nine targets, including Target 9 - reduce net greenhouse gas emissions:</p> <ul style="list-style-type: none"> <li>• “On track to meet New Zealand’s 2050 net zero climate change targets with total net emissions of no more than 290 megatonnes from 2022 to 2025 and 305 megatonnes from 2026 to 2030”.</li> </ul>
<b>Government’s Climate Strategy</b>	The strategy titled “Responding to a changing climate” was released in July 2024 by the Minister for the Environment. It sets out the importance of doubling renewable energy in New Zealand by 2050 and installing 10,000 public charging points for electric vehicles.

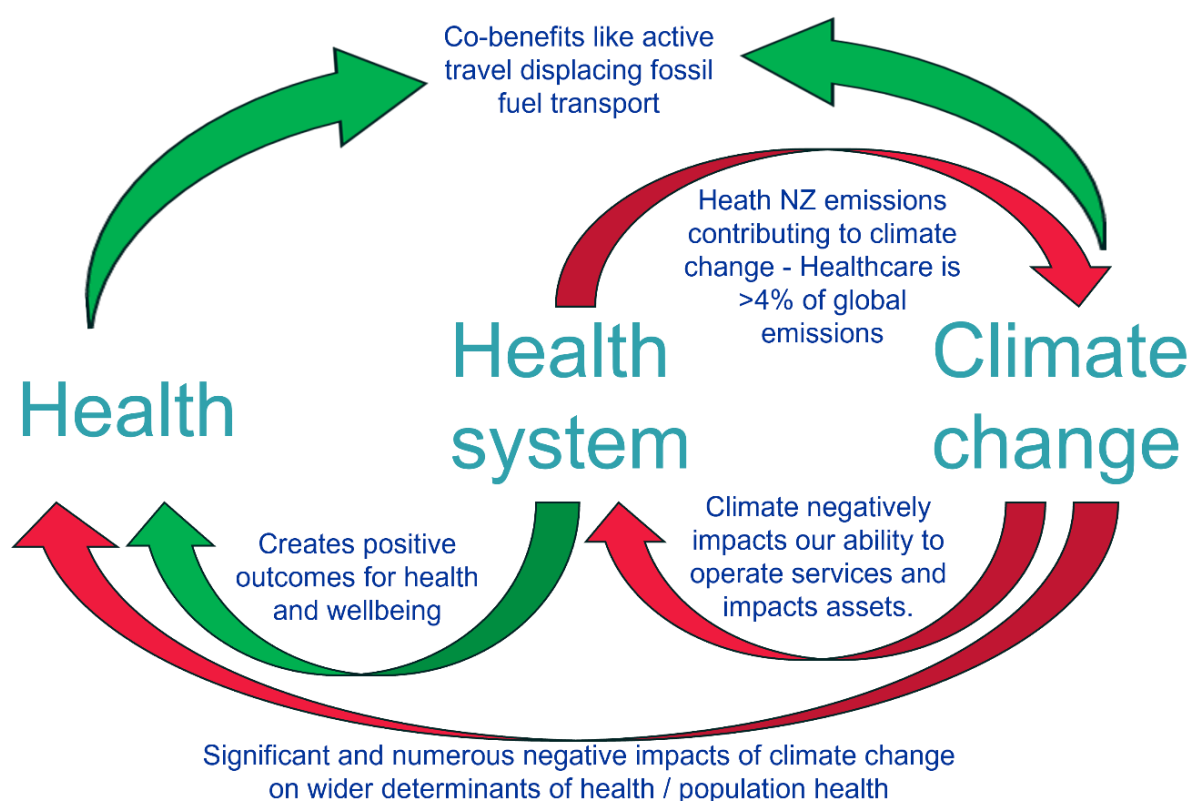
<sup>ii</sup> Please note Agencies directed under the CNGP are awaiting direction on the offsetting scope, timings and mechanism from the Minister of Climate Change.

## Levers for change

Health NZ has several levers for change through policy changes, governance, our approach to health care (prevention and models of care), and leveraging the innovation and policy outside of Health NZ.

### Impacts of population health on health sector emissions

The opportunity in health is a virtuous cycle (Figure 3); through health promotion and illness prevention, New Zealanders can be supported to be happy and healthy, requiring less intensive support to maintain wellness, which in turn avoids emissions. The more Health NZ can reduce its emissions and manage its environmental impact, the more it can contribute to global efforts to limit global warming to 1.5°C above pre-industrial levels. This potentially reduces the frequency and severity of climate impacts and enables environmental benefits for the health of New Zealanders.



**Figure 3 Virtuous cycle of health benefits of emissions reduction, adapted from Dr D. Pencheon, University of Exeter<sup>10</sup>**

The determinants of health are factors that impact the health of individuals and communities, many of which have direct and indirect links to and impacts from climate change, such as:

- Paid employment / living wage
- Education
- Quality warm and dry housing
- Reduce access to harmful substances, alcohol, tobacco and harmful chemicals
- Enhancing positive choices and behaviours such as; healthy balanced diets, increased mobility and active travel
- Social inclusion and cohesiveness
- Discrimination and trauma across generations
- Access to a healthy and resilient natural environment

Many of these factors are outside of Health NZ's direct control, but the organisation plays a role in supporting others to make informed decisions that enhance health outcomes across the public sector.

Some public health actions leveraging the determinants of health also have climate change co-benefits, meaning that there are actions that work to improve population health as well as reduce emissions. These actions have two-fold benefits for the health system by improving the health of individuals, but also directly contributing to the lessening of the magnitude of climate change and therefore the burden on the health sector that will result. Examples of actions with health and climate co-benefits include:

- Promoting the use of public or active modes of transport over driving private vehicles. Public and active modes of transport generate less emissions as well as improving the amount of physical activity done by individuals which is associated with improved health outcomes.
- Improved housing is warmer, less damp and costs less to heat. This reduces the electricity needed to keep homes warm over winter, and the associated financial costs and leads to reduced illness, especially for children.
- Reducing meat and dairy consumption is associated with health benefits as well as lower carbon emissions.

The New Zealand publicly funded health system has always been committed to keeping New Zealanders well through a public health approach. Recently, the Government Policy Statement 2024-2027, Health NZ's Statement of Intent (2024-28) and the New Zealand Health Plan have provided expectations, principles, and approaches to further this commitment. These include actions to address five modifiable behaviours (Table 7) to support health and key principles relating to access to timely and quality care. Both aspects will help reduce Health NZ's emissions over time by reducing the need for and intensity of treatment required.



**Table 7 Five modifiable risk factors from the Government Policy Statement on Health 2024-27**

Five modifiable risk factors	What this means in practice
<b>Quit smoking</b>	by increasing smokefree and vape-free environments and support the achievement of Smokefree 2025.
<b>Eat better</b>	by increasing access to affordable, healthy food and drink, supporting healthy food choices.
<b>Increase physical activity</b>	by increasing access to physically active options, facilities, and supportive environments.
<b>Minimise harm from alcohol</b>	by reducing alcohol access and normalisation.
<b>Develop positive and healthy relationships</b>	by creating thriving, connected neighbourhoods, and maintaining healthy environments.

## Health Targets and emissions reduction co-benefits

At Health New Zealand | Te Whatu Ora our ambition is to provide quality, compassionate, affordable healthcare to all New Zealanders, at the right time and in the right place. Prevention and timely interventions can help reduce emissions through reducing the need for more intensive care and support.

In 2024, the Government announced five health targets and five mental health and addiction targets to drive the provision of care at the right time in the right place. The health targets are for cancer treatment, childhood immunisation, emergency departments and wait times for first specialist assessments and elective treatment. In addition to the co-benefits derived through the prevention aspects of these targets (e.g. childhood immunisation and strengthened focus on prevention and early intervention for Mental Health), further emissions reductions will likely be associated with the drive for more timely delivery of health and mental health services. Examples include:

- Faster access to health and mental health assessment, services and treatments - reducing the likelihood of more intensive health services being required, which are likely to be more emissions intensive.
- Patient travel emissions can also be reduced through:
  - More coordinated service delivery reducing the number of separate patient appointments
  - Enabling some services to be provided in more locations, closer to patients and whānau
  - Increased use of digital healthcare

## Wider innovation levers

Various national and global opportunities within and beyond the health sector will provide mechanisms for Health NZ to reduce emissions. These include legislative levers and market innovations.

## Health technology and innovation

Within the health sector, innovation and advances in health technology will provide further opportunity for improving patient care whilst reducing emissions, through reducing the intensity and/or length of healthcare interventions. Health NZ should remain cognisant of market innovation and disruption and seek to trial where feasible:

- Prediction and early intervention - advances in predictive capability and earlier intervention to support New Zealanders to stay well.
- Innovation - advances in health care treatment that helps reduce intensity of intervention, supports New Zealanders getting home quicker with improved patient outcomes.
- Social prescribing - increasing global evidence based of innovative and novel patient interventions such as green and social prescribing<sup>11</sup>, which is an approach that connects people to activities, groups, and services in their community to meet the practical, social, and emotional needs to support their health and wellbeing.
- Resource efficiency - a clinician-driven focus on reducing unnecessary use of equipment, treatments, procedures, and medication would provide more opportunities to reduce supply chain emissions as well as reducing hospital energy and transport use, as well as reducing waste. It also has the co-benefit of better outcomes for patients and a reduced burden on the healthcare system.
- Emissions data – improved quantum of data on the emissions of pharmaceuticals and medical devices through Environmental Product Declarations and embed this data into online decision support systems supported by New Zealand ePrescribing System (NZePS) and Medication Data Repository (MDR) to encourage the prescription of lower emissions solutions for patients.
- Move towards greater digitisation of clinical information with improved integration of telehealth technology into clinical workflow to encourage and decrease face to face care where it is clinically safe to do so.

## Domestic trends

Changes in the domestic context through legislative levers, reforms and market disruption can present opportunities for Health NZ to reduce emissions. The Government's strategy: 'Responding to a Changing Climate' includes several areas that Health NZ may be able to maximise to reduce emissions:

- Renewable energy – a doubling of renewable energy by 2050 will help reduce the emissions intensity of purchased energy.

- Vehicle charging – installing 10,000 public charging points for electric vehicles may enable further electrification of fleet by opening up access to more communities.
- Nature based solutions – “restoring biodiversity, while investigating new ways of harnessing nature to remove emissions from the atmosphere”<sup>12</sup>

Innovation in the national market will also provide decarbonisation opportunities that Health NZ may be able to leverage:

- Travel and logistics – directly or through our suppliers using lower emissions fleets and fuels for aviation and heavy vehicles and market innovations such low emissions domestic coastal shipping and passenger sea planes.
- Construction materials and process – more domestic building supplies and techniques that reduce emissions such as lower carbon concrete and steel, or increased feasibility in Aotearoa New Zealand of timber frame buildings that are multi storey and seismically resilient.
- Waste management – there is potential for innovation, new waste reprocessing and recycling opportunities to move solutions further up the waste hierarchy, as well as improved consistency of waste services availability across regions.

## Global trends

Reducing carbon emissions is a global imperative, reflected in international declarations, pacts, and treaties such as the Paris Agreement.

Continuous improvements and innovations in the global market are pressuring suppliers to reduce emissions and enhance supply chain processes. The European Union (EU) has created a Carbon Border Adjustment Mechanism (CBAM) that requires companies importing goods into the EU to pay for the carbon emissions produced during the making of those goods, similar to what EU companies pay. Health NZ will look to leverage policies like this and wider global trends by setting sustainability performance expectations to reduce its own supply chain emissions, bringing awareness with suppliers and supporting their compliance.

The circular economy model aims to eliminate waste and promote the continual, or adaptable, use of resources, contrasting with the traditional linear economy of ‘take, make, dispose.’ In a circular economy, design of solutions is at the forefront, with resources being used for as long as possible, maximising value before recovering and regenerating products and materials, thereby reducing emissions. This involves designing solutions for durability, reuse/refurbishment, remanufacturing, and recycling.

As more countries strive to reduce emissions, mechanisms may be established to incentivise contributions or penalise non-compliance. Current efforts include legislation and policies that penalise excessive emissions and embed stringent reduction requirements into funding considerations.

# **‘Footprint’ reduction actions**

# Footprint – Action Plan

Health NZ's 'Footprint' emissions are measured year on year and include many emissions sources where Health NZ has more direct control:

- Energy, water, and waste
- Funded patient transport, fleet, and business travel
- Medical gases and vapours

## Approach

Engagement across the organisation has identified various committed actions or opportunities. Where possible, due to sufficient data availability and quality, these actions have been modelled to estimate the impact over time.

## Modelling

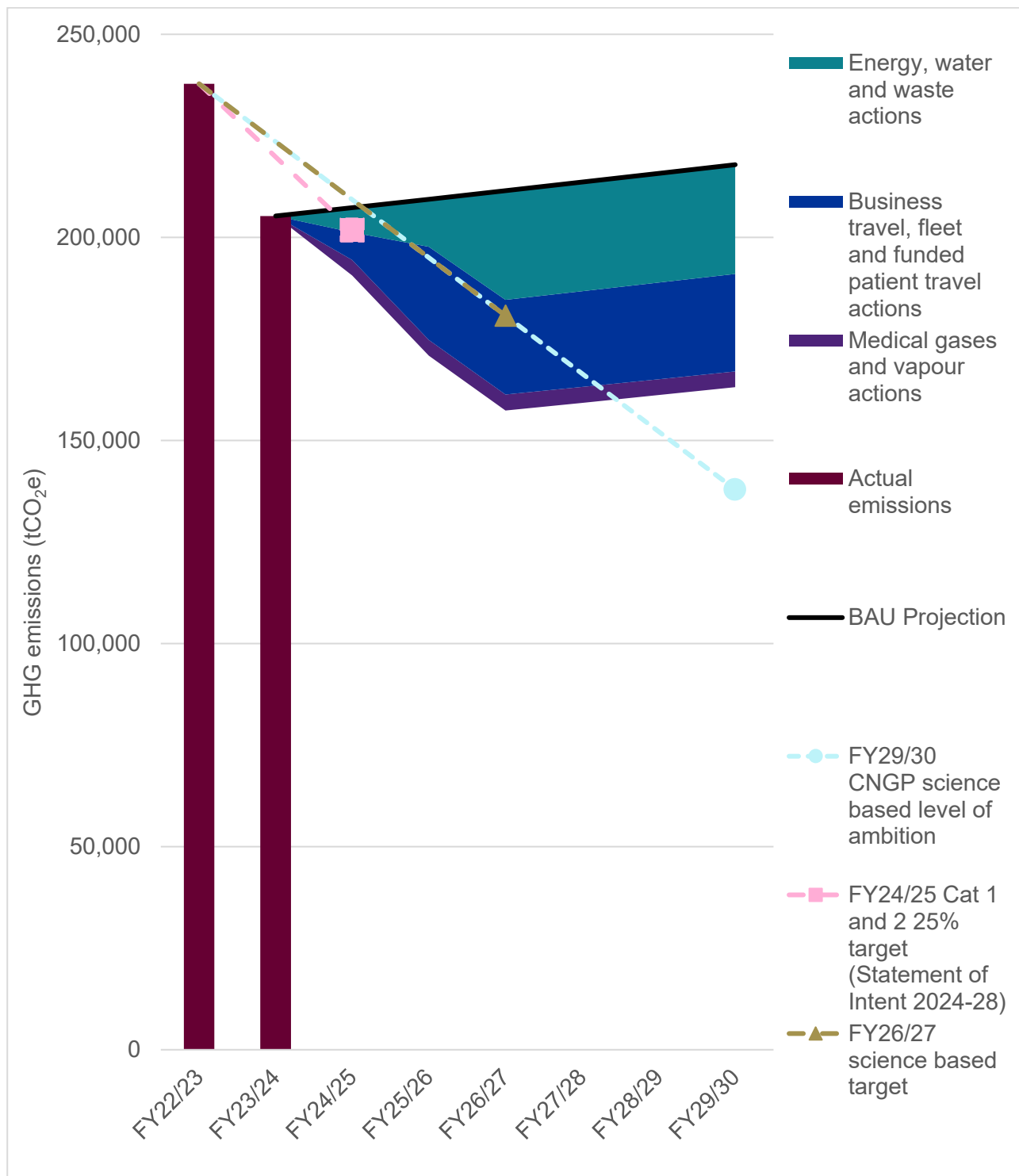
To provide a proactive pathway to Health NZ's emissions reduction, modelled projections have been developed. Any differences between the forward projection and actual emissions measured at the end of each financial year facilitates more detailed assessment of progress and any unplanned consequences and identifies where corrective action may be required.

Predicting outcomes over time has inherent margins of error and inaccuracies. Some actions do not have sufficient data or evidence on the impact on Health NZ's emissions profile and therefore have not been included in modelling.

The emissions modelling (Figure 4) has three aspects:

- Measured and verified emissions for the last two full financial years
- A business-as-usual (BAU) projection based on a do-nothing scenario by projecting emissions against forward demand-based estimates for metrics such as number of patient bed days and staff FTE numbers.
- Estimations of the impact of specific planned actions.

Most actions are driven by Health NZ and are within organisational control and have confirmed budgets. Some actions are still subject to business case and approved funding, these are denoted with an obelisk (†). A small number of actions, based on continuing or further potential behaviour change outcomes, are noted with an asterisk (\*), indicating where Health NZ can only nudge and support the change. Including behaviour change actions in the modelling demonstrates their potential impact, thereby supporting the changes being realised. For assumptions in relation to the modelling please see the Appendix.



**Figure 4 Health NZ reduction pathway modelling**

Through the planned actions Health NZ can demonstrate a pathway to achieve the 25% Category 1 and 2 emissions reductions target by FY24/25 and science-based FY26/27 emissions reduction target. However, further work is needed to identify and model additional potential actions to provide a pathway on how Health NZ aligns to the CNGP 42% level of expectation by FY29/30. Further actions and targets will be explored in the 2027-2030 iteration of the ERP.

## Models of care

Emissions can be avoided through how care is designed. Low emissions, climate resilient and sustainable models of care should always be seen as a dimension of clinical quality, and clinical actions have the potential to reduce both 'Footprint' and 'Footprint Plus' emissions. System change levers like these are typically harder to quantify as they have multiple interactions across the system.

When New Zealanders are unwell and need support, emissions can be further reduced through key principles such as providing the right support in a timely manner. Early and timely intervention can help avoid or at least delay more intensive, high-emission, and costly healthcare interventions. Health NZ's priorities of timely access to quality healthcare will support this goal.

- **Timeliness** - Ensuring that people can access the health care and services they need when they need it in a prompt and efficient way.
- **Access** - Ensuring that every person, regardless of where they live in New Zealand, have equitable access to the health care and services they need.
- **Quality** - Ensuring that health care and services delivered in New Zealand are safe, easy to navigate, understandable and welcoming to users, and are continuously improving.

Health NZ has set out its actions to deliver on these aspects and to achieve the five health and five mental health targets through the Health New Zealand Delivery Plan<sup>13</sup>.

### Case study – Early detection and intervention Diabetic Retinopathy (DR)

Health NZ has utilised AI and portable camera technology to enhance our early detection of Diabetic Retinopathy (DR), a leading cause of blindness in New Zealand for people under 50<sup>14</sup>. Evidence shows DR screening programmes can reduce risk of blindness by 56%<sup>15</sup>.

The programme is in trial phase. The portable screening technology is delivered by kaiāwhina during routine healthcare visits at community and mobile clinics, improving access for patients that otherwise would be required to travel much farther to access specialist facilities and staff.

Through early detection and intervention, we will enable many New Zealanders to keep their sight, while also avoiding (or at least delaying) emissions-intensive treatments and patient travel emissions.



## Progress

Health NZ has established National Clinical Networks (NCNs) to:

- develop national standards and models of care
- identify ways to address variation in service quality and outcomes
- address equity
- develop innovative, efficient, and evidence-based solutions to inform investments and workforce planning.

Support, analytics and expertise are being provided to each of the NCNs to include sustainability, climate resilience and low emissions as a lens to their processes, work plans and outcomes and will culminate in a sustainable models of care framework to support ongoing decision making by the NCNs.

Further work is needed to understand the avoided emissions from prevention and early intervention. To help estimate this, further exploration of Health NZ's 'Footprint' is needed to assign the carbon intensity to specific types of intervention, such as an inpatient bed day, a surgical procedure/hour, and outpatient face to face appointment.

## Models of care actions

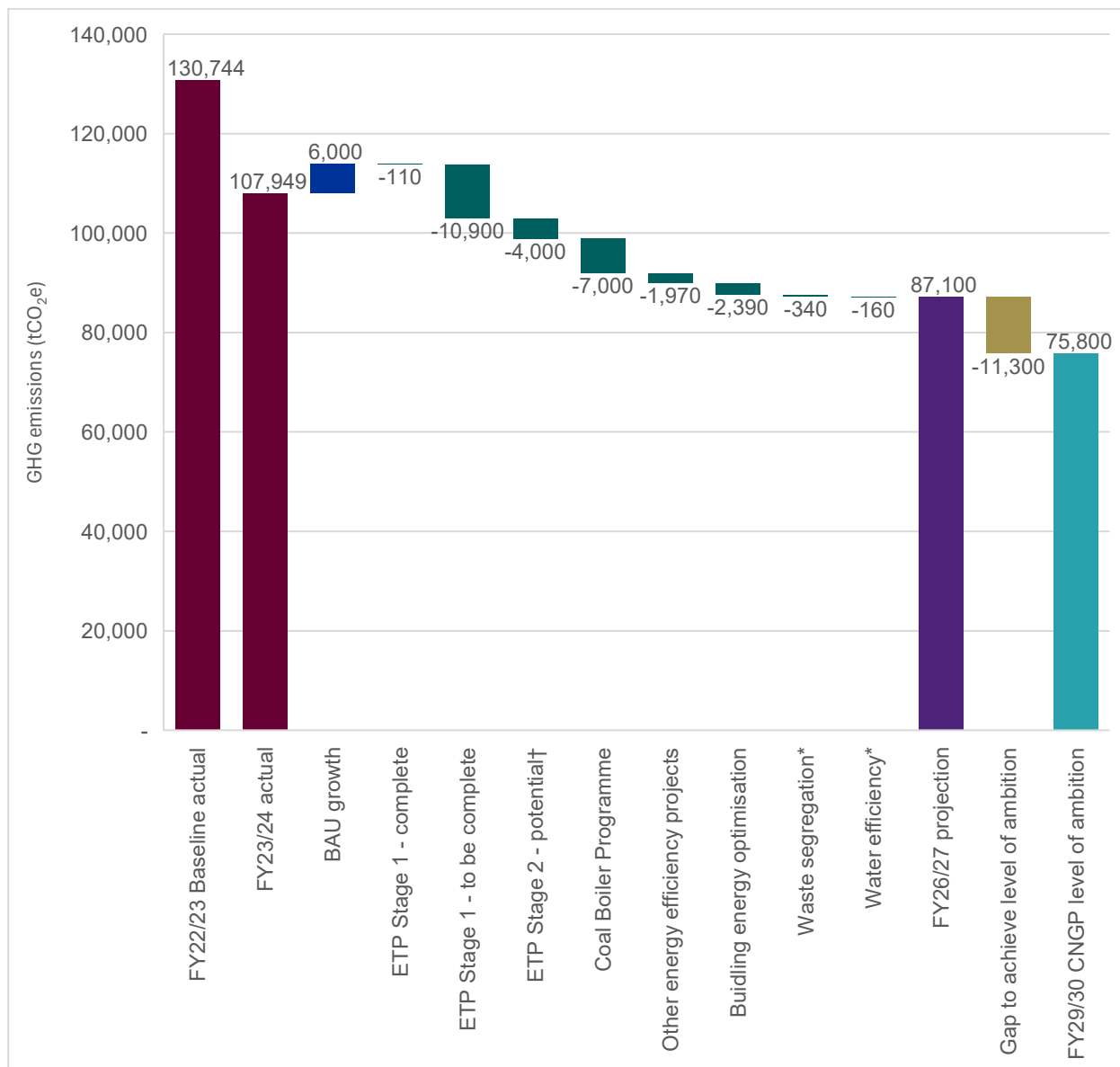
**Table 8 Models of care actions**

Ref	Action	Objective	Responsibility	By when
MoC1	Develop simple guidance for NCNs to assess the sustainability and climate considerations of a model of care / NCN work programme	Guidance is available for all NCNs to test.	Sustainability Function and NCNs	August 2025
MoC2	Provide sustainability support and input to all NCNs and develop a sustainable models of care framework with the NCNs	Each live network has at least one quantified emissions reduction project in their workplan.	Sustainability Function and NCNs	December 2026
MoC3	Undertake a feasibility study on how Health NZ's emissions inventory can be assigned to specific types of healthcare interventions to better track avoided emissions	Assess if emissions intensities can be mapped for key clinical interventions.	Sustainability Function and NCNs	June 2027

## Energy, water, and waste

Energy, waste, and water emissions originate from the routine operations of healthcare facilities and corporate offices, including clinical activities, heating, lighting, cleaning, catering, and waste management. This also includes refrigerant leakage from energy systems like chillers and heat pumps.

In the FY22/23 baseline, these emissions amounted to ~131,000 tCO<sub>2</sub>e, representing 55% of Health NZ's total measured 'Footprint'. By the end of FY23/24, emissions related to energy, waste, and water had decreased by ~23,000 tCO<sub>2</sub>e, or 22%, resulting in a total of ~108,000 tCO<sub>2</sub>e. This significant reduction in energy-related emissions is attributed to the progress made in eliminating coal as an energy source for hot water and steam production. The modelling of planned actions (Figure 5) demonstrates a potential pathway to further reduce net emissions by ~20,800 tCO<sub>2</sub>e by the end of FY26/27, significantly contributing towards the 2030 level of ambition.



**Figure 5 Modelling of energy, water and waste reduction actions**

## Progress and ways of working

Since the baseline year Health NZ has:

- started the development of long-term strategic approaches to infrastructure investment and national asset management, both of which will help address ageing infrastructure, with emissions reduction as a strategic objective.
- initiated the development of an Asset Management Information Strategy, which provides a standardised approach to asset management to optimise the healthcare estate. Energy efficiency and the lifecycle replacement of ageing equipment are emerging as key principles of this strategy.
- Health NZ's Design Guidance Note (DGN) provide requirements for low global warming potential (GWP) refrigerants for new plant as part of a hospital's design.

- a programme to rationalise and optimise the 1,000 plus leased buildings across the motu, these spaces will have an impact on our energy usage and emissions. Any new spaces that are looking to be leased will have sustainability as a consideration and where appropriate we will be seeking an appropriate NABERSNZ rating.
- a business case has been approved to implement a series of decarbonisation actions at part of stage three of the Facilities Infrastructure Remediation Programme at Te Toka Tumai Auckland's two key sites - Auckland City Hospital and Greenlane Clinical Centre.

The successful partnership and collaboration with the Energy Efficiency and Conservation Authority (EECA) has created a step change in Health NZ's energy emissions:

- EECA co-funding has been in place since 2020, supporting six Energy Graduates & three Energy Managers and has thus far enabled cumulative savings of 16.4 gigawatt hours (GWh).
- Health NZ and EECA have collaborated with the National Australian Built Environment Rating System (NABERS) to develop a NABERSNZ energy rating for public hospitals. This rating will help identify opportunities for performance improvement and support annual assessments to track progress and identify further opportunities.
- The State Sector Decarbonisation Fund, managed by EECA has supported several key energy transition and decarbonisation projects such as the \$12m Coal Boiler Programme and a further \$20m across other energy projects.
- The development of the Energy Transition Programme (ETP) to transition to lower emissions energy sources; such as replacing old gas boilers with high efficiency electric heat pumps, improve energy efficiency, reduce our exposure to high emissions refrigerants and replace inefficient lighting with LEDs.

### Case study - Decarbonising heat in Te Waipounamu

Health NZ is decarbonising its energy mix, with the aim to be coal-free by end of 2025. Dunedin Hospital's steam is now supplied by biomass, rather than coal-fired boilers. The switch was completed in January 2023, resulting in annual carbon savings of ~13,700tCO<sub>2</sub>e. Coal boiler conversions in Waitaha Canterbury resulting in ~12,700 tCO<sub>2</sub>e reduction in emissions per annum and Invercargill (~4,900 tCO<sub>2</sub>e) have also transitioned away from coal. These projects have been enabled through the partnership and funding from EECA.

## Energy, water, and waste actions

**Table 9 Energy, water, and waste actions**

Ref	Action	Objective	Responsibility	By when
E1	Complete implementation of the \$59.5m co-funded Energy Transition Programme stage 1 with EECA	Reduce costs by at least \$2.5m and emissions per annum by 11,000tCO <sub>2</sub> e through energy transition and efficiency and up to a further 5,000tCO <sub>2</sub> e through the removal and replacement of high GWP refrigerants, which will have annual reductions by reducing the emissions liabilities from refrigerant leakage.	Infrastructure Investment Group and Sustainability Function.	December 2025
E2	Secure funding for a further \$38.4m co-funded Energy Transition Programme stage 2 with EECA for FY25/26	With a potential target to reduce emissions per annum by 7,000tCO <sub>2</sub> e through a mix of energy transition, reduction and the removal and replacement of high GWP refrigerants and to reduce energy costs.	Infrastructure Investment Group and Sustainability Function.	Complete
E3	Complete implementation of the \$12m EECA funded Coal Boiler Programme	Removal or conversion of all owned coal boilers in the Health NZ estate, likely to reduce up to 7,000tCO <sub>2</sub> e and at least \$450k annual savings.	Infrastructure Investment Group	December 2025
E4	Implement other planned energy transition and efficiency projects	Implement a heat recovery project at Middlemore Hospital (1,800tCO <sub>2</sub> e and >\$500k saving per annum) and a Whangārei Hospital Heat Pump project to displace gas boilers (105tCO <sub>2</sub> e and >\$35k per annum saving).	Infrastructure Investment Group	Complete

Ref	Action	Objective	Responsibility	By when
E5	Annual NABERSNZ energy rating for Health NZ's largest hospital sites	Establish an annual cycle of NABERSNZ energy and water ratings for 42 sites. Develop an improvement plan and approach to target the least efficient sites.	Infrastructure Investment Group and Sustainability Function	Annual ratings updated by February  Improvement plan by December 2025
E6	Energy optimisation settings are implemented	Develop and roll out updated air changes controls and temperature set points for different care environments to reduce energy usage.	Infrastructure Investment Group and Infection Prevention Control	Complete
E7	Develop a policy for the approach to data storage	Assessment of the whole of life emissions benefits of onsite servers versus cloud storage, mapping interventions from specifications, tender and operations.	Digital Services	December 2025
Wat1	Evaluate smart water meter pilot programme at Tauranga Hospital, supported by Tauranga City Council	Evaluate potential water savings at Tauranga hospital and complete feasibility study for national roll out of water monitoring and reduction.	Infrastructure Investment Group and Sustainability Function	December 2025
Wat2	Through proposed investment priorities for renal services set water reduction as a priority	Renal dialysis uses significant volumes of water; through the specification for dialysis equipment, water usage can be reduced significantly.	Renal National Clinical Network	December 2025

Ref	Action	Objective	Responsibility	By when
Was1	Collaborate with external stakeholders to update the New Zealand Standard for Management of Healthcare Waste (NZS 4304:2002)	To reflect current practices that further enhance waste minimisation outcomes and reinforces lifecycle considerations for products and services.	Operational Support Services	June 2027
Was2	Assess the feasibility of a national collection system for organics and food waste	Use local pilots to develop a national approach to reduce organics waste to landfill through finding lower emission disposal methods.	Operational Support Services and Sustainability Function	September 2025
Was3	Develop a digital strategy/work plan to digitise paper records to reduce storage, energy, transport and waste impacts	Quantify the emissions benefits of the strategy and implementation.	Digital Services	December 2025
Was4	Cross organisational engagement to develop an implementation plan to reduce single use devices	To have a roadmap to reduce reliance on single use devices.	Sustainability Function	December 2026
Com1	Develop a communication and engagement plan to engage staff in behaviour change	Create a process, calendar and focus areas for behaviour change engagement to reduce emissions across energy, waste and wider.	Sustainability Function Communications & Engagement	Completed and activities underway

# Business travel, fleet, and funded patient transport

Travel is an essential and multifaceted component of healthcare delivery. It enables staff to support New Zealanders in their homes, facilitates the movement of personnel to areas of greatest need and to access learning and development, disseminates best practices across Health NZ, and supports timely access to services and specialist support for those most in need.

In the FY22/23 baseline, travel-related emissions amounted to 88,500 tCO<sub>2</sub>e, representing 37% of Health NZ's total measured 'Footprint'. Staff air travel is the largest source of emissions in this category, accounting for 48,500 tCO<sub>2</sub>e (20% of the measured 'Footprint'). There are three main reasons for staff air travel:

- Health NZ staff business travel, which includes moving resources to provide care, maintaining team connectivity, and supporting staff development, constitutes up to 33,400 tCO<sub>2</sub>e, approximately <49% of total air travel emissions<sup>iii</sup>.
- A small proportion of the 49% is created through providing support for newly recruited staff from abroad, in accordance with Health NZ's ethical recruitment guidelines and relocation policies.
- Continuing Medical Education (CME) for Senior Medical Officers (SMOs) and Resident Medical Officers (RMOs) is a contractual mechanism to facilitate ongoing medical education and the adoption of international best practice. With approximately 10,000 SMOs and RMOs, CME accounts for at least 19,000 tCO<sub>2</sub>e, indicatively >28% of total air travel emissions.

Patient-funded travel (inclusive of funded accommodation) is the next largest category, amounting to 30,800 tCO<sub>2</sub>e (13% of the total 'Footprint'). This includes emergency transport, transfers between sites, and financial support to ensure that patients' financial circumstances are not a barrier to timely access to care. This category encompasses a mix of road transport, such as ambulances and other vehicles, as well as air travel using fixed-wing aircraft and helicopters.

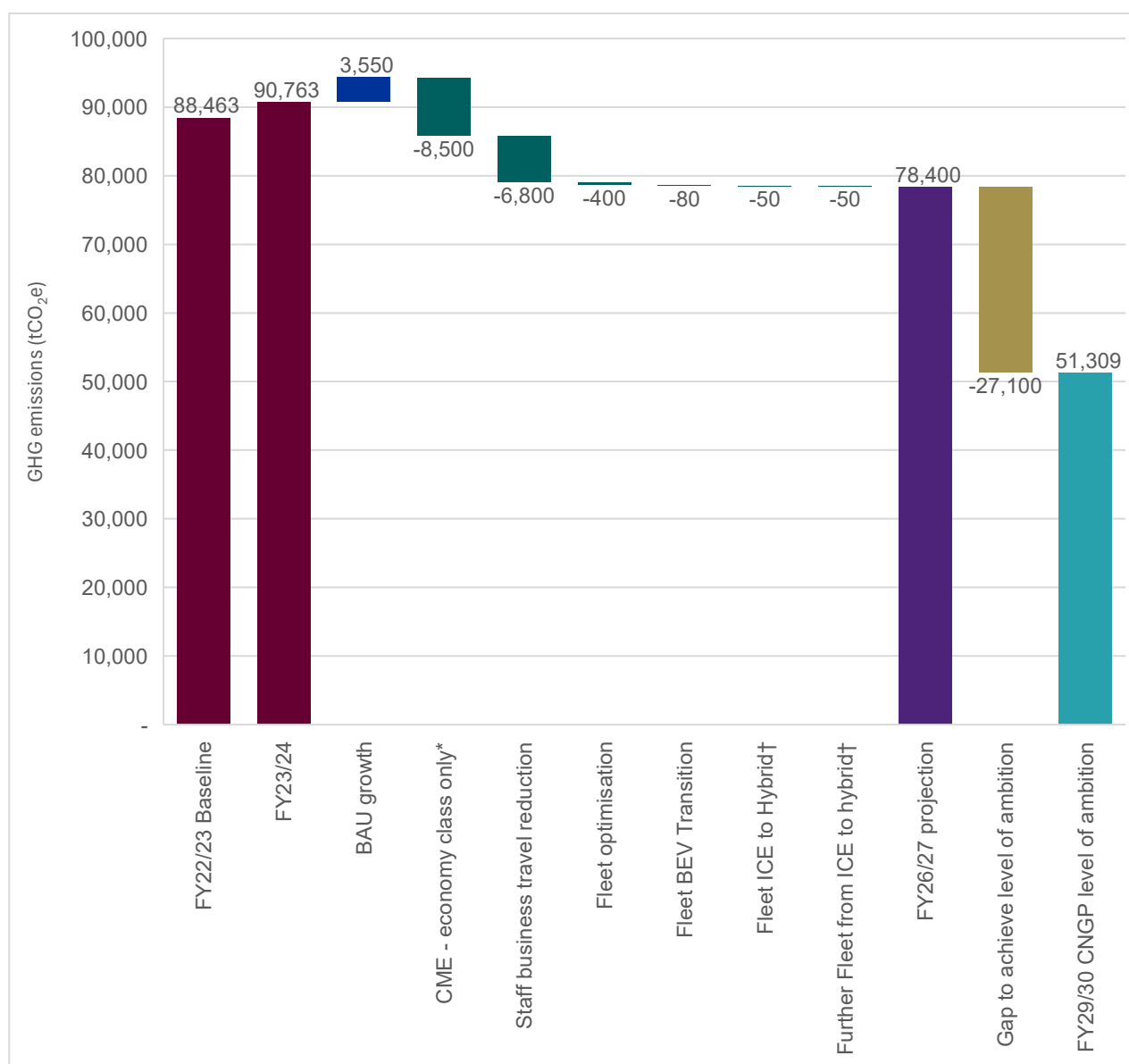
Health NZ's vehicle fleet comprises approximately 5,000 leased and owned vehicles, making it the largest government fleet in New Zealand. These vehicles are essential for providing community care and transporting staff and materials between sites. In FY22/23, fleet emissions totalled 9,200 tCO<sub>2</sub>e (4%).

<sup>iii</sup> Business travel providers also support on CME and relocation bookings and cannot be directly allocated to CME or relocation, it is likely that CME is greater than stated.



In FY23/24, travel-related emissions increased by 2,300 tCO<sub>2</sub>e, or 3%, resulting in a total of 90,800tCO<sub>2</sub>e. The overall increase in travel-related emissions is driven by an increase in both staff air travel (primarily an increase in CME travel) and patient funded transport. Increases in patient funded transport emissions are due largely to improved access to services and financial support for travel and accommodation to attend appointments through the National Travel Assistance (NTA) programme. Increases in emissions related to funded patient transport therefore represents an increase in Health NZ taking responsibility for emissions related to patient travel, which had previously gone unmeasured because Health NZ did not pay for this travel.

Modelling below (Figure 6) demonstrates a potential pathway to reduce net emissions by nearly 12,400 tCO<sub>2</sub>e by the end of FY26/27, contributing towards the 2030 level of ambition.



**Figure 6 Modelling of transport related emissions reduction actions**

## Progress and ways of working

Health NZ already has various policies and processes in place that will affect travel and transport emissions over time.

In 2024, Health NZ developed a harmonised Business Travel Policy and Guidelines as part of ongoing measures to enhance controls and budgetary processes aimed at reducing business travel. Health NZ's 'Relocation Direction' reviewed in 2024, will only support economy class flights for new internationally recruited staff traveling to Aotearoa New Zealand.

Currently, the National Travel Assistance Scheme is being improved to better target those who need it most, improve awareness and make it easier to use. While this may temporarily increase funded patient travel emissions by up to 15% (within the 'Footprint'), the net increase in emissions will be negligible as this will primarily shift emissions from the unmeasured 'Footprint Plus' group (from patient private travel) into the 'Footprint'. However, through the development of further policy settings, emissions management will be a key consideration to minimise this impact (e.g. booking multiple appointments on the same day). As previously mentioned, timely intervention is crucial to delay, reduce, or potentially avoid the need for more intensive treatments in the future.

Optimising and transitioning Health NZ's fleet to lower emissions vehicles provides an opportunity for decarbonisation. Under CNGP guidelines, government fleets are required to optimise their size and reduce their reliance on fossil fuels where possible.

Currently, ~17% of Health NZ's fleet comprises BEVs, this transition has been supported by grants and funding from EECA. Since FY20/21 EECA's State Sector Decarbonisation Fund has helped purchase 368 and lease 340 BEVs. This has been enabled through EECA funding for fleet audit/optimisation studies and site charging infrastructure assessments (mix of reports across motu). Our current approach is to:

- Replace Internal Combustion Engine vehicles (ICE) with lower emissions vehicles
- Where ICE vehicle replacements are necessary it is likely the solution will be Hybrid (on capital budget availability grounds), noting that a circa 40% reduction in operational emissions is inherent with this option.
- As costs continue to reduce for BEVs and when they are the same cost or less (including BEV charging infrastructure), a BEV will be selected unless there is an overriding operational requirement not to do so, such as the availability of BEVs in the required size, complex terrain and range demands, resilience issues, or access to reliable charging infrastructure.

A fleet optimisation plan is under development to improve the tracking, management, and utilisation of the fleet. This plan has the potential to reduce the fleet size and will help lower emissions by removing the oldest, higher-emissions vehicles from our fleet.

## Transport-related actions

**Table 10 Transport related emissions actions**

Ref	Action	Objective	Responsibility	By when
F1	Vehicle Fleet Policy	Draft for internal consultation ready October 2025, with finalisation and implementation planned for February 2026.	Fleet Transition and Optimisation Manager	February 2026
F2	Complete the Fleet Optimisation Plan	<p>Phase 1: Identify opportunities to optimise the fleet and release the oldest / most emissions intensive vehicles. Based on available data.</p> <p>Phase 2: Identify opportunities to optimise the fleet utilising enhanced data from Telematics systems installed throughout the fleet.</p> <p>Note: informed by the draft Vehicle Fleet policy due October 2025.</p>	Fleet Transition and Optimisation Manager	<p>Phase 1: December 2025</p> <p>Phase 2: FY2026/27</p>
PF1	Use sustainability as a lens to policy settings within the National Travel Assistance Claims Policy and associated approaches to travel coordination	To identify opportunities to mitigate the potential rise in measured NTA emissions in the 'Footprint' through enhanced support and policy settings.	Funding – Hospitals and Sustainability Function	June 2026

Ref	Action	Objective	Responsibility	By when
PF2	Assess major future patient transport supply tenders for potential for lower emissions fleets.	To set expectations for fuel efficient and where possible low emissions fleets to be improved over time.	Community & Mental Health Funders and Procurement and Supply Chain	Ongoing
BT1	Develop a business case for a system to better manage CME expenses	Improve data, reduce administrative burden, and provide support to RMOs and SMOs to reduce the emissions from CME travel.	Office of the Chief Clinical Officer	June 2027
BT2	Develop and consult on a single Health NZ CME policy	Working with staff and unions harmonise a single CME policy and provide support to reduce emissions.	Office of the Chief Clinical Officer	December 2025
BT3	Review the 'Relocation Direction' and 'Guiding principles for ethical international recruitment'	To review policy settings to explore emissions reduction opportunities.	People team	March 2026

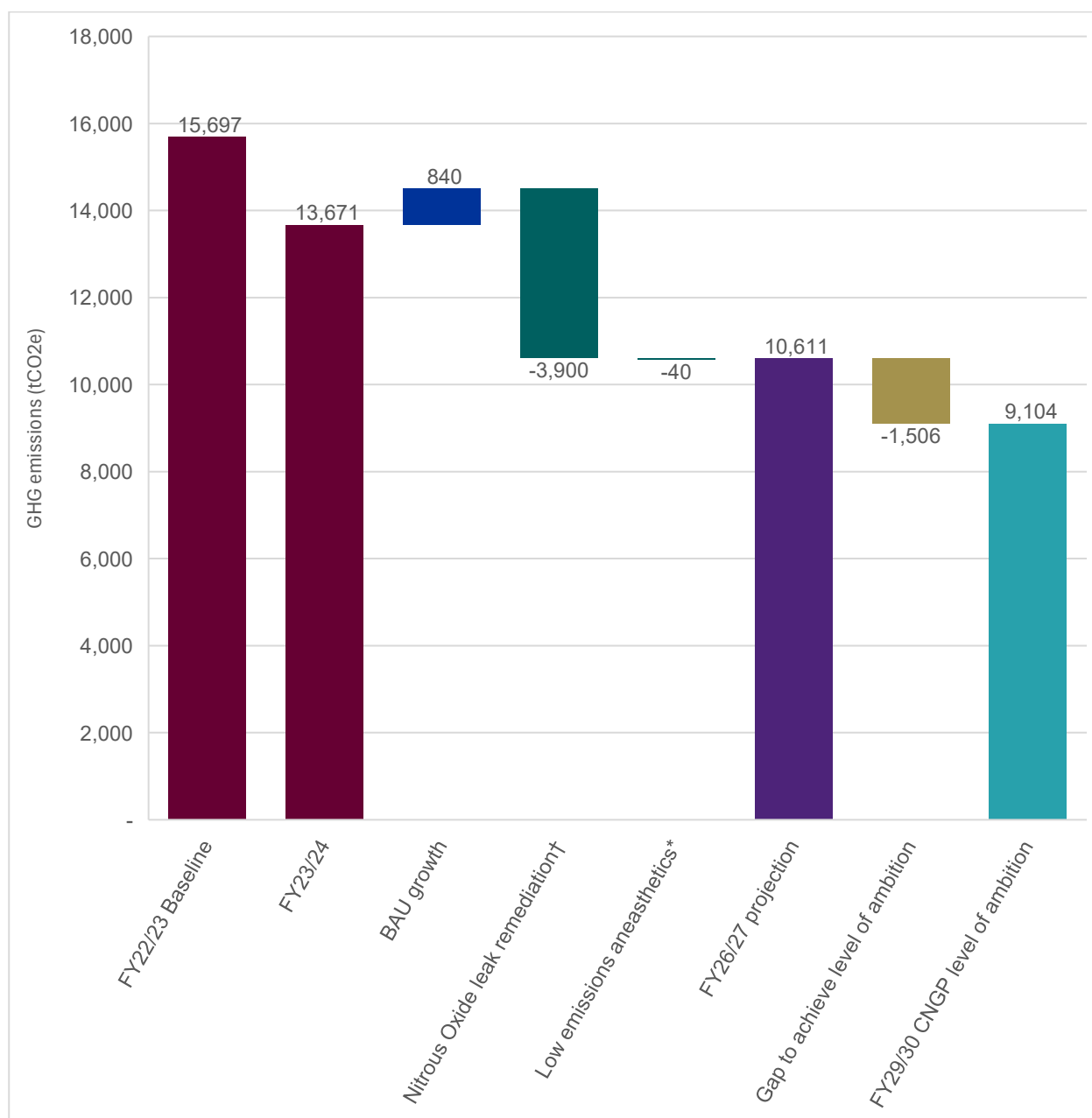
## Medical gases and vapours

Medical gases and anaesthetic vapours are crucial in healthcare, serving essential functions such as respiratory support, analgesia, and facilitating surgery. Despite their indispensable role in medical care, many of these gases and vapours are potent greenhouse gases and require careful management to minimise the environmental impacts.

Within Health NZ's FY22/23 baseline, these emission sources amount to 15,700 tCO<sub>2</sub>e, or approximately 7% of total emissions. The majority (90%) of these emissions come from

Nitrous Oxide (N<sub>2</sub>O) and Entonox (a blend of N<sub>2</sub>O and Oxygen). Nitrous Oxide is 265 times more potent than carbon dioxide<sup>16</sup>. The remaining emissions are primarily from anaesthetic vapours (Sevoflurane 3%, Desflurane 0.5%, and Isoflurane <0.1%). Sevoflurane is 216 times more potent than carbon dioxide (CO<sub>2</sub>) but is much less impactful compared to alternative vapours; Desflurane is 1,790 times more potent than CO<sub>2</sub>.

By FY23/24, emissions associated with medical gas and vapour use had decreased to less than 13,700 tCO<sub>2</sub>e due to ongoing clinical management and optimisation. The modelling below (Figure 7) demonstrates a potential pathway to further reduce net emissions by nearly 3,000 tCO<sub>2</sub>e by the end of FY26/27.



**Figure 7 Modelling of medical gas emissions reduction actions**

## Progress and ways of working

Considerable progress by clinicians has been ongoing over the last decade to switch to lower emission intensity vapours for surgical procedures. Anaesthetic vapours can also be replaced by using Propofol, an intravenous anaesthetic, which avoids the release of high emissions vapours. These activities have been clinician lead through improving awareness, systems, and behaviours.

### Case study – Clinician led action to reduce the emissions intensity of anaesthetics.

Middlemore Hospital is one example of many that demonstrates the impact behaviour change can have on emissions. Between 2015 and 2023 the emissions from anaesthetic vapours reduced by 90% through awareness, education and nudging lower emissions behaviours. Middlemore hospital now rarely uses Desflurane, the most emissions intensive anaesthetic gas.

Nitrous Oxide (N<sub>2</sub>O) reticulated pipework is prone to significant leaking, increasing both emissions and costs. Waitemata district has developed a process to regularly detect and fix leaks that provides a blueprint for a consistent approach across other sites. Dunedin Hospital removed the reticulated N<sub>2</sub>O pipework from the hospital and moved to bottled N<sub>2</sub>O which eradicated the potential for leaks, saving 2,200 tCO<sub>2</sub>e and \$120,000 a year.

Waikato Hospital underwent a pilot to test N<sub>2</sub>O destruction units which captured then destroyed the gas, which reduced emissions while also significantly reducing the risks for staff associated with chronic exposure. There is overwhelming evidence that chronic exposure creates a health risk to staff, such as neurotoxicity, vitamin B12 deficiency and even foetal development risk<sup>17</sup>.

## Medical gases and vapour actions

**Table 11 Medical gases and vapours actions**

Ref	Action	Objective	Responsibility	By when
M1	Seek approval for a national medical gases committee under the National Clinical Governance Group	To develop a national approach to reduce the environmental and health and safety impacts of Medical Gases like Nitrous Oxide.	Office of the Chief Clinical Officer	Complete

Ref	Action	Objective	Responsibility	By when
M2	Dereticulate N <sub>2</sub> O from the following sites: Waipapa Theatres, Christchurch hospital and key departments at Middlemore hospital and Manukau Health Park	Removing reticulated / piped N <sub>2</sub> O avoids the potential for leaks.	Infrastructure Investment Group	June 2027
M3	Establish a national programme of qualitative Nitrous Oxide exposure monitoring	Qualitative risk assessment for birthing units, to identify high exposure prioritised sites.	Health, Safety, Wellbeing and Operational Resilience	June 2026
M4	Develop a business case for a prioritised national programme of quantitative Nitrous Oxide exposure monitoring	To quantify the exposure risk and identify control measures to mitigate.	Health, Safety, Wellbeing and Operational Resilience	June 2027
M5	Establish a Medical Gas Policy Working Group to develop a national Medical Gas Policy	A clinician led, multi-disciplinary working group to develop a national policy suite and propose potential further actions. The policy will likely establish settings for when dereticulation or when remediating leaks is the most cost-effective route.	Office of the Chief Clinical Officer  Sustainability Function	March 2026
M6	Trial N <sub>2</sub> O destruction units	Develop a business case and identify the next suitable refurbishment or new build projects to trial a centralised N <sub>2</sub> O destruction unit.	Infrastructure Investment Group	June 2027

Ref	Action	Objective	Responsibility	By when
V1	Collaborate on a policy on low global warming potential anaesthetics	Provide guidelines on reducing the emissions from anaesthesia and through engagement assess feasibility to remove Desflurane from the national formulary.	Office of the Chief Clinical Officer	December 2026



# Footprint Plus opportunities

# Footprint Plus

By their very nature, 'Footprint Plus' emissions are distinct and present varying levels of opportunity and influence. This section of the ERP outlines actions and activities currently undertaken by Health NZ to reduce these emissions, even in the absence of a baseline assessment.

## Patient and visitor private travel

Patient and visitor private travel refers to the journeys undertaken by patients and visitors using their own means to access hospital services and visit friends and whānau. Most patient trips to hospitals fall under this category. Ensuring timely access to healthcare services is essential to maximise health outcomes and can help delay or avoid the need for more interventions, which ultimately generates more emissions.

Data collected by international counterparts, and some Health NZ districts, suggest that emissions from patient and visitor private travel could be a similar size to energy emissions<sup>18,19</sup>. Reducing travel and shifting to lower-emission transport modes will improve air quality and reduce the associated risks of chronic respiratory and cardiovascular diseases, certain cancers, and lower birthweight<sup>20</sup>.

### Progress

As of July 2024, 18 Health NZ districts were already using telehealth for outpatient clinic services<sup>21</sup>, 14 were using it for acute care and five were providing Hospital in the Home. As telehealth services are expanded, patient private travel emissions will go down<sup>22</sup>, balancing this with patient choice and effectiveness and equity of telehealth outcomes.

#### **Case study – Tapiri Mai distance healthcare programme to support rural patients and reduce travel**

Tapiri Mai distance healthcare programme aims to improve healthcare access for Matakana and Motiti Island communities by supplementing on-site clinics with virtual consultations. The installation of a radio mast was crucial for providing reliable telehealth services, reducing the need for travel. Community engagement was key, with extensive hui to build trust and address concerns about technology. The programme also includes emergency response training and educational workshops. The initiative has led to greater community independence and resilience, with local pharmacies delivering medicines to the islands, further minimising travel.

Health NZ's Nationwide Service and Campus Planning<sup>23</sup> identifies the increasing role of virtual healthcare as a key principle for meeting our future healthcare needs (Figure 8) and aims to embed digital and virtual technology through the following actions:

- Development of a national booking, scheduling and referral management service that supports consumer-led booking and scheduling, providing flexibility in time, location, and mode of delivery.
- Increased use of digital information sources as educative tools and options for specialist advice to support people to access care outside of the hospital setting.
- Development of a single unified national diagnostics service to enable equitable and improved consumer experience and choice about accessing ambulatory diagnostics closer-to-home.
- Exploration of systems to augment our workforce, support the delivery of virtual and online health services, and help design new treatments.

#### The Principles

- Virtual and digital healthcare models remove barriers to specialist healthcare
- High performing primary care and community services are embedded within communities
- Urban ambulatory and rural healthcare settings have capability to support specialist care
- Specialist healthcare delivery is networked locally, regionally, and nationally
- Care on complex sites is for those who need highly specialised support
- Digital enablement supports capability and connection across the system
- Transport networks facilitate people to get to care with whānau support
- More healthcare is provided in lower complexity and cost settings

**Figure 8 Nationwide Service and Campus Planning principles**

The Nationwide Service and Campus Planning also identifies the importance of making more low complexity services available closer to home. This will reduce the need for patients to travel to access common or high-frequency healthcare services (for instance, radiation oncology will be available in Taranaki, Whangārei and Hawke's Bay).

#### Case study – Piki Te Ora – Pilot for remote health monitoring to support rural patients and reduce travel

Piki Te Ora Remote Patient Monitoring pilot started in 2023 and is due to be complete in mid-2025. It aims to improve healthcare access for rural Māori communities by enabling patients to monitor their health from home. Using mobile apps and wearable devices, participants can track vital signs and symptoms, which are securely transmitted to healthcare providers for continuous monitoring. This approach has the potential to reduce the need for frequent travel to distant clinics and hospitals, reducing unnecessary hospitalisations and empowering patients to manage their long-term health conditions more effectively. The pilot fosters community collaboration and aims to enhance health outcomes while minimising travel requirements.

Support is already in place in some districts that has proven to be effective in encouraging mode shift and improving patient experience;

- Te Matau a Māui Hawke's Bay provides free public transport for all patients and their caregivers travelling to appointments at the Hawke's Bay Hospital and Napier Health Centre.
- Waikato Hospital successfully trialled a year-long 50 percent subsidy on public transport for everyone travelling to the site, which effectively eliminated missed appointments from car parking and travel issues, which on average were six a day. The subsidy resulted in a 20 percent increase in passenger usage across all bus services in the first six months of the trial.

## Patient travel actions

**Table 12 Patient travel actions**

Ref	Action	Objective	Responsibility	By when
P1	Create guidance for site specific Travel Plans	Create and launch guidance to support consistent travel planning across major Health NZ sites.	Sustainability Function	November 2025
P2	Develop a methodology to assess patient and staff travel emission impacts when planning service and campus changes	To add emissions as a lens to the modelling of patient journeys to help inform the assessment of service and campus planning options.	Hospital Funder	October 2025
P3	Through the development of Health NZ's telehealth approach and strategy, develop a method to quantify the emissions benefits of avoided patient and visitor travel.	Support decision making with emissions as a lens and track the emissions benefit of avoided travel.	Digital Services, Planning Funding and Outcomes, Sustainability Function	December 2025

Ref	Action	Objective	Responsibility	By when
P4	Evaluate the Piki Te Ora pilot for remote patient health monitoring for rural patients, for patient benefits and avoided travel emissions.	To quantify the emission reduction as an additional benefit to the pilot and to support next steps.	Digital Services	December 2025

## Staff Commute

Staff commuting refers to the travel undertaken by employees between their place of residence and their workplace. Supporting and encouraging staff to use active transport has significant health and wellbeing benefits. Not only does it increase physical activity, but research also shows that people who commute actively have a lower risk of chronic diseases such as diabetes, cancer, and mental health issues, and take fewer sick days<sup>24</sup>. Emissions from staff commute could be smaller than patient private travel emissions<sup>25</sup>.

### Progress

Most of our staff work *kanohi ki te kanohi* | face to face, to deliver their patient facing roles. It is important, where feasible, to balance team connectivity and collaboration with flexible working arrangements, which have the potential to reduce travel emissions. Health NZ will update its flexible working policy by the end of FY24/25.

Many districts have introduced active transport incentives for staff, ranging from secure bicycle parking and end-of-trip facilities to public transport subsidies and guaranteed ride home programs. Several districts have packaged these incentives into workplace travel plans, which typically cover not just staff travel but also patient and visitor travel. These plans are monitored for success and are often complemented by disincentives, such as restrictions on free car parking.

## Staff Commute actions

**Table 13 Staff commute actions**

Ref	Action	Objective	Responsibility	By when
S1	Prepare a prioritised plan and timeline for site-based travel planning	To identify which major sites require a new/updated Travel Plan and work collaboratively to prepare a future implementation and delivery plan.	Sustainability Function	December 2025
S2	Develop guidance for effective and right sized end of trip facilities	At master planning and site planning stages the appropriate level of end of trip active travel facilities are installed.	Infrastructure Investment Group and Sustainability Function.	Complete
S3	Update our policy related to balancing face to face and flexible working	To provide a harmonised national policy for staff that balances the need for flexibility, avoided emissions, culture and connectivity.	People Team	December 2025

## Procurement and supply chain

Supply chain emissions arise from the extraction, processing, transport, and manufacture of goods that Health NZ purchases. Emissions also stem from services that support Health NZ's delivery, such as internet and cloud computing services, as well as healthcare services commissioned by Health NZ. International studies show that emissions from supply chain and commissioned activities constitute a substantial portion of any healthcare system's emissions inventory, potentially being two to five times larger than energy emissions<sup>26,27</sup>. For this, our first ERP, we have focused on Procurement and Supply Chain. Our work related to understanding the impact and partnership opportunities in relation to commissioned services providers and Hauora Māori Partners is in its discovery stage and will continue to develop.

### Progress

Health NZ has focused on developing enabling policies and processes at the enterprise level. In 2024, Health NZ adopted the National Procurement Policy, which defines Broader



Outcomes that can be achieved by procurement activity. The National Procurement Policy notes that environmental benefits include the reduction of negative impacts. At the same time, updates to the Government Procurement Rules (rules) have been drafted and consulted. Once the rules are released, there is an opportunity to ensure a strong alignment between the National Procurement Policy and the rules in relation to sustainability and climate change.

## Procurement and Supply chain actions

**Table 14 supply chain actions**

Ref	Action	Objective	Responsibility	By when
SC1	Review National Procurement Policy to align with new Government Procurement Rules for sustainability and climate change outcomes.	Ensure environmental and climate change considerations of National Procurement Policy aligns with Government Procurement Rules.	Procurement and Supply Chain	August 2026
SC2	Undertake an emissions estimation of supply chain and commissioned services emissions	To identify which procurement and commissioned services categories are the highest emissions to focus efforts on reduction.	Procurement and Supply Chain and Sustainability Function	December 2025

## Infrastructure

The process of constructing a new healthcare facility, refurbishing, or upgrading an existing one generates embodied emissions at all stages: from the extraction of raw materials, manufacture or production into products, transportation of these materials and products to site, waste produced during construction, to the deconstruction of the building or its components at the end of their life cycle.

International evidence<sup>28,29,30</sup> suggests that a healthier internal and external hospital environment can boost staff productivity and morale, and even facilitate patient recovery. Energy, water, and waste emissions are often 'locked in' through the design of a hospital; therefore, it is crucial to adopt a whole-of-life approach during the design phase.

## Progress

Efforts are underway to incorporate sustainability as a key consideration in the decision-making process for infrastructure investment, spanning from the Infrastructure Investment Plan through business case stages to design and delivery.

Health NZ continues to collaborate with the Australasian Healthcare Infrastructure Alliance (AHIA) and has representation on the Environmentally Sustainable Design (ESD) subgroup. This collaboration has resulted in several outputs, including the publication of three guidance documents. These documents provide teams with guidelines on electrifying hospital power supplies, electrifying the fleet, and strengthening resilience and adaptation to climate change<sup>31</sup>.

### Case study - Taranaki Renal Unit, Te Huhi Raupō

The building has become a world leader for energy-efficient low carbon design, the building is one of the first healthcare buildings internationally to target Zero Energy and Zero Carbon Certifications - a leading, internationally recognised environmental certification provided via the International Living Future Institute

### Figure 9 Te Huhi Raupō entrance (to the right)



Health NZ has developed ESD requirements which are detailed in the Health NZ Facility Design Guidance Note (DGN)<sup>32</sup>. The DGN sets the requirements for healthcare infrastructure projects to embed low emission design and construction practices, to drive down operational and embodied emissions. Specific requirements include building certification, undertaking whole of life emissions assessments to inform design and specific emissions, energy, water and waste outcomes.

The DGN recommends projects source local products and materials, avoid toxic and harmful chemicals and select refrigerants with the lowest global warming potential (GWP). These recommendations are further explained in our Broader Outcomes Guide for Suppliers<sup>33</sup>.



**Case study - Te Toki Maurere – a low emissions design approach**

The design for this mental health facility in the Bay of Plenty led to a 34% saving in emissions. Further opportunities were identified at an optioneering workshop, resulting in up to a 454 tCO<sub>2</sub>e reduction (6% reduction in embodied carbon and 77% reduction in operational carbon). These results were found by comparing to business as usual over a service life for the building of 80 years and identified a range of opportunities.

**Infrastructure actions****Table 15 Infrastructure actions**

Ref	Action	Objective	Responsibility	By when
I1	Review the Environmentally Sustainable Design targets and requirements of the Design Guidance Note	To identify efficiencies and reflect improving trends in sustainable and low emissions design.	Sustainability Function and Infrastructure Investment Group	December 2025
I2	Emissions assessment of new build versus refurbishment projects to inform future decision making	Inform investment decision making by developing an assessment or case study that compares the embodied and operational emissions impacts of retrofit versus new build.	Sustainability Function and Infrastructure Investment Group	June 2027
I3	Guidelines for new birth units Nitrous Oxide approaches	Collaborate to develop best practice guidelines for N <sub>2</sub> O for new build properties.	Sustainability Function and Infrastructure Investment Group	December 2025

# Appendix

# Appendix

## Modelling assumptions

The following section details the assumptions and any caveats in relation to the emissions pathway modelling. Please be advised that there are rounding errors and minor discrepancies between the emissions inventories and the ERP modelling. This is due to the necessity of converting certain emissions sources into a format more appropriate for forecasting. The process of forecasting and predicting outcomes over time, such as this modelling, inherently involves margins of error and inaccuracies.

## Growth

Each emission source, e.g. electricity or fleet fuels have been coded to a specific growth metric, and these have been applied in a 1:1 ratio. The analysis has used the following growth metrics:

- Bed days – projections of the number of bed days, this helps project the level of inpatient activity and has been used as proxy for most patient volumes<sup>34</sup>. This has been applied to most emissions sources related to patient activity such as energy usage and medical gases.
- Emergency Department (ED) presentations – projections of the number of presentations at ED<sup>35</sup>. This has been applied to funded patient travel via ambulance.
- Staff full time equivalents (FTE) – projections for clinical, specialist and assumed overall, Health NZ FTE changes over time<sup>36</sup>. This has been applied to emissions sources related to staff such as business travel.
- National Travel Assistance (NTA) claims – the team responsible for NTA policy settings has modelled the estimated increase in spend and volume on NTA claims. This has been applied only to emissions related to NTA transport and accommodation.

## Actions

The below table (Table 16) details the modelled actions, the reference number in the action tables and shows the total annual emissions saving at the end of FY26/27. The table also details any assumptions and highlights if achieving the outcome is reliant on continued behaviour change. To communicate the uncertainty a score out of 25 has been provided for each action, the higher the score the more confidence there is in achieving the total emissions outcome. The score is based on a 1-5 scale for certainty of implementation (likely lower for behaviour change actions than for spend-to-save actions) and a 1-5 scale for accuracy of the emissions calculation (higher with an approved business case).

**Table 16 Assumptions for modelled reduction actions**

Emissions group	Basic name (in chart)	Action ref	Description / assumptions	Reliant on continued behaviour change?	Score	Estimated annual emissions reduction in FY26/27 (tCO <sub>2</sub> e)
Energy, water and waste	ETP Stage 1 - to be complete	E1	Based on energy efficiency gains from projects that have been approved but not completed.		12	-10,900
	ETP Stage 1 - complete	E1	Projects that are complete (as of December 2024), but annual emissions savings are projections only.		20	-110
	Coal Boiler Programme	E3	Removal or conversion of all Health NZ owned Coal Boilers by end of FY25/26, 50% removed or converted in FY24/25.		20	-7,000
	ETP Stage 2 - potential†	E2	Based on estimates of projects in interim application phase only and are subject to business case and funding approvals.		6	-4,000

Emissions group	Basic name (in chart)	Action ref	Description / assumptions	Reliant on continued behaviour change?	Score	Estimated annual emissions reduction in FY26/27 (tCO <sub>2</sub> e)
	Building energy optimisation	E6	Optimisation of air changes per hour on air handling units and improved set point controls on temperatures. Savings based on pilot projects at Middlemore and Christchurch. Partially rolled out in FY24/25 and fully implemented in FY25/26.		15	-2,400
	Other energy efficiency projects	E4	Middlemore Hospital Chiller heat recovery and heat pump integration and Whangarei hospital gas to heat pump transition.		16	-2,000
	Waste segregation	Was1,2,3 and 4, + behaviour change (Com1)	5% of all waste streams avoiding landfill, either recycled or reprocessed.	Yes	8	-340
	Water efficiency	Wat1 + behaviour change (Com1)	5% water efficiency achieved.	Yes	8	-160
Funded patient transport, fleet and	CME - economy class only	BT1, BT2 to enable behaviour change	From FY25/26 All CME flights are economy class only, higher class flights per passenger kilometre are more emissions intensive.	Yes	8	-8,500

Emissions group	Basic name (in chart)	Action ref	Description / assumptions	Reliant on continued behaviour change?	Score	Estimated annual emissions reduction in FY26/27 (tCO <sub>2</sub> e)
business travel	Staff business travel reduction	Policy and approval controls in place	Circa 30% reduction in all staff business travel.		15	-6,800
	Fleet Optimisation	F2	Fleet optimisation reduced total distance travelled by 5% by FY26/27 against FY23/24 levels (inclusive of growth).		8	-400
	Fleet BEV Transition	Funded	Replace 50 ICE vehicles with BEVs in FY24/25; these vehicles have been confirmed to join the fleet.		16	-80
	Fleet ICE to Hybrid†		Transitioning 140 ICE vehicles to hybrids in FY25/26, this is subject to regional budget approvals for vehicle lifecycle replacement.		12	-50
	Further Fleet from ICE to Hybrid†		Transitioning a further 140 ICE vehicles to hybrids in FY26/27, this is subject to regional budget approvals for vehicle lifecycle replacement.		6	-50

Emissions group	Basic name (in chart)	Action ref	Description / assumptions	Reliant on continued behaviour change?	Score	Estimated annual emissions reduction in FY26/27 (tCO <sub>2</sub> e)
Medical gases and vapours	Nitrous Oxide leak remediation†	M2, and M4&5 which are subject to business case	Leak maintenance or dereticulation reduces 20% leakage rate.		9	-3,890
	low global warming potential anaesthetics	V1	Up to 20% transition from all anaesthetic vapours to propofol or lower GWP anaesthetics.	Yes	8	-40

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<sup>33</sup> Infrastructure and Investment Group. N.d. *Supplier Guide: Infrastructure Broader Outcomes*. Wellington: Health New Zealand | Te Whatu Ora.

<sup>34</sup> Data used to calculate bed days is taken from the Ministry of Health's National Minimum Dataset, a notional collection of data hospitalisations, activity and discharges.

<sup>35</sup> ED presentations have been sourced from the Health NZ Monitor platform, which includes trend data on health system access and activity. Data used in Health NZ Monitor modelling is taken from the National Minimum Dataset and the National Non-admitted patient Dataset.

<sup>36</sup>Data from two sources supplied by Health NZ's Future of Health Workforce team and Health Workforce Information Programme (HWIP) <https://www.tewhatauora.govt.nz/for-health-professionals/health-workforce-development/health-workforce-initiatives/health-workforce-information-programme>.