



# Kaitiakitanga

Caring for people and planet

## Bay of Plenty District Health Board Environmental Sustainability Action Plan (ESAP) FY21/22 – FY22/23 (Including Measured Carbon Footprint Observations for FY20/21)

**Version 1: September 2021**

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Endorsed by: Sustainability Steering Group



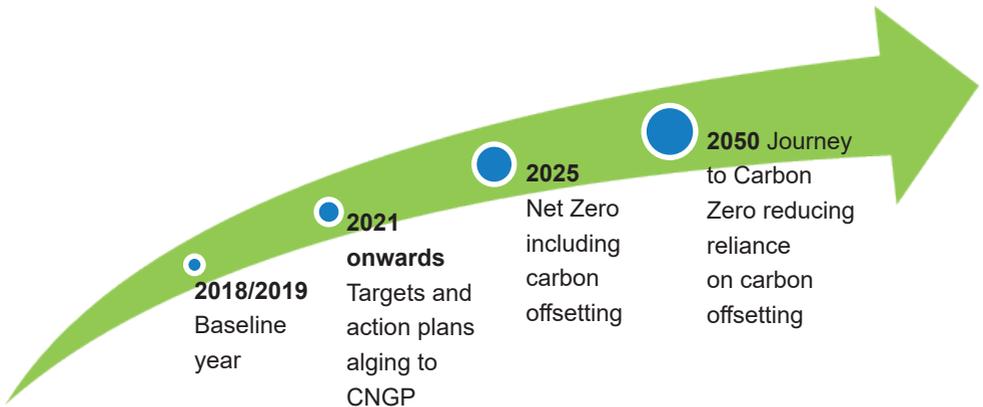
# What is Environmental Sustainability?

Environmental Sustainability and what it means to Bay of Plenty District Health Board (BOPDHB) is outlined in the Kaitiakitanga Framework for Environmental Sustainability.

Put simply, BOPDHB has committed to:

- show internal and external leadership in environmentally sustainable practice
- be accountable for its environmental/carbon footprint
- be committed to finding and embedding sustainable solutions for all business practices (including those related to waste, energy, water, transportation, food, built environment, and procurement)
- use its resources responsibly
- consider co-benefits (economic, health, social and environmental resilience/regeneration) during all decision-making processes
- be future focused, while reflecting on the past

## A journey to becoming an environmentally sustainable organisation



**Figure 1. Journey to Carbon Zero 2050**



In November 2020, the Prime Minister announced a climate emergency, along with the new Carbon Neutral Government Programme (CNGP). The aim of the CNGP is to reduce government emissions at an accelerated rate and work towards carbon neutrality by 2025. Prior to this announcement, BOPDHB had set an aspirational timeline to illustrate our journey to Carbon (Net) Zero 2050 in line with legislation, science-based targets, and the Ministry of Health/central government expectations at that time. Considering the CNGP this journey has now seen some changes:

**2018/2019: Baseline Year** – Understanding our carbon footprint.

**2021 onwards: Set targets and action plans to align to CNGP** –Targets and action plans are reviewed on an annual basis, for the preceeding two-year period, with a focus on continual improvement.

**2025: CNGP – Net Zero by 2025** – Initiatives and steps have been put in place to achieve this target including carbon offsetting.

**2050: Carbon Zero** – Journey to 2050 includes ongoing target alignment and action planning moving away from a reliance on carbon offsetting.

## Environmental Sustainability Action Plan (ESAP) Purpose

BOPDHB has a significant list of environmental sustainability priorities (p. 3), and a significant aspiration towards carbon zero, therefore tasks within these priorities must themselves be prioritised. The purpose of this action plan is to identify actions within these priorities that will be achieved over the coming two years. It may also indicate longer term objectives for these priorities, both internal and external (e.g. Ministry of Health or New Zealand Government Procurement).



# What are our priorities?

BOPDHB has set 10 environmental sustainability priorities. These are briefly described below:



## 1. Leadership

*Prioritising environmental health as a strategic imperative<sup>1</sup>.* This includes staff engagement alongside broader communications endeavours which demonstrate leadership and commitment to environmental sustainability and carbon footprint reduction.



## 2. Accountability

*Accountability and commitment to change.* This includes a specific focus on reporting and monitoring to inform our engagement with the Toitū Carbon Reduce (previously CEMARS) programme, and setting annual goals, biennial action plans, and longer-term carbon reduction targets.



## 3. Waste

*Reducing, treating, and safely disposing of healthcare waste.* This includes understanding our waste footprint and setting targets and instigating solutions to reduce this footprint.



## 4. Energy

*Implementing energy efficiency and promoting and adopting clean, renewable energy generation.* This is closely linked to the Built Environment priority and includes understanding our behaviours relating to energy use within the DHB.

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<sup>1</sup> The italicised descriptions for priorities 1 and 3 – 9 are taken and/or adapted from the Global Green and Healthy Hospital Sustainability Goals <http://www.greenhospitals.net/sustainability-goals/>



## 5. Transport/Travel

**Improving transportation strategies for patients and staff.** This includes implementing the recommendations from the BOPDHB Travel Plan.



## 6. Procurement

*Buying safer and more sustainable products and materials.* This includes working with our current providers to ensure they are working towards more sustainable solutions.



## 7. Built Environment

*Supporting green and healthy design and construction, infrastructure use and operation.* This includes considering Green Star and NABERS initiatives, and biophilic design principles, by adopting environmentally sustainable design principles.



## 8. Water

*Reducing hospital water consumption and promoting water as the drink of choice.* This includes investigating solutions to ensure water is freely available on site for staff, patients, visitors and whānau.



## 9. Food

*Purchasing and serving healthy, sustainably grown food, reducing the carbon footprint created by food consumption where possible.* This includes investigating the feasibility of hospital-based community gardens



## 10. Climate Change Adaptation and Mitigation

*Understanding the impacts that climate change will have on our hospitals, our people and our communities.* This includes adaptation planning and climate related risk mitigation.

# Our Priorities and their links to Nga Pou Mana o Io

Mana Atua	Connection
Leadership	The mana of our leadership is handed down from that which is beyond our influence, in sustainability we demonstrate our understanding of our role and responsibility
Climate Change Adaptation and Mitigation	Our understanding that the environment is greater than us and our response needs to be one of humility, respect and active care

Mana Whenua/Mana Moana	Connection
Waste	Waste that is not processed within a closed system is indicative of an imbalance with and a diminishment of the mana of the environment
Energy	Our energy use can impact on both Papatūānuku and Ranginui – natural resources
Water	Natural resources

Mana Tupuna	Connection
Accountability	Accountable for our footprint to allow informed decisions
Built Environment	Understanding the whakapapa of our built environment including its place, its requirements, and its use
Procurement	Each item we procure has its own journey (supply chain - whakapapa)

Mana Tangata	Connection
Transport/Travel	Active travel – healthy people, building strong whānau
Food	Healthy food – healthy people, building strong whānau



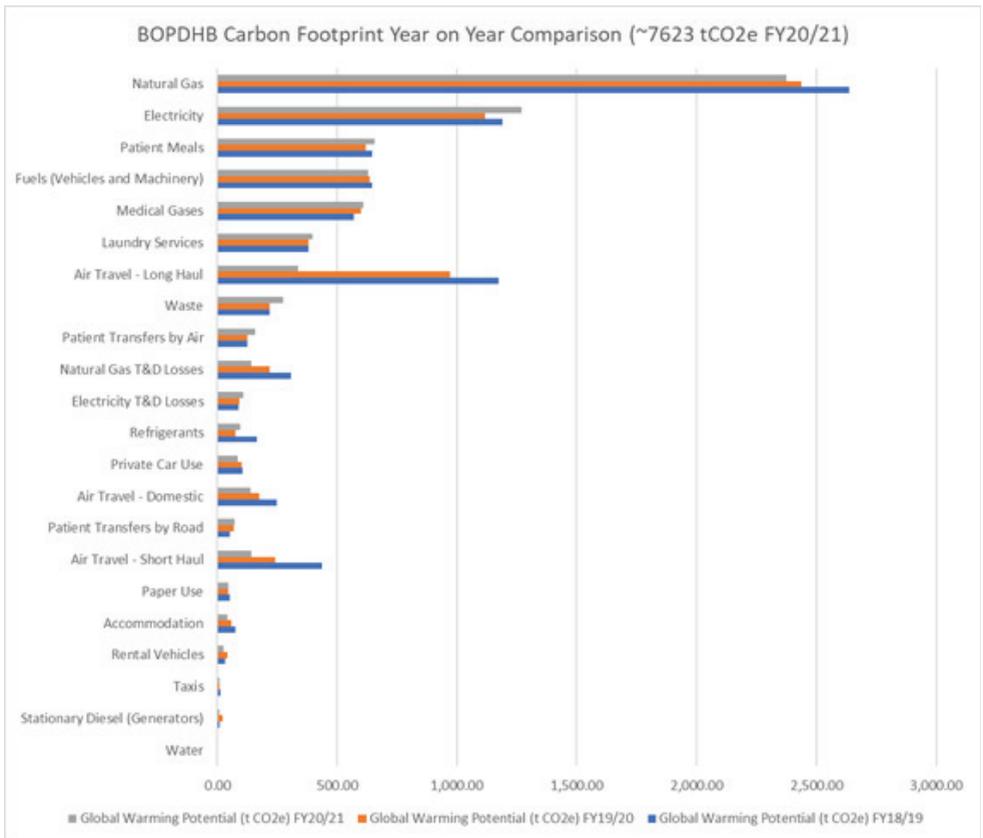
# BOPDHB Measured Carbon Footprint Observations FY20/21

The FY20/21 carbon footprint findings indicate the top six emissions sources as:

- #1 **Natural Gas** – used for the generation of steam and hot water. This source is significantly larger than all other sources making up 31% of the total carbon footprint.
- #2 **Electricity** – used for all other onsite energy requirements. Electricity makes up 17% of the total carbon footprint.
- #3 **Patient Meals** – the carbon footprint of each meat-based meal is equivalent to 1.88 kgCO<sub>2</sub>-e compared with 1.27 kgCO<sub>2</sub>-e for vegetarian meals and 0.96 kgCO<sub>2</sub>-e for vegan meals. Meat based meals make up around 50% of all patient meals.
- #4 **Fuels (Vehicles and Machinery)** – used in fleet vehicles and machinery (excluding generators).
- #5 **Medical Gases** – including CO<sub>2</sub>, N<sub>2</sub>O, Desflurane and Sevoflurane.
- #6 **Laundry Services** – including transportation and energy use.

After the top six, long-haul air travel, waste, patient transfers by air and transmissions and distribution losses from energy use complete the top ten. It should be noted that air travel (particularly long haul) has moved from the top six primarily due to border restrictions. As we regain the ability to travel internationally with ease, this area will require significant consideration as this is where the bulk of the carbon reduction has been achieved over the past two years.





**Figure 3. BOPDHB Carbon Footprint FY20/21 (~7623 tCO<sub>2</sub>-e) compared with baseline FY18/19 (~9181 tCO<sub>2</sub>-e) and FY19/20 (~8263 tCO<sub>2</sub>-e)**

### Commentary on FY20/21 – Baseline comparison

During the 2020/2021 financial year, BOPDHB saw an overall carbon footprint reduction of ~17% from the baseline year (FY18/19) (see Table 1). Like FY19/20, this reduction is largely attributed to COVID-19 impacts, rather than planned and considered changes to business practice, specifically reduction in ability to travel by air. We have, however seen a 10% decrease in emissions from natural gas, offset by a 6.4% increase in electricity use, due in part to better data quality and HVAC installation.

We hope to see a reduction in GHG emissions attributed to business activities (and not COVID-19 response/recovery alone) over the coming months and years as we work to embed the Kaitiakitanga Framework into our practice and reach the goals of our



Environmental Sustainability Action Plan. These documents are available to view on our website: [bopdhb.health.nz/about-us/environmental-sustainability-kaitiakitanga/](http://bopdhb.health.nz/about-us/environmental-sustainability-kaitiakitanga/)

**Table 1. Changes in emissions activity FY20/21 compared with baseline year.**

Activity – Emission Source	Global Warming Potential (t CO2e) FY20/21	Global Warming Potential (t CO2e) FY18/19 (Baseline)	Increase (+) / Reduction (-)
Natural Gas	2,372.79	2,636.87	- 10.0%
Electricity	1,268.72	1,191.94	+ 6.4%
Patient Meals	656.22	645.88	+ 1.6%
Fuels (Vehicles and Machinery)	630.27	646.87	- 2.6%
Medical Gases	609.41	570.64	+ 6.8%
Laundry Services	396.04	379.52	+ 4.4%
Air Travel – Long Haul	336.34	1,173.90	- 71.3%
Waste	275.64	218.07	+ 26.4%
Patient Transfers by Air	159.10	126.87	+ 25.4%
Natural Gas T&D Losses	142.30	436.88	- 67.4%
Electricity T&D Losses	140.85	309.12	- 54.4%
Refrigerants	138.24	248.86	- 44.5%
Private Car Use	108.74	90.28	+ 20.5%
Air Travel – Domestic	94.30	165.34	- 43.0%
Patient Transfers by Road	87.30	104.91	- 16.8%
Air Travel – Short Haul	71.06	52.52	+ 35.3%
Paper Use	46.73	51.79	- 9.8%
Accommodation	43.07	74.39	- 42.1%
Rental Vehicles	26.28	33.37	- 21.3%
Taxis	9.04	11.90	- 24.0%
Stationary Diesel (Generators)	8.13	8.67	- 6.2%
Water	3.01	3.02	- 0.4%
<b>TOTAL</b>	<b>7623.59</b>	<b>9,181.60</b>	<b>- 17.0%</b>



# FY21/22 Sustainability Goals and Activity

## Sustainability Goals for Annual Plan FY21/22

- Goal 1.** Revisit 2019 BOPDHB Travel Plan and embed other forms of transport (particularly air travel) into a Travel Strategy aimed at including the learnings from the COVID-19 response in relation to mode-shift, flexible working, online conferencing, telehealth, and the inability to travel by air, with an aim to significantly reduce global warming potential (GWP) from activities relating to travelling to, from or for work at our two main hospitals.
- Goal 2.** Realign Kaitiakitanga Framework, Environmental Sustainability Action Plan, and Emissions Management and Reduction Plan to embed learnings from COVID-19 response and align to targets of Climate Change Response (Zero Carbon) Amendment Act, Carbon Neutral Government Plan (CNGP) and any further advice of the Climate Change Commission, Ministry for the Environment, or Ministry of Health.
- Goal 3.** Ensure that all work conducted in the space of Environmental Sustainability continues to be completed through a Te Ao Māori lens, ensuring an equitable focus and that responsibilities within Te Tiriti O Waitangi are upheld.
- Goal 4.** An infrastructure focused climate related risk assessment is conducted ensuring that equitable health provision is part of any climate change adaptation planning.



# Sustainability Goals & Significant Activity FY21/22



- Annual Plan/Annual Report
- Significant Activity

**Figure 4. Sustainability Goals and Significant Activity FY21/22**



# FY20/21 ESAP Achievements

Table 2 Identifies the ESAP achievements over the 2020 - 2021 financial year.

**Table 2. Completed Environmental Sustainability Action Plan Actions FY20/21**

Priority	Achievement	Comment/Outcome
Leadership	Climate Leaders Coalition Membership	
	Draft Sustainability Framework	
	BOPDHB Sustainability Framework endorsed by Executive Committee	
	Public launch of Kaitiakitanga Framework and Environmental Sustainability Action Plan	
	Integrate environmental sustainability and kaitiakitanga into new employee orientation	
	Sustainability Policy	Integrate environmental sustainability into BOPDHB operations as BAU is the overarching aim
Accountability	Develop Sustainability Page for public website	Sustainability data and information available to public
	Have Sustainability Framework and Action Plans endorsed by the Board and Maori Health Runanga	
	Exec Team and Board Commitment to 50% in GHG emissions by 2030.	Now overtaken by Carbon Neutral Government Programme which sets a target of net zero by 2025
	Create and publish annual emissions data	Annual Report available online. Carbon footprint audit results available on Toitū website
Waste	Annual external reporting systems in place	Annual Report available online. Carbon footprint audit results available on Toitū website
	Establish milestone reductions targets for each Greenhouse Gas (GHG) Category	SBTI pathway utilised to set targets.
	Reusable delivery bags implemented in pharmacy to reduce usage of paper bags - Tauranga Hospital Behavioural and educational campaign for waste minimisation and management	Waste Education Programme launched 19 - 25 October 2020

Priority	Achievement	Comment/Outcome
	Introduce waste management plans as part of project design process	
Waste	<p>Minimise the presence of non-clinical waste items in clinical waste</p> <p>Demolition of RSA Flat: concrete materials crushed to create general purpose aggregate; Metal recycled along with some timber; Recycling requirement in contract document</p> <p>MoH Covid contract has a clause in the tender asking them to identify the recycling process for redundant materials</p>	Moved to BAU after launch of Waste Education Programme
	Energy Transition Accelerator	Pathways identified to move away from reliance on fossil fuel powered energy creation
	Data quality improvements show more realistic gas data (indicating reduction in gas use)	
	All new A/C units purchased have motion sensors	
Energy	<p>Replace hot water chlorifier (supplied via gas generated hot water) with electric cylinder</p> <p>36,135 kWh per annum savings through LED lighting upgrade Central Core</p> <p>7,464.6 kWh per annum savings through LED lighting upgrade Silver Birch House</p> <p>2,409 kWh per annum savings through LED lighting upgrade Carpark E Street Lighting (Clarke Street)</p>	
Travel and Transport	<p>Sign up to Greater Tauranga Travel Pledge</p> <p>Adopt Zoom as an official video conferencing tool and promote its use.</p>	<p>A Tauranga citywide initiative to reduce reliance on single occupancy vehicles for travel to and for work.</p> <p>Microsoft Teams is also being utilised for this purpose.</p>
Procurement	ED have changed mild and moderate asthma pathway from a canister (propellant) inhaler to a powder inhaler which has a lower environmental footprint than propellant type inhalers 65% reduction of desflurane use	

# FY20/21 – FY21/22 Environmental Sustainability Action Plan



## Leadership

Resource Requirements Key: \$ = Additional funding requirement; BAU = incorporate into business as usual; P = Additional staff time requirement

Action	Desired Outcome	GWP Impact	Resource Requirements	Key Stakeholders (internal and external)	Comments
Create mechanism for kaitiaki representation across both hospitals to enable genuine involvement and action in environmental sustainability	Integrate environmental sustainability into BOPDHB operations as BAU	High	P BAU	BOPDHB Sustainability Steering Group BOPDHB Executive Committee	This is a progression of the current "Green Team" model to enable better engagement of staff by allocating representatives paid hours to perform kaitiaki duties (for example).
Embed sustainability principles into staff position descriptions, similar to health and safety	Better engagement in sustainable business practices	Medium	P BAU	BOPDHB People and Capability Team BOPDHB Executive Committee	Oh hold due to Health NZ restructure



## Accountability

Action	Desired Outcome	GWP Impact	Resource Requirements	Key Stakeholders (internal and external)	Comments
Appropriate database in place for GHG accounting processes	Accurate carbon footprint data	Low	P		Work in progress
Appropriate Dashboards in place	Information available visually for promotion and active management	Low	P		Work in progress
Ensure all project registers record links to environmental sustainability to enable ES Action plan to be updated annually	Better understanding of links with environmental sustainability with all BOPDHB based projects	Low	P	BOPDHB Innovation and Improvement Team BOPDHB Information Services Team	Work in progress



## Waste

Action	Desired Outcome	GWP Impact	Resource Requirements	Key Stakeholders (internal and external)	Comments
Identify and implement food waste solution for administration based organic waste at main hospital sites	Reduction in waste to landfill	Medium	BAU	Why Waste All BOPDHB staff	Worm Farm trial in place
Identify and implement solution for hospital/clinical based organic waste at main hospital sites	Reduction in waste to landfill	High	BAU	Waste Contractor/s All BOPDHB staff	A new waste contract is currently at the RFP stage. Discussions will commence when provider is confirmed
Identify and implement solution for waste glass vials at main hospital sites	Reduction in waste to landfill	Low	BAU	Waste Contractor/s All BOPDHB staff	A new waste contract is currently at the RFP stage. Discussions will commence when provider is confirmed
Identify and implement waste streaming solutions at main hospital sites	Reduction in waste to landfill	High	\$ BAU	Waste Contractor/s All BOPDHB staff	Tests of change are currently occurring in various areas of both hospitals
Behavioural and educational campaign for waste minimisation and management	Staff/patient/visitor behaviour change	High	BAU	All BOPDHB staff Hospital patients and visitors	A waste education programme will launch in October 2020
Minimise the presence of non-clinical waste items in clinical waste	Reduce clinical waste	Medium	BAU	All BOPDHB staff	A waste education programme will launch in October 2020





## Energy

Action	Desired Outcome	GWP Impact	Resource Requirements	Key Stakeholders (Internal and external)	Comments
Tauranga Hospital Kitchen upgrade to be fully electric - should see reduction in natural gas use	Energy use reduction	Low	P	BOPDHB Project Management	Work in progress
Develop, consult on and publish Energy Management Plan	Document published, communicated in full	Medium	P	BOPDHB Facilities Management	Work in progress
Theatre HVAC set back implementation	Energy use reduction	Low	\$ P	BOPDHB Facilities Management BOPDHB Theatre Teams	
Replace North East quadrant (Tauranga Hospital) hot water boilers with more efficient solution	Energy use reduction	Low	\$ P	BOPDHB Facilities Management	
Install timer controls on stand-alone air conditioning units	Energy use reduction	Low	\$ P	BOPDHB Facilities Management	Work in progress



# Transport/Travel

Action	Desired Outcome	GWP Impact	Resource Requirements	Key Stakeholders (Internal and external)	Comments
Introduce online booking for fleet vehicles	Better data collection. Better processes. Paper reduction.	Medium	\$ BAU	BOPDHB Travel Plan Group All BOPDHB staff	Work in progress
Develop, consult on and publish updated BOPDHB revised Use of Motor Vehicle Policy	Document published, communicated in full and approved	Medium	BAU	BOPDHB Travel Plan Group BOPDHB Executive Committee	Work in progress
Develop, consult on and publish updated BOPDHB Fleet Transition Plan and Vehicle Procurement Rules	Document published, communicated in full and approved	High	\$ BAU	BOPDHB Travel Plan Group BOPDHB Executive Committee	Work in progress
Adopt flexible/remote working policy as status quo	Reduced travel for work	High	P BAU	BOPDHB People and Capability Team	Work in progress
Communicate ideas to staff on how they can get to the hospital differently	Increased staff awareness of transport options	Low	BAU	BOPDHB Travel Plan Group All BOPDHB staff	Work in progress
Investigate the provision of health care in locations that are accessible to patients, staff and visitors without causing them unnecessary travel.	Carbon footprint reduction from transport	High	\$ P BAU	BOPDHB Clinical-based Services Leadership Teams	Linked to Health and Disability System Review





# Procurement

Action	Desired Outcome	GWP Impact	Resource Requirements	Key Stakeholders (internal and external)	Comments
Sustainability criteria in all RFP	Increase in engagement with environmentally sound providers	High	P	BOPDHB Procurement Team BOPDHB Contract Managers	Work in progress
Sustainability clauses for contracts including reporting requirements from service provider	Improved carbon footprint reduction outcomes	High	P	BOPDHB Procurement Team BOPDHB Contract Managers	
Contracts will be actively managed for both general performance and sustainability performance	Sustainability clauses are enacted within day-to-day activities.	Medium	P	BOPDHB Contract Managers	Work in progress
Understand possibilities for surplus/end of life medical equipment and supplies	Reduce waste to landfill	Low	P	BOPDHB Procurement Team	
Set up environmentally preferable purchasing policies and procedures and embed into practice	Reduction in waste to landfill, reduction in environmental harm	High	P BAU	BOPDHB Procurement Team All BOPDHB staff	Work in progress
Trial MedSalv and their application of the appropriate reprocessing and reuse of single use DVT non-invasive medical devices.	Reduction in waste to landfill, reduction in environmental harm, Cost reduction	Medium	BAU	Staff and leaders representing PACU, ICU, Orthopaedics, Risk, Patient Safety, PEG	Work in progress



## Built Environment

Action	Desired Outcome	GWP Impact	Resource Requirements	Key Stakeholders (internal and external)	Comments
Integrate Environmentally Sustainable Design (ESD) into capital and strategic projects	Integration of ESD into capital and strategic projects	High	\$ P BAU	BOPDHB Project Management Team External Consultants	Work in progress, likely to be mandated by MOH
Clarify Environmental Impact Assessments/Life Cycle Analyses as part of project design process – what, how, when	Integration of ESD into capital and strategic projects	Medium	\$ P	BOPDHB Project Management Team	
Utilising BMS systems for continuous optimisation of building systems	Energy use reduction	Medium	P	BOPDHB Facilities Management Team	Work in progress



## Water

Action	Desired Outcome	GWP Impact	Resource Requirements	Key Stakeholders (internal and external)	Comments
Recording of incoming consumption and discharge costs	10% reduction in water use (financial saving)	Low	BAU		
Understanding internal water consumption (e.g. CSU, kitchen, general consumption)	Understanding of water use	Low	BAU		
Install water bottle refill stations around hospital sites	Promote healthy choices and reduce waste	Medium	\$ P	Toi Te Ora	We have 50 locations on our Tauranga Hospital campus and 26 locations at Whakatane Hospital currently. We are looking to map this in a way that is easy for staff to locate their nearest access to water
Investigate opportunities for improvement in sustainable water management	Identify additional ways to improve water efficiency	Low	P	BOPDHB Facilities Management Team	Water use is not a significant GWP factor
Understand stormwater quality over and above compliance	Understand environmental footprint	Medium	BAU	BOPDHB Facilities Management Team	



## Food

Action	Desired Outcome	GWP Impact	Resource Requirements	Key Stakeholders (Internal and external)	Comments
Community Garden based at Tauranga Hospital	Access to fruit and vegetables on site, patient integration with sustainable living practices	Low	\$ P	Toi Te Ora BOPDHB Facilities Management Team	
Introduce Meat Free Mondays at Whakatane Hospital Café	Health and Environmental benefits from meat consumption reduction	Low	BAU	BOPDHB Business Operations Team	
Educate and communicate within the hospital or healthcare system, as well as to patients and community, about nutritious, socially equitable and ecologically sustainable food practices and procedures.	Health and environmental benefits from healthy and whole food consumption with less packaging	Low	P	Toi Te Ora BOPDHB Dietetics Team	Work in progress



## Climate Change Adaptation and Mitigation

Action	Desired Outcome	GWP Impact	Resource Requirements	Key Stakeholders (Internal and external)	Comments
Develop a comprehensive climate change strategy incorporating both adaptation and mitigation	Integrate environmental sustainability into BOPDHB operations as BAU	High	P BAU	BOPDHB Risk Management Team	Work in progress

**Note:** Where P = additional staff time requirement is identified, this is where staff time outside of the Sustainability Manager FTE and/or current BAU practice is required.

# ESAP Review

The Environmental Sustainability Action Plan will be reviewed and updated annually for the two-year period ahead. Action plans will also reflect on the achievements of the previous plan. A more in-depth plan that looks beyond this two-year period is available on request.

The plan for the next two-year period will be created in alignment with the carbon footprint annual reporting.

*Toitū te marae ā Tāne*

*Toitū te marae ā Tangaroa*

*Toitū te iwi*

Uphold the wellbeing of the land, uphold the wellbeing of the ocean, and we uphold the wellbeing of the people.









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