

# Environmental sustainability strategy

2018–19 to 2022–23





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2018–19 to 2022–23

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# Contents

<b>Ministerial foreword .....</b>	<b>1</b>
<b>Introduction.....</b>	<b>2</b>
<b>An environmentally sustainable health system .....</b>	<b>4</b>
Challenges in delivering an environmentally sustainable health system .....	4
Stakeholder perspectives of an environmentally sustainable health system .....	4
<b>Strategic direction 1: Provide leadership and engage with the sector .....</b>	<b>6</b>
What is happening now .....	6
Where we will be in 2023.....	6
How we will get there.....	6
<b>Strategic direction 2: Improve the environmental performance of the health system.....</b>	<b>7</b>
What is happening now .....	7
Where we will be in 2023.....	8
How we will get there.....	8
<b>Strategic direction 3: Adapt to a changing climate.....</b>	<b>9</b>
What is happening now .....	9
Where we will be in 2023.....	9
How we will get there.....	9
<b>Governance, implementation and reporting .....</b>	<b>10</b>



## Ministerial foreword

There are clear linkages between the health and wellbeing of Victorians and a healthy environment. Public hospitals and health services contribute a quarter of the Victorian Government's energy related carbon emissions.

Public hospitals and health services have made significant inroads into reducing environmental impacts since efforts commenced in 2005. Water use has reduced by some 570 million litres; we are using 18 per cent less energy per square metre of hospital floor space and emitting on average 9 per cent less carbon per square metre of hospital floor space.

However, the demand for health services continues to grow. Since 2005 our overall energy use has increased by 22 per cent and carbon emissions by 32 per cent. For the health sector to play its part in Victoria achieving net carbon zero by 2050 we need to proactively embed environmental sustainability into how we do business.

Victorians are already feeling the impacts of climate change. Records for average monthly temperatures are regularly being broken, the frequency and length of heatwaves are increasing and our fire season is starting earlier and lasting longer. These are directly affecting our health system through further growth in demand for our services. The increasing frequency and intensity of natural disasters is increasing the need for our health services to be resilient and able to deliver services when they are most needed.

This environmental sustainability strategy sets out our commitment for the next five years to further improve the environmental sustainability of the health system and to adapt the health system so it is resilient in the face of climate change.

I encourage all our hospitals and health services to embed environmental sustainability within their operations and to actively consider the impact of climate change on service delivery and infrastructure.



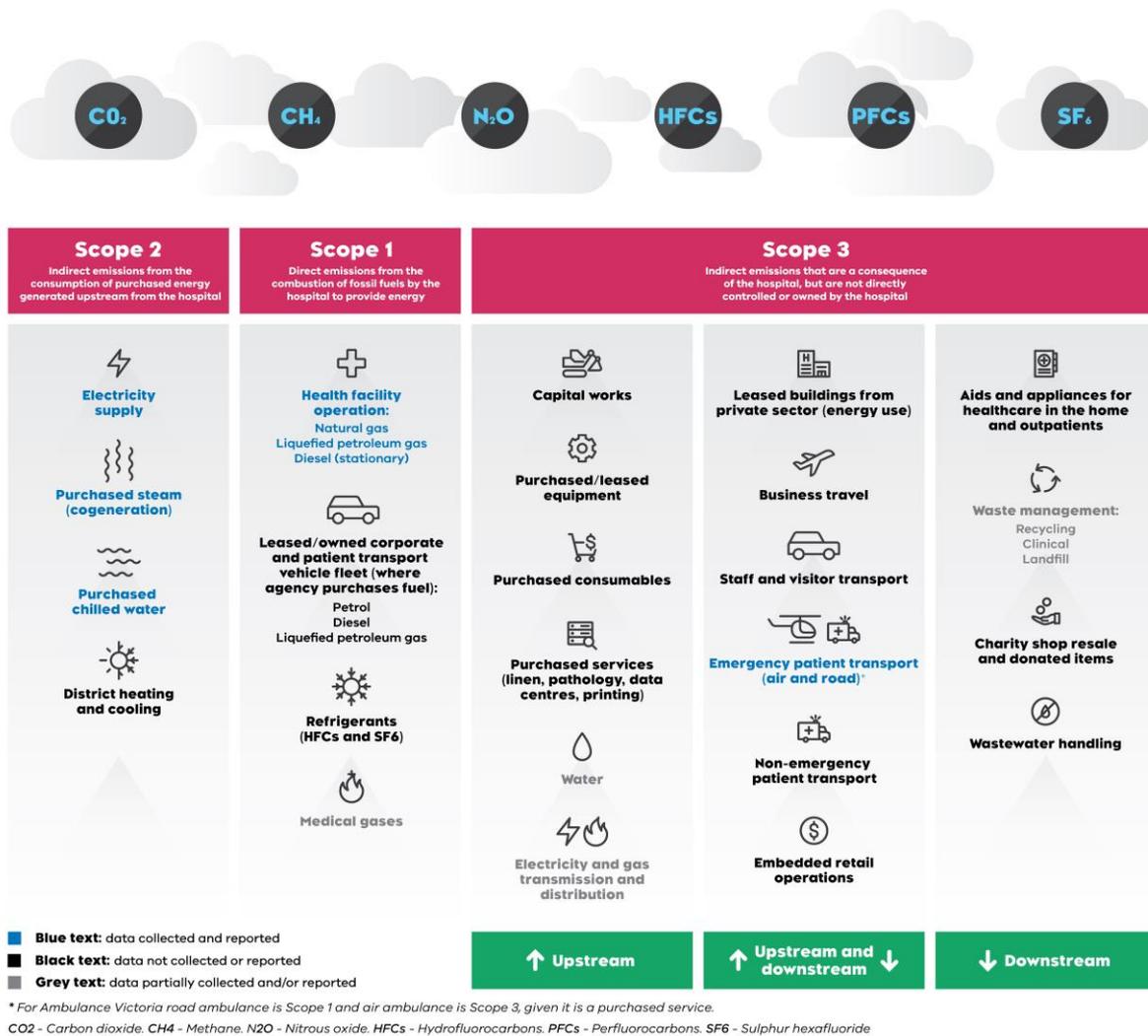
**Hon Jill Hennessy MP**  
Minister for Health  
Minister for Ambulance Services



# Introduction

Health is, in part, dependent on the natural and built environments. Due to the nature of the services they provide, hospitals use significant amounts of energy and water and generate large volumes of waste. Victorian public hospitals and health services are responsible for a quarter of the government’s reported carbon emissions from stationary energy – 834,962 tonnes in 2017–18 alone. Figure 1 provides a visual representation of the sources of carbon emissions from the Victorian public health system.

**Figure 1: Sources of carbon emissions from the Victorian public health system**



Given the role of hospitals in delivering health services to the community, there is an expectation that they will reduce their environmental impact and contribute to improving the natural and built environments.

Victoria’s climate is changing and having recognisable effects on the health and wellbeing of all Victorians, though more acutely on those who are already vulnerable. Such effects include an upward trend in the average annual number of hot days and related deaths and hospitalisations, and an increase in the number and severity of bushfires and associated injury, death, respiratory hazards and mental health and wellbeing.

The Victorian Government, through the *Climate Change Act 2017* (Vic), has legislated requirements for government to adapt to climate change and set a target for Victoria to be net carbon zero by 2050. The Act requires government departments, including the Department of Health and Human Services, to make an emission reduction pledge and develop a 5-year emission reduction plan by 2020. The first pledge and associated emission reduction plan will cover the period 1 January 2021 to 31 December 2025.

The environmental performance of Victoria’s public hospitals and health services is measured through a suite of metrics as outlined in Table 1. Performance against this *Environment sustainability strategy* will be measured against this baseline. As the strategy is implemented additional metrics for waste, transport and indirect carbon emissions will be developed.

**Table 1: Public health system baseline environmental metrics (2017–18)<sup>1</sup>**

Measure	Gigajoules of energy	Tonnes of CO <sub>2</sub> -e (stationary energy)	Kilolitres of water	Reams of copy paper	Waste (Tonnes)
Total	5,336,121	834,962	4,280,362	658,250	36,097
Per bed-day	0.75	0.12	0.60	NA	NA
Per metre squared	1.55	0.24	1.24	NA	NA
Per FTE	NA	NA	NA	7.37	NA
Per patient treated	NA	NA	NA	NA	3.58 kg

A large proportion of Victoria’s carbon savings will be delivered through implementing large-scale renewables and the associated reduction in the carbon intensity of the electricity grid. However, this does not negate the need for the public health system to reduce its own carbon emissions and improve its overall environmental performance.

This strategy contains three strategic directions, with each direction having a series of key objectives and high-level actions from 2018–19 to 2022–23. Behind the strategy will be an action plan detailing the activities supporting implementation of the three strategic directions.

The strategic directions are:

- provide leadership and engage with the sector
- improve the environmental performance of the health system
- adapt to a changing climate.

Victorian public hospitals and health services will be required to align their environmental management plans with the strategic directions and report on the key objectives and targets as outlined in the annual Department of Health and Human Services *Policy and funding guidelines*.

While the Building Authority will take the lead in delivering the strategy, we encourage all health system stakeholders to actively contribute and participate in making sustainability the easy choice while continuing to deliver the best health and wellbeing outcomes for all Victorians.

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<sup>1</sup> The use of energy (and associated carbon emissions) and water is strongly correlated to the size of the hospital and in-patient and residential aged care bed-days. For these resources, performance is normalised by floor area and bed-day. Paper use is associated with the number of staff, and therefore a normalising factor of full-time equivalents (FTEs) is used to track performance. Waste generation is strongly associated with the number of patients treated and is normalised by per patient treated. This is an aggregation of in-patient bed-days, residential aged care bed-days, separations and emergency department presentations.

# An environmentally sustainable health system

The health system is large, with some estimates that Australia's health system contributes 7 per cent of Australia's total carbon emissions, which amounts to 35,772 kilotonnes per annum.<sup>2</sup> Within the health system, public hospitals are the largest contributors at 12,295 kilotonnes per annum, or 34 per cent of the total.

It is a challenging vision to deliver an environmentally sustainable Victorian public health system that reduces overall resource use, does no harm to people or the environment and adapts to a changing climate. The Victorian public health system has been working on environmental sustainability for more than 10 years and has achieved a lot, but there is still a lot more to do.

## Challenges in delivering an environmentally sustainable health system

There are clear challenges in trying to embed environmental sustainability in such a large and diverse system. The Victorian Health and Human Services Building Authority, and by extension the Department of Health and Human Services, has a key role to play in achieving this strategy; however, this vision cannot be achieved by the Building Authority alone and it must be a collaborative process between all stakeholders. Full integration will require both top-down direction and grassroots action, ensuring that these activities are aligned with common goals.

Other challenges to developing a sustainable health system have been identified. For example, over the past 10 years the mechanism for investing in energy efficiency, water and solar has shifted from grants to loans. This has changed the types of projects that can be supported and has required an increased level of rigour early in project design. This is resulting in a longer and more complex design and procurement process, meaning that savings are taking longer to realise.

Changes in clinical practice and models of care, including single-use items, are increasing our levels of waste, while a broader range of recycling options is increasing the amount of floor space required for waste management. Embedding recycling processes in high-pressured environments, such as intensive care and emergency, needs to be cognisant of the continued need to deliver safe, high-quality patient care.

Other environmental impacts are outside of our direct control but not necessarily our influence. These include carbon emissions generated from manufacturing and transporting health consumables and from moving people to and from hospitals. In some cases these may be the largest contributor to a health service's carbon footprint but are also the emissions it has the least control over.

Perhaps the biggest challenge to improving the environmental sustainability of the health system is the ever-increasing demand for health services. While we can reduce the carbon intensity of the health system per bed-day or by square metre of floor space, true success can only be measured by an overall reduction in the carbon footprint of the health system. This will require a concerted and collaborative effort from everyone who interfaces with the health system.

## Stakeholder perspectives of an environmentally sustainable health system

In developing this strategy we asked our stakeholders for their views on what would constitute a sustainable health system and the barriers to achieving this. A summary of the responses is provided in Box 1.

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<sup>2</sup> Malik A, Lenzen M, McAlister S, McGain F 2018, 'The carbon footprint of Australian health care', *Lancet Planetary Health*, no. 2, e27–35.

### **Box 1: Stakeholder perspectives of a sustainable health system**

**Increased wellbeing:** Preventative health care will be encouraged, thereby leading to reduced environmental impacts. The health co-benefits of environmental actions will be more measurable.

**Healthy buildings:** Capital infrastructure will assign greater value to reducing utility use and associated costs. Buildings will have more green spaces, more natural lighting, renewable energy, recycled resources and will be more resilient to climate change.

**Evidence-based decisions:** Evidence-based sustainable practices will be part of our daily work, and procurement will include life cycle assessments and ethical and sustainability considerations. Data will be collected and form the basis of continuous improvements.

**Better use of technology:** Investment in technology will increase to improve system capability and capacity to support improved environmental and health outcomes. For example, electronic medical records will be adopted.

**Leadership:** The Victorian Government will enhance the opportunities and incentives to demonstrate sustainability leadership. There will be enhanced opportunities to collaborate between government agencies and demonstration projects such as carbon-neutral buildings. Boards and chief executive officers will be accountable for sustainability outcomes.

**Standards and protocols:** Clear criteria for decision making will make sustainability an easy choice and there will be clear examples of best practice. There will be a strong position on national standards to reflect changing practices and the importance of sustainability.

# Strategic direction 1: Provide leadership and engage with the sector

## What is happening now

One of the Building Authority's roles is to set system-wide policy and requirements to improve the environmental performance of the health system. This is achieved through embedding environmental sustainability into system-wide requirements and through piloting initiatives.

Under the department's *Policy and funding guidelines* public hospitals and health services are required to have an environmental management plan and to report publicly on environmental performance.

In 2017, 88 per cent of Victoria's 86 public health services had developed environmental management plans. Of these, 95 per cent included waste initiatives and 91 per cent included energy and water initiatives. Two-thirds of health services included sustainability in business planning, while only a third had sustainability key performance indicators. Two-thirds reported sustainability issues to the board at least once a year and close to three-quarters publicly reported on environmental performance.

The Building Authority communicates sustainability to the sector through a variety of mechanisms including quarterly sustainability updates, the [department's website](#),<sup>3</sup> emails sent directly to health services and an online sustainability forum. Case studies, guidelines and other resources are made available on the website, as well as the online forum. The online forum is open to all staff in the health system and as of 30 June 2017 there were more than 200 members.

The Building Authority has run training and information sessions on environmental data management, and previous topics included environmental management planning, energy and water.

## Where we will be in 2023

- Health services and key stakeholders, including other government agencies, will have a clear understanding of their role in improving the environmental sustainability of the health system.
- Health service boards will understand and act on their obligations for improving sustainability performance and responding to climate risk.

## How we will get there

- We will integrate sustainability and climate risk into existing hospital and health service performance reporting processes.
- We will establish an annual program to encourage innovation and best practice to improve the environmental performance of the health system.
- We will develop a sustainable procurement policy and action plan to embed sustainability into health sector procurement.
- We will join the Global Green Healthy Hospitals network and encourage public health services to join and actively participate in the network.
- We will develop and make available training resources on sustainability in health.
- We will publicly report carbon emissions from the public health sector.
- We will communicate achievements on improving the environmental sustainability of the health system to the health sector and broader community.

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<sup>3</sup> See <<https://www2.health.vic.gov.au/hospitals-and-health-services/planning-infrastructure/sustainability>>.

# Strategic direction 2: Improve the environmental performance of the health system

## What is happening now

The Building Authority has committed to deliver \$30 million of investment in energy efficiency and solar power across the public health system from 2016–17 to 2019–20 through the Greener Government Buildings program (Table 2).

**Table 2: Greener Government Buildings energy efficiency and solar projects**

Health service	Scope	Value (\$m)	Completion
Austin Health	Energy efficiency	\$0.427	May 2016
West Gippsland Healthcare Group	Energy efficiency and solar	\$4.400	May 2016
Central Gippsland Health Service	Solar	\$0.462	July 2017
Gippsland health services	Energy efficiency, solar and geothermal	\$3.500	End 2018 (est.)
Regional health services	Solar	\$10.000	End 2018 (est.)
Peninsula Health	Energy efficiency and solar	\$7.000	Mid 2019 (est.)
Northern Health	Energy efficiency and solar	\$5.000	Early 2020 (est.)

Waste management opportunities are being identified through a collaborative research project with Sustainability Victoria, health services, the Australian Nursing and Midwifery Federation (Victorian Branch) and Health Purchasing Victoria. The Building Authority is committed to acting on the project outcomes to improve waste management across the health system.

The Building Authority has helped divert organics, such as food waste, from landfill from a number of hospitals including the Royal Melbourne Hospital, Frankston Hospital and University Hospital Geelong. Learnings from these projects have been captured, with support from the Metropolitan Waste and Resource Recovery Group, in publicly available [organics guidelines](#).<sup>4</sup>

The Building Authority's *Guidelines for sustainability in health care capital works* sets 80 standard practice sustainability items, mandates 2.5 per cent of the total construction cost is allocated to sustainability items above standard practice and requires sustainability consultants to be engaged on all projects with a cost of more than \$10 million.<sup>5</sup>

The Building Authority has developed a National Australian Built Environment Rating Scheme (NABERS) for Hospitals with other states and territories to benchmark the environmental performance of public hospitals.

<sup>4</sup> <https://www2.health.vic.gov.au/hospitals-and-health-services/planning-infrastructure/sustainability/waste/organic-waste>

<sup>5</sup> [http://www.capital.health.vic.gov.au/Environmental\\_sustainability/Sustainability\\_in\\_healthcare\\_capital\\_works/](http://www.capital.health.vic.gov.au/Environmental_sustainability/Sustainability_in_healthcare_capital_works/)

Health Purchasing Victoria has built processes to include sustainability criteria as part of overall procurement processes. Sustainable fibre certification is now a mandatory requirement for health service copy paper and Health Purchasing Victoria is collectively procuring solar panels on behalf of health services.

Energy, water and waste data is collected from health services through an online environmental data management system. As of January 2018 around 0.5 per cent of Victoria's public hospital electricity use comes from on-site renewable energy.

## Where we will be in 2023

- Baseline environmental metrics will be on a downward trajectory towards the reduction targets that will be established as part of the department's emission reduction pledge.
- Health service chief executive officers will regularly report environmental performance to their boards.
- At least 5 per cent of hospital electricity will be sourced from on-site renewable energy.
- Patients, staff and visitors will understand how they can improve the environmental performance of their hospital.
- New public hospitals and capital upgrades will routinely include sustainability best practice.
- Food waste will be minimised, with residual organic waste diverted from landfill where it is economically feasible to do so.
- More materials will be recycled and waste to landfill per patient treated will have reduced.
- Metropolitan and large regional hospitals will have sustainable travel plans.

## How we will get there

- We will install solar panels on public hospitals where it is economically feasible to do so.
- We will work with Health Purchasing Victoria to investigate the feasibility of statewide power purchase agreements for purchasing renewable electricity.
- We will work with the Department of Treasury and Finance and other government stakeholders to increase investment in energy efficiency and solar power across the health system.
- We will publish NABERS energy and water ratings for all eligible public hospitals and work with stakeholders to develop a NABERS for Hospitals waste tool.
- We will review and update our *Guidelines for sustainability in health care capital works*, including commissioning concepts for carbon neutral facilities.
- We will work with Health Purchasing Victoria and Sustainability Victoria to improve waste management practices and recycling opportunities across the public health system.
- We will prepare training materials for hospital staff to help embed environmental sustainability into work practices.
- We will establish a program to support metropolitan and large regional hospitals to develop sustainable travel plans.
- We will collect data from health services on transport, refrigerants and medical gases with a global warming potential through our online environmental data management system.

# Strategic direction 3: Adapt to a changing climate

## What is happening now

For the first time the Victorian health and human services sector is undertaking comprehensive climate change planning. The department is preparing the *Climate change adaptation action plan* to identify the risks that climate change poses to health and human services clients, policies, programs, assets and outcomes. The plan will define responses to those risks. Preparing the plan involves stakeholder engagement across the sector, including the Building Authority, representative hospitals, peak organisations and professional associations.

The plan is being prepared ahead of the department's legislative obligations under the Climate Change Act to enable the health and human services sector to put in place the necessary systems to adapt to our changing climate.

To support this work, the Building Authority is mapping the climate risks to Victoria's public hospital infrastructure. This includes an analysis, across a number of climate scenarios, of risks such as flooding, bushfire, sea level rise, wind, soil contraction and breaks in supply chains from loss of transport infrastructure.

## Where we will be in 2023

- Health services will have a thorough understanding of their vulnerability to climate change.
- Health service boards will understand and act on their obligations to respond to climate risk.
- Consideration of climate change will be included in our decisions on policies, programs and processes.

## How we will get there

- We will help develop and implement the health and human services sector *Climate change adaptation action plan*.
- We will communicate to key stakeholders the climate risks to Victoria's public hospital infrastructure.
- We will prepare climate adaptation training materials for hospital executives and boards.
- We will integrate climate change considerations into decisions on policies, programs and processes.
- We will routinely collect and analyse data on the energy security<sup>6</sup> of public health facilities.

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<sup>6</sup> Energy security is the availability of essential engineering infrastructure to ensure that public health facilities have continued access to energy during a natural, or other, disaster that is appropriate to the criticality of services provided by that facility.

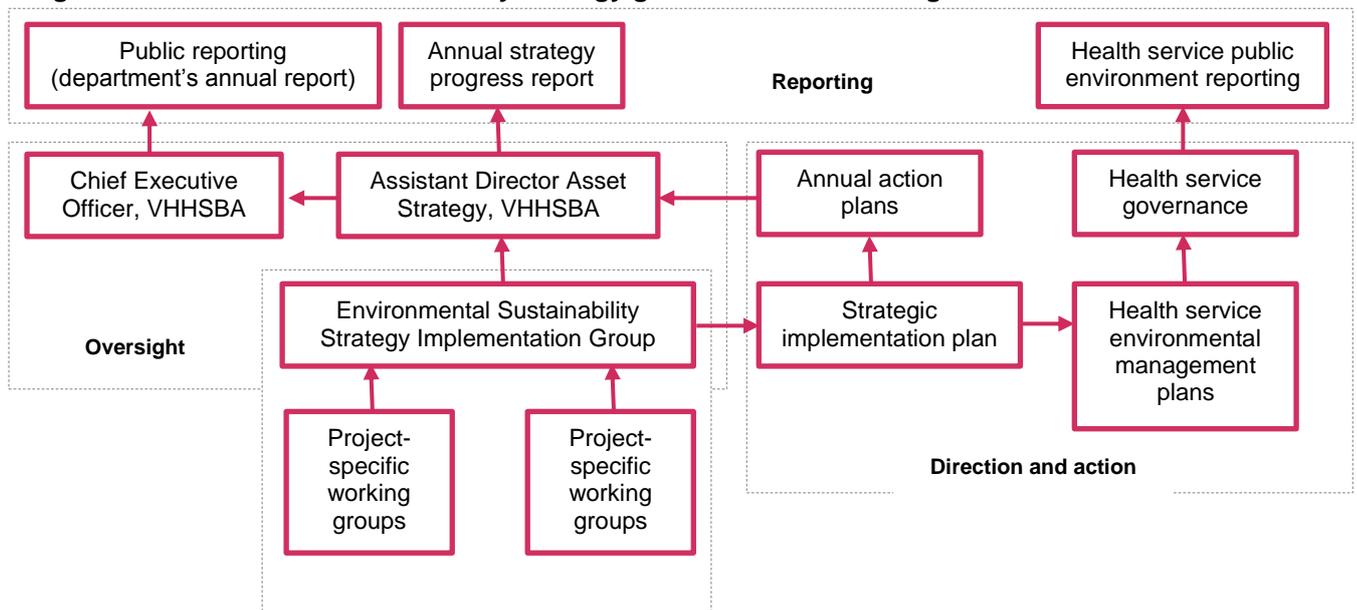
# Governance, implementation and reporting

Figure 2 outlines the framework that will support us in delivering on this strategy.

The Building Authority will establish a group, including representatives from the department, health services and other key stakeholders, to guide implementation. Project specific working groups will be established as required.

The Building Authority will seek health system consumer and community representation to engage in the delivery of this strategy and an environmentally sustainable public health system.

**Figure 2: Environmental sustainability strategy governance and oversight**



The Building Authority will prepare a strategic implementation plan to prioritise areas of action over the life of the strategy. We will prepare annual action plans detailing the work required to deliver on the strategic implementation plan.

The Building Authority will report annually on progress in implementing the strategy, as well as on system-wide environmental performance through the environment section in the department's annual report. Health services will be required to report on progress in implementing local initiatives through their annual reporting processes.