



Health
Nepean Blue Mountains
Local Health District

TOGETHER
ACHIEVING
BETTER **HEALTH**

Sustainability Plan 2019-2023



Acknowledgement

Acknowledgement of Country

Nepean Blue Mountains LHD acknowledges the Darug, Gundangurra and Wiradjuri people as the Traditional Custodians of the land on which our hospitals, offices and health centres are located. We would like to pay our respects to the Elders past, present and those emerging from all Aboriginal and Torres Strait Islander Nations.

Wide spread discoveries of art sites, occupation sites, stone tools, axe-grinding grooves and stone arrangements can be found across our District, identifying the presence of Aboriginal Communities with traditional and spiritual ways of life. It is documented that this traditional life was rich in spiritual meaning and connected to the land, the environment, the community and the people.

Like Aboriginal culture, the NBMLHD Sustainability Plan aims to tie together our people, our community, our land and our environment in a way that will ensure a better and sustainable outcome for the future.

Acknowledgement of Support

The Nepean Blue Mountains Local Health District would like to acknowledge and thank the numerous and diverse group of internal staff and external partners who consulted, advised and contributed to the development of this Sustainability Plan. Working with local staff and other agencies within NSW Health has provided a comprehensive perspective of the broader response to sustainability required in NSW Health. Particular thanks are given to the NSW Ministry of Health Sustainability & Facilities Team, Healthshare Sustainability Development Team, our Planning Directorate, Total Asset Management team, Media & Communications Unit, Aboriginal Health Unit and the Finance and Corporate Services Directorate.

HPRM	Document	Version	Ref	Date	Page Number
19/39987	2019-2023 Sustainability Plan	Final	V4.0	07 Jul 2020	2

Foreword

I am pleased to present the first Nepean Blue Mountains Local Health District Sustainability Plan 2019-2023. This Plan shows our commitment to become increasingly resilient and demonstrates our responsibility for environmentally sustainable practices.

In delivering around the clock healthcare services, evidence shows we contribute as much as seven per cent to greenhouse gas emissions into our local health district. It is our corporate responsibility to pragmatically reduce the negative effects we have on the local environment and our community. At the same time, there are many opportunities to reduce costs through technology, innovation, resource efficiency and building and equipment upgrades.

Our District has historically strived for excellence in the delivery of health services to our community. We desire to continue our deeply felt responsibility to care for patients, staff and the wider community, extending it to the environment we live in. The District's SAFER values reaffirm our commitment to resource effectiveness and social and fiscal responsibility so that we can deliver high quality healthcare more efficiently and effectively.

The design of the Plan is specific to our District whilst supporting NSW Health, NSW Government and the Australian Government to meet their sustainability goals. It fundamentally aligns with the NBMLHD Strategic Plan 2018-2023 and addresses, in detail, the practical methodology of how the LHD intends to meet the mandatory targets set by the NSW Government Resource Efficiency Policy.

The aspirational targets included focuses on several criteria that are important to the operation of our facilities. Further, it is designed to be flexible and adaptable when current targets are met or new challenges are faced. It allows for staff input, sharing of resources and our collective intelligence. It provides a pathway whereby staff can evaluate and improve the sustainability of their services.

I urge all staff to join me in supporting the implementation of NBMLHD Sustainability Plan and look forward to the progress we can make over the next five years.



Kay Hyman
Chief Executive
Nepean Blue Mountains Local Health District

HPRM	Document	Version	Ref	Date	Page Number
19/39987	2019-2023 Sustainability Plan	Final	V4.0	07 Jul 2020	3

Contents

Acknowledgement.....	2
Foreword	3
Contents	4
Introduction.....	5
Drivers for Sustainability	8
Purpose	11
Sustainability Vision and Goals.....	12
Sustainability Plan Structure	13
Where We Are Now	18
The Way Forward	20
Tracking Progress and Reporting.....	22
Glossary	23
References	24

HPRM	Ref	Date	Version
	V1.6	08 Aug 2019	Draft For Comment
	V2.4	01 Oct 2019	Draft For Review
	V3.0	16 Oct 2019	Draft For Approval
19/39987	V3.1	11 Nov 2019	Draft for Presentation to the Board
19/39987	V4.0	07 Jul 2020	Final For Publication

HPRM	Document	Version	Ref	Date	Page Number
19/39987	2019-2023 Sustainability Plan	Final	V4.0	07 Jul 2020	4

Introduction


NBMLHD has a long history of providing and advancing community health and hospital care for people living in the Blue Mountains, Hawkesbury, Lithgow and Penrith local government areas and tertiary care to residents of the Greater Western Region.

The NBMLHD Sustainability Plan has been developed to support the Vision, Values, Priorities and Directions of the organisation and to strategically address the challenges of tomorrow such as population growth and impacts of localised climate change on our ability to deliver excellent healthcare services into the future.

Vision and Values

The Strategic Plan 2018-2023 appropriately focuses the Vision of the NBMLHD on excellence in health service delivery for the community.

NSW Health CORE values and NBMLHD SAFER values define what ideals are important to our organisation. Resource Effectiveness was recently added to our District SAFER values. The NBMLHD Sustainability Plan takes a pragmatic approach to defining what Resource Effectiveness looks like in relation to our buildings, services, equipment and people.



The NBMLHD Sustainability Plan will assist the District to achieve Our Vision for this and future generations without placing an additional burden on our available finances, our community or our local environment.

Population Growth Forecast

Our District is large and growing. Population forecasts predict an additional 90,000 residents to arrive in our District over the next 20 years. We have five, 24 hour hospital campuses, fourteen community and mental health centres and several other sites we are responsible for. There are major redevelopment projects currently in progress including significantly larger hospital buildings at Nepean Campus, Cancer Care additions, a new child care centre, and a new renal dialysis centre at Blue Mountains District ANZAC Memorial Hospital. We currently employ over 5,700 people, the majority of which live in the District.

HPRM	Document	Version	Ref	Date	Page Number
19/39987	2019-2023 Sustainability Plan	Final	V4.0	07 Jul 2020	5

Local Environment Climate Forecast

Climate change is happening right now in our District with predictions of more frequent, prolonged and extreme heat wave conditions in Penrith, increased bush fire activity in the Blue Mountains and more severe storms and floods in the Nepean-Hawkesbury river system.ⁱ

The Bureau of Meteorology is predicting a “Further increase in temperatures, with more extremely hot days and fewer extremely cool days.”ⁱⁱⁱ They are predicting an average temperature rise of 0.8-0.9°C in St Marys and Richmond areas over the next 10 years to 2030ⁱⁱⁱ. They say this will lead to even more extreme and lasting heatwaves, drought and bushfires. Most floods occur after a period of drought.

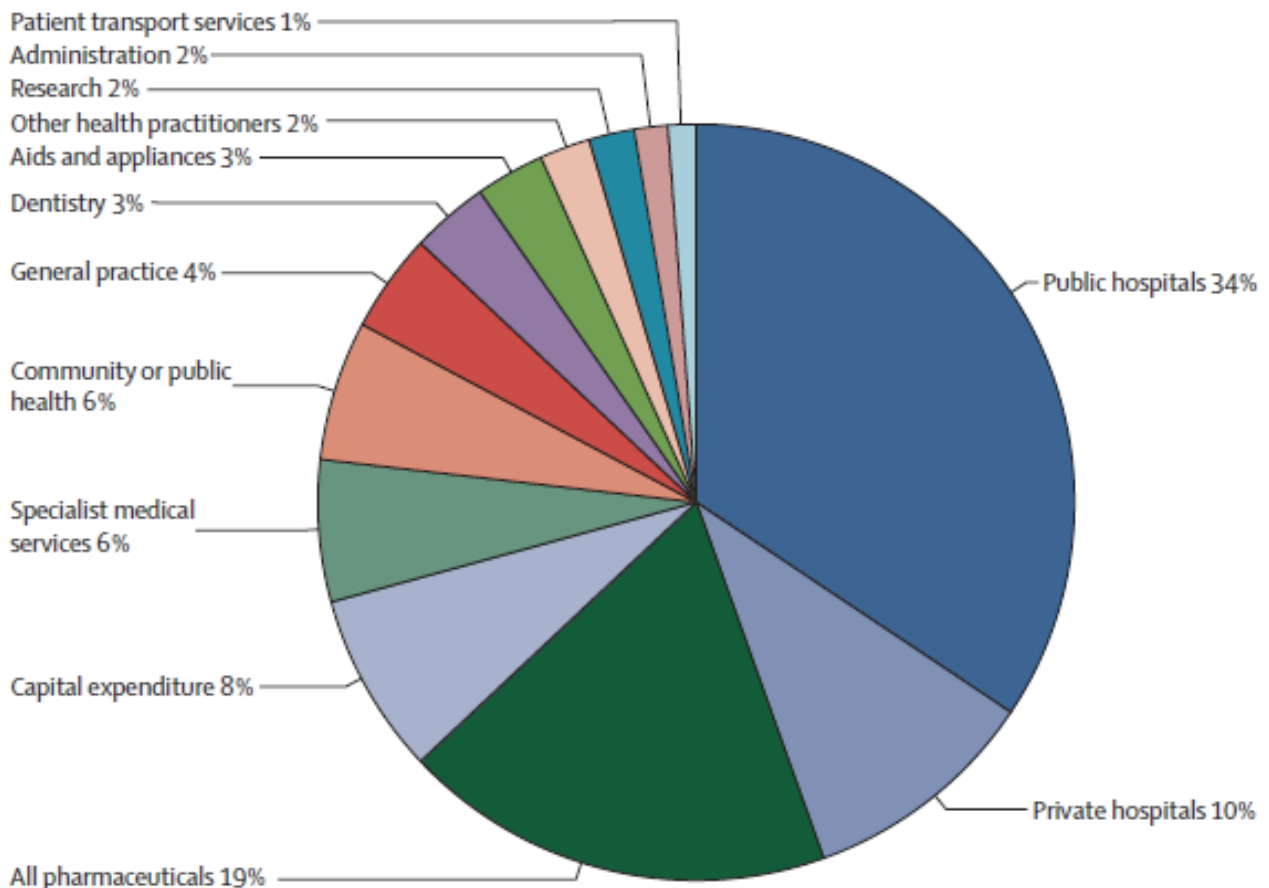


Sydney hits its highest temperature recorded since 1939 with Penrith reaching 47.3°C



Climate Change and Healthcare

Research findings show that 7.2% of Australia’s total polluting carbon emissions stem from the healthcare sector^{iv}. Approximately 34% is contributed by public hospitals and 19% from the manufacture and transportation of pharmaceuticals. Climate change and its associated health impacts may be occurring in our local area independently of the activities of the NBMLHD. However, there is no doubt that NBMLHD is contributing its share of pollution through carbon emissions from buildings and transport as well as excess waste to landfill.



The diagram below demonstrates that raised average and extreme temperatures, currently being experienced in the District, can lead to an increase in chronic conditions such as cardiovascular disease, respiratory disease, harmful algal blooms and vector-borne disease. The financial impact on NBMLHD’s ability to deliver sustainable healthcare will be significant.

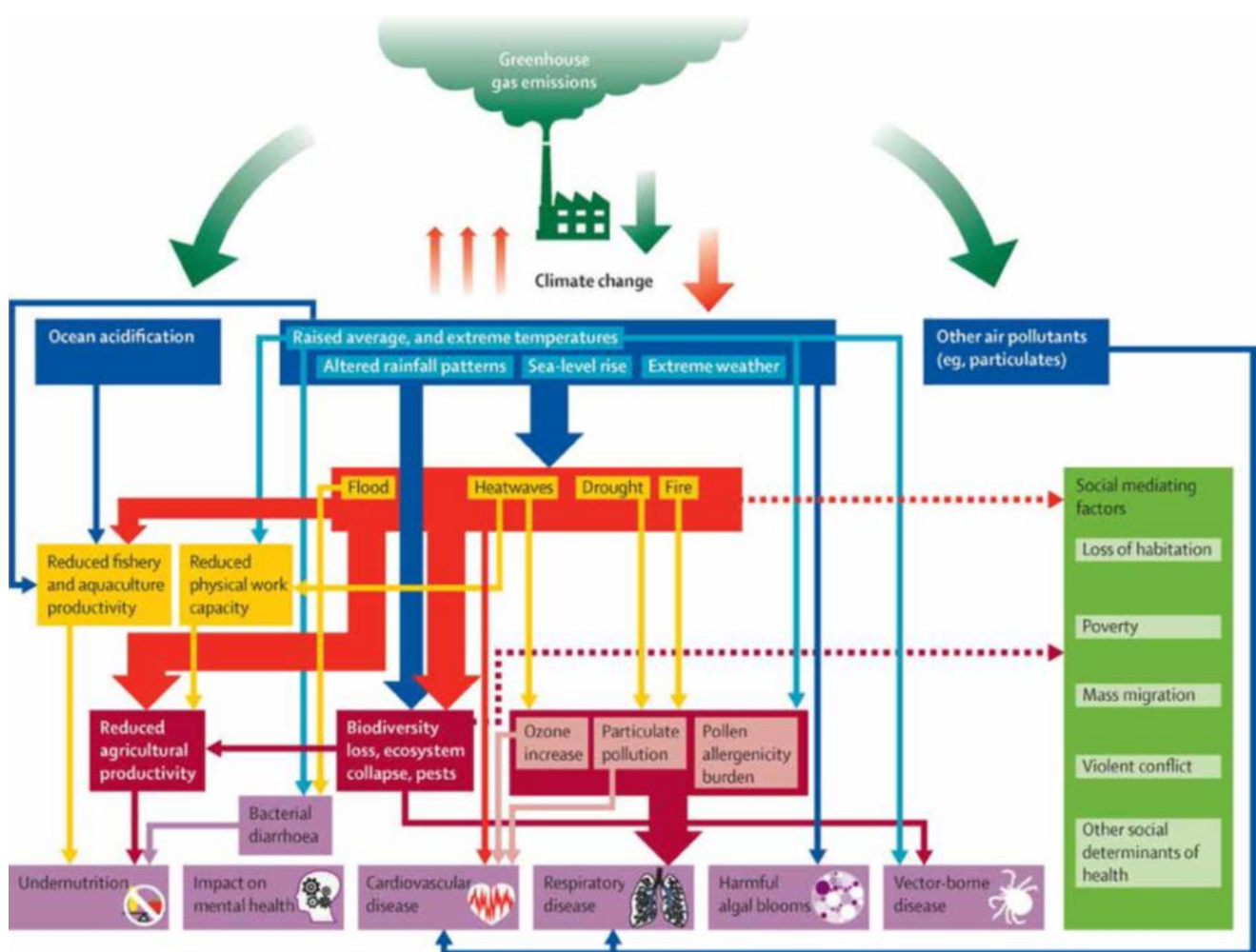


Diagram: An overview of the health impacts of climate change^v.

HPRM	Document	Version	Ref	Date	Page Number
19/39987	2019-2023 Sustainability Plan	Final	V4.0	07 Jul 2020	7

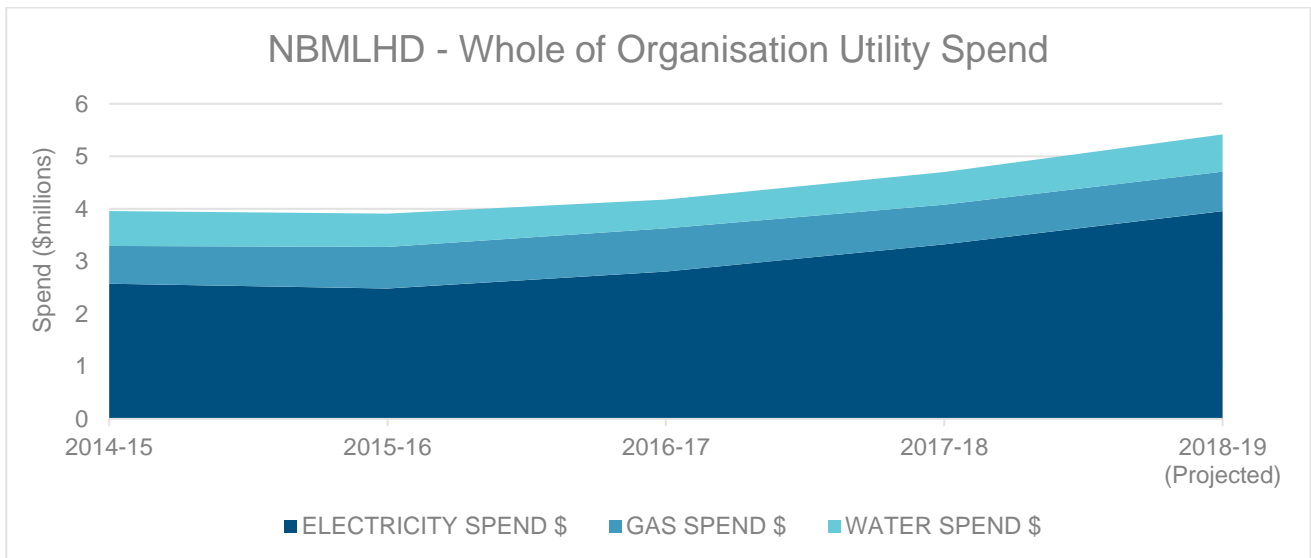
Drivers for Sustainability

Government Legislation and Mandatory Targets

The Plan needs to address several international, national and state legislation and policies. Some are minimum Building Code requirements such as the National Construction Code - Section J. Others set mandatory energy reduction targets such as the Government Resource Efficiency Policy (GREP). NBMLHD must submit a plan to meet these mandatory requirements by November 2019. Others policies set aspirational targets to reduce carbon, energy consumption or waste. For more information on Government Policy drivers refer to the Sustainability Portal on the intranet.

Increasing Cost of Energy, Water, Waste, and Fuel

Despite only a small increase in usage, the District is paying \$1.35 million per year more in utility costs than in 2014-15 which represents a 32% increase. The majority of the increase in rates are in electricity and gas. Over the last two years efforts have been made to ensure that all energy accounts are on NSW Government contracts to take advantage of the best rates possible. The only way going forward to reduce costs is to reduce consumption through building and equipment efficiency upgrades and avoiding waste of electricity, gas, water and fuel.



Increased Pressure to Manage Waste Better

The availability of landfill in Sydney is finite and careful consideration of what we send to landfill is required^{vi}. Recent articles declare that other countries have stopped receiving foreign recycled waste from 1 January 2019^{vii}. We need to have a tough conversation regarding the sourcing and lifecycle considerations in procurement processes, packaging and the collection and recycling of waste. Data from the contractors provided since 2015-16 indicate an overall increase in the cost of waste per kilogram of 8.2% including a 20% increase in the cost of clinical waste, a 17% increase in trade waste and a 6.6% increase in waste to landfill \$/kg costs.

Climate Resilient Healthcare

This next decade will see a rise in population in the NBMLHD region including the growth corridor between Penrith and Campbelltown. The increased number of residents, buildings, cars, a new international airport and predicted intensified bushfire burn-off will increase pollution in our District.

HPRM	Document	Version	Ref	Date	Page Number
19/39987	2019-2023 Sustainability Plan	Final	V4.0	07 Jul 2020	8



Climate change is already having an impact on the type and levels of healthcare NBMLHD provides to its consumers. Article 1 of the United Nations Framework Convention on Climate Change (UNFCCC) defines the adverse effects of climate change as “changes to the physical environment resulting from climate change that have significant deleterious effects on human health and welfare.” Article 4 further calls for Parties to minimise the public health implications through the mitigation and adaptation projects and measures they undertake, using relevant tools such as impact assessments^{viii}. On 26 February 2019, Blue Mountains City Council declared a “climate emergency”^{ix} along with many other councils around the world. It is therefore important not just to mitigate the effects of climate change as much as possible but to prepare for the impacts of climate change on healthcare.

Responsible Governance and Corporate Citizenship

Providing healthcare is generally seen as a benevolent occupation, offering care, comfort and health support to its customers. However, many of the hospitals built throughout Australia today rely heavily upon non-renewable coal and gas for energy, oil and fuel for transport, use vast amounts of water and produce an enormous amount of waste material that goes to landfill, even when recycling options are available. NBMLHD has taken steps toward greater corporate citizenship, reducing its environmental impact by:

1. Including Resource Effectiveness within District values; and
2. Listing Responsible Governance and Financial Management as one of its key Strategic Directions for 2018-2023.

Current Case Studies

Hospital Exit & Emergency Lighting Upgrade	Fleet Procurement of Hybrid Vehicles
 <p>In 2018-19 funding was provided by the Asset Refurbishment & Replacement Program to upgrade non-complying Exit and Emergency lights at five hospitals. Each fluorescent light was replaced with an LED equivalent, reducing the power from 10 watts to 2 watts. With so many lights replaced that represented a substantial saving in electricity.</p> <p>Social Impact: Improved safety for staff and patrons</p> <p>Environmental Impact: 87,346 kWh saved per year and 71.62 Tonnes of Carbon Emissions avoided per year</p> <p>Financial Impact: CAPEX impact = \$0; Savings = \$12,697 per year</p>	 <p>The GREP 2019 has a mandatory target that 10% of fleet cars are to be electric or hybrid vehicles by June 2020. Hybrid car costs are equivalent to non-hybrid cars. Fleet plan to procure 65 hybrid vehicles in 2019/20 representing 23% of the fleet.</p> <p>Social Impact: Demonstrated sustainable leadership in the government fleet industry</p> <p>Environmental Impact: 27,722 Litres fuel saved and 66.31 Tonnes of Carbon Emissions avoided per year</p> <p>Financial Impact: CAPEX impact = \$0; Savings = \$36,368 per year</p>

(CAPEX – Capital Expenditure)

HPRM	Document	Version	Ref	Date	Page Number
19/39987	2019-2023 Sustainability Plan	Final	V4.0	07 Jul 2020	9

Building Resilience for the Future

NBMLHD has facilities that are decades old. They were built to the standards of the time but their building infrastructure and equipment are no longer considered efficient. The facilities that are being built and renovated today are still designed to meet current minimum standards. The Sustainability Plan will assist designers, builders and project managers to best direct their budgets toward achieving the strategic, sustainable goals and objectives. All new and refurbished buildings should aim to be adaptable, efficiently designed for our local climate and built for resilience against future increased extreme weather events without over-exerting equipment to maintain comfort levels.

Advances in Technology

New technologies have become the norm in many industries such as LED lighting technology, electric and hybrid cars and the “Internet Of Things” where most systems can be connected via smart devices. New advances in building analytics and automation can help monitor and better understand specific energy usage and operate buildings more efficiently as well as improve comfort levels. It makes sense to ensure our buildings and services are fit for the future by adopting industry accepted technologies. NBMLHD also can take advantage of modern technology to improve efficiencies and health service delivery. For example, working remotely can reduce overall transport costs and equipment tracking using wireless networks can improve service efficiencies and time taken looking for equipment.



HPRM	Document	Version	Ref	Date	Page Number
19/39987	2019-2023 Sustainability Plan	Final	V4.0	07 Jul 2020	10

Purpose

The purpose of the Sustainability Plan 2019 - 2023 is to develop pathways to achieve the NBMLHD vision for health care and sustain it for the future. It focuses on what can be achieved now whilst developing the next steps in preparation for the next NBMLHD Strategic Plan to be released in 2023. The Sustainability Plan will:

- Address drivers for sustainability;
- Identify current and future Focal Points;
- Set goals and targets relevant to those Focal Points and to meet mandatory requirements;
- Establish a Sustainability Committee and Focal Point Working Groups to manage the implementation of the plan;
- Develop a Sustainability Portal to provide staff with access to advice and resources.

The plan has been developed in consultation with key internal and external organisation leaders providing input into their particular Focal Points for the duration of this plan. The concept of this plan is to stimulate ideas from all staff, provide support and tools to assist with implementing those ideas and develop a strong culture of sustainable healthcare delivery across all facilities and services. Your input is requested to develop current and future Focal Points, and to suggest ideas and projects to improve environmental sustainability. Suggestions and comments can be sent to NBMLHD-Sustainability@health.nsw.gov.au.



HPRM	Document	Version	Ref	Date	Page Number
19/39987	2019-2023 Sustainability Plan	Final	V4.0	07 Jul 2020	11

Sustainability Vision and Goals


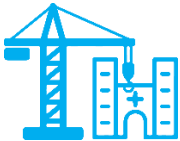



Our Vision is to ensure Sustainability Planning contributes to delivering excellent health service delivery for our community and future generations.

Sustainability Planning means progressively working towards:

- Mitigation – waste and pollution reduction and operating our facilities and services efficiently to lessen the impact on available **finances**, our community and our local environment; and
- Adaptation – preparing for the effects of climate change on healthcare.

Goals and Targets

The Sustainability Goals for 2019-2023 align with the Strategic Directions for the NBMLHD.

	Goal	Target
	Reduce our pollution and prepare for the effects of climate change on healthcare	10% of all new fleet vehicles to be hybrid technology All service Plans consider the impacts of Climate Change on their Vulnerable populations
	Improve building comfort	All new building works have implemented passive & active thermal comfort strategies
	Encourage staff engagement in sustainable activity	25% of all projects and service plans submitted for Sustainability Advocacy Program
	Reduce waste of utilities fuel, and waste to landfill.	Average energy consumption across NBMLHD reduced by 10% Improve waste data collection & reporting. Reduce waste to landfill per occupied bed day by 10%
	Encourage innovation in buildings and service delivery	Plan to improve building analytics developed and adopted

HPRM	Document	Version	Ref	Date	Page Number
19/39987	2019-2023 Sustainability Plan	Final	V4.0	07 Jul 2020	12

Sustainability Plan Structure

The NBMLHD Sustainability Plan consists of three components working together:

Documents

A suite of electronic documents including:

- The NBMLHD Sustainability Plan 2019-2023
- Current Focal Point Documents (outlined later in this document)
- Future Focal Point Documents (to be developed as required)

People

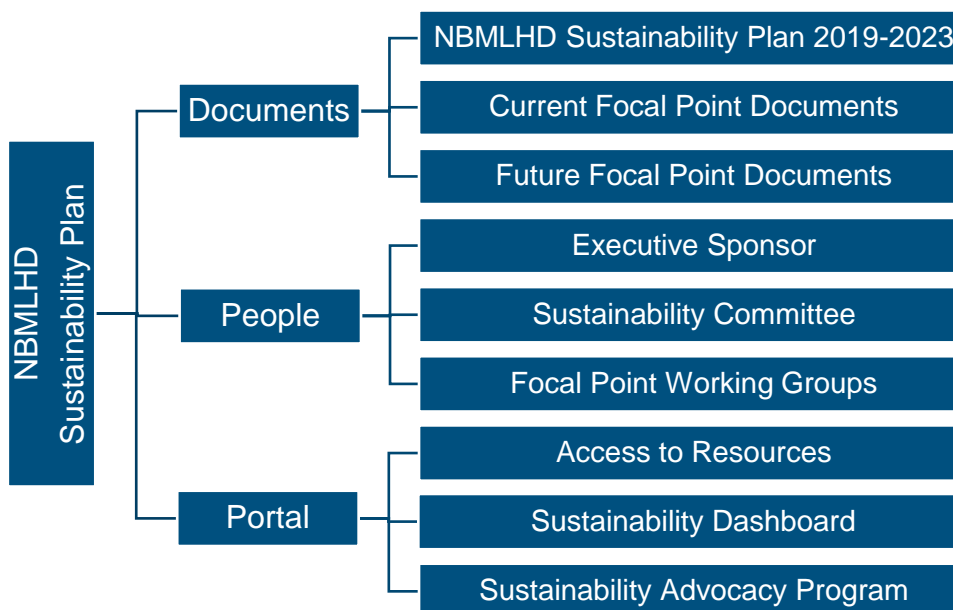
Groups of people overseeing the plan and reporting including:

- The Executive Sponsor
- The Sustainability Committee
- Focal Point Working Groups (outlined later in this document)

Portal

An intranet Sustainability Portal providing staff with access to:

- Documents, People and Resources
- A Sustainability [Dashboard](#)
- A Sustainability [Advocacy Program](#)



HPRM	Document	Version	Ref	Date	Page Number
19/39987	2019-2023 Sustainability Plan	Final	V4.0	07 Jul 2020	13

Documents

NBMLHD Sustainability Plan 2019-2023

The overarching document that governs the entire plan for the term of the document. Aligns with the [NBMLHD Strategic Plan 2018-2023](#) timing and its Strategic Directions. This document will be updated alongside the next five year Strategic Plan.

Current Focal Points

To support the vision and goals of this plan, a number of current Focal Points have been identified. Each Focal Point meets a mandatory compliance requirement or it is a priority area for the LHD that needs addressing now.

Specific Working Groups for each Focal Point will develop, manage and report on a dynamic Working Document that outlines key aims, targets, key performance indicators, risks and measures of success. It is intended that there is flexibility built in to each Focal Point to adapt as goals are achieved or amended to allow for future changes in policy, facilities, strategy or technology. It also allows for current and future Focal Points to be developed and adopted into this Sustainability Plan as new opportunities arise.



[Building Analytics](#)

Utilise innovative technology in building analytics to improve visibility and understanding of building consumption by developing and implementing a strategic plan to install sub-meters and connecting to the Building Management & Controls Systems (BMCS). Improve internal and external reporting.



[Building Equipment Efficiency](#)

Optimise the energy & water efficiency of equipment in new, refurbished and existing buildings without reducing function or thermal comfort levels. This includes advising maintenance, designers and contractors on the best outcomes regarding lighting, air conditioning and ventilation of buildings and purchasing equipment to meet minimum NCC and GREP policies and optimising the use of existing services.



[Building External Fabric](#)

Improve new and refurbished building comfort by increasing the efficiency of the external fabric, i.e. roofs, walls, windows, and floors. This includes advising designers and contractors on the best outcomes regarding orientation of buildings, insulation, glazing, shading and ventilation to exceed minimum National Construction Code (NCC) and GREP requirements.



[Climate Resilient Healthcare](#)

Prepare for the effects of climate change on healthcare by developing plans to review, understand and adapt to the immediate, short term and long term impacts. Test if existing and future buildings and services can meet the additional demands of a hotter climate.



[Energy Reduction Projects](#)

Reduce energy costs by developing and implementing efficiency upgrade projects of existing facilities to comply with GREP E1 mandatory targets and reach aspirational targets to reduce energy.

HPRM	Document	Version	Ref	Date	Page Number
19/39987	2019-2023 Sustainability Plan	Final	V4.0	07 Jul 2020	14



Foster Partnerships & Staff Participation

Increase the shared knowledge of sustainability in healthcare by establishing networking links to external and internal groups for the sharing of resources. Create the Sustainability Committee and Working Groups with relevant, interested stakeholders to develop specific Focal Points, manage sustainability targets and set up the reporting framework.



Fuel Consumption

Reduce our contribution to pollution by developing plans to reduce fuel consumption and emissions for our fleet cars and explore the viability of electric and hybrid vehicles. Reduce consumption of other fuels and consumables.



Indoor Air Quality

Improve indoor air quality by ensuring low Volatile Organic Compound (VOC) surface coatings are specified in all paints, vinyl, carpet, underlay, adhesives and sealants.



Solar Panels and Battery Storage

Develop and implement a plan on how NBMLHD will contribute to the NSW Government solar targets outlined in GREP E5 and consider future prospects for battery storage.



Waste Management & Recycling Programs

Reduce waste costs by developing and implementing waste reduction programs and improving waste data analysis and reporting lines.

Future Focal Points

The following focal points do not currently have a mandatory component or an urgent requirement but are suggested areas to be explored and improved for the next Sustainability Plan once priority focal points are established.

- Water Quality
- Food
- Staff Engagement
- Procurement Lifecycle Analysis
- Building Automation & Connectivity
- Local Sourcing of Supplies
- Sustainability Education

HPRM	Document	Version	Ref	Date	Page Number
19/39987	2019-2023 Sustainability Plan	Final	V4.0	07 Jul 2020	15

People

Executive Sponsor

Executive Director of Finance and Corporate Services chairs the Sustainability Committee.

Sustainability Committee

Provide overarching management of the Sustainability Plan Documents, Working Groups and Sustainability Portal. Maintain the various Focal Point Working Groups, Receive progress reports from the Focal Point Working Groups. Provide quarterly reports on progress to the NBMLHD Executive Leadership Team. Issue an Annual Sustainability Report. Integrate relevant data into the annual GREP Report.

Focal Point Working Groups

Subject Matter Experts to develop and implement Focal Point documents. Manage the strategies to address all mandatory targets and reporting. Evaluate projects submitted through the Sustainability Advocacy Program using a Project Prioritisation Matrix Tool. Report to the Sustainability Committee on the performance of goals and objectives of the Focal Point documents. The following Working Groups are suggested:



[Building Energy & Water Working Group](#)

Develop the Focal Points relating to buildings to comply with GREP mandatory targets. Provide strategic advice to the Redevelopment Team, Total Asset Management Team, the Facility Development Unit and Domestic Services.

Focal Points: Building Analytics; Building Equipment Efficiency; Building External Fabric; Energy Reduction Projects; Indoor Air Quality; Solar Panels and Battery Storage



[Climate Resilient Healthcare Working Group](#)

Develop an understanding of the potential effects of climate change on healthcare and consider how to mitigate their short and long term impacts. Consult and develop partnerships with other internal and external stakeholders to reduce impact and share resources. Provide advice to all the other focal groups, report to the Sustainability Committee and consult with clinical and other staff delivering primary care services.

Focal Points: Climate Resilient Healthcare; Foster Partnerships



[Transport Working Group](#)

Develop programs and projects to reduce the transport burden on the district including Fleet vehicles, Car Parking and reducing travel distances and transport of supplies. Will aim to reduce the overall carbon emissions from fleet vehicles. Provide strategic advice to the Redevelopment Team and Planning.

Focal Points: Fuel Consumption



[Waste Management Working Group](#)

Develop programs and projects to manage waste and recycling, analyse data and improve reporting across the NBMLHD in accordance with waste management contracts. Assist the Waste Management Contract Review Committee when considering adopting waste management contracts.

Focal Points: Waste Management

HPRM	Document	Version	Ref	Date	Page Number
19/39987	2019-2023 Sustainability Plan	Final	V4.0	07 Jul 2020	16

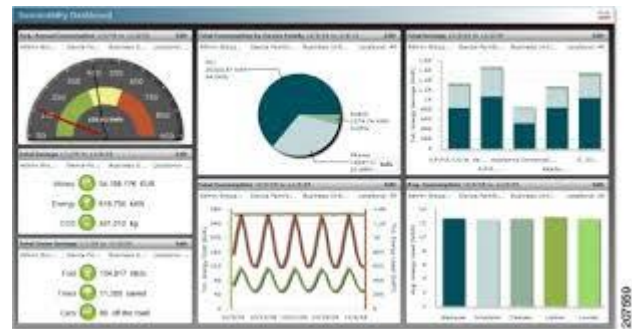
Portal

Sustainability Intranet Portal

The [Sustainability Intranet Portal](#) provides a single point of reference where NBMLHD staff can find resources and support to explore and evaluate their services toward sustainable outcomes. It will include access to the Sustainability Plan, Focal Point Documents, and Annual Sustainability Reports as well as key contacts. It will provide case studies of successful projects within NBMLHD and external healthcare providers, and links to other resources on sustainability and resource efficiency. Staff can submit a business case to be evaluated by the Sustainability Advocacy Program, outlined below. The portal will be managed and updated by the Total Asset Management Team.

Sustainability Dashboard

A simple [dashboard](#) that tracks progress against mandatory and aspirational goals and targets. In the short term, it will provide current information on energy and water consumption. If building monitoring and analytics improve in the future, the dashboard could provide live information on consumption and solar generation.



Sample of dashboard to be developed

Sustainability Advocacy Program

The [Sustainability Advocacy Program](#) provides an opportunity for staff to submit a project for evaluation against the Sustainability Plan values and targets by a relevant Focal Point Working Group containing subject matter experts.

The Program provides support from the Sustainability Committee for new projects, programs and suggestions, which can be submitted to managers and executives to approve or reject. The Sustainability Committee can track project's progress and report back.

Using comparison tools, projects can be evaluated through Sustainability Working Groups, where a single page report can be developed outlining the strengths of the project against the selection criteria which may assist with approval processes. Relevant projects can be tracked for savings in energy, waste or costs and reported in the Annual GREP reporting.

Environmental Sustainability Project Comparison Table															
Environmental Sustainability Project Proposal	Selection Criteria														Total Score
	Commitments		Strategic Alignment		Capacity to Deliver		Financial Impact		Environmental Impact		Risk		Reputation		
	Weighting	Weighted Value	Weighting	Weighted Value	Weighting	Weighted Value	Weighting	Weighted Value	Weighting	Weighted Value	Weighting	Weighted Value	Weighting	Weighted Value	
Large Scale Projects	13%		11%		18%		22%		17%		12%		8%		
Example 1 - Solar Panel Project	3	0.39	7	0.75	7	1.28	7	1.51	8	1.38	8	0.95	9	0.68	69%
Example 2 - Waste Water Recycling Plant	2	0.26	3	0.32	6	1.10	5	1.08	8	1.38	3	0.35	7	0.53	50%

HPRM	Document	Version	Ref	Date	Page Number
19/39987	2019-2023 Sustainability Plan	Final	V4.0	07 Jul 2020	17



Where We Are Now

Currently, NBMLHD has been focussing on any mandatory GREP compliance requirements for energy reduction projects, minimum building and equipment performance, the Whole-Of Government solar target, minimum standards for clean air and annual reporting.

What we are doing well

- An Energy & Sustainability Business Partner role was created to focus on utility account management, mandatory reporting, energy reduction projects and providing strategic advice.
- All energy accounts have been optimised to take advantage of State Government contract rates, exemptions and discounts saving \$56,000 p.a.
- All bills are tracked and checked for errors and trends, spikes are identified and potential leaks or issues which has resulted in one-off refunds totalling over \$90,000.
- Energy and Water efficiency projects are being developed with potential carbon emission savings of 9,600 tonne.
- Throughout the LHD, staff members have shown initiative to reduce, repurpose and recycle in their area. E.g. Operating Theatre staff at Nepean Hospital repurpose clean sterile wrap (refer case study), other staff are moving away from single use coffee cups and instruments, and some sections use Planet Ark to recycle printer cartridges.

Current Case Studies

Sterilisation Wrap Repurposing	
<p>Sterilisation wrap is used for wrapping surgical instrument trays in theatres to ensure the contents remain sterile until use. Typically, when the tray is unwrapped the single use sheet is discarded into general waste even though it is clean and uncontaminated.</p> <p>In 2016, Nepean Hospital Operating Theatre staff began collecting sterilisation wrap for repurposing. It is collected and taken to Outpatients in West Block to be used as bed lining which saves purchasing additional liners or washing bed linen as often. It avoids clean wrap going into landfill after only one use.</p> <p>The sterilised wrap is capable of being recycled into other items such as hard garden furniture and seating. However, the logistics of collecting, transporting and contractor costs of service remain a challenge at this stage.</p> <p>Social Impact: Being responsible with waste and cooperation between services.</p> <p>Environmental Impact: Estimated between 220 to 360 kgs of clean wrap avoided from going to landfill after only one use.</p> <p>Financial Impact: CAPEX impact = \$0; Savings = Estimated savings of \$300-500 in avoided landfill costs in the first instance plus yet to be determined savings in purchasing or washing bed linen.</p>	  <p><i>Theatre and Outpatients staff working together to save waste going to landfill</i></p>

HPRM	Document	Version	Ref	Date	Page Number
19/39987	2019-2023 Sustainability Plan	Final	V4.0	07 Jul 2020	18

Current Issues and Challenges

The Sustainability Plan attempts to address some of the following challenges currently faced by NBMLHD:

- No District wide and specific sustainability policy in place;
- No District specific guiding sustainability document for new building works to address:
 - waste management and recycling,
 - building sub-metering, analytics and optimisation,
 - passive thermal comfort and solar design,
 - climate change adaption;
- No standing sustainability funding source for upgrade projects;
- Aging equipment and infrastructure;
- Current building analysis is restricted due to lack of sufficient sub-metering and aging and inadequate Building Management & Control Systems that don't collect or archive relevant usage data. The usage data is essential to:
 - Identify potential leaks and spikes in usage at the time they occur;
 - create base-loads for building analysis;
 - identify high using buildings and equipment to prioritise efficiency measures;
 - monitor the improvements made from the efficiency measures for reporting



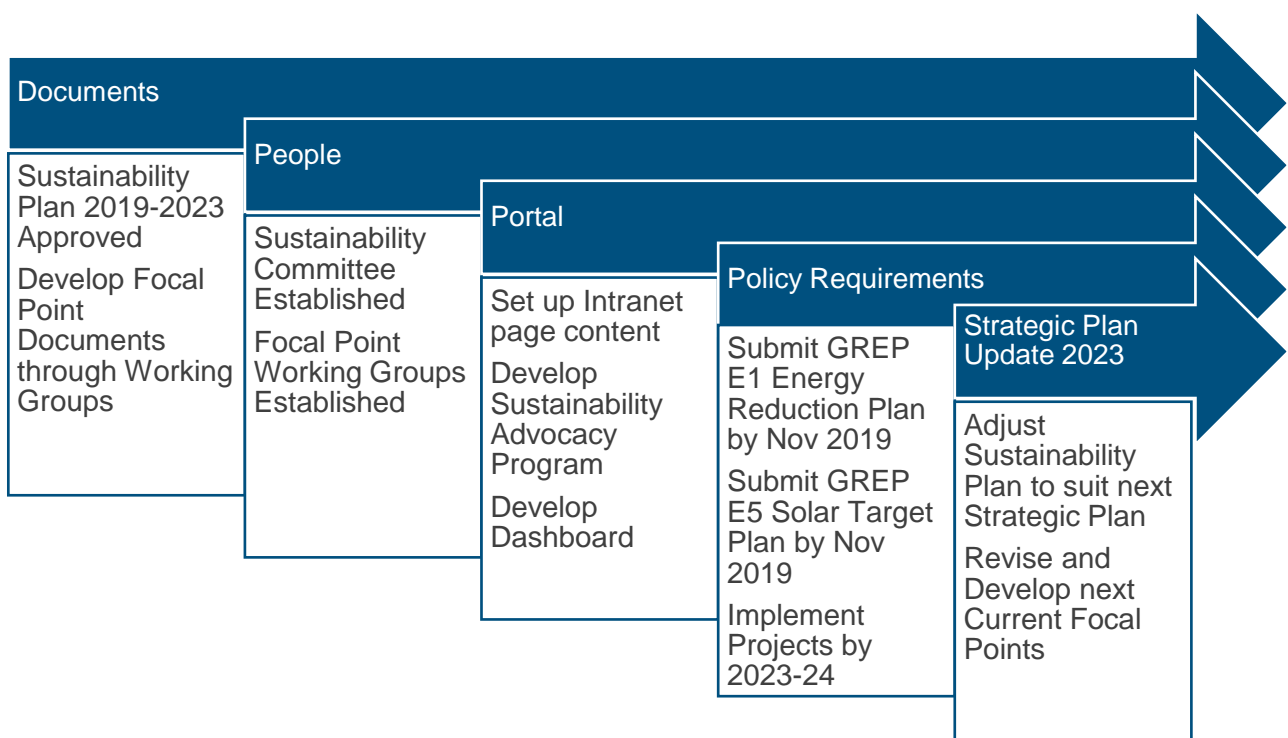
HPRM	Document	Version	Ref	Date	Page Number
19/39987	2019-2023 Sustainability Plan	Final	V4.0	07 Jul 2020	19

The Way Forward

The Sustainability Plan 2019-2023 and Focal Point documents describe the strategies NBMLHD will use to meet the mandatory sustainability targets and requirements set by legislation and policy. In addition, the plan works towards aspirational and highly beneficial initiatives, allowing for other sustainability opportunities and suggestions to be explored and evaluated for effectiveness against the goals.

Focal Point documents are dynamic and can change on an annual basis when goals are achieved or as they become more or less relevant. Future Focal Points can be added on an annual basis or as they become more critical. The Working Groups will develop the Focal Points annually.

Development of the Sustainability Portal will provide a single point of reference where any NBMLHD services can find resources and support to explore and evaluate their services toward sustainable outcomes. Over the next four years, the Sustainability Plan will work towards aligning with the next Strategic Plan and be updated on a five year basis.



HPRM	Document	Version	Ref	Date	Page Number
19/39987	2019-2023 Sustainability Plan	Final	V4.0	07 Jul 2020	20

What Does Success Look Like?

Absolute Minimum

The baseline for success for the Sustainability Plan 2019 to 2023 is that:

1. the minimum relevant requirements and targets of the GREP 2019 are satisfied
2. Sustainability Committee and Working Groups are established and reporting
3. NBMLHD Sustainability Portal set up and operating on the intranet.
4. The following targets met:
 - 10% of all new fleet vehicles to be hybrid technology
 - All NBMLHD and Service Level Plans considering the impacts of climate change on communities, in particular, vulnerable populations.
 - All new building works have implemented passive & active thermal comfort strategies
 - 25% of all projects and service plans submitted for evaluation through the Sustainability Advocacy Program
 - Average energy consumption across NBMLHD reduced by 10%
 - Improve waste data collection and reporting. Reduce waste to landfill per occupied bed day by 10%
 - Plan to improve building analytics developed and adopted.

Optimal Success

Over and above the mandatory requirements and achieved goals, success could also include:

- By June 2022 the new Sustainability Plan 2023-2028 is developed to align with the next Strategic Plan.
- By June 2022 current focal points have been evaluated and new focal points developed for the next Sustainability Plan 2023-2028.
- By June 2020 carbon emissions from all fuel and energy sources are being reported.
- By June 2020 all current and new staff are aware of the Sustainability Plan
- Carbon emissions from fleet fuel consumption reduced by 20%
- Average energy consumption of existing buildings reduced by 20% (2017-18 baseline)
- Waste to Landfill reduced by 10%
- Building optimisation through building analytics plan reduces energy by 5%

HPRM	Document	Version	Ref	Date	Page Number
19/39987	2019-2023 Sustainability Plan	Final	V4.0	07 Jul 2020	21

Tracking Progress and Reporting

Mandatory Reporting

NBMLHD has already established mandatory reporting mechanisms under the GREP. The chosen model for reporting is to use the OEH CASPER reporting tool. By November of each year the Energy & Sustainability Business Partner uploads financial year annual data for:

- Electricity, Gas consumption data and expenditure
- Number of energy efficiency projects completed and their savings outcomes
- List of planned renewable energy projects
- Water consumption data and expenditure
- Top 3 waste streams by weight and expenditure
- A statement of compliance with GREP procurement requirements.

Other Reporting

To track progress of the Sustainability Plan 2019 to 2023, an Annual Sustainability Report will be established by the Sustainability Committee. The Annual Report will include progress on mandatory targets, KPI's, and tracking of projects as well as new initiatives that may form some of the Future Focal Points of the next Sustainability Plan.

Currently, Total Asset Management Service (TAM) report on energy and water consumption and expenditure for the entire NBMLHD half yearly and for the full financial year. Monthly reporting on hospitals data is also established and distributed to relevant parties.

Working Groups will meet monthly and report progress on their relevant Focal Points quarterly to the Sustainability Committee. The Sustainability Committee will then collate the reports quarterly for consideration by the Executive Leadership Team.

GREP annual reporting includes progress on energy reduction projects and solar PV targets. The Sustainability Committee will be able to provide additional data on a yearly basis.

To track progress of resource and utility reductions through projects, mandatory requirements met and goals achieved a [dashboard](#) will be developed for the Sustainability Portal on the intranet. Further measures will be added as identified or as they become available.

HPRM	Document	Version	Ref	Date	Page Number
19/39987	2019-2023 Sustainability Plan	Final	V4.0	07 Jul 2020	22

Glossary

NBMLHD	Nepean Blue Mountains Local Health District	\$	Expenditures / Costs excluding GST
MOH	Ministry Of Health	CAPEX	Capital Expenditure
HI	Health Infrastructure	OPEX	Operating Expenditure
OEH	Office of the Environment and Heritage	EPC	Energy Performance Contract - A method of financing capital for energy and water efficiency upgrades
UNFCCC	United Nations Framework Convention on Climate Change	ESCO	Energy Services Company - Specialist energy & water efficiency specialists
GREP	Government Resource Efficiency Policy	NCC Section J	Section of the National Construction Code that outlines mandatory requirements around Energy Efficiency
NABERS	National Australian Built Environment Ratings Scheme - Using a 6 star scale, NABERS helps Australian building owners understand how their asset impacts the environment.	BMCS	Building Management & Control System
GREENSTAR	Green Star is an internationally-recognised sustainability rating system	HVAC	Heating Ventilation and Air Conditioning System
E3 Program	Equipment Energy Rating program - energy efficiency standards and energy labelling for equipment and appliances	HWS	Hot Water System for air conditioning
MEPS	Minimum Energy Performance Standards - Reporting and labelling of energy using equipment	DHWS	Domestic Hot Water System for hot water
WELS	Water Efficient Labelling and Standards - Reporting and labelling of water using equipment	R-Value	Insulation - The measure of thermal resistance for insulation materials
CASPER	Centralised Analysis System for Performance of Energy and Resources	Uw Value	Windows - A measure of a glazing units conductivity including glass and frame
KPI	Key Performance Indicator	SHGC Value	Windows - A measure of the solar radiation admitted through glazing
MJ, GJ	MegaJoule, GigaJoule - Energy consumption measures	LED	Lighting - Light Emitting Diode
kWh, MWh	KiloWatt-hour, MegaWatt-hour - Electricity consumption measures	PV	Solar electricity generation - Photovoltaic panels
CO2-e	Carbon dioxide equivalent - a standard unit for measuring carbon footprint	HWS	Hot Water System for air conditioning
kL, ML	KiloLitres, MegaLitres - Water consumption measures	DHWS	Domestic Hot Water System for hot water
kg, Tonne	Kilograms, Tonnes - Waste and carbon consumption measures	VOC	Surface coatings and adhesives - Volatile Organic Compound
		ARRP	Asset Refurbishment & Replacement Program
		MW&E	Minor Works & Equipment
		WoG	Whole Of Government

HPRM	Document	Version	Ref	Date	Page Number
19/39987	2019-2023 Sustainability Plan	Final	V4.0	07 Jul 2020	23

References

- ⁱ ABC News report. (2018, January). <https://www.abc.net.au/news/2018-01-07/sydney-hits-its-highest-temperature-recorded-in-79-years/9309552>
- ⁱⁱ Bureau Of Meteorology. (2018). State of the Climate 2018. Retrieved from Bureau Of Meteorology: <http://www.bom.gov.au/state-of-the-climate/State-of-the-Climate-2018.pdf>
- ⁱⁱⁱ Bureau Of Meteorology. (2019). Climate Analogues. Retrieved from Climate Change in Australia: <https://www.climatechangeinaustralia.gov.au/en/climate-projections/climate-analogues/analogues-explorer/>
- ^{iv} Malik. (2018, January). The Carbon Footprint of Australian Health Care. Retrieved from Science Direct: <https://www.sciencedirect.com/science/article/pii/S2542519617301808?via%3Dihub>
- ^v Source: Lancet Commission, Health and Climate Change, 2015. [https://www.clinicalkey.com.au/#!/content/playContent/1-s2.0-S0140673615608546?returnurl=https:%2F%2Flinkinghub.elsevier.com%2Fretrieve%2Fpii%2FS0140673615608546%3Fshowall%3Dtrue&referrer=https:%2F%2Fwww.thelancet.com%2Fpdfs%2Fjournals%2Flancet%2FPIS0140-6736\(15\)60854-6.pdf](https://www.clinicalkey.com.au/#!/content/playContent/1-s2.0-S0140673615608546?returnurl=https:%2F%2Flinkinghub.elsevier.com%2Fretrieve%2Fpii%2FS0140673615608546%3Fshowall%3Dtrue&referrer=https:%2F%2Fwww.thelancet.com%2Fpdfs%2Fjournals%2Flancet%2FPIS0140-6736(15)60854-6.pdf)
- ^{vi} Blue Environment Pty Ltd. (2018, November). National Waste Report 2018. For the Department of Environment and Energy. <http://www.environment.gov.au/system/files/resources/7381c1de-31d0-429b-912c-91a6dbc83af7/files/national-waste-report-2018.pdf>
- ^{vii} Lasker, P. (2017, December). China's ban on foreign waste. Retrieved from ABC News: <https://www.abc.net.au/news/2017-12-10/china-ban-on-foreign-rubbish-leaves-recycling-industry-in-a-mess/9243184>
- ^{viii} United Nations Framework Convention on Climate Change (1992). https://unfccc.int/files/essential_background/background_publications_htmlpdf/application/pdf/conveng.pdf
- ^{ix} Cunningham, I. (2019, March 1). Blue Mountains Council declares a climate emergency. Retrieved from Blue Mountains Gazette: <https://www.bluemountainsgazette.com.au/story/5932507/blue-mountains-council-declares-a-climate-emergency/>

HPRM	Document	Version	Ref	Date	Page Number
19/39987	2019-2023 Sustainability Plan	Final	V4.0	07 Jul 2020	24