



Sydney
Local Health District

Environmental Health and Sustainability Plan

2023–2027





Acknowledgement of Country

Sydney Local Health District acknowledges that we are living and working on Aboriginal land. We recognise the strength, resilience and capacity of Aboriginal people on this land. We would like to acknowledge all of the traditional owners of the land and pay respect to Aboriginal Elders past and present.

Our District acknowledges *Gadigal*, *Wangal* and *Bediagal* as the three clans within the boundaries of the Sydney Local Health District. There are about 29 clan groups within the Sydney metropolitan area, referred to collectively as the great *Eora Nation*. *Always was and always will be Aboriginal Land*.

We want to build strong systems to have the healthiest Aboriginal community in Australia.

Together under the Sydney Metropolitan Partnership Agreement, including the Aboriginal Medical Service Redfern and in collaboration with the Metropolitan Local Aboriginal Land Council, Sydney Local Health District is committed to achieving equality to improve self-determination and lifestyle choices for our Aboriginal community.

Ngurang Dali Mana Burudi – A Place to Get Better

Ngurang Dali Mana Burudi — a place to get better, is a view of our whole community including health services, Aboriginal communities, families, individuals and organisations working in partnership.

Our story

Sydney Local Health District's Aboriginal Health story was created by the District's Aboriginal Health staff.

The map in the centre represents the boundaries of Sydney Local Health District. The blue lines on the map are the Parramatta River to the north and the Cooks River to the south which are two of the traditional boundaries.

The *Gadigal*, *Wangal* and *Bediagal* are the three clans within the boundaries of Sydney Local Health District. They are three of the twenty-nine clans of the great *Eora Nation*. The centre circle represents a pathway from the meeting place for Aboriginal people to gain better access to healthcare.

The Goanna or *Wirriga*

One of Australia's largest lizards, the goanna is found in the bush surrounding Sydney.

The Whale or *Gawura*

From June to October pods of humpback whales migrate along the eastern coastline of Australia to warmer northern waters, stopping off at Watsons Bay the traditional home of the Gadigal people.

The Eel or *Burra*

Short-finned freshwater eels and grey Moray eels were once plentiful in the Parramatta River inland fresh water lagoons.

Source: Sydney Language Dictionary



Artwork

Ngurang Dali Mana Burudi — a place to get better

The map was created by our Aboriginal Health staff telling the story of a cultural pathway for our community to gain better access to healthcare.

Artwork by Aboriginal artist Lee Hampton utilising our story.

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A message from the Chief Executive and the Chair of the Board

This *Environmental Health and Sustainability Plan for Sydney Local Health District 2023-2027* demonstrates the strong commitment and determination of the District to become an environmentally responsible, sustainable, adaptable and resilient organisation.

There is now overwhelming scientific evidence that climate change is occurring and that the most probable cause of this is human activity; primarily greenhouse gas emissions. The evidence suggests there is an urgent need to take action to mitigate the negative effects of global warming in order to avoid serious future environmental, health, social and economic consequences.

In addition to contributing to the broader social good, the health system has much to gain through implementing carbon reduction strategies. There is, for example, a strong financial incentive for providing low carbon health services. Reducing carbon, especially through improved energy efficiency, allows resources to be freed up for our important core purpose of improving health status and providing patient care.

To decarbonise operations and achieve net zero targets, significant changes in the way we source and use electricity and water, source our clinical and non-clinical products, manage our waste, green our environment and design and construct our built environment will impact on the rate of our transition. We must work towards an organisational culture that thinks and acts with sustainability and net zero as part of its central identity. We must also embrace Aboriginal stewardship values and better understand their deep connection to caring for Country.

The *Environmental Health and Sustainability Plan for Sydney Local Health District 2023-2027* paves the way for the District to be a healthcare leader in sustainability. We welcome this plan and look forward to reporting significant progress in carbon reduction and in the transition towards an environmentally sustainable health care model over the next five years.



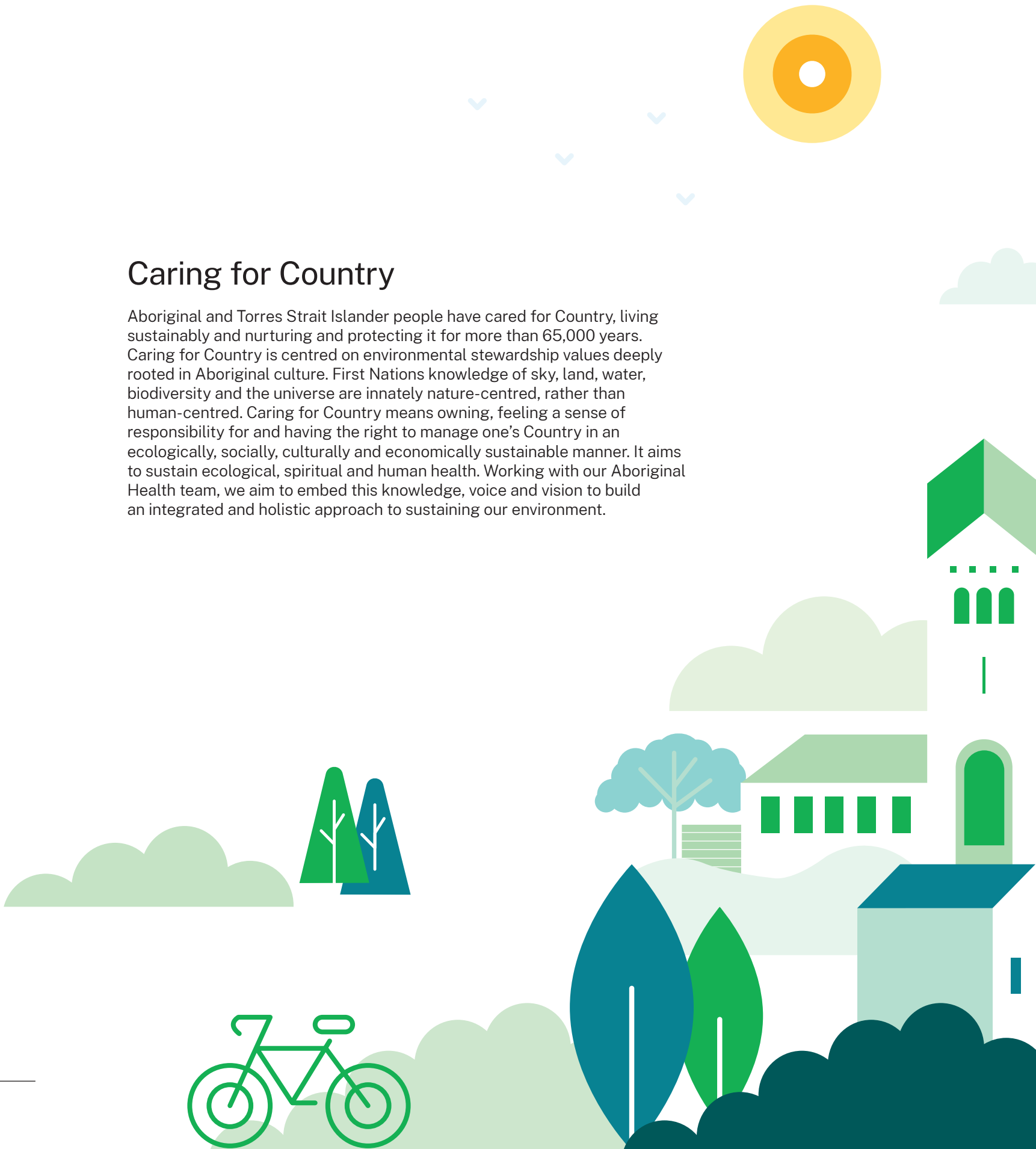
Dr Teresa Anderson AM
Chief Executive
Sydney Local Health District



The Hon John Ajaka
Board Chair
Sydney Local Health District

Caring for Country

Aboriginal and Torres Strait Islander people have cared for Country, living sustainably and nurturing and protecting it for more than 65,000 years. Caring for Country is centred on environmental stewardship values deeply rooted in Aboriginal culture. First Nations knowledge of sky, land, water, biodiversity and the universe are innately nature-centred, rather than human-centred. Caring for Country means owning, feeling a sense of responsibility for and having the right to manage one's Country in an ecologically, socially, culturally and economically sustainable manner. It aims to sustain ecological, spiritual and human health. Working with our Aboriginal Health team, we aim to embed this knowledge, voice and vision to build an integrated and holistic approach to sustaining our environment.

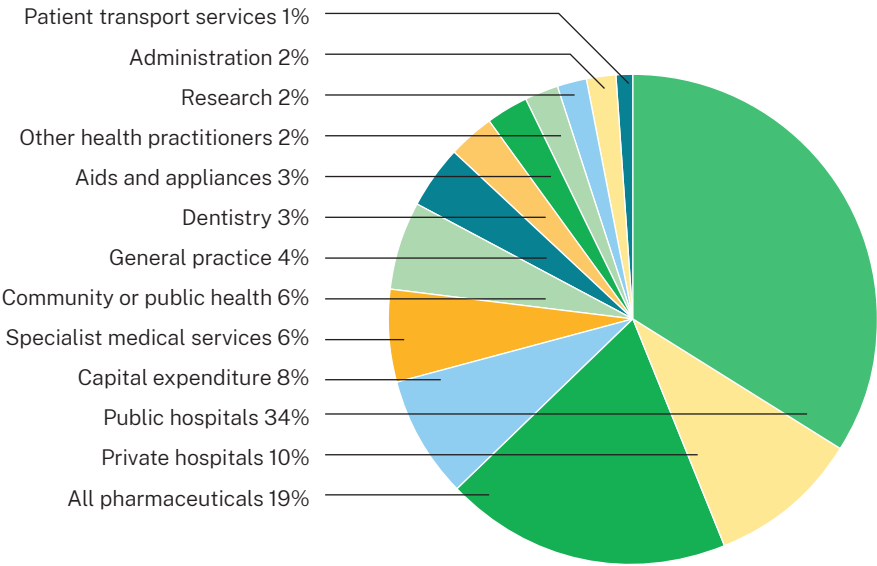


About Sydney Local Health District

Sydney Local Health District (the District) is one of the most densely populated local health districts in New South Wales (NSW). The population is growing more rapidly than that of NSW and is projected to increase by 26.2 per cent by 2027. With over 12,000 staff, our District is responsible for the health and wellbeing of more than 740,000 people living within our boundaries, as well as many more from rural and remote parts of NSW and Australia. We also care for more than a million people who come into our District each day to work, study and visit.

Providing this care has a significant impact on our environment. Hospitals are highly energy intensive, consume large amounts of resources, and produce large amounts of waste¹. Hospitals and healthcare services in Australia have been shown to contribute to climate change with healthcare representing 7 per cent of Australia's total carbon footprint. Within this, 34 per cent is attributed to public hospitals and 19 per cent to the manufacture and transportation of pharmaceuticals². As a result we need to respond with strategies, plans and actions that mitigate our impact. The Sydney Local Health District is committed and determined to become an environmentally responsible, sustainable, adaptable and resilient organisation.

Australia's healthcare carbon footprint



The global healthcare carbon footprint is estimated at

4.5%

of total emissions³

Hospitals and healthcare services in Australia have been shown to contribute to climate change with healthcare representing

7%

of Australia's total carbon footprint

90%

of Australia's health care emissions are indirect, and a result of supply chains involved in the manufacture, distribution and supply of health care goods and services²



Introduction – why we need to act

The scientific evidence is now overwhelmingly clear that as a result of human activity and greenhouse gas emissions, the Earth is undergoing climate change and global warming. Today, we're facing a climate emergency. The World Health Organisation has drawn attention to the likely devastating impacts of these increases on human health⁴. The increased frequency and direct effects of heat stress and fires, flooding and storms, plus indirect effects like crop failures and altered infectious disease patterns, are becoming increasingly prevalent.

Sustainable development, sustainable practices and net zero targets are key strategies that aim to mitigate the impact of climate change on our environment. We have a responsibility to conserve natural resources and protect global ecosystems to support health and wellbeing, now and in the future. Because so many decisions that impact the environment are not felt immediately, a key element of environmental sustainability and planetary health lies in their forward-looking nature. This is why we need to act now.

The purpose of this plan is to develop and support pathways towards net zero and sustainable healthcare. Our vision is to be Australia's cleanest, greenest hospital and healthcare service by 2030; caring for our people and our country.

Climate change is also acknowledged as a crucial determinant of public health. A growing evidence base suggests that vulnerable individuals and populations are more at risk and susceptible to harm. Climate change amplifies inequitable access to healthcare and the quality of care for the most vulnerable communities. While no one is immune to the health implications of climate change, some communities will disproportionately feel the health impacts due to being less resilient to climate change. These communities are socioeconomically and geographically disadvantaged, and children, older people and individuals living with medical conditions. There is also a growing body of evidence linking hotter weather, natural disasters and emergency presentations with mental health issues.

The International Panel on Climate Change notes that in many regions of the world, warming has surpassed

1.5°C

above pre-industrial levels and models suggest mid-latitude regions will experience

3°C higher extremes⁵.

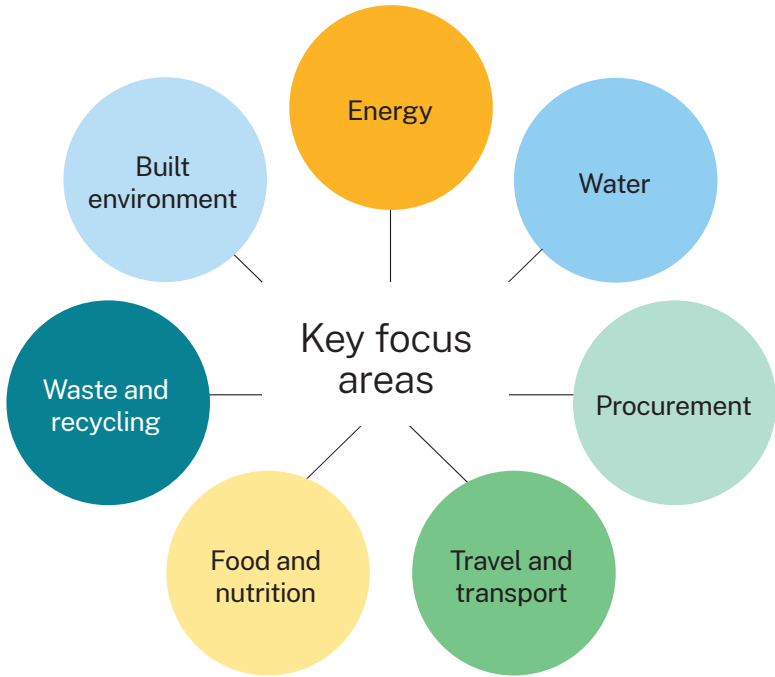


Our vision at a glance

Our vision is to be Australia’s cleanest greenest hospital and healthcare service by 2030.

The District’s Environmental Health and Sustainability Committee has identified seven key focus areas. These focus areas guide collaboration with teams across our facilities and services to introduce sustainability initiatives. The shared goals for all initiatives are to reduce our environmental impact and carbon footprint, and further progress our healthcare services toward a circular economy and net zero emissions.

Action is being taken at every level across our facilities and services to deliver our plan. We are appointing sustainability leads and seeking champions across all services, including clinical and administrative areas. Every staff member has a responsibility to engage in change and support systems and processes that underpin sustainability practices. All hospital general managers and clinical directors are driving change and supporting measures that align with this action plan. Clinical service areas are assessing global best practices to reduce reliance on unsustainable medical practices or low-value health care whilst improving patient outcomes. Administrative and Capital Infrastructure and Engineering teams are assessing resource use and management, seeking new ways to minimise our carbon footprint and build an environment that supports sustainability and the future health of our environment and community.



100%
electric-driven technologies to replace old-style building services (like air conditioning and hot water)

Reduce CO² emissions by up to 608 tonnes (that’s 200 cars worth!) per year per hospital by using solar power

Save more than
60,000 litres of water each year by green retrofitting refurbished buildings

Right: Concord Repatriation General Hospital’s 10m² polycarbonate greenhouse, erected by District gardeners with shelving developed from recycled scrap construction materials



Energy

The burning of fossil fuels to heat, cool and power our healthcare facilities is a significant source of greenhouse gas emissions. The energy sector is currently responsible for around 71 per cent of Australia's net emissions⁶. To mitigate our impact we are transitioning towards renewable energy sources such as solar energy and are implementing a wide range of energy efficient technologies across our facilities. Major hospital lighting upgrades across the District with the installation of LED (Light Emitting Diode) lights has seen a significant reduction in lighting derived energy consumption. Solar energy systems have been installed on numerous buildings at Royal Prince Alfred Hospital (RPA), Concord Repatriation General Hospital and Canterbury Hospital with further installations in the planning stages. Upgrades to HVAC (heating, ventilation and air-conditioning) systems across several facilities have also led to improved energy use.



Since 2018 we have reduced our electricity use on average by 1.4 per cent and our gas usage on average by 3.5 per cent per year.

Commitment

- To transition buildings to renewable energy sources to achieve net zero greenhouse emissions.
- To continually seek new ways to reduce energy consumption through technology and facility upgrades.



Targets

- Upgrade heating, ventilation and air-conditioning (HVAC) units to more energy efficient models.
- Install energy efficient LED lighting across the District.
- To phase out gas-fired building services (HVAC, hot water) and replace with 100 per cent electric driven technologies.

Above: Solar panels, Royal Prince Alfred Hospital
Right: Theatre at Concord Hospital



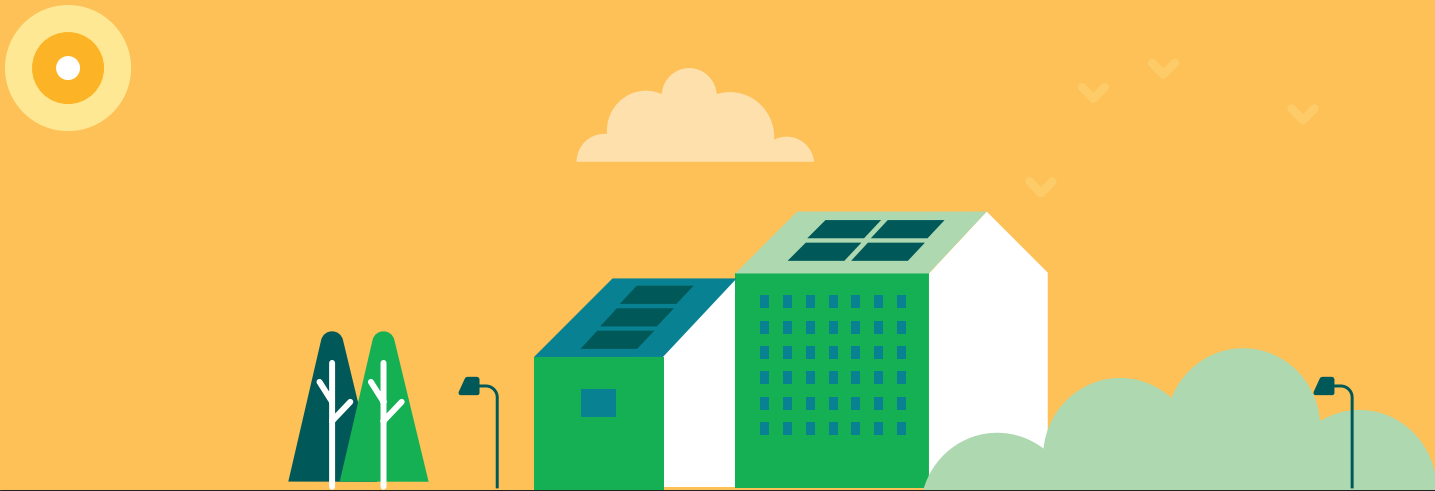


Lighting upgrades

Canterbury and Concord Hospitals have undergone a significant LED lighting upgrade. LEDs are a more sustainable choice as they emit more light, less heat and last 5 to 10 times longer than incandescent and fluorescent bulbs. The upgrade is reducing costs relating to ongoing bulb replacement and reducing the amount of landfill.

This lighting initiative will enable an annual electricity saving of \$26,000 and a carbon dioxide (CO²) abatement of 110 tonnes per year. To put this into perspective, this is equivalent, on average, the CO² emissions from about 36 cars per year.

up to
90% of incandescent bulb energy and 80 per cent of fluorescent light bulb energy is released as heat. LED lights are far more efficient.

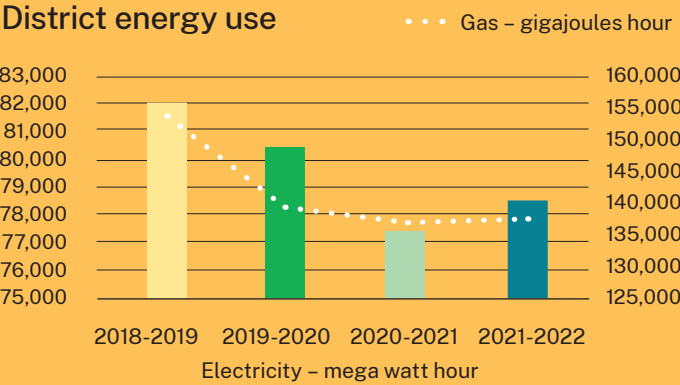


Solar power systems

A 600kW solar system has been installed at Canterbury Hospital. The system is estimated to save more than 608 tonnes of carbon dioxide (CO²) emissions and about \$140,000 in electricity costs per year. That's a reduction of around 200 cars worth of CO² emissions per year.

We are installing a 240KW solar system on the Rusty Priest building at Concord Repatriation General Hospital. Funded by Health Infrastructure, the \$380K investment will save the District around \$75K in electricity costs per year.

a reduction of
200 cars' worth of CO² each year



Water

Our healthcare facilities consume large amounts of water. Any hospital systems and processes such as air-conditioning chillers, dialysis, sterilisation, linen and catering services, and hand washing, are all water intensive. In addition, significant amounts of energy are invested in the heating, pumping and disposal of water. In the United States, hospitals account for 7 per cent of total water consumed by commercial and institutional facilities⁷. There is a need to closely monitor water use, improve efficiency of use, and reduce leakages, to save water and reduce the energy consumed in moving that water around. Developing a sustainable water system for District sites will have a number of benefits, including an ability to provide water resilience and insurance against water restrictions or grid-supply failure, ensure an abundant living landscape and green infrastructure and reduce the costs of water, sewer and trade waste.



Commitment

- Reduce potable water use, harvest rainwater in all new buildings and return water to the hydrological cycle.
- Ensure all technologies associated with water use are the most efficient models on the market.



Targets

- Report annually on water consumption in an effort to stabilise water use.
- Increase water efficiency by a further 20 per cent by 2025.
- Increase rain water harvesting by 100 per cent by 2025.

Above: Rainwater tank at Parents and Babies
Royal Prince Alfred Hospital
Right: Scrubbing up for theatre





Dialysis water recycling

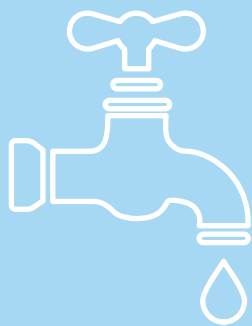
A reverse osmosis water plant has been installed at the Professor Marie Bashir Centre at Royal Prince Alfred Hospital, the new site for dialysis services. Haemodialysis may expose a patient to more than 300 litres of water per week during the treatment process. The process generates ‘reject water’ which is highly filtered, purified and is formed by predialysis water filtration before exposure to blood products⁹. Reverse osmosis water tanks now capture, filter and store 30,000 litres of wastewater per week produced during the reverse osmosis dialysis process. This water is to be used by the Sydney City Council for watering community parks and gardens.

Water tanks

Rainwater is harvested at many sites across the District, including at Concord Repatriation General Hospital, Balmain Hospital, Royal Prince Alfred Hospital’s Naamuru Parent and Babies Unit, Centre for Education and Workforce Development Rozelle and Marrickville Health Centre. At present, 60,000 litres of rainwater is diverted from stormwater systems and stored for use in District irrigation and garden watering. Plans are in place to further expand this figure with rainwater harvesting systems now mandatory in the construction of all new buildings. Buildings that are refurbished will be green retrofitted to ensure a reduction in the use of potable water.

in 2018
7.5% of Sydney’s water was lost through leakage from its piping system alone

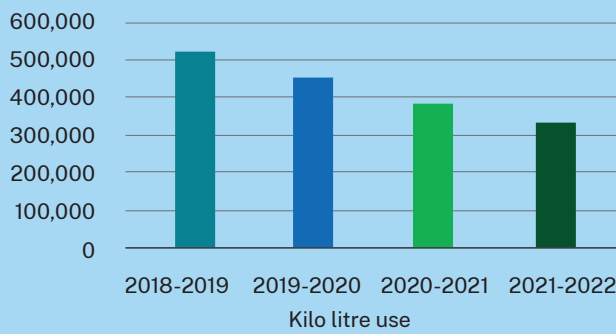
we divert
60,000 litres of rainwater per week for irrigation and gardening



22 Olympic swimming pools

Since 2018, the District has reduced water usage by 9.7 per cent per year (on average). That’s a reduction of 56.5 million litres of water or 22 Olympic swimming pools a year.

District water use



Procurement

Sustainability in procurement practice is imperative to a sustainable organisation. Our hospitals and services purchase a significant and broad number of goods and services including pharmaceuticals, food, energy, chemicals and electronics. The ways we choose what to purchase needs refreshed focus, clear criteria and guidelines. The volume at which we purchase goods and services can also be used as a catalyst to change the sustainability practices of the companies and organisations we purchase from. We will consider sustainability practices in all our decisions to procure goods and services, including actively looking at environmental impact, social benefits and economic benefits. We will implement strategies to avoid unnecessary consumption, and to integrate use and reuse to extend the life of products. Our procurement practices are far-reaching and contribute greatly to other sustainability and environmental health commitments and targets.



Commitment

- To provide leadership in sustainable procurement practice.
- To integrate sustainability and ‘circular economy’ principles into procurement practices.

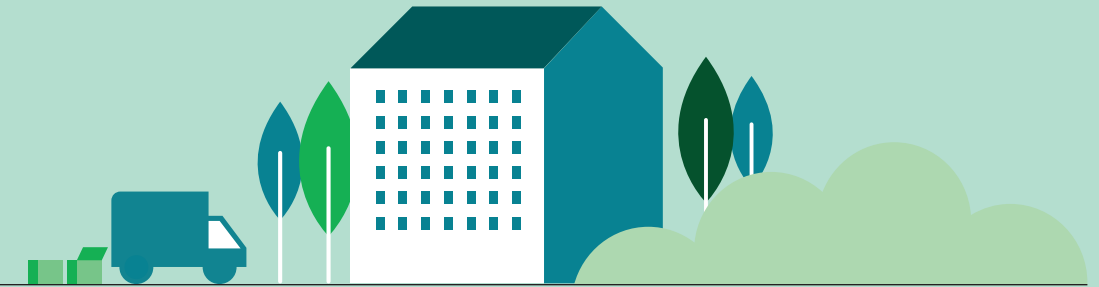
Targets

- Increase the use of recycled and sustainably sourced materials, particularly within the clinical environment.
- 10 per cent reduction in the purchase of single use plastics.

- Development of a Social Procurement Framework.
- 50 per cent increase in use of sustainable stationery products.
- Transition 100 per cent to paper pill and medicine cups where viable.
- Document and measure sustainability information about each vendor within the tender process.

Above: Biodegradable, compostable paper pill cups
Right: Deliveries at the loading dock, Royal Prince Alfred hospital





Clinical products

Sydney Local Health District is expanding the purchase of environmentally-friendly clinical products across its facilities. Many products have been switched from plastic-based to biodegradable and compostable versions including medicine cups, kidney bowls, denture cups and pill cups. Data shows the District uses almost 2 million pill cups, 183,000 medicine cups, 42,900 denture cups, and 12,000 denture cup lids every year. These changes have resulted in the District now using 2,185,100 items that are biodegradable, compostable or recyclable each year, which is also delivering annual savings of about \$45,000.



Administrative products

Through the power of purchasing our District procurement team are working with suppliers to ensure we are constantly shifting to new and more sustainable product choices and suppliers. Central to this strategy is engaging with Aboriginal and/or Torres Strait Islander brands, carefully selected for their strong commitment to local communities and caring for country. We have identified a number of items which are either from Aboriginal and/or Torres Strait Islander supply chains or are environmentally-friendly alternatives.



we're transitioning to
100% paper pill and medicine
cups where viable

each year we use
2,185,100 biodegradable,
compostable
or recyclable items

Sugarcane kidney dishes

Did you know we use 100 per cent plant-based kidney dishes? They are made from bagasse, the sugarcane pulp that remains after the extraction of sugar cane juice. It means they are 100 per cent biodegradable and compostable within 90 days because they contain no wax or plastic lining.



Which has the bigger carbon footprint?

It's important that we understand supply chains when considering procurement. Our 20 per cent recycled A4 paper is Australian sourced while our 100 per cent recycled A4 paper travels from Japan. Which has the bigger carbon footprint?



Transport and travel

With over 12,000 staff, our District is responsible for the health and wellbeing of more than 700,000 people living within our boundaries. Travel by patients, staff and visitors to our facilities is a central part of the way we deliver our services. As a consequence, our travel related carbon footprint is significant. With this in mind we are making significant strategic changes to the way in which we address travel and transport to both mitigate our travel related emissions, and to offer alternative workplace travel plans, which in turn offer co-benefits to the health and wellbeing of our staff and wider community.



Commitment

- To ensure our facilities and health care services are easily accessible by multiple modes of travel.
- To support an environment that enables active and sustainable transport choices, including by working with the Ministry of Health to further expand electric vehicle charging infrastructure.
- To minimise the impact of travel and transport within our health care services.
- To explore novated lease options for e-bikes.

Targets

- Since 2018, fleet vehicle petrol consumption has dropped on average by 12.6 per cent per year. Based on average CO² emissions of 22 grams per litre used, that's roughly 267kg per year of carbon emissions avoided.¹⁰
- Develop a Workplace Travel Plan which incorporates a baseline audit of staff travel and active transport options.
 - Further expand virtual models of health care like telehealth and RPA Virtual Hospital, and promote virtual meetings.

Top left: Bike racks at Concord Hospital



rpavirtual

rpavirtual is a new model of care that delivers health care services remotely unlike traditional face to face methods. Virtual healthcare comes in many forms, from the simplest use of mobile technologies to enable clinicians to stay in touch with patients, through to large open access stand-alone services that deliver or coordinate medical services remotely¹². Delivering health care virtually eliminates the need for patients to travel to a healthcare facility or for a healthcare professional to travel to them. Cars are a major contributor to the global carbon footprint as are the processes used to extract and refine fossil fuels. Less vehicle transport equals less pollution.

74,138 kilometres of travel was saved¹²



more than 5 trips from Sydney to the North Pole

Between February 2020 and January 2021 an estimated 74,138 kilometres of travel was **saved through virtual care**, the equivalent of more than 5 trips from Sydney to the North Pole, with 13.4 tonnes of carbon emissions avoided¹².

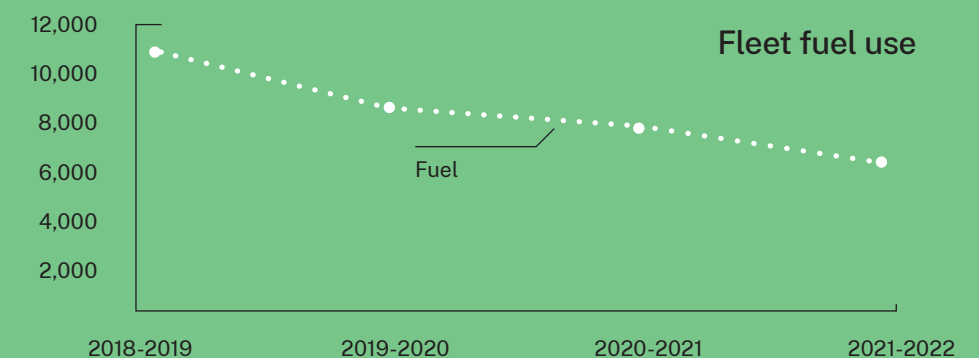


Fleet Vehicles

The Sydney Local Health District currently has 171 hybrid passenger vehicles, or 39 per cent of its fleet, with another 30 on order. Hybrid vehicles are powered by both an internal combustion engine and an electric motor which uses stored energy from batteries. The battery is recharged through both regenerative braking and the engine. When the car is in electronic only mode, there are no harmful emissions making hybrids a preferred option for densely populated areas. Hybrids also consume far less fuel as the electronic motor either drives the vehicle at lower speeds or assists in the initial take off thereby further improving fuel economy.¹¹ The District has also installed electric vehicle charging stations at Canterbury Hospital and Concord Repatriation General Hospital as a part of a larger strategy towards building an electric vehicle fleet.

267kg per year of carbon emissions avoided¹⁰

Since 2018, **fleet vehicle petrol consumption** has dropped on average by 12.6 per cent per year. Based on average CO₂ emissions of 22 grams per litre used, that's roughly 267kg per year of carbon emissions avoided¹⁰.



Food and nutrition

The ecological footprint of our food systems represents approximately 30 per cent of our personal ecological footprint. The methane emissions from food decomposing in landfill is over 100 times more potent than carbon dioxide and is a major contributor to global warming^{13, 14}. In Australia, poor dietary habits and obesity are now the two leading preventable risk factors contributing to the burden of disease in Australia, with 67 per cent of Australian adults overweight or obese. The direct and indirect costs of obesity, heart disease and Type 2 diabetes cost Australia close to \$60 billion in 2019¹⁵.

Healthcare organisations are large consumers of food –for patients who stay within hospitals, and staff and visitors who attend hospitals. Healthcare organisations are well-placed to educate the community on nutrition. Research indicates the value of using



healthcare professionals to drive change within this area and improve the health and wellbeing of the community, while reducing carbon emissions.

Commitment

- Optimise education opportunities for our community on sustainable food options.
- Partner with retail outlets to prioritise sustainable food options.



Targets

- Provide educational opportunities for our community on healthy and sustainable food.
- Provide safe, nutritious and healthy food and drink options to retail outlets in our hospitals.
- Ensure vegan and vegetarian options are readily available at retail outlets and on patient menus.
- Utilise the food waste compost program and integrate into garden management.
- Work in partnership with HealthShare to increase local sourcing of produce.

Above: Waste compost program
Right: Serving up a healthy menu across the District



Food composter

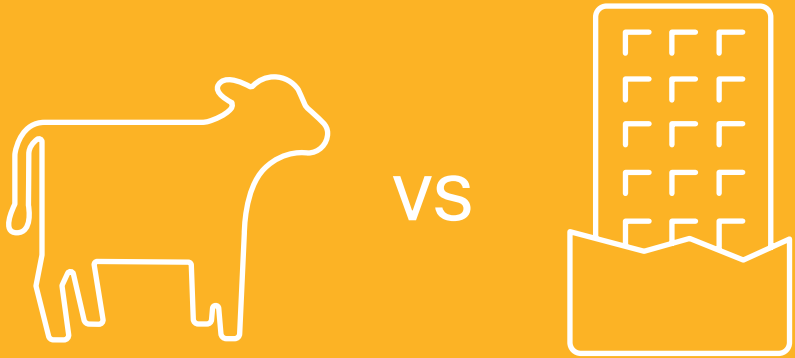
A food waste dehydrator has been installed at Royal Prince Alfred Hospital to reduce the volume of food waste that ends up in landfill. Every 24 hours, the food waste dehydrator converts two batches of 200kg of waste food into 400kg of dehydrated food waste or soil food. Once removed from the machine, the dehydrated waste looks similar to potting mix and is approved for use on gardens by the NSW Environmental Protection Authority. The mix contains over 40 per cent organic carbon content, up to 6.5 per cent nitrogen and potassium and phosphorus¹⁶.



every
24hrs we convert 400kg of
waste food

Is dark chocolate a climate bad guy?

A 2018 study found that beef production produces more than twice the greenhouse gas emissions of its closest emitter (dark chocolate). Fruits and vegetables emit more than 200 times less than beef²³.



Sydney Sustainability Program

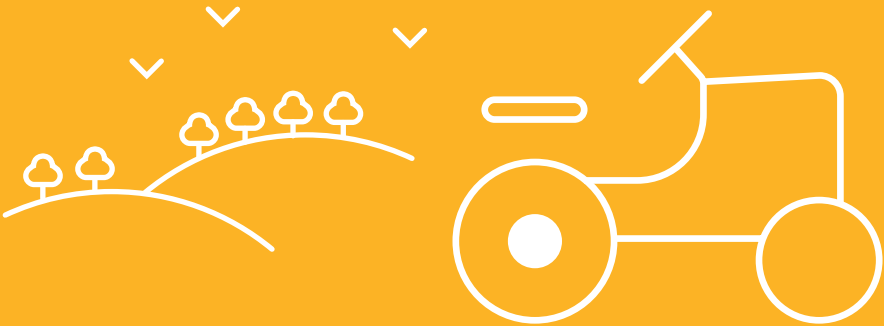
The Sydney Sustainability Program offers education and information about how our food choices impact our personal and organisational carbon footprint. While transport accounts for a small percentage of greenhouse gases, what we eat is far more important than where our food has travelled from¹⁷. For example, the global food system includes food production, numerous post-farm processes and supply chain transport. The Sydney Sustainability Program engages and empowers staff with information to assist with their decision making about food.



267kg per year of carbon
emissions avoided¹⁰

26%

Did you know that an estimated 26 per cent of the world's greenhouse gas emissions result from food and agriculture?



Waste and recycling

The carbon emissions associated with the manufacture of medical supplies and equipment in the healthcare supply chain contributes in the order of 62-82 per cent of the healthcare sector's carbon footprint¹⁸. The disposal of waste into landfill and incinerators releases large amounts of greenhouse gases into the atmosphere. Disposal of hospital clinical waste is particularly costly at approximately 10 times the cost of general waste. It also requires extensive and energy intensive treatment prior to deposition in landfill¹⁹.

There are large financial and environmental benefits to be gained from the thorough separation of hospital infectious and general waste management. Benefits include reduced costs associated with procurement, waste management and carbon offsetting, and a reduced carbon footprint. The extraordinary use of resources during the response to COVID-19 has greatly skewed our waste and recycling data profile,



but overall recycling is increasing and waste use is decreasing. Staff across the District have established committees focussed on the avoidance and reduction of waste, including the recycling of consumables such as toner cartridges, hard and soft plastics, metals, batteries, paper and cardboard, electronic and office hardware including furniture. The first sustainability hub was launched at RPA Hospital in 2023 to easily access recycling depositories with information and education.



Commitment

- Seek to minimise waste by improving resource efficiency.
- Increase recycling streams and expand on current streams.
- Seek out new opportunities that engage with circular economies.

Targets

- Reduce general waste by 10 per cent per year towards 2027.
- Increase recycling by 10 per cent per year towards 2027.
- Reduce food waste entering landfill by 50 per cent by 2027.

Right: Transporting waste around the hospital.





Anaesthetic canister aluminium recycling

We now recycle our aluminium anaesthetic canisters. Canisters are collected in 120 litre waste bins, crushed, re-smelted, cast into aluminium blocks and on-sold to trade partners for remanufacturing. Recycling canisters saves 95 per cent of the energy necessary to smelt aluminium from raw bauxite ore. About 75 per cent of all aluminium ever produced is still in circulation today as it can be continually recycled without compromising its quality²⁰.



recycling canisters saves

95% of the energy necessary to smelt aluminium from raw bauxite ore

Giving new life to old canisters

It's estimated that 50 recycled aluminium anaesthetic canisters is enough to make an aluminium bike frame²¹. In 2022, Canterbury Hospital used 341 cannisters. That's almost enough to make seven bikes.



Sterilisation wrap

We also recycle our uncontaminated sterilisation wrap. Sterilisation wrap is 100 per cent polypropylene (PP), plastic #5, and is 100 per cent recyclable. RPA, Concord, and Canterbury Hospitals have established recycling streams to send clean, uncontaminated sterile wrap to a Sydney plastics company for recycling. The sterile wrap is shredded, melted and cut into granules or pellets manufactured into household, agricultural and construction products.

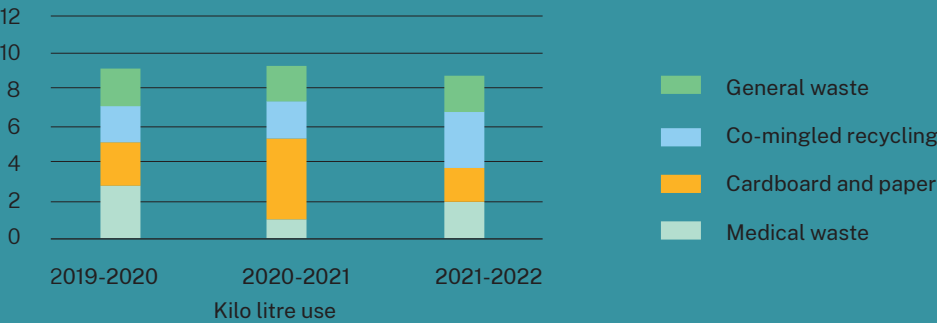


sterilisation wrap is

100% recyclable

Sterile wrap takes 20-30 years to completely breakdown in landfill. Toxins emitted during the manufacturing process, such as lead and cadmium, are not healthy for our environment.

District waste and recycling



Built environment

Sustainability can be incorporated into the design and construction of District healthcare facilities to minimise carbon emissions, reduce energy consumption and streamline waste management systems and processes. Design features, including building orientation and natural ventilation, can maximise daylight and shade, and reduce a building’s energy requirements. Landscape features such as green roofs and trees, and native vegetation planted on site can mitigate the heat-island effect, reducing the cooling requirements of buildings.²² Not only are there environmental and economic advantages associated with green building principles, there is a growing body of evidence supporting sustainable hospitals as healing environments that support staff retention, job satisfaction and improve patient outcomes.²³



Commitment

- Ensure all new District construction adheres to leading environmental sustainability systems and practices from conception to operation.

Targets

- Design and construct healthcare facilities that meet or exceed the 4* Green Star Design and Construction standard and 4* NABERS Energy rating.
- Design and construct green infrastructure that supports the integration of infrastructure, landscape and biodiversity to deliver improved amenity and biophilic outcomes for patients, staff and visitors.





Plant propagation

Sydney Local Health District Garden Services have commenced a new Plant Propagation Program at Concord Repatriation General Hospital. Trees, shrubs, succulents, grasses and groundcovers are grown from cuttings taken from parent stock for use across the District. A 10m² polycarbonate greenhouse, erected by District gardeners with shelving developed from recycled scrap construction materials, has the capacity to propagate up to 2,500 cuttings at a time.

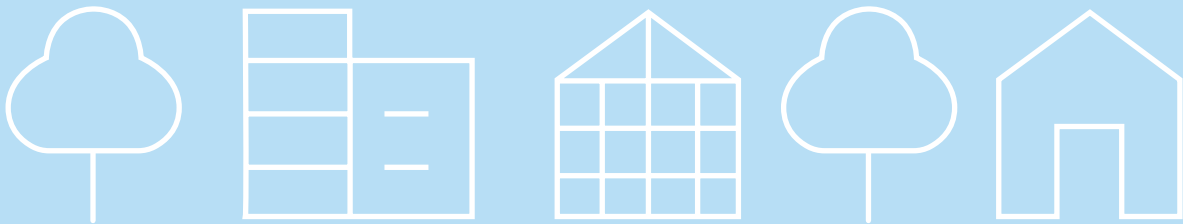


our gardeners built a
10m² greenhouse with shelving
developed from recycled scrap
construction materials



Green space and biophilic design

Green space and biophilic design principles have been incorporated into the Professor Marie Bashir Centre at Royal Prince Alfred Hospital and the Rusty Priest Building at Concord Repatriation General Hospital. Biophilic design aims to avoid the adverse side effects of built environments on our wellbeing by ensuring we have contact with natural environmental systems and processes.²⁴ The human experience becomes enriched by the inclusion of trees, plants and natural light, which research suggests positively supports mental and physical health outcomes for patients and staff²⁵.



Trees convert CO² into oxygen and plant material via photosynthesis in their leaves. Any vegetation can remove and store CO², but trees offer the highest net oxygen production as they store carbon in root systems and wood.

Our action plan

Focus area	Activities	Responsibility
Energy	Investigate and implement options for retrofitting existing buildings with energy-saving mechanisms	Capital Infrastructure and Engineering
	Install solar panels across all viable sites	Capital Infrastructure and Engineering
	Install microgrid or battery storage facilities to supply renewable electricity from solar panels for electric and plug-in hybrid vehicles	Capital Infrastructure and Engineering
	Develop electric vehicle charge infrastructure at each site for both fleet and private vehicles	Capital Infrastructure and Engineering
	Increase and improve bicycle infrastructure to encourage staff to ride to work, including secure priority parking and bike access, and shower facilities	Capital Infrastructure and Engineering
Water	Develop monitoring processes, including installation of sub-meters to identify water leakage	Capital Infrastructure and Engineering
	Improve water efficiency in bathroom, kitchen and clinical systems <ul style="list-style-type: none">• 6 Star WELS taps• 6 Star WELS urinals• 4 Star WELS toilet• 3 Star WELS showers (<7.5L/min)• 5 Star WELS dishwashers	Capital Infrastructure and Engineering
	Capture, store and reuse medical equipment waste water for secondary purposes	Capital Infrastructure and Engineering
	Develop and install rainwater catchment systems on all new constructions for irrigation purposes	Capital Infrastructure and Engineering

Focus area	Activities	Responsibility
Procurement	All purchasing decisions to consider local procurement, whole lifecycle costs and environmental impact	Strategic Health Sourcing
	Develop a Social Procurement Guide for goods and services that supports sustainability goals	Strategic Health Sourcing
	Reduce the purchase of single-use plastics by 10 per cent	Strategic Health Sourcing
Transport and travel	Increase the use of sustainable stationery products by 50 per cent	Strategic Health Sourcing
	Increase District electric vehicle fleet and plug-in hybrid fleet by 100 per cent by 2025	Fleet and Transport Services
	Develop a Workplace Travel Action Plan for all sites which incorporates a baseline audit of staff travel and active transport options, including provision of appropriate facilities to encourage active transport	LHD Committee General Managers Facility/Service Committees
	Increase videoconferencing and teleconferencing availability to staff	Digital Health and Innovation
	Increase and improve bicycle infrastructure to encourage staff to ride to work, including secure priority parking and bike access, and shower facilities	Capital Infrastructure and Engineering
Food and nutrition	Alter business models and models of care to consider better integration of service provision that reduces the need to travel	District Committee General Managers Facility/Service Committees
	Conduct a trial and evaluate results of using non-disposable cutlery, plates, cups and water jugs within a hospital environment	Executive Director, Operations General Managers
	Provide Return and Earn bottle recycling machines at each hospital	General Managers Facility/Service Sustainability Committees
	Provide clean drinking water fountains within each hospital and facility	General Managers Capital Infrastructure and Engineering

Focus area	Activities	Responsibility
	Plant community gardens on Yaralla Estate, Rivendell and at other locations	Capital Infrastructure Engineering General Managers
	Place Care Pantries on sites for access to food for community members and vulnerable groups	General Managers Facility/Service Committees
	Aim for at least one ‘red meat free’ day per week in retail services to lower carbon footprint	General Managers Facility/Service Committees
	As part of the tender process, retail providers must consider environmental impact and ability to provide varied and healthy vegetarian options	District Executive
Waste and recycling	Reduce paper use through electronic record keeping, paperless meetings and encourage use of portable technology like laptops	General Managers Service Directors Facility/Service Committees Digital Health and Innovation
	Provide a balanced risk assessment of costs associated with waste to establish a position on single use versus re-use/sterilisation policies, with input from Infection Prevention and Control	District Committee Strategic Health Sourcing Executive Director, Operations
	Work with contractors to clarify clinical waste definition to reduce clinical waste and accept co-mingled plastic waste, including uncontaminated clinical products to expand on recycling streams	General Managers Facility/Service Committees Strategic Health Sourcing
	Identify new avenues for increasing segregation of waste and recycling for example, plastics in operating theatres	General Managers Facility/Service Committees Strategic Health Sourcing
	Segregate food waste to allow for composting at suitable facilities	General Managers Facility/Service Committees

Focus area	Activities	Responsibility
	Develop strategies for promoting awareness of sustainable waste management procedures among staff	LHD Committee General Managers Facility/Service Committees
	Update local Waste Management Plans	General Managers Facility/Service Committees
	Waste contractor to provide a monthly, quarterly, six-monthly, annual breakdown of waste and recycling collected, to enable a quarterly review of progress and annual reporting of waste generation	Strategic Health Sourcing
Built environment	Develop a Sustainable Construction Plan to determine strategies to mitigate damage to local population and the environment, with considerations towards: <ul style="list-style-type: none"> • noise and vibration • increased particulate matter • high water consumption • spoil accumulation • wildlife corridors, including biodiversity loss and disturbance • increasing green zones, natural vegetation and tree canopy cover 	Capital Infrastructure and Engineering
	Ensure all new constructions comply with sustainability codes, policies and standards including NABERS and level 4 Green Star Rating	Capital Infrastructure and Engineering

Developing our Partnerships

The District is partnering with several organisations and groups across government and private sectors to leverage from and connect with organisations and industries that support a sustainable future. In 2021, the District became one of 1,450 members in 72 countries to join the Global Green and Healthy Hospitals Network as part of our commitment to sustainability in healthcare and to support our aspiration of being carbon neutral by 2030. The network is a global membership organisation dedicated to reducing the environmental impact of the healthcare sector. The District is also a member of the Tech Central Sustainability Partners group, a group of district stakeholders with a strong interest in driving sustainable outcomes. Other partners include the University of Sydney, the University of Technology Sydney, the City of Sydney, the Greater Cities Commission, and the inner west councils. We are working with HealthShare NSW to find new and better procurement solutions and with our whole-of-government waste contractors to ensure our waste is separated and recycled to maximise circular economy opportunities. We are also collaborating with small and medium businesses to access existing circular economy opportunities and assist in developing new ones. Emerging technologies will be integral in developing pathways that mitigate climate change and unsustainable consumption. Our partnership with Tech Central will be central to future developments in this area.

Governance

- In January 2010, the District established a Sustainability Committee. The establishment of this committee emphasised the need for all staff, both personally and collectively, to address carbon reduction and sustainability, and aimed to:
- develop a strategy for the implementation of sustainability policies, including the reduction of carbon emissions
 - measure the existing energy consumption and carbon footprint of healthcare services in the District
 - encourage sustainability measures amongst staff, particularly around travel to work, and food and water consumption
 - regularly monitor progress towards predetermined energy consumption and water use targets

The Committee will oversee governance relating to the actions agreed in the District Environmental Health and Sustainability Plan 2023–2027 (the Plan). Effective governance is critical to addressing evolving environmental sustainability priorities and expectations. The following governance structure and reporting mechanisms support the integration of the Plan across all operations and in the monitoring of commitments, targets and activities. It also ensures consideration of Aboriginal stewardship values in caring for Country and acknowledges the deep connection between people and the environment²⁶.



Policy and legislative context

The Sydney Local Health District Environmental Health and Sustainability Plan was developed in consultation with the below policies, strategic plans and guides:

- Sydney Local Health District Strategic Plan 2018-2023
- Sydney Local Health District Climate Change Risk Statement (2022)
- NSW (DRAFT) Health Vehicles Procurement and Use Policy (2022)
- NSW Government Resource Efficiency Policy (2019)
- NSW Government DPIE Net Zero Plan Stage 1: 2020-2030 (2020)
- NSW Government DPIE Net Zero Plan Stage 1: 2020-2030 Implementation Update (2021)
- NSW Government DPIE Waste and Sustainable Materials Strategy 2041 (2021)
- NSW Government DPIE NSW Climate Change Policy Framework (2016)
- NSW (Draft) Greater Sydney Water Strategy (Sept 2021)
- NSW Health Resource Efficiency Strategy 2016 to 2023 (2016)
- Australia's Long Term Emissions Reduction Plan
- National Climate Resilience and Adaptation Strategy 2021-2025
- Framework for A National Strategy On Climate, Health And Well-Being For Australia (June 2017)
- Greater Sydney Water Strategy: Implementation Plan 2022-2025' (NSW Government, Department of Planning and Environment 2022) NSW
- Health Resource Efficiency Strategy 2016 to 2023 (2016)
- Tech Central (DRAFT) First Nations Sustainability: Summary Report for Greater Cities Commission (2022)
- Tech Central: Place Based Transport Strategy, Future Transport 2056 (2018)
- HealthShare NSW Strategic Plan 2020-2023
- Greater Cities Commission: The Six Cities Region (Discussion Paper) (2022)
- The University of Sydney Sustainability Strategy 2020
- The City of Sydney Environmental Strategy 2021-2025
- Climate and Renewable Strategy: Responding to the Climate Emergency – Climate Change Mitigation (2019)
- NSW Waste and Sustainable Materials Strategy 2041: Stage 1 2021-2027' (Department of Planning, Industry and Environment 2021)
- Collaboration Area: Camperdown – Ultimo Place Strategy (Greater Sydney Commission 2019)
- Sydney Local Health District Aboriginal Health Strategic Plan 2018-2022

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Glossary

Abatement

A reduction in the amount or intensity of greenhouse gas emissions as a result of actions taken by a company or individual.

Carbon dioxide (CO²)

The most abundant of the greenhouse gases, CO² currently contributes to around 75 per cent of Australia’s greenhouse gas emissions. It is produced as a by-product of oil and gas production, burning fossil fuels and biomass. All animals, plants, fungi and microorganisms also produce CO². It has a global warming potential of 1.

Carbon footprint

A carbon footprint is the amount of greenhouse gases that are generated by our actions. It is expressed as carbon dioxide equivalent (CO²-e) and accounted as:

- Scope 1 – greenhouse gases emitted by our direct actions (car fuel).
- Scope 2 – greenhouse gases emitted by the manufacture of purchased electricity and energy.
- Scope 3 – greenhouse gases emitted by others on our behalf (for example, landfill emissions).

Carbon dioxide (CO²), methane (CH4) and nitrous oxide (NO2) are all emitted by burning fossil fuels like petrol, but methane has 25 times the heating impact of carbon dioxide in the atmosphere (over a 100 years) and nitrous oxide has 298 times the impact. The impact of other gases is expressed in terms of carbon dioxide equivalent (CO²-e) so they can be added together in a single number.

Carbon neutral

A voluntary mechanism where an activity, event, household, business or organisation is responsible for no net emissions of greenhouse gases (and can therefore be declared carbon neutral in that specific area). Carbon neutrality can be achieved by reducing emissions as far as possible (for example, energy efficiency, purchasing renewable energy) and purchasing offsets for any residual emissions in order to achieve zero net emissions.

Climate change

Climate change is generally understood to refer to a change of climate that is attributed directly or indirectly to human activity. It is understood to alter the composition of the global atmosphere over and above natural climate variability observed over comparable time periods.

Circular economy

Circular economies are based on principles intended to eliminate waste and pollution, continually circulate products and materials and regenerate nature. They are firstly driven by design. In a circular economy, products are designed to use minimal resources during production, and be broken down and re-manufactured again and again.

Energy efficiency

Reducing the amount of energy used for a given service or level of activity in order to produce the same level of service to end users. Energy efficiency improvements are predominantly achieved by using more technologically-advanced equipment.

For example, using compact fluorescent light globes reduces the amount of electricity required for lighting.

Greenhouse effect

The greenhouse effect is a term that describes how natural gases in the Earth’s atmosphere allow infrared radiation from the sun to warm the Earth’s surface, but they also prevent much of the heat escaping from the Earth’s atmosphere. Human actions are increasing concentrations of these gases, which is contributing to global climate change.

Greenhouse gases (GHG)

GHGs in the Earth’s atmosphere absorb and re-emit infrared radiation. The Kyoto Protocol lists six major greenhouse gases, which vary in their relative warming effect. The six gases are: carbon dioxide (CO²), methane (CH4), nitrous oxide (N2O), HFCs (hydrofluorocarbons), PFCs (perfluorocarbons) and sulphur hexafluoride (SF6). The majority of CO² is generated by fossil fuel combustion, CH4 from livestock farming, and N2O from agriculture. The last three are generated from human industrial activities and have no natural sources.

Green Star rating

Green Building Council of Australia (GBCA) launched Green Star ratings in 2003. It is Australia’s largest voluntary sustainability rating system for buildings, fitouts and communities. A 4 star rating is best practice, 5 stars is Australian excellence, and 6 stars is world leadership. The system looks at a possible 110 points with scores for nine areas: management, energy, transport

(access to public transport and promoting sustainable travel), water (use, reuse and rainwater), materials (construction and fitout), land and ecology, emissions, innovation.

Government Resource Efficiency Policy (GREP)

GREP was launched in 2014 and applies to all NSW government agencies. It sets minimum standards for a range of criteria across resource use both large and small, from NABERS Energy and GREENSTAR standards for new capital building and leased office, to minimum standards for water and energy efficiency products like fridges and motors. It also includes a requirement to report annually.

Intergovernmental Panel on Climate Change

IPCC is a scientific intergovernmental panel set up by the World Meteorological Organisation and the United Nations Environment Programme (UNEP). It provides reports which assess the latest scientific, technical and socio-economic evidence on climate change. With representatives from 130 nations it is the world’s pre-eminent scientific advisory body on climate change.

Mitigation

Climate change mitigation measures are actions designed to reduce the magnitude and consequences of global climate change.

Net zero

Net zero or carbon neutrality means cutting carbon gas emissions to as close to zero as possible, with any remaining

emissions re-absorbed from the atmosphere by oceans and forests. It’s a balance between emissions and absorption and will be reached when the amount of carbon we add to the atmosphere is no more than the amount removed.

National Australian Built Environment Rating System Energy Rating Systems (NABERS)

NABERS is a system to rate the use of energy based on operational data. *A 4 star rating is good, 5 stars is excellence, and 6 stars is market-leading.* It has 4 certificates, energy, water, waste and internal buildings.

Renewable energy

Energy produced from renewable resources, such as wind, solar, geothermal energy and biofuels.

Renewable resources

A natural resource qualifies as a renewable resource if it is replenished by natural processes at a rate comparable to its rate of consumption. Wind, solar, oxygen, fresh water, timber, and biomass can all be considered renewable resources. However they can become non-renewable resources if used at a rate greater than the environment’s capacity to replenish them. Renewable resources are used in the production of renewable energy.

Sustainability

Sustainable development refers to development that meets the needs

of the present without compromising the ability of future generations to meet their own needs. However, sustainability has become a wide-ranging term that can be applied to almost every facet of life on Earth, from local to a global scale and over various time periods.

It is usually noted that this requires the reconciliation of environmental, social and economic demands – the “three pillars” of sustainability.

