Mid North Coast Local Health District

SUSTAINABLE HEALTHCARE

Framework Towards 2030















Acknowledgement of Country

The Mid North Coast Local Health District acknowledges the Traditional Custodians of the lands, waters, and resources across our District. We pay respect to past, present, and emerging Elders of the Gumbaynggirr, Dunghutti, Birpai and Nganyaywana Nations.

We are committed and seek to join in working towards diversity and resilience in our communities, and to thrive and live our healthy best. We extend respect and acknowledgement to the Aboriginal and Torres Strait Islander Peoples as Custodians of these traditional lands, waters and resources who live with this knowledge from many generations past.

Healthy Country – Healthy People







Contents

Foreword	5
About us	6
Overview	7
Our Strategy	9
Climate and Health	12
Our Achievements	1
Our Governance and Structure	18
Our Focus Areas	2
Our Key Priorities Roadmap	3
Contact us	3
Appendices	3

Foreword

The adverse impacts of extreme climate events and the COVID-19 pandemic have been felt throughout the Mid North Coast Local Health District (MNCLHD). These events have highlighted that we need to prioritise the delivery of sustainable healthcare across our clinical care, assets, services, and operations.

Sustainable healthcare seeks to minimise the environmental, economic, and social impacts associated with healthcare delivery. It has the objectives of improving the quality of care, reducing adverse environmental impacts, enhancing climate resilience, and promoting wellbeing for staff and the broader community.

The MNCLHD has made substantial sustainability efforts to date, including the installation of large-scale rooftop solar systems and a battery energy storage system at Port Macquarie Base Hospital and Coffs Harbour Health Campus, and continued uptake of virtual care delivery to our patients.

Our MNCLHD Sustainable Healthcare Framework towards 2030 sets our vision of how we plan to operate as a sustainable healthcare provider in line with the MNCLHD strategic directions.

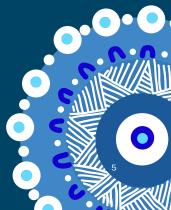
Through this Framework, we aim to collaborate with our community and health partners to deliver sustainable outcomes for our district and NSW.

I would like to thank all those involved in the collaborative development of this strategy.

Stewart Dowrick Chief Executive

Mid North Coast Local Health District





About us



Mid North Coast Local Health District extends from the Port Macquarie-Hastings Local Government Area in the south to Coffs Harbour Local Government Area in the north (approximately 11,335 sq kms).



More than 226,000 residents, including Aboriginal and Torres Strait Islander people, culturally and linguistically diverse (CALD) people, refugees, people on low incomes, people living in small, isolated communities, people with disabilities and other minority groups.



Seven public hospitals, 12 community health centres-the largest workforce in our region.



Speciality services include the Mid North Coast Cancer Institute and Mid North Coast Brain Injury Service.



Main health issues are complex and other chronic agerelated illnesses such as cardiac, pulmonary, diabetes, renal disease and dementia.



In 2021-22, the District had more than 23,948 operations, 138,267 people in emergency departments and 2,234 babies delivered in hospitals.



Budget of \$775 million in 2022-23.





The Framework is centred around six key focus areas: Sustainable Organisation, People and Places, Clinical Care, Waste Management and Resource Recovery, Procurement, and Sustainable Infrastructure. Each focus area is underpinned by Environmental, Social and Governance framework and was developed in consultation with the District's staff.

Sustainable Healthcare can improve safety and quality of care, improve health of the community, improve resource stewardship, and reduce waste.

The Framework builds on the MNCLHD Sustainability Implementation Plan 2016 - 2023.

Why Sustainable Healthcare?

'Climate change is a threat to human wellbeing and health of the planet - taking action now can secure our future.' - (United Nations)



Our population is projected to grow by 23-31 per cent by 2041, and by 140 per cent in people aged 84 and over.



NSW Health produces more than 20,000 tonnes of waste every year.



The healthcare system is a high carbon emitter producing seven per cent of Australia's total CO₂e emissions, compared to three per cent in England. The NSW Government has targeted a 50 per cent reduction in carbon emissions by 2030.



30 per cent of healthcare is estimated to be low value and 10 per cent is estimated to be harmful. We can improve patient care and use less resources by reducing Low Value Care.



An estimated \$7.1 million was saved in 2019 through sustainability initiatives in NSW Health. The 2022-23 NSW Health Budget is \$33 billion. Strategic financial investment in sustainable healthcare will yield tens of millions of dollars of annual savings which can be better utilised.



Our Strategic Plan states that 'Sustainability is considered in everything we do.' Sustainable healthcare is now part of our core business.



Our Strategy

Our Strategy



Vision

Best practice low carbon, low waste, climate resilient health system which continues to focus on excellence in people-centred healthcare.



Goals

- Acknowledge and advocate the connection between human health and our ecosystems.
- Eliminate our contribution to the burden of disease and work towards reducing our environmental impact while being fiscally responsible.

- Innovate and drive high value and low carbon healthcare.
- Strengthen Aboriginal stewardship values for our environment and Caring for Country.
- Engage and empower our staff and community to participate in this transformation to a sustainable healthcare system.



Purpose

To inspire by example, driving the NSW Government's Net Zero Plan to progress environmentally sustainable initiatives that deliver safe and effective healthcare services for the Mid North Coast community.



Net zero carbon emissions by 2050 with 50 per cent reduction in carbon emissions by 2030.

80 per cent waste reduction by 2030.

Strategic Drivers

- National Health and Sustainability and Climate Unit
- Australian Commission on Safety and Quality Sustainable Healthcare Module
- Global Green and Health Hospitals
 Network
- Choosing Wisely: Reducing unnecessary tests, treatments, and procedures
- UN Sustainable Development Goals
- Intergovernmental Panel on Climate Change Report
- NSW Health's Future Health Plan 2022-2032
- NSW Regional Health Strategic Plan 2022-2032
- NSW Climate Risk and Net Zero Unit, Ministry of Health
- NSW Health Value Based Healthcare
 Approach

National and global

NSW Government



NSW Health Mid North Coast LHD

NSW Government Net Zero Plan

NSW Government Resource Efficiency Policy

NSW Waste and Sustainable Materials Strategy

NSW Government Climate Risk Ready Guide

NSW Electric Vehicle Strategy

MNCLHD Strategic Plan 2022-2032

MNCLHD Sustainability Implementation Plan 2016-2023

NSW Net Zero Emergency
Department Lead based in MNCLHD

Waste and Carbon Audits

Staff led projects

Staff surveys









Climate and Health

Climate and Health

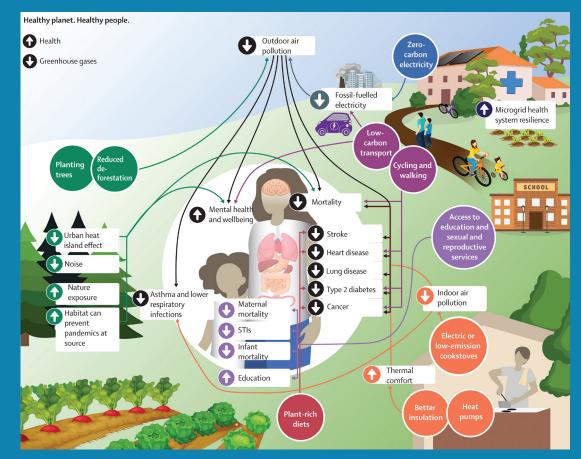
Climate change is expected to have both direct and indirect impacts on health.

The direct health impacts such as heat stress, injury, mental health trauma, and death are caused through direct exposure to extreme weather events such heatwaves, bushfires, droughts, dust storms and floods.

Indirect health impacts are related to those impacts beyond these immediate events.

Since 2009, emergency departments across Australia have experienced increased presentations of chronic health conditions, such as cardiovascular, renal, and respiratory illnesses during periods of prolonged heat.

In NSW, smoke from the 2019-20 bushfires season is estimated to have caused an additional 219 deaths, 577 cardiovascular hospital admissions, 1,050 respiratory hospital admissions and 702 Emergency Department attendances for asthma in a five month period. An increase in demand for hospital services due to physical and mental trauma was also expected.



Source: Health co-benefits of measures that decrease greenhouse gas emissions. The Lancet, 2023

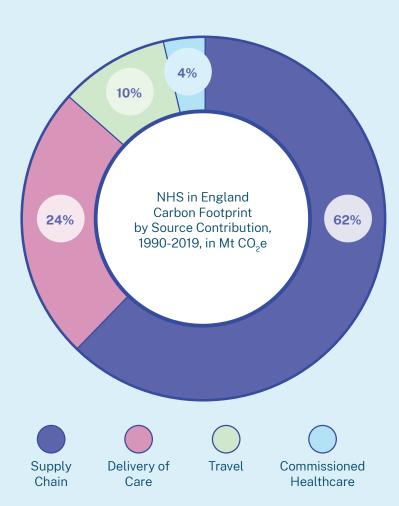
The Carbon Footprint of Healthcare











Category	Percentage
Supply Chain	62%
Pharmaceuticals and chemicals	20.16%
Medical instruments	11.87%
Non-medical equipment	5.98%
Business services	10.80%
Food and catering	6.14%
Other procurement	7.09%
Delivery of Care	24%
Electricity-scope 2 & 3	2.79%
Natural gas-scope 1 & 3	7.09%
Oil-scope 1 & 3	0.08%
Coal-scope 1 & 3	0.04%
Anaesthetic gases	1.91%
Metered dose inhalers	3.19%
Waste products and recycling	2.63%
Water and sanitation	2.59%
Business travel and fleet transport	3.98%
Travel	10%
Staff commute	3.51%
Patient travel	4.90%
Visitor travel	1.16%
Commissioned Healthcare	4%

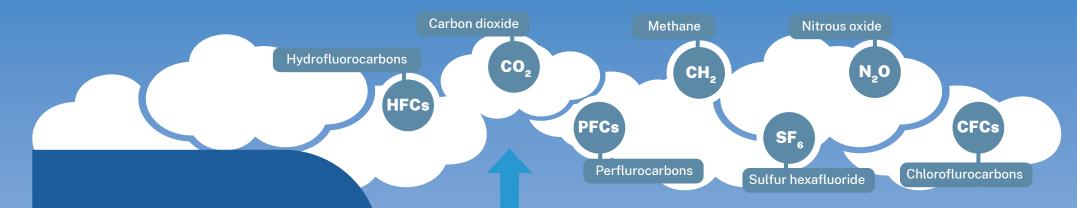
This is a typical breakdown of the carbon footprint of a healthcare system published in the Lancet in 2021.

This diagram is helpful to show our staff and community the complexity and variety of emissions sources which are being targeted in this Implementation Plan.

Similar data is being collected within NSW Health and we will use this local data to drive further progress towards our Sustainable Healthcare targets in the MNCLHD.

Source: Health care's response to climate change: a carbon footprint assessment of the NHS in England. The Lancet, 2021

Sustainable Healthcare Framework - MNCLHD



Scopes 1, 2, and 3:

The Greenhouse Gas Protocol (GHGP) scopes cover a wider set emissions, and support international comparison and transparency:

GHGP scope 1: Direct emissions from owned or directly controlled sources, on site.

GHGP scope 2: Indirect emissions from the generation of purchased energy, mostly electricity.

GHGP scope 3: All other indirect emissions that occur in producing and transporting goods and services, including the full supply chain.

Scope 3 (Indirect emissions)



Food and catering



Medical devices



Water



Business services



Medicines



Metereddose imhalers



Energy Well-to-tank



Waste



Scope 1

(Direct emissions)



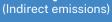


Facilities Anaesthetics



Fleet and leased vehicles







Electricity Steam



Business travel Public transit. gray fleet



Information **Technology**

Outside of GHG Protocol Scopes





Patient, visitor travel



Staff commuting

HCO











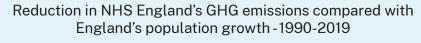
Healthcare Systems Driving Down Carbon Emissions

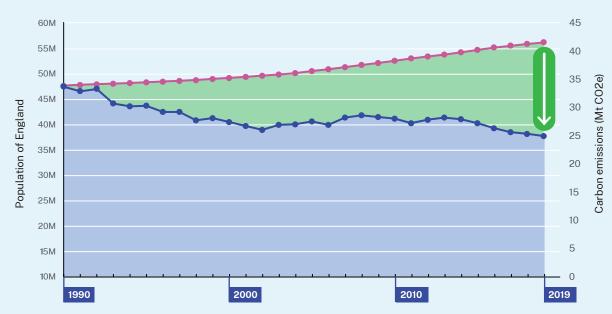
The MNCLHD has positioned itself as a national leader in Sustainable Healthcare. We have excelled in the areas of energy efficiency, renewable energy and battery energy storage.

We can also be encouraged by international Sustainable Healthcare programs that have demonstrated success stories.

The NHS in UK is the global leader in carbon emissions reductions. Between 1990 and 2019, while the English population rose by 18 per cent from 47.7 million to 56.3 million people, the carbon footprint of the NHS was reduced by 26 per cent.

There was a 64 per cent decrease in the emissions per inpatient finished admission episode during this time. This remarkable achievement is demonstrated in the graph.





Source: Health care's response to climate change: a carbon footprint assessment of the NHS in England. The Lancet, 2021

Our Achievements

MNCLHD achievements 2016-2023:

In 2018, Australia's largest hospital solar power system at the time was installed at Port Macquarie Base Hospital.



In 2022, Australia's second largest hospital solar power system at the time was installed at Coffs Harbour Health Campus.



In 2023, Australia's largest battery storage system in a hospital was installed at Port Macquarie Base Hospital.



Savings of 18M kWh from 2018 to 2022 under our Energy Performance Contract.



Significantly decreased use of desflurane in our anaesthetic procedures – one tonne of desflurane is equivalent to 2,540 tonnes CO₂.



Delivery of virtual care to our patients, thereby reducing emissions associated with travel for our staff and patients.



Sustainable Healthcare Framework-MNCLHD 17



Governance and Structure

Governance and Structure

Governance of the MNCLHD Sustainable
Healthcare Framework Towards 2030 involves
its development being overseen by the MNCLHD's
Chief Executive and Executive Sponsors – the
District Director Finance and Performance,
and the District Director of Nursing, Midwifery,
Sustainable Healthcare, HSFAC, and Chair of
the Sustainable Healthcare Committee. The final
draft has endorsement from the MNCLHD's Board
and Executive Team.

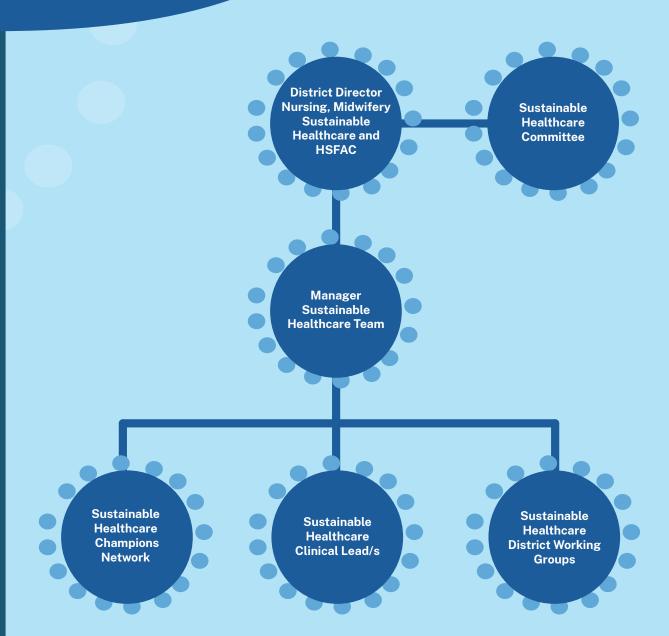
The Framework requires Sustainable Healthcare to be embedded into the MNCLHD organisational structure and sufficiently resourced to achieve the targets that have been identified to meet NSW Government, NSW Health, and MNCLHD strategic goals.

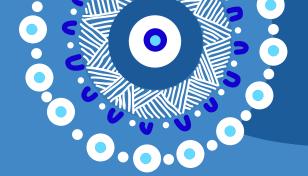
The Sustainable Healthcare Committee comprises representation from across all hospitals and clinical and corporate services across the health district.

The Sustainable Healthcare Framework Towards 2023 is the user friendly, graphics enhanced document for distribution to all interested stakeholders internal and external to the MNCLHD.

The Sustainable Healthcare Implementation Plan is the more in depth document which incorporates the Framework but also includes detailed target timelines, owners and an action tracker spreadsheet. The Implementation Plan is targeted towards the change maker audience and will also be available to internal and external stakeholders.

The Implementation Plan will be accessible to our staff via our new Intranet page.





Our Approach



Present a case for change



Establish goals



Set performance measures and targets



Collect and report data



Establish governance



Reward and promote excellence



Establish communities of interest



Manage and share knowledge



Providing Leadership Resourcing and Innovation



State exactly what you will do



000000000

How you will measure impact



Be realistic with your resources



Is it important within your role



Set a specific time frame



Sustainable Healthcare Framework - MNCLHD 21

The Sustainable Healthcare Plan on a Page



A best practice low carbon, low waste, climate resilient health system which continues to focus on excellence in people-centred healthcare.



To inspire by example, driving the NSW Government's Net Zero Plan to progress environmentally sustainable initiatives that deliver safe and effective healthcare services for the Mid North Coast community.



Connect human health and our ecosystems. Reduce our environmental impact. Deliver high value, low carbon health care. Adopt Aboriginal stewardship values. Engage and empower our staff and community.



Net zero carbon emissions by 2050. 50 per cent reduction in carbon emissions by 2030. 80 per cent waste reduction by 2030.

Focus Areas	Sustainable Organisation	People and Places	Clinical Care	Waste and Recovery	Procurement	Sustainable Infrastructure
Priorities	Environmental sustainability is considered in everything we do.	Empowering our people and promoting active transport and healthy places to improve everyone's mental and physical wellbeing.	Delivering high quality care whilst identifying and reducing environmental impact.	Applying a 'Rethink, Reduce, Reuse, Recycle' approach to the use of materials.	Cleaner and more socially responsible products, services, and supply chains.	Environmentally sustainable design, construction, and operation.
	Establish clear sustainability governance, leadership, and accountability for MNCLHD.	Establish Sustainable Healthcare Champion roles across MNCLHD.	ldentify and engage clinical leads across multiple disciplines.	Reduce total waste to landfill by average of 80 recovery rate.	Embed a sustainability procurement clause into all supplier contracts.	Investigate electrification, renewable energy, and energy resilience opportunities.
	Reframing sustainability by incorporating an Indigenous lens in everything we do.	Provide Sustainable Healthcare education and resources for all staff.	Determine and reduce the carbon footprint of existing clinical care.	Replace non-essential single use items with reusables.	Prioritise engaging suppliers who offer sustainable products and recycling programs.	Upgrade IT facilities.
	Embed climate adaptation, and resilience across the MNCLHD.	Support programs to improve staff wellbeing and satisfaction.	Embed sustainability measures when implementing and evaluating clinical care.	for resource recovery partner sures when implementing evaluating clinical care.	Work with Procurement partners including eHealth NSW and HealthShare NSW regarding sustainability in	Investigate sustainable fleet transport opportunities.
Targets	Develop sustainability related key performance indicators (KPIs).	Promote and enable active and sustainable transport options for both staff and visitors.	Reduce low value and/or harmful clinical care.	Identify strategies to increase segregation of waste and recycling aligned with regular waste audits.	procurement.	Enable staff and patients' consultation in facilities design.
	Reduce emissions by 50 per cent by 2030 in alignment with NSW Health's priorities and strategies.	Provide appropriate access and connectivity to green spaces.	Enhance and expand telehealth capacity and use.			
	Have regular and effective MNCLHD sustainability communications.					

PRIORITY ACTION THEMES:

Leadership and Governance

Funding and Investment

Monitoring and Evaluation







Sustainable Organisation

Priority: Environmental sustainability is considered in everything we do.

This focus area is centred on strengthening our sustainability practices within our governance framework, management processes and resourcing. We will do this by assigning accountabilities, nominating sustainability indicators, and communicating our sustainability progress across MNCLHD and externally to our partners and communities.

Sustainability Targets



Establish clear sustainability governance, leadership, and accountability for MNCLHD.



Reframing sustainability by incorporating an Indigenous lens in everything that we do.



Understand and embed climate adaptation and resilience across MNCLHD.



Develop sustainability related key performance indicators (KPIs) that non-exclusively cover carbon emissions, energy and water consumption, waste and recycling and suppliers.



Reduce emissions by 50 per cent by 2030, in line with the NSW Health's sustainability priorities and strategies.



Have regular and effective MNCLHD sustainability communications.



Case Study

Chaired by the Executive Sponsor, the MNCLHD Sustainable Healthcare Committee is the key district governance body that provides leadership and strategies for the development and implementation of environmental and financial sustainability, and planetary health initiatives.



The newly formed MNCLHD Sustainable Healthcare Team has developed the MNCLHD Sustainable Healthcare Framework Towardes 2030 in early 2023 that has laid the foundations to create a best practice low carbon, low waste climate resilient health system by 2030.



The Sustainable Healthcare Committee comprises representation from across all hospitals and services. Members have the opportunity to share local initiatives underway in their respective directorates and to engage with external stakeholders to drive Sustainable Healthcare activities at a district level.



Sustainable Healthcare Framework - MNCLHD



People and Places

Priority: Empowering our people to drive and practice Sustainable Healthcare. Promoting active transport and healthy places to improve everyone's mental and physical wellbeing.

The people employed by MNCLHD to deliver health services to local communities are diverse, inclusive, and respectful. We are focused on seeking out opportunities to support their wellbeing, social cohesion, and learning opportunities, as they continue delivering for our communities.

Sustainability Targets



Establish Sustainable Healthcare champion roles across MNCLHD, with clearly assigned sustainability roles and responsibilities.



Provide and embed Sustainable Healthcare education and engagement into all staff orientation and continuing professional development.



Upscale and support existing employee-led programs and teams to improve employee wellbeing and satisfaction.



Improved provision of active transport networks and end-of-trip facilities.



Implement car-pooling strategies and technology to encourage sustainable travel options.



Provide appropriate access and connectivity to green spaces.



Case Study

Green spaces are a feature of the MNCLHD redevelopments including Macksville and Coffs Harbour with improved access to outdoor areas with seating and shade for staff, visitors, and patients. Dedicated Aboriginal cultural spaces are well used with yarning circles at hospitals at Dorrigo Wauchope, Macksville, and Coffs Harbour.

Increased physical and mental wellbeing for patients, staff and visitors is also aided by access to green spaces. This can mean therapeutic gardens for rest and recovery, woodland walkways, secluded gardens for health staff, and much more.

Natural environments have enormous benefits for wellbeing, including patient recovery, as evidenced by many studies. Hospital patients who have a view of trees from their window have been shown to recover more quickly and to need fewer painkillers than similar patients who can't see trees from their beds.







Clinical Care

Priority: We will revise our models of clinical care to maintain excellence in patient care while delivering care more sustainably. We will strive to reduce the carbon footprint of our clinical care.

The carbon footprint of Australian clinical care is large. 30 per cent of clinical care has been found in recent literature to be low value, and 10 per cent has been found to be harmful care.

Sustainability Targets



Identify and engage clinical leads across multiple disciplines throughout the MNCLHD.



Determine MNCLHD's carbon footprint of existing clinical care and identify opportunities to reduce MNCLHD's carbon footprint.



Embed sustainability measures when implementing and evaluating clinical care across MNCLHD.

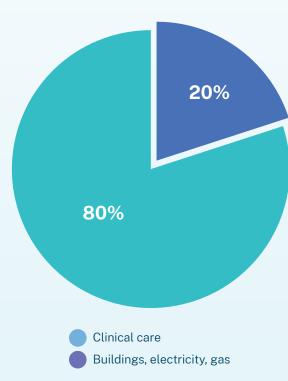


Reduce MNCLHD's healthcare spend on procedures with low value and/or harmful clinical care.



Implement a telehealth sustainability plan to measure the reduction in carbon emissions.

Carbon footprint of health care (35,772 kilotonnes CO₂ emissions)



Source: High value health care is low carbon health care, Medical Journal of Australia 2021

Sustainable Healthcare Framework - MNCLHD





Case Study

Approximately 30 per cent of clinical care is deemed to be low value care, and 10 per cent estimated to be harmful.



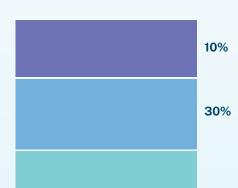
12-44 per cent of pathology tests are estimated to be not clinically indicated. Pathology services cost an estimated \$3.9 billion per year in Australia.



The Rational Investigations
Program is a new quality
improvement pilot which started
on 1 July 2023 in Coffs Harbour
Emergency Department.
This program aims to reduce
unnecessary pathology tests by
up to 20 per cent reducing low
value care, healthcare waste,
and bringing significant financial
savings.



Estimated harmful, low value and effective healthcare



60%

Harmful care
Low value care
Effective care

Source: High value health care is low carbon health care, Medical Journal of Australia 2021





Waste Management and Resource Recovery

Priority: Applying a 'Rethink, Redesign, Reduce, Reuse, Recycle' approach to the use of materials.

We are working towards zero waste to landfill by reducing MNCLHD's consumption and minimising waste during operations.

Sustainability Targets



Reduce total waste to landfill by average of 80 per cent recovery rate in line with the NSW Waste and Sustainable Materials Strategy. This includes waste from consumables, food and other MNCLHD operations.



Replace non-essential single use items with reusables.



Investigate opportunities for resource recovery and recycling in all new and existing buildings.



Identify strategies to increase segregation of waste and recycling aligned with regular waste audits.





Case Study

Waste is a priority for the MNCLHD Sustainable Healthcare Committee in 2023-24 as there is much work to be done in this focus area.



Dedicated individual health workers at Bellinger River District Hospital have started their own campaigns, with a Registered Nurse organising a PVC soft plastic recycling pilot and a Domestic Services Worker collecting empty water bottles and returning all earnings to the Pink Ladies hospital volunteers.



Sustainable Healthcare Framework - MNCLHD





Priority: Cleaner and more socially responsible products, services, and supply chains.

Sustainability Targets



Establish clear sustainability governance, leadership, and accountability for MNCLHD.



Reframing sustainability by incorporating an Indigenous lens in everything that we do.



Understand and embed climate adaptation and resilience across MNCLHD.





Sustainable Healthcare Framework-MNCLHD



Sustainable Infrastructure

Priority: Environmentally sustainable design, construction, and operation.

We aim to provide healthcare services in healthy environments that are energy efficient, climate resilient, have a connection to nature and promote sustainable forms of transport. We are transitioning our buildings and precincts to net-zero carbon emissions.

Sustainability Targets



Investigate electrification, renewable energy, and energy resilience opportunities across the $\ensuremath{\mathsf{MNCLHD}}$



Upgrade IT facilities across the MNCLHD, to enable more video conferencing opportunities and reduce travel requirements.



Investigate sustainable fleet transport opportunities across the MNCLHD.



Enable staff and patients to be consulted during the design of MNCLHD healthcare facilities.



Case Study

Coffs Harbour Health Campus installed a 1,479kW rooftop solar system in 2022, saving an average of over 16 million kWh of energy per year and over 13,000 tonnes of CO2 emissions annually. This is the equivalent of flying Melbourne to Sydney 2,426 times.

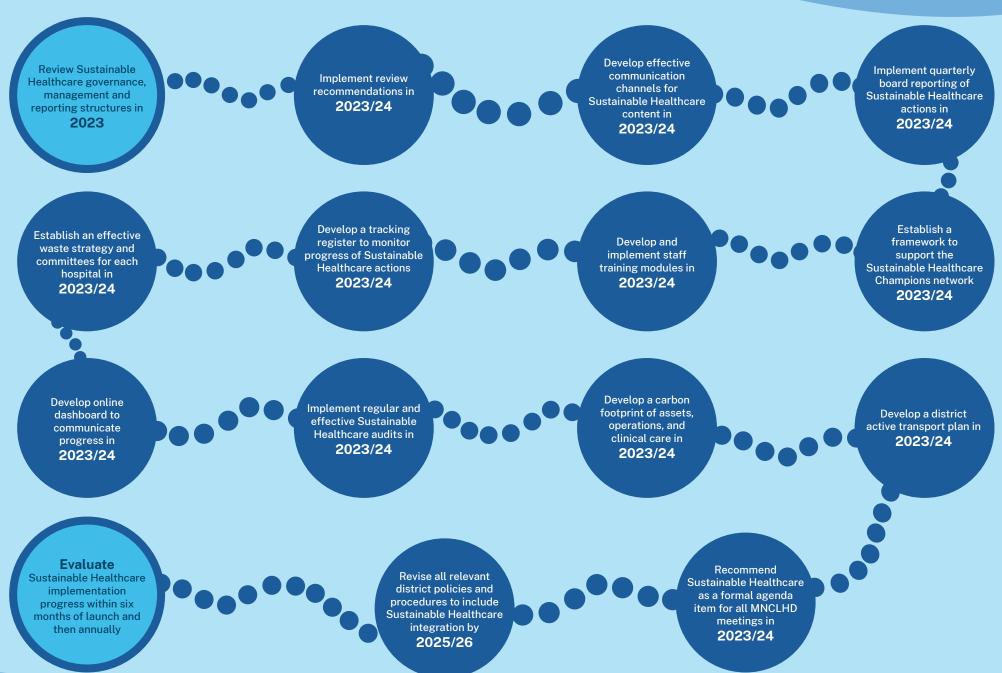


Port Macquarie Base Hospital also installed a 2,250kWh Battery Energy Storage System, the first battery of its kind in any Australian hospital at the time.





Our Key Priorities Roadmap



Contact

We are building a Sustainable Healthcare Champions Network across the District. Get involved and join the wave of momentum.

Contact the MNCLHD Team via email:

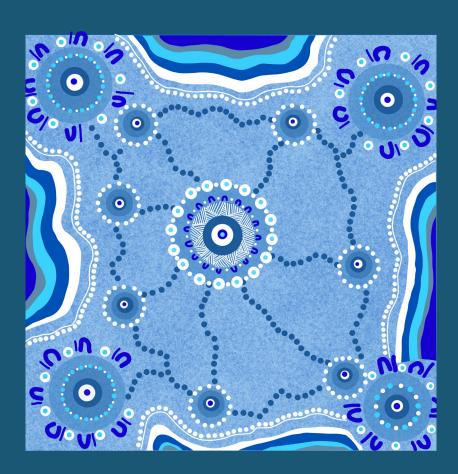
MNCLHD-SustainableHealthcare@health.nsw.gov.au

Small steps together will lead to our transformation to Sustainable Healthcare.











Connected Circles

Artwork by Lisa Kelly of Gumbaynggirr Country.

Lisa Kelly is a proud Gumbaynggirr woman living in Urunga, within the beautiful Bellinger Valley.

The Artwork entitled Connected Circles represents the importance of providing a culturally safe space for all people during their care or when visiting our hospitals.

The connecting circles:

- the inner circle represents connection to Mother Earth around healing, spirituality and our Elders
- » the seven smaller linked circles represent the seven hospitals which sit in the Mid North Coast area
- when the outer four circles represent the four Aboriginal Nations of the Mid North Coast: Gumbaynggirr, Dunghutti, Birpai and Nganyaywana. These circles are encompassed by symbols representing both male and female. Nganyaywana. These circles are encompassed by symbols representing both male and female.

The bold line patterns around the edges represent the multi-layers of our health system which provide care to all: patients, carers and families. These layers are supported by a strong relationship with our Aboriginal community and partners.

The Artwork represents how everyone can work in collaboration with Mid North Coast Local Health District: living, working and improving the health of the community now and into the future.



Appendices

Acronyms

Acronyms	
ACSQH	Australian Commission on Safety and Quality in Healthcare.
CALD	Culturally and linguistically diverse
CO2e	Carbon Dioxide equivalent emissions
EV	Electric vehicles
GGHH	Global Green and Healthy Hospitals
GHG	Greenhouse Gas
HI	Health Infrastructure
HSFAC	Health Services Functional Area Coordinator
IPCC	Intergovernmental Panel on Climate Change
IV	Intravenous Injection
KPIs	Key performance indicators
kWh	Kilo-Watt hours (energy measurement unit)
LHD	Local Health District
MNCLHD	Mid North Coast Local Health District
МоН	Ministry of Health
NSW	New South Wales
SEED	The Central Resource for Sharing and Enabling Environmental Data in NSW

Glossary

Key term	Definition
Adaptation	Actions undertaken to manage or reduce the adverse consequences of climate change, as well as to harness any beneficial opportunities. Adaptation actions may include physical changes to an asset to achieve or facilitate adaptation including changes/upgrades to technology and equipment or design standards for particular project elements. Adaptation actions may also include changes to contracts, setting specific targets or objectives, scheduling regular reviews or inspections, development of an emergency management plan, development of design guidelines etc.
Carbon-negative (or climate-positive)	Carbon-negative means removing $\rm CO_2e$ emissions from the atmosphere or sequestering more $\rm CO_2e$ than is emitted.
Climate Change	Climate change refers to any change in climate over time, whether due to natural variability or as a result of human activity.
Climate resilience	Climate resilience is the capacity of an organisation to survive, adapt, and grow no matter what kinds of climate-related chronic stresses and acute shocks they experience.
Community	Includes individuals, Indigenous Peoples and Traditional Owners, community groups, businesses, industry, and institutions such as government agencies and non-governmental organisations (NGOs), who reside within the MNCLHD district.
Diversion from landfill	Diversion from landfill includes reusing waste, recycling waste and recovering energy.
Environmental health	The environment we live and work in can affect our health. It can cause or worsen many medical conditions, including: allergies and asthma, lung and respiratory diseases, heart disease and some types of cancer. Clean drinking water, good hygiene, effective pest and disease control, and good housing are all important to our overall health.
Governance	Governance includes policies, practices, rules and regulations that establish responsibilities and accountabilities for individuals and organisations in relation to the reef system.
Managing Risk	The process of identifying, assessing and treating risks in order to minimise their potential impact to MNCLHD's assets, operations and clinical care services.
Net-zero emissions (or carbon neutral)	Net-zero emissions is achieved when there is an overall balance of anthropic (human caused or influenced) greenhouse gas emissions (GHG) produced and GHG emissions taken out of the atmosphere over a specified period.

Sustainable Healthcare Framework - MNCLHD 33

Glossary

Key term	Definition
Planetary Health	Planetary Health is a solutions-oriented, transdisciplinary field and social movement focused on analysing and addressing the impacts of human disruptions to Earth's natural systems on human health and all life on Earth.
Scope 1 emissions	Direct greenhouse gas (GHG) emissions that MNCLHD owns or controls directly (e.g. using anaesthetic gases, driving petrol MNCLHD vehicles).
Scope 2 emissions	Emissions that MNCLHD causes when the energy it purchases for use is produced (e.g. electricity bought from energy companies).
Scope 3 emissions	GHG emissions that are the result of activities undertaken upstream (e.g. staff commute, production of pharmaceuticals) and downstream (e.g. waste management) MNCLHD's supply and value chain.
Sustainability	Meeting the needs of the present without compromising the ability of future generations to meet their own needs.
Sustainable Healthcare	A complex system of interacting approaches to the restoration, management and optimisation of human health that has an ecological base, that is environmentally, economically, and socially viable indefinitely, that functions harmoniously both with the human body and the non-human environment, and which does not result in unfair or disproportionate impacts on any significant contributory element of the healthcare system.

References

ABC News

Harnessing renewable energy: Australia's largest hospital solar power system to be installed in Port Macquarie - ABC News

Association of Anaesthetists

"Anaesthetic gases calculator" (2023)

Australian Commission on Safety and Quality in Healthcare (ACSQH).

"Sustainable Healthcare Module" (2023)

Australian Department of Health and Aged Care

"About environmental health in Australia" (2023)

Australian Government

Climate and Health Alliance - 2021-22 Pre-Budget Submissions (treasury. gov.au)

"Sustainable Procurement Model Clauses Appendix D to the Sustainable Procurement Guide" (2021)

Baxter

"Epworth & Baxter launch new recycling program" (2022)

"PVC Recycling For Hospitals" (2023)

British Medical Journal

Health, financial and environmental impacts of unnecessary vitamin D testing: a triple bottom line assessment adapted for healthcare | BMJ Open

Centre of Excellence in Population Aging Research (CEPAR)

New projections for Australia's ageing population | CEPAR Centre for Sustainable Healthcare. "Introduction to Sustainable Healthcare" (2023)

Cleanaway

The circular economy and you | Cleanaway

Department of Health, Western Australia

"New Electric Vehicles Drive Health's Future" (2022)

Digit Health

Ignatowicz, Agnieszka, et al. "Internet videoconferencing for patient-clinician consultations in long-term conditions: A review of reviews and applications in line with guidelines and recommendations." Digit Health, Vol. 5 (2019)

Global Green and Healthy Hospitals

"GGHH guidance documents [various]" (2023)

Governance Institute of Australia

"Guide for boards and management on the path to net zero" (2022)

Governance Institute of Australia

"Guide for Boards on path to net zero" (2022)

Green Building Council of Australia

"Green Star-Communities v1.1" (2016)

"Green Star-Design & As Built v1.3" (2019)

"Green Star-Interiors v1.3" (2019)

"Green Star Buildings v1-Revision B" (2021)

"Green Star Performance v1.2" (2017)

"Why own a green hospital?" (2023)

References

Hunter New England Local Health District

"Sustainable Healthcare" (2023)

HNELHD Climate Change, Health & Environmental Sustainability (nsw.gov.

ID Community - Demographic Resources

Home | Australia | Population forecast (id.com.au)

Intergovernmental Panel on Climate Change

Climate change: a threat to human wellbeing and health of the planet. Taking action now can secure our future — IPCC

Journal of Fundamental and Applied Sciences

Wong, K.L, et al. "Key performance indicators for measuring sustainability in health care industry in Malaysia." Journal of Fundamental and Applied Sciences, Vol. 10(1S) (2018).

Medical Journal of Australia (MJA)

High value health care is low carbon health care | The Medical Journal of Australia (mja.com.au)

Unprecedented smoke-related health burden associated with the 2019–20 bushfires in eastern Australia | The Medical Journal of Australia (mja.com.au)

Metro North Health

"The co-design process" (2022)

Mid North Coast Local Health District

"Clinical Service Plan 2018 - 2022" (2018)

"Mid North Coast Local Health District Aboriginal Health Plan 2019-2023" (2019)

"Mid North Coast Local Health District." (2021)

"Partnering with Consumers for Patient Safety & Quality Framework 2021-2026" (2021)

MNCLHD_Year_in_Review_21_22_web.pdf (nsw.gov.au) (2022)

"Strategic Plan 2022-2032" (2022)

Monash Health

Centre for Clinical Effectiveness (monashhealth.org)

Natural Health

"Sustainable Healthcare – Working towards the Paradigm Shift" (2008)

Nepean Blue Mountains Local Health District

"Sustainability Plan 2019-2023" (2020)

Nordic Center for Sustainable Healthcare "Training Sustainable Healthcare: An Introduction" (2023)

Northern Sydney Local Health District

"Go active to work @ RNSH – Royal North Shore Hospital Workplace Travel Plan 2016-2018." (2016)

"NSLHD Planetary Health Framework 2021-2023." (2021)

NSW Department of Planning, Industry and Environment

"Climate Risk Ready NSW Guide" (2020)

"NSW Electric Vehicle Strategy" (2021)

"The Net Zero Plan Stage 1: 2020 - 2030" (2020)

Waste and Sustainable Materials Strategy | NSW Dept of Planning and Environment

NSW Government

"NSW Modern Slavery Act 2018 No 30" (2018)

"The Government Resource Efficiency Policy" (2019)

https://www.climatechange.environment.nsw.gov.au/home

RECORD \$33 BILLION FOR HEALTHCARE IN NEW SOUTH WALES (nsw.gov.

NSW Premier, Treasurer, Minister for Education and Early Learning, Minister for Health, Minister for Women. "Flexible childcare for our doctors and nurses" (2022)

NSW Health

"2022-23 KPI And Improvement Measure Data Supplement Part 2 Of 2 (Improvement Measures)" (2022)

"2022–23 KPI And Improvement Measure Data Supplement Part 1 Of 2 (Key Performance Indicators)" (2022)

"Resource Efficiency Strategy: 2016 to 2023" (2016)

Sustainability initiatives in NSW Health-Sustainability and climate change Climate risk and net zero (nsw.gov.au)

Regional-health-strategic-plan.pdf (nsw.gov.au)

Nurse Lead

George, Viji, et al. "Proactive Strategy to Improve Staff Engagement." Nurse Lead, Vol. 18(6) (2020)

Planetary Health Alliance

"Planetary Health" (2023)

PubMed

Comparative evaluation of human heat stress indices on selected hospital admissions in Sydney, Australia - PubMed (nih.gov)

The effect of heat waves on hospital admissions for renal disease in a temperate city of Australia - PubMed (nih.gov)

RACGP

RACGP-Climate disasters having profound impact on mental health

Rainbow Health Australia

"Rainbow Tick" (2023)

SA Health

SA Health Report Template-Red-Helix Position A

South Eastern Sydney LHD

"Climate Risk: Implications for South Eastern Sydney Local Health District" (2020)

State of NSW and Office of Environment and Heritage

"NSW Climate Change Policy Framework" (2016)

"NSW Government Resource Efficiency Policy" (2019)

The Central Resource for Sharing and Enabling Environmental Data in NSW (SEED).

"NSW Net Zero Emissions Dashboard" (2023)

The Journal of Climate Change and Health

Duhaime, A., et al. "Development of a center for the environment and health at a large academic medical center." The Journal of Climate Change and Health, Vol. 4 (2021)

The Lancet

The carbon footprint of Australian health care - The Lancet Planetary Health Malik, Arunima et al. "The carbon footprint of Australian health care" (2018)

United Nations

"Report of the World Commission on Environment and Development: Our Common Future" (1987)

"The 17 Goals, Sustainable Development Goals" (2015)

Victorian Health Building Authority

"Guidelines for Sustainability in Health Care Capital Works" (2021)





Mid North Coast Local Health District