



Queensland Health

Climate Risk **STRATEGY**

2021-2026



Queensland
Government

Queensland Health Climate Risk Strategy 2021-2026

Published by the State of Queensland
(Queensland Health), September 2021



This document is licensed under a Creative Commons Attribution 3.0 Australia licence. To view a copy of this licence, visit creativecommons.org/licenses/by/3.0/au

© State of Queensland (Queensland Health) 2021

You are free to copy, communicate and adapt the work, as long as you attribute the State of Queensland (Queensland Health).

For more information contact:

Environmental Hazards Unit, Health Protection Branch, Prevention Division,
Department of Health, PO Box 2368, Fortitude Valley BC QLD 4001,

Email: climatechange@health.qld.gov.au, Phone: (07) 3328 9310.

An electronic version of this document is available at:
<https://www.health.qld.gov.au/system-governance/strategic-direction/plans/climate-change/climate-change-strategy-and-planning>

Suggested Citation:

Queensland Health 2021: Queensland Health Climate Risk Strategy 2021-2026.

Disclaimer:

The content presented in this publication is distributed by the Queensland Government as an information source only. The State of Queensland makes no statements, representations or warranties about the accuracy, completeness or reliability of any information contained in this publication. The State of Queensland disclaims all responsibility and all liability (including without limitation for liability in negligence) for all expenses, losses, damages and costs you might incur as a result of the information being inaccurate or incomplete in any way, and for any reason reliance was placed on such information.

Contributors:

David Ward
Peter Schneider
Rizsa Albarracin
Uma Rajappa
Michael Meurer
Sabina Schlegel
Sandra Daniels

Photos courtesy of:

Image opposite page 1 and pages 2, 12, 18, 26, 27 – Queensland Health,
Pages 6, 9, 15 – Queensland Fire and Emergency Services,
Page 5 - Mr S Photography.

Contents

Message from the Minister	1
Overview	3
Our Commitment.....	3
Queensland Government Targets	3
Principles guiding our decision making	3
Measure of our success	3
Strategic priorities	4
Introduction	5
What is climate change?.....	6
Queensland’s climate is changing	7
Climate change impact on health.....	8
Impact on health services.....	9
Opportunities in health service delivery.....	10
Partnerships.....	11
Queensland Health’s impact on climate change.....	11
Policy Response	13
Climate Risk Strategy	15
Leadership and Governance	16
Our People	17
Emission Reductions	19
Resilient Infrastructure	20
Sustainable Procurement	21
Health System Planning	22
Research and Innovation	23
Public Health – Advocacy and Support	24
Communication and Engagement	26
Implementation and Reporting	27
Appendix 1	28
Appendix 2	29



Message from the Minister

Described by the World Health Organisation as ‘the defining issue for public health in the 21st century’, climate change is also a global economic, social and environmental issue that has significant consequences for our health and wellbeing.

Climate change affects health and wellbeing in many ways and disrupts the health system’s ability to deliver high quality care. The increased intensity and frequency of extreme weather events such as prolonged heatwaves, floods and bushfires directly impact the health and wellbeing of Queenslanders, particularly those in regional and remote communities, including many First Nations peoples. These events also trigger poor air quality, outbreaks of infectious diseases, risks to food safety and drinking water quality, and effects on mental health, which can lead to extreme pressures on our public health system.

Hospitals and the pharmaceutical industry are energy intensive, consume large volumes of resources and produce a considerable amount of waste. The Australian health sector contributes 7 per cent of greenhouse gas emissions. In Queensland, the public health system contributes close to 50 per cent of all government emissions, of which 90 per cent is related to electricity consumption. If we do not take any action, this trajectory will continue to rise and contribute to the irreversible changes in our climate.

We have, however, numerous opportunities for positive change. Queensland Health is committed to reducing emissions and to align these with our government targets of net zero emissions by 2050, a 30 per cent reduction of the 2005 emissions level by 2030, and powering our health system with 50 per cent renewable energy by 2030. The Queensland Health Climate Risk Strategy 2021-2026 (the Strategy) is a critical first step in achieving these ambitious targets.

Many of our hospitals have already made significant progress toward decarbonisation and adaptation, but more is needed. The Strategy adopts a systems approach to transition Queensland Health to a low carbon, and environmentally sustainable healthcare system based on better adaptation to the changing climate. Climate risks will be a key component of decision making, from the goods we purchase, to workforce planning, and how new hospitals will be built or existing hospitals renovated. The Strategy is underpinned by guidelines, tools and training to support all parts of Queensland Health to develop and implement realistic and achievable climate risk action plans. The Office of Hospital Sustainability will play a key role in supporting such measures in building a low carbon, resilient, and environmentally friendly public health system.

I acknowledge the work of the Climate Change Working Group for leading the development of the Strategy, and Queensland Health staff and key external stakeholders’ including the Climate and Health Alliance, the Australian Medical Association of Queensland, and Doctors for the Environment, for their invaluable contributions. I commend the Strategy as an important milestone in our efforts to foster a climate ready and environmentally sustainable public health system and maintaining an effective, reliable and quality health service for all Queenslanders, delivered in a sustainable environment and economy.



Yvette D'Ath
Hon Yvette D'Ath MP,

Minister for Health and Ambulance Services, Leader of the House



Overview

Our Commitment

To foster a climate ready and resilient public health system which delivers safe and quality health services for all Queenslanders.

Queensland Government Targets

- Generate 50% of electricity from renewable energy by 2030;
- Reduce emissions by at least 30% below 2005 levels by 2030; and
- Achieve zero net emissions by 2050.

Principles guiding our decision making



Measure of our success

Climate risk consideration is embedded in all Queensland Health core business practices.

Strategic priorities

Leadership and Governance

- Integrate climate risk into existing governance arrangements and organisational business as usual.
- Establish executive level sponsors to drive the Climate Risk Strategy.

Our People

- Create a climate ready workforce culture.
- Enable a resilient and adaptable workforce.

Emission Reduction

- Reduce greenhouse gas emissions from Queensland Health's Infrastructure and Operations.
- Report on emissions against agreed targets.

Resilient Infrastructure

- Adapt existing infrastructure and assets to ensure their climate resilience.
- Consider climate change in future infrastructure delivery, serviceability and whole of lifecycle emissions.

Sustainable Procurement

- Establish green and ethical procurement policies to source sustainably produced products and services whilst ensuring resilience of supply and reduction of whole-of-life cycle impacts.

Health System Planning

- Ensure the reliability of health care services through integrated planning for climate impacts.

Research and innovation

- Promote research to better inform health system responses, including for infrastructure design, heat impacts and community resilience.
- Utilise established predictive modelling tools to understand climate impacts on community health and on the delivery of future health services.

Public Health - Advocacy and Support

- Advocate for climate smart environments across all state policy, industry sectors, and national jurisdictions.
- Inform and promote community capacity to better address physical and mental health impacts from climate change.



Introduction

Queensland's climate is changing, and this has never been more evident than during the past few years with the increased occurrence and intensity of extreme events which have been underpinned by long term changes in temperature and rainfall.

These changes are predicted to continue and increase with potential to significantly impact on the health and well-being of Queenslanders. The health impacts will be of significance to vulnerable Queenslanders such as those with chronic health conditions, the very young, the infirm and those living in isolated communities. These impacts will be realised through increased morbidity and mortality rates increasing the demand for health care services.

As Queensland's major health service provider, Queensland Health recognises the urgency for action and is committed to protecting the health and well-being of all Queenslanders. Embedding climate risk considerations including the reduction of emissions into plans, policies, and operations is a key focus of Queensland Health's Climate Risk Strategy (the Strategy).

The Strategy provides clear policy directions and follow on actions needed to build a business as usual approach, while taking into consideration the local demographics as well as the geographical context. The goals and actions identified within the Strategy are expected to strengthen the management of climate risk across the entire health system and enable Queensland Health to continue to deliver health services equitably across Queensland.

The Strategy recognises the need for Hospital and Health Services, Queensland Ambulance Service, and the Department of Health to develop climate risk management plans to address climate risks, and meet expectations under a whole-of-government approach of adapting to changing climate and reducing emissions.

As the sector leader, Queensland Health will seek to influence decision makers across the health sector to drive effective climate risk adaptation and mitigation strategies.

What is climate change?

Climate change is the change in weather patterns, such as temperature, rainfall and wind patterns, occurring over time scales of decades or longer. While the earth's climate has always changed, the scientific consensus is that the unprecedented changes seen over the past 100 years have been due to human activities. Since the industrial revolution, human activities – particularly the burning of fossil fuels and tree clearing – have resulted in an excessive quantity of gaseous emissions, such as carbon dioxide, to be released into the earth's atmosphere.

These gases trap additional heat in the lower atmosphere and are raising temperatures. Australia is one of the most vulnerable developed nations to the effects of climate change. Climate change in Australia is causing increased frequency, severity and/or longer-lasting heatwaves, floods and droughts, as well as contributing to sea-level rise and an increased risk of bush fires. Climate change is also affecting Australia's First Nations communities through coastal inundation, loss of water supplies and arable land, as well as forcing migration and loss of cultural connections.

***“We are
killing our
planet. Let us face
it, there is no
planet B”****

** Emmanuel Macron, President of France.*



Queensland's climate is changing

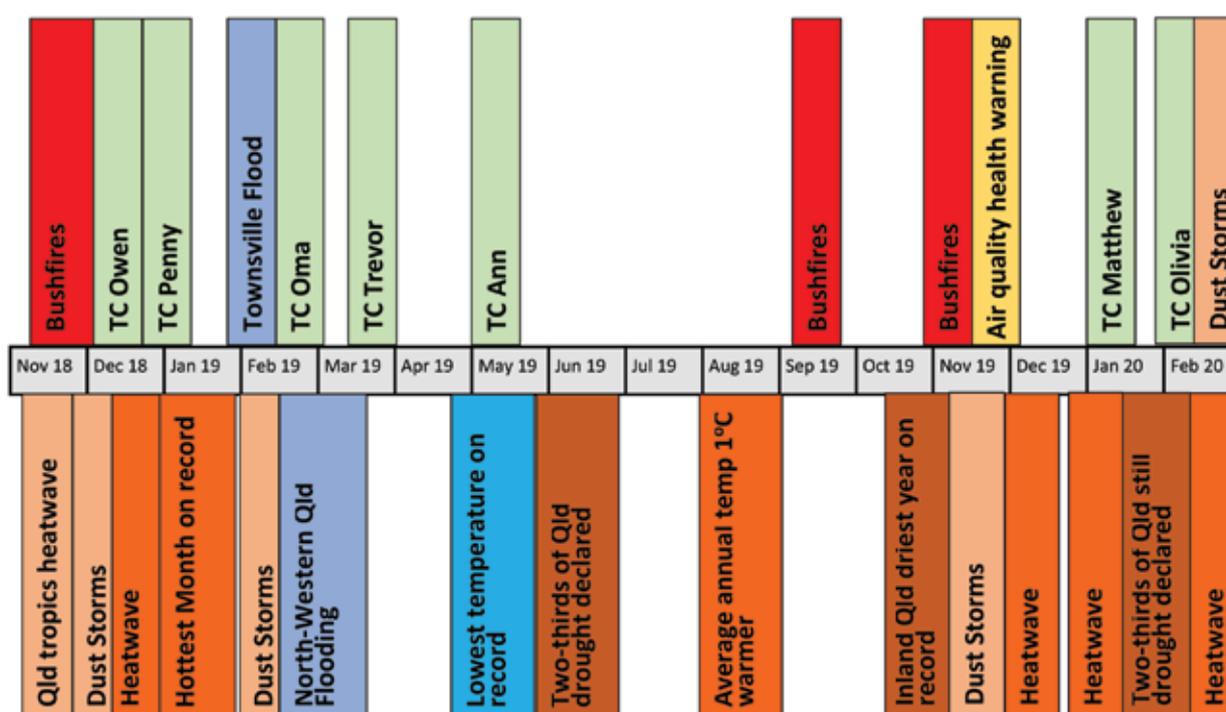
According to the National Climate Change Adaptation Research Facility (NCCARF, 2019), there has been:

- A one degree Celsius rise in Queensland's temperature since 1910 with a predicted further rise of two to four degrees by the year 2100.
- A twenty centimetre rise in sea level since the late 19th century, with the largest rises along the Cape York area. This area is predicted to rise up to a further eighty-two centimetres by 2090.
- Decreases in rainfall between April and October over much of Queensland (since 1900), however there have been increases in monsoonal tropical rainfall since 1970.
- An increase of sea surface temperatures of 0.4 degrees Celsius on the Great Barrier Reef since the late 1800s, with a further two to four degree Celsius increase predicted by 2090.
- An increase in forest fire risk across Queensland with this predicted to worsen as temperatures rise.

The impact of these changes has been exacerbated in recent years with the increased occurrence and intensity of extreme events including:

- record level floods in Townsville during February 2019;
- droughts, with more than two thirds of Queensland officially Drought Declared in December 2019; and
- reduced air quality which affected large parts of the State for extended periods due to dust storms as well as bushfires both in Queensland and New South Wales during the summer of 2019-2020 (Figure 1).

Figure 1: Timeline of recent Queensland climate incidents.



TC - Tropical Cyclone

Climate change impact on health

Climate change is expected to have both direct and indirect impacts on health^{1,2}. The direct health impacts such as heat stress, injury, mental health trauma, and death are caused through direct exposure to extreme weather events such as heatwaves^{2,3}, bushfires⁴, droughts, and floods (Figure 1).

Indirect health impacts are related to those impacts beyond these immediate events^{1,2}. These impacts can be caused by long-term temperature increases, increased dust and particulates in the atmosphere, changes to seasonal patterns and growing seasons, pest and animal migration, and impacts to food and water sources, among others. These changes have potential to increase vector-borne diseases (those transmitted to humans by vectors such as mosquitoes) such as Ross River fever virus and dengue fever, and zoonotic diseases (those transmitted from animal to humans), water-borne diseases (resulting from exposure to harmful algae and pathogenic microorganisms) affecting drinking and recreational waters, food-borne diseases (such as salmonellosis), cancers (melanomas caused by sun/UV exposure), and respiratory diseases and infections (resulting from an increase in intensity and duration of particulate matter from bushfire smoke and dust storms causing exacerbation of respiratory conditions).

¹ Inglis, J.T. 2009. Climate Change and Infectious diseases in Australia. *Australian Prescriber* 32(3): 58-59.

² Nitschke, M. and G. Tucker, 2010. The unfolding story of heat waves in metropolitan Adelaide. SA Health, Government of South Australia. 25pp.

Goldie, J., Alexander, L., Lewis, S.C. and S. Sherwood. 2017. Comparative evaluation of human heat stress indices on selected hospital admissions in Sydney, Australia. *Australian and New Zealand Journal of Public Health*. 41(4):381-387.

Hansen, A.L., Peng, B., Ryan, P., Nitschke, M., Pisaniello, D. and G. Tucker. 2008. The effect of heat waves on hospital admissions for renal disease in a temperate city of Australia. *International Journal of Epidemiology*. 37:1359-1365.

Huang, C., Barnett, A. G., Wang, X. and S. Tong. 2012. The impact of temperature on year of life lost in Brisbane, Australia. *Nature Climate Change*. 2(April):265-270.

³ Queensland Health, 2018. Young Queenslanders increase risk of skin cancer. Queensland Government. Fact Sheet.

⁴ Arriagada, N.B., Palmer, A.J., Bowman, D.M.J.S., Morgan, G.G., Jalaludin, B.B. and F.H. Johnston. 2020. Unprecedented smoke-related health burden associated with the 2019-20 bushfires in eastern Australia. *Med J Aust* doi: 10.5694/mja2.50545 Published online: 23 March 2020.

Impact on health services

Queensland's changing climate is already having deleterious effects on the health and well-being of Queenslanders. 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 heat². Between 2014-17, emergency department presentations for sunburn increased by 50% increasing the risk of skin cancers³. In Queensland, smoke from the 2019-20 bushfires season is estimated to have caused an additional 47 deaths, 135 cardiovascular hospital admissions, 245 respiratory hospital admissions and 113 Emergency Department admissions for asthma⁴. Additionally, an increase in demand of hospital services due to physical and mental trauma is expected.

The integrity and reliability of the public health infrastructure, assets and services are also at significant risk due to their vulnerability to evolving climate threats which were not anticipated at the time of their design, construction or establishment. For example, disruption or failure of service infrastructure such as telecommunication, transport, electricity, water supplies, including damage to physical infrastructure can be expected from worsening fire conditions, increases in hot weather, and coastal inundation from sea level change.

Without foresight and adaptation, the predicted changes in climate can result in unpredictable service disruption, costly repairs, or even replacement of essential health service assets and infrastructure. In the longer term, risks might also be seen in increased utility usage (e.g. from increased use of air-conditioning in poorly designed buildings), rising prices of fresh produce and medications (e.g. due to reduced agricultural and manufacturing activity), increased service demands (e.g. from increased disease loads), and increases in chronic conditions flowing on from climatic events and long-term changes.



Opportunities in health service delivery

Increasing resilience to climate risks can provide substantial economic, social, health and environmental co-benefits. Based on 2018-2019 emissions, Queensland Health is responsible for over 45% of total Queensland Government emissions from electricity, costing the department approximately one hundred million dollars a year⁵. A large proportion of these electricity costs relate to lighting, cooling, and heating of Queensland Health facilities. There are significant financial savings to be made through energy efficiency measures and renewable energy use such as rooftop solar, batteries and wind.

Some of these costs and emissions are being reduced as a result of new ways of working due to COVID-19 (e.g. working from home, reduced air travel, and Telehealth). There are opportunities to capitalise on these new ways of working to further reduce our carbon footprint and also improve efficiency.

Further, costly future building and infrastructure upgrades and repairs can be minimised through improved design and construction with potential to also reduce operating and maintenance needs⁶. Better design standards such as climate-sensitive design, infrastructure and sector specific greening, shading, and urban heat island reduction will also improve air quality, cooling, exposure to UV, and patient and health worker wellbeing⁷. There is also the potential to consider the management of pharmaceuticals as this area is the second largest contributor, outside of hospitals, to carbon emissions in the health sector⁸.

Other opportunities include the uptake of active travel, use of public transport, reduced resource demands and an expanded Telehealth model, all of which are expected to further reduce emissions while improving patient and staff health and well-being outcomes.

⁵ Department of Energy and Public Works, 2020. Whole of Government Budget Sector Agencies Consumption FY1819 Report.

⁶ Ren, Z., Chen, Z. and X. Wang. 2011. Climate adaptation pathways for Australian residential buildings. *Building and Environment* 46(11): 2398-2412.

⁷ Stagrum, A. E., Andenaes, E., Kvande, T. and J. Lohne. 2020. Climate Change Adaptation Measures for Buildings – A Scoping Review. *Sustainability*. 12:1721

⁸ Malik, A., Lenzen, M., McAlister, S. and F. McGain. 2018. The carbon footprint of Australian health care. *Lancet Planetary Health*, 2:e27-35.

Partnerships

Climate risk can be effectively addressed where there is clarity of purpose and shared awareness of the challenges. Queensland Health recognises the value of partnerships and working with the community, peak professional and representative groups, health service organisations, health consumers, research organisations, and agencies on the public health system response to climate risk.

These partnerships will enable the sharing of information, guidance and good practice, and will improve health system resilience and encourage joint activities. Aligning with the intent of the Queensland Government's Health and Wellbeing Climate Adaptation Plan (H-CAP), Queensland Health will proactively work with partners to identify gaps, improve monitoring, and review progress to ensure the lessons learned are incorporated to improve our health system agility and response to the changing climate.

Queensland Health's impact on climate change

Queensland Health is a significant resource consumer, has the largest greenhouse emissions of all Queensland agencies, and is the largest state employer. Resource use within Queensland Health includes areas such as air travel, vehicular travel, equipment, large scale infrastructure, food and other consumables, pharmaceuticals, warehousing, large scale transport, and electricity. This usage is not only driven by 87,000 staff, but also by almost one million hospital inpatients, more than one and a half million emergency services, and about 3,500,000 outpatient services a year. It is further compounded by the need to offer services twenty-four hours a day, seven days a week.

In response, the Queensland Government committed to establishing an Office of Hospital Sustainability at the 2020 election. The office is intended to provide advice to the Minister for Health and Ambulance Services, the Director-General and Hospital and Health Services (HHSs) on how best to improve the health system's performance on environmental sustainability and climate change objectives.

It is anticipated that the office will be directly responsible for implementing a \$30 Million Emissions Reduction Plan as well as:

- setting benchmarks and targets for environmental sustainability in Queensland Health;
- ensuring investment in green and sustainable infrastructure for hospitals;
- review of policies and practices to manage waste and increase the use of environmentally sustainable products; and
- driving new and innovative practices that will deliver system wide cost savings and improved environmental performance outcomes.



Policy Response

The Queensland Government has taken a proactive approach to the challenge of climate change (Figure 2). Released in 2017, the Queensland Climate Change Response (QCCR) sets out the Queensland Government's strategy to transition to a low-carbon economy and adapt to the impacts of a changing climate. These are set out under the following two strategies:

Queensland Climate Transition Strategy (Q-CTS) establishes a staged, three-part carbon mitigation strategy for Queensland including how the state will transition to a zero net emissions future that supports jobs, industries, communities and the environment. Q-CTS targets are:

- to generate 50% of electricity from renewable energy by 2030;
- to reduce emissions by at least 30% below 2005 levels by 2030; and
- to achieve zero net emissions by 2050.

This includes reducing emissions created by government operations and buildings.

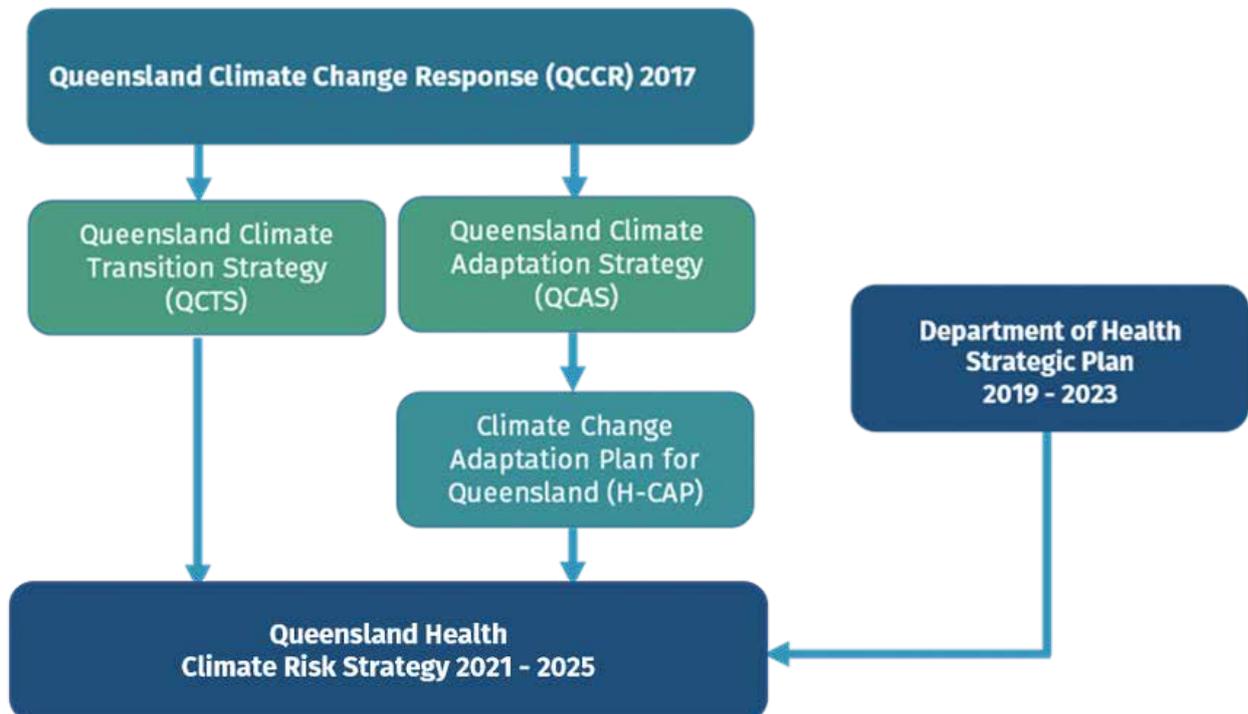


Figure 2 Policy links and drivers for the Queensland Health Climate Risk Strategy 2021-2025.

Queensland Health is currently working towards the emission reduction and energy efficiency targets identified under the Queensland Climate Transition Strategy - Pathways to a Clean Growth Economy.

Queensland Climate Adaptation Strategy (Q-CAS) prepares for current and future impacts of a changing climate to reduce risk and increase resilience, and includes eight subsidiary industry sector plans. The Human Health and Wellbeing Climate Change Adaptation Plan for Queensland (H-CAP) was released in September 2018 as the health sector plan under Q-CAS. It is inclusive of healthcare, aged care and early childhood education and care, and identifies 10 priority adaptation measures in response to climate risk.

The goal of the H-CAP is to support human health and wellbeing services to be innovative and resilient in managing the risks associated with a changing climate, and to harness the opportunities provided by climate change. It provides a preliminary climate change adaptation framework and guidance for stakeholders across health care, aged care and childcare services. H-CAP proposes that adaptation planning focuses on 10 priority areas inclusive of leadership/governance, preparedness, risk management, public health measures, research, policy, education, collaboration, economics and infrastructure.

Queensland Climate Action Plan 2020-2030 is expected to drive a Whole of Government response to climate change and will build on action already taken under the Queensland Climate Transition Strategy and Queensland Climate Adaptation Strategy. The plan will ensure the creation of new jobs in low carbon industries, capitalise on climate opportunities, and reduce our emissions. Initiatives under the plan include a \$500 million Renewable Energy Fund, development of three renewable energy zones across Queensland, a Queensland Hydrogen Industry Strategy, and establishment of a state owned clean electricity generator, CleanCo.





Climate Risk Strategy

The key objective of the Strategy is to build a sustainable health care system which continues to provide high quality and dependable health care services in the face of short and long-term impacts of a changing climate. Under this Strategy mitigation and adaptation are linked since the focus of mitigation, like adaptation, is harm moderation or harm avoidance. For mitigation this is specifically achieved via emissions reduction.

This Strategy is expected to guide policy and engage each part of the Queensland Health system to embed climate risk management into a business as usual approach. This will foster a high-quality public health system that is resilient and adaptive to climate threats.

The Strategy seeks to respond to the challenges and opportunities that climate change risks present to the health system. The development of the strategy has been coordinated by the Department of Health's Climate Change Working Group (Appendix 1). The Strategy was developed with the support of clinical and non-clinical representatives of Queensland Health, private and non-profit health providers, professional organisations, universities and other key stakeholder groups. The Climate Change Working Group will be supported by a Hospital and Health Service Climate Forum to inform implementation and review of the Strategy.

“If we put together all the knowledge systems we have - science, technology, traditional knowledge - we can give the best of us to protect our people”. *

The Strategy is aligned to the Queensland Government's Climate Change Response and the Department of Health's Strategic Plan 2019-2023 to deliver quality services that are safe and responsive to the needs of Queenslanders.

The Strategy identifies action areas across all levels of the health system to provide a comprehensive and integrated approach to climate risk planning and emission reduction. These actions align with the Queensland Government targets and Queensland Health's strategic priorities.

To this end, the Strategy highlights the need for the health system across Queensland to adopt a risk management approach to climate change, taking into consideration the local and geographical context. A key initiative is to monitor and report against emissions reduction and energy efficiency targets.

Definitions for some of the terms and language used in this document can be found in Appendix 2.

**Hindou Oumarou Ibrahim, Association for Indigenous Women and Peoples of Chad.*

Leadership and Governance

Incorporating climate risk consideration across leadership and governance frameworks to drive cultural change in all aspects of health care service delivery

Climate risk is not just an environmental health concern, but also a strategic management and corporate governance challenge which encompasses all aspects of Queensland Health services. This influences health service planning, capital works investment, asset management, workforce management, procurement of goods and services and aligns with health consumer priorities.

The governance arrangements should ensure that appropriate arrangements are in place to adopt and prioritise the implementation of climate risk policies and actions across all Queensland Health facilities and services. This will ensure that consistent and effective decision making occurs in response to climate risks across all levels of Queensland Health to improve performance and accountability.

Queensland Health will foster partnerships to effectively respond to climate risks through information sharing, participation in joint initiatives, and learning from one another. Membership to the NGO Global Green and Healthy Hospitals is one such initiative to further support evidence-based risk management strategies.

Key Objectives

Establish climate risk considerations and partnerships as a priority in decision-making across all Executive Committees of Queensland Health.

Integrate climate risk planning across all services to ensure an effective and coordinated response to climate risks.

Embed climate risk policy and tools in existing processes and frameworks to support ethical climate risk considerations as part of business as usual.

Promote and encourage the use of the 'Queensland Health - Climate change adaptation planning and guidance' and other tools to support the development of climate risk action management plans.

Continue to adapt Disaster and Emergency preparedness and response to emerging threats posed by climate risk.

Our People

Build a workforce culture which is climate aware and is resilient to climate risks whilst maintaining quality and safety of health care

A culture of sustainability is one where the organisation and its people believe in the importance of building a healthy environment and improving the lives of others. Employees will make decisions and act in ways that support good decisions not only because they believe it to be ‘the right thing to do’ but that it is the absolute ‘necessary’ thing to do.

*“The most important word in today’s world is in fact ‘Together.’” **

Whilst the management of climate risks is now recognised as vital for our future generations to survive and thrive, not everyone shares the same immediate concerns. Queensland Health will work towards raising awareness of the importance of climate change and the associated risks for future generations and highlight the positive relationship this has with societal and workplace health and well-being. Demonstrating the value of a culture of sustainability for individuals and their work will also contribute to individual investment to action. A culture of sustainability and resilience can be supported through being “people, purpose, place and planet centred”. This can be encouraged throughout the organisation.

Queensland Health will integrate a culture of sustainability into existing Human Resource (HR) policies which enables the workforce to be flexible and adapt to the difficulties and demands caused by a changing climate. This requires researching climate risk impacts and gaining insights through climate risk focus groups, subject matter experts, and understanding how existing HR department strategies already contribute, or can contribute, to a culture of sustainability. Recruitment, learning and development, job descriptions, and safety and wellbeing are all aspects that Queensland Health will explore in supporting this priority.

**Jan Eliason, President of the United Nations General Assembly.*

Key Objectives

Promote an organisational culture that values and prioritises sustainability and the necessity to be people, purpose, place, and planet centered.

Build resilience and well-being in the Queensland Health workforce to maintain service excellence in the face of changing climate and disasters.

Incorporate a culture of sustainability in human resource policies, functions, and services to enable a climate resilient workforce.

Deliver public health campaigns to raise workforce awareness, learning / training, and their role in responding to climate risks.



Emission Reductions

Reducing greenhouse gas emissions from Queensland Health's Infrastructure and Operations

Queensland Health alone is estimated to be responsible for approximately half of all Queensland Government reported greenhouse gas emissions, with electricity, vehicle fuels and air travel amounting to over 500,000 tonnes of carbon dioxide equivalent in 2018/19.⁵ Investment in significant, timely reductions in Queensland Health emissions are necessary for Queensland Health to substantively reduce its contribution to the cause of dangerous climate change and achieve the Queensland Government targets outlined in the Queensland Climate Transition Strategy.

“We really need to kick the carbon habit and stop making our energy from burning things.”*

Transitioning to low carbon operations requires energy management policies that minimise emissions and energy use. This requires monitoring the performance of existing asset operations and emissions, while continuing to identify opportunities to reduce emissions through innovation and low carbon technologies. It is important that decisions to reduce emissions work synergistically with adaptation strategies.

Key Objectives

Transition asset operations towards zero net emissions through recording and reporting greenhouse gas emissions and measuring these against agreed targets.

Prioritise renewables, recycled and low carbon materials into the built environment and integrate low carbon operating systems into the co-design and upgrade of facilities.

Implement energy efficiency and emission reduction programs through investments in renewable energy, energy conservation measures, and low emissions infrastructure.

Adopt low carbon operations through a range of energy, waste, construction, and fleet management policy practices, including offsets, to transition assets and operations towards zero net emissions.

*Sir David Attenborough.

Resilient Infrastructure

Investing in climate resilient infrastructure and adapting our facilities for the future impacts of climate change

Queensland Health is responsible for operating and managing significant state infrastructure and associated assets, which are essential to the state in responding to the health impacts of climate change. The consideration of climate risk into future health infrastructure investment decisions is critical to avoiding or minimising climatic impacts on Queensland Health facilities including disruption to services.

Embedding climate risk considerations into asset planning to minimise service disruptions and ensuring facilities can adapt to climate induced events will be a critical component of Queensland Health asset management strategies.

Through integrated infrastructure management encompassing infrastructure and asset lifecycle, energy management, and smart financial strategies, Queensland Health will move towards future proofing facility operations. This will deliver reduced operating and maintenance costs, lower energy consumption and emissions, and extend asset life of equipment.

Total asset planning should take a strategic view about how climate change will affect future health infrastructure needs, constructability and serviceability. To ensure health infrastructure remains adaptable and sustainable, capital investment frameworks should address the interconnections between climate change, health service need and demand, as well as climate and demographic impacts on infrastructure resilience.

Key Objectives

Integrate climate change and green policy into investment, planning, design and construction standards of facilities, including the whole-of-life cycle carbon emissions.

Ensure infrastructure and assets are climate resilient through management strategies that embed effective adaptation responses to climate risks.

Sustainable Procurement

Embedding green and ethical procurement policies to source sustainably produced products and services from socially and environmentally responsible vendors

Queensland Health purchases a broad diversity of products and services including: chemicals, electronics, fabrics, energy, pharmaceuticals, food, technical expertise, and outsourced services. The materials, their manufacture, transportation, disposal, and energy-use all contribute to the effects of climate change. Sourcing products and services that are sustainable and low carbon, either in their materials, packaging, or the supply chain will significantly reduce the environmental impacts of the health care system.

“Every time you spend money, you’re casting a vote for the type of world you want.”*

Value for money is the core principle underpinning Queensland Government’s procurement. To ensure that sustainability is considered as part of this core principle, Queensland Health will also include total life cycle costs in assessing future procurements. Specific principles of sustainable procurement include:

- Promoting the minimising of environmental impacts over the life of the goods and services.
- Drive efficiency throughout the supply chain to promote re-use and recycling of materials and to reduce transport and minimise packaging costs.
- Fostering sustainable innovation in products and services through the procurement process from the planning phase as well as the management phase.
- Adopting procurement measures to avoid unnecessary consumption and manage demand.

Key Objectives

Incorporating low ‘embedded carbon cost’ materials and supply chain management into procurement policies.

Fair and ethical sourcing practices are applied through the selection of suppliers that comply with sustainable and socially responsible practices without compromising supply chain surety.

Maximize opportunities to reduce, reuse and recycle existing products.

**Anne Lappé, Author and Sustainability Educator.*

Health System Planning

Assure the reliability of health service delivery through the consideration of the predicted disruptions from climate change, while meeting increased service demands

Climate change will not only affect health service infrastructure but will also impact the demand on health services due to increasing impacts on human health. As climate risks vary across the different regions of Queensland, the responses for individual Hospital and Health Services will also differ.

For example, increased intensity and frequency of heatwaves can affect admission profiles. Vulnerable populations such as the elderly, will require additional attention, possibly leading to increased ambulance attendances and emergency department visits. Health service provision must adapt to the localised climate risks for a responsive and robust health system.

The management of disasters and emergencies as well as their compounding effects, must also be integrated into these future health planning measures and take a coordinated, cross agency approach.

Key Objectives

Collaborate with service providers in horizon scanning and modelling of future scenarios to consider megatrends and the impact they will have on system-wide health service provision.

Target appropriate strategies towards specific geographical areas, demographics and vulnerable populations who may be impacted by adverse climate conditions.

Improve collaborative planning and engagement with key stakeholders such as Hospital and Health Services, Primary Healthcare Networks, Government (Federal, State and Local), health consumers, community and non-government (NGO) services, to better integrate preparedness.

Research and Innovation

Adopt a continual improvement approach to enable a proactive and innovative response to climate risks

Research and innovation are key to improving health system knowledge on how climate change will impact public health and health care service delivery.

Queensland Health will continue to foster and nurture a learning and sharing culture through research and innovation to support the future sustainability of health services. This is specifically to address the limitations of the current knowledge of climate change risks such as impacts on communicable diseases, chronic health conditions, as well as on goods and services.

Collaborative approaches with university and other research providers at a state, national, and international level will be used to identify and address knowledge needs, foster research and build cost effective and innovative solutions. Partnerships with research organisations will help inform these priorities.

Key Objectives

Promote research on climate health risks to better inform knowledge gaps in health care, particularly as it affects disease risks and chronic conditions, pharmaceuticals, infrastructure design, and community resilience.

Utilise established predictive modelling tools, epidemiological methodologies, and emerging technologies to characterise climate impacts on future health service delivery.

Proactively contribute, as part of a knowledge sharing community of practice, across agencies, jurisdictions and industry sectors to build knowledge and solutions on climate impacts on human health and health service delivery.

Public Health – Advocacy and Support

Advocate for healthy environments to enhance community capacity to manage the physical and mental health impacts caused by climate risks

Queensland Health will provide strategic leadership and advocacy to maintain considerations of health and wellbeing in related policy and strategic initiatives at state and national levels. In particular, Queensland Health will advocate for healthy environments across the broader community, vulnerable communities, and at Queensland Health facilities. For example:

- Strengthen strategies to enhance healthy environments in First Nation communities.
- Advocating for increased shading, green spaces and reduction of urban heat sinks within planning policies.
- Increasing ‘green infrastructure’ within hospital grounds to improve health and wellbeing of patients, staff and the broader community.

*“Climate change is intrinsically linked to public health”**

Policy decisions within other sectors may also have benefits or adverse impacts, on public health outcomes. Queensland Health will develop appropriate integrated responses to raise the importance of health within these other sectors and leverage existing programs to improve public health outcomes. These sectors include, for example, water supply, agriculture, food supply, planning, development, building sectors, transport infrastructure, and health service users. Climate change adaptation strategies by other sectors and jurisdictions will be supported to promote positive health outcomes.

Queensland Health will seek to build resilience and capacity within the broader Queensland community through education, targeted support, and an active dialogue to improve physical and mental health outcomes for Queenslanders. Partnerships across sectors and jurisdictions will be developed to support these objectives. Areas of focus include increasing temperature, decreasing air quality, food and water quality, and disease prevalence.

* Ban Ki-moon, United Nations Secretary General.

Key Objectives

Foster community capacity and resilience through an ongoing consumer dialogue and advocacy on the health impacts of climate change.

Build health system and community capacity through the provision of resources and training (i-learn etc) to inform both the community and public health workforce on climate risk adaptation.

Build upon existing frameworks to guide mental health policy and planning to incorporate climate risk adaption into public health response programs.



Communication and Engagement

The success of the strategy will depend on effective engagement and collaboration across Queensland Health, the community, consumers and industry stakeholders to ensure the implementation of the actions under this strategy. In this regard a communication and engagement plan will be developed to inform and guide decision makers across the public health system. This will include the development of support and training materials, staff updates and communication tools for external individuals and organisations.



Implementation and Reporting

This Strategy provides a framework that collates a range of objectives for climate risk management across Queensland's health system. As with all strategies the implementation pathway is critical. A continued consultative and collaborative approach that has characterised the development of this Strategy will continue as the Strategy is implemented and reviewed.

The implementation of this strategy will be led by the Climate Change Working Group, and supported by the HHS Forum, using established governance and review mechanisms across Queensland Health.

Monitoring and reporting over the life of the Strategy, together with an evaluation of the strategy in the final year of implementation, will inform the direction and development of future strategic plans. Reporting against this plan will be incorporated under the existing Queensland Health Strategic Plan and Operational Plan reporting arrangements.

Key Objectives

Develop an Operational Plan and Communication Plan to underpin the implementation of the Strategy.

Establish performance monitoring frameworks to analyse and report on Queensland Health's mitigation and adaptation strategies.

Report annually on progress of the delivery of the Strategy and Operational plans and integrate reporting with the Queensland Health Strategic and Operational Plans.

Report as appropriate under the Queensland Government Climate Transition Strategy.



Appendix 1

Climate Change Working Group Membership

Member	Representing
Executive Director – Health Protection Branch	Prevention Division
Director – Environmental Hazards Unit	Prevention Division
Senior Director – Health Disaster Management Unit	Prevention Division
Medical Director – Communicable Disease Unit	Prevention Division
Program Executive Director – Capital and Asset Services	Corporate Services Division
Director – Risk, Assurance and Information Management Branch	Corporate Services Division
Director – System Planning Branch	Strategy, Policy & Planning Division
Director – Aboriginal & Torres Strait Islander Health Branch	Aboriginal and Torres Strait Islander Health Division
Senior Director – Sustainable Operations	Corporate Services Division
Director – Insurance Services Finance Branch	Corporate Services Division
Director – Media & Digital	Corporate Services Division
Manager – Mental Health Alcohol & other Drugs Branch	Clinical Excellence Division
Advisors	
Director – Fleet and Equipment operations	Queensland Ambulance Service
Director – Workforce Strategy Branch	Strategy, Policy & Planning Division
Category Specialist – Strategic Procurement	Corporate Services Division

Appendix 2

Some basic definitions

Climate change hazard: In the context of climate change, hazard refers to any potential occurrence of a natural or human-induced physical event that may cause damage to human health, property, infrastructure, livelihoods, service provision, environmental resources, etc.

Resilience: The capacity of a system (social, economic, environmental, infrastructure) to cope with a hazardous event or trend or predictable change, responding or reorganising in ways that maintain its essential function, identity, and structure, while also maintaining the capacity for further adaptation, learning, and transformation.

Climate-related risk: The potential for consequences where something of value is at stake and where the outcome is uncertain. The risk to a system can be assessed qualitatively or quantitatively by combining consideration of the likelihood of a climate hazard, its consequence should it occur, and the vulnerability of the system to the hazard.

Vulnerability: The propensity or predisposition to be adversely affected. Vulnerability encompasses a variety of concepts and elements including sensitivity or susceptibility to harm and lack of capacity to cope and adapt.

Climate-related impact: The effects on natural and human systems of climate events and of climate change. As an example, if higher average temperatures associated with climate change leads to more frequent and more intense heatwaves, such that a greater number of people suffer from heat stress for longer periods, this would be a climate-related impact.

Climate change adaptation: The process of adjustment to actual or expected climate and its effects. Adaptation in human systems such as HHS, seeks to moderate or avoid harm or exploit beneficial opportunities. An example of adaptation in the HHS would be to use heat reflective coatings on roofs to reduce heat transmission and air conditioning requirements or to develop sustainable energy options to offset increasing energy demands and provide long term savings.

Climate change mitigation: Mitigation is the reduction of greenhouse gas emission by society. It can include reducing or preventing emissions from sources (e.g. replacing coal fired energy with renewables) or enhance the uptake of greenhouse gases (e.g. planting trees, carbon farming).

Relationship between adaptation and mitigation: Mitigation is to adaptation what prevention is to disease management — one is needed to support the success of the other. Wherever possible, adaptation and mitigation actions should have co-benefits and should be mutually reinforcing. For example, installing rooftop solar on buildings can reduce emissions of greenhouse gases (mitigation) and build resilience to climate change through increased energy security at the facility level (adaptation).

