# Towards Climate Resilient Individuals and Health Systems: Examples of Actions by Canada, New Zealand, and Australia

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This document has been curated by representatives from New Zealand, Canadian and Australian Departments of Health to highlight (as at September 2025) examples of initiatives being pursued in each jurisdiction to advance the development of climate resilient health systems. It is by no means exhaustive but provides an overview of key actions across relevant domains.

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Climate-Transformative Leadership & Governance			
	Canada	New Zealand	Australia
National Plans and Strategies	Canada's National Adaptation Strategy (NAS): Canada's overarching federal framework for climate adaptation, including a health-focused pillar.      Government of Canada Adaptation Action Plan: Outlines federal contributions to NAS goals.      Federal Sustainable Development Strategy: The Government of Canada's	1. National Adaptation Plan: "Adapt and Thrive: Building a climate-resilient New Zealand" (2022)  2. Health National Adaptation Plan 2024-2027: Sets the strategic direction and provides national-level priority actions for health-focused adaptation to climate change. Developed as an action arising from the national adaptation plan.	<ol> <li>National Health and Climate Strategy:         Australia's first National Health and Climate Strategy, aims to create a sustainable and resilient health system and support healthy, resilient communities.     </li> <li>National Adaptation Plan: Sets a national framework to guide adaptation to climate risks, with stakeholder input from industry, governments, First Nations</li> </ol>

	strategy for sustainable development, including goals and actions to advance climate change adaptation.	3. The Ngaa Rauru Kiitahi Climate Change Strategy: Promotes and implements climate actions through cultural mechanisms, focusing on cultural reclamation and environmental alignment.	organizations, and advocacy groups.		
Policy Frameworks	Pan-Canadian Framework on Clean Growth and Climate Change: National strategy to cut emissions, grow the economy, and strengthen climate resilience, including measures to protect health.      Federal Adaptation Policy Framework: Guides consideration of climate risks in decision-making to support the well-being of Canadians.	1. Framework for climate change policy and key upcoming decisions: All-of-government framework for climate policy development.  2. National Adaptation Framework (in progress): In-progress national adaptation framework for long-term climate resilience, including cost-sharing approaches.  3. Mandatory Climate Related Disclosures: Part 7A of the Financial Markets Conduct Act 2013 now requires some financial market participants to make climate-related disclosures in annual climate statements.	1. Council of Australian Governments (COAG) Agreement on the Roles and Responsibilities for Climate Change Adaptation in Australia: Stipulates the roles and responsibilities of different levels of government in Australia for climate change adaptation. 2. National Disaster Risk Reduction Framework: Outlines a national, proactive approach to reduce disaster risk now and into the future.  3. National Disaster Recovery Framework: Compiles essential policy, doctrine and arrangements for recovery leaders and practitioners.		
	Climate-Smart Health Workforce				
Training, Guidance, and Resources	Extreme Heat Resources for Health     Professionals: Guidelines and toolkits to     help health sector professionals manage     heat-related risks and protect vulnerable     populations	1. Heat Health Plans: Guidelines and Key Information: Guidelines for health, community, and local organizations to create heat health response plans.	1. enHealth guidance – Bushfire smoke and health – Summary of the current evidence: Following the 2019-20 bushfire season, enHealth released evidence-based guidance on the known health effects of bushfire smoke exposure.		

- 2. Canadian Centre for Climate Services: Provides tools, training, and expert support to help health and local professionals access and use climate information for adaptation planning.
- 3. <u>Scaling Up Health Adaptation</u>: Free 11 session course for health professionals for certificate. Developed in collaboration with the Global Consortium for Climate and Health Education (lead) and other partners
- 4. Reducing urban heat islands to protect health in Canada: An introduction for public health professionals: provides tips, strategies, and case studies that can help public health professionals as they support local governments and organizations with reducing UHIs.

- 2. enHealth guidance Managing prolonged smoke events from landscape fires: Provides a consistent national approach for public health agencies to manage the health impacts of prolonged smoke events from landscape fires.
- **3.** <u>Australian Climate Service</u>: Provides expert analysis and data to strengthen national resilience to climate and natural hazards, supporting informed decision-making.
- **4.** Climate Risk and Opportunity Management Program: This program enhances climate risk knowledge across the Australian public sector, offering digital tools, guides, and resources for risk assessments and management.

## Networks & Capacity Building

- 1. <u>HealthADAPT Community of Practice:</u> a national network where health partners collaborate and share best practices on climate change and health
- 2. <u>HeatADAPT Community of Practice</u>: National forum for health authorities to share best practices on extreme heat response.
- 3. Canada's Climate Change Adaptation Platform: A forum for collaboration on climate adaptation priorities, involving
- 1. OraTaiao: Aotearoa New Zealand Climate and Health Council: A national society, part of a worldwide movement, of health professionals and organisations drawing focus to the health challenges of climate change and the health-enhancing opportunities of climate action.
- 2. <u>Sustainable Healthcare Aotearoa:</u> A professional network with a vision to create a sustainable future for all healthcare services in Aotearoa New
- 1. Climate and Health Expert Advisory
  Group: An expert group formed to
  support the delivery of the National
  Health and Climate Strategy, its role and
  function is to: i) provide strategic and
  evidence-based advice on climate
  change and health to support delivery of
  the strategy and Identify priorities for
  potential policy and regulation; ii) review
  and advise on updates from the
  government on strategy delivery,
  including outlines of progress on delivery,
  risks and issues; and iii) identify

governments, Indigenous groups, and other stakeholders.

- 4. Canadian Coalition for Green Health Care: helping those working in health care facilities, non-governmental and governmental organisations, individuals, students and businesses to build climate resilience and share green health care best practices and to become better equipped to deal with the growing demands placed upon them to be environmentally responsible health service workers and individuals.
- 5. <u>Climate Action + Healthcare</u> (<u>CASCADES</u>): supports Canada's healthcare community in transitioning towards high-quality, low-carbon, climate resilient care.

Zealand consisting of health sector sustainability professionals and health workers progressing environmentally sustainable and climate resilient delivery of healthcare.

3. Aotearoa Society of Adaptation
Professionals (ASAP): Upon launching
in October at the Adaptation Futures
2025 conference, ASAP will be
Aotearoa New Zealand's first and only
professional, incorporated charitable
society dedicated to climate
adaptation.

stakeholders for consultation or involvement in strategy delivery.

The following networks exist but are not formally supported by government:

- 2. Climate and Health Alliance/Global
  Green and Health Hospitals Pacific
  Network: A network of health institutions
  committed to reducing the health sector's
  environmental footprint and fostering a
  healthy future for people and planet, with
  a focus on the Pacific region.
- 3. Doctors for the Environment Australia: A network of medical professionals advocating for climate action and environmental protection in recognition of the physical and mental health harms caused by climate change and environmental degradation.
- 4. <u>Planetary Health Collaborative for Nurses and Midwives</u>: A collaborative of nursing and midwifery practitioners, researchers and educators committed to creating a healthier and more equitable world by addressing challenges associated with planetary health.
- **5.** Health College Working Group on Climate Change and Health: A group comprising representatives from each of the specialist medical colleges, nursing and allied health bodies, the Australian Indigenous Doctors Association, the

			Australian Commission on Safety and Quality in Healthcare, and the interim Australian Centre for Disease Control.
	Assessments of Climate	and Health Risks and GHG Emissions	
Climate Change and Health Assessments	1. Health of Canadians in a Changing Climate (2022): National assessment of climate change risks to health and health systems.  2. Climate Change and Health Knowledge Gaps and Research Needs in Canada: Overview of knowledge gaps identified in the 2022 climate change and health assessment report  3. Human Health in Canada in a Changing Climate Assessment (2014): Human health chapter in the national climate change impacts and adaptation assessment.  4. Human Health in a Changing Climate (2008): First comprehensive assessment of climate change risks to health including high risk populations	1. National Climate Change Risk Assessment for Aotearoa New Zealand: Provides a comprehensive assessment of climate change risks, including physical and mental health impacts.  2. New Zealand's Changing Climate and Oceans: A report reviewing the latest science on climate change, its effects on oceans, and related health consequences for New Zealand.  3. Climate Change Scenarios for the Health Sector: This report asks the question, How could climate change plausibly affect population health and the health and disability sector, over the short, medium and long term, and encourages those in the healthcare sector to consider the risks and opportunities they face from a changing climate, and how their sector or organisation could respond.  4. Our Environment 2025: Our environment 2025 is the latest three-	1. National Climate Risk Assessment: The National Climate Risk Assessment provides a framework to inform national climate adaptation priorities by identifying and prioritizing nationally significant risks.

		yearly state of the environment report produced by the Ministry for the Environment and Stats NZ under the Environmental Reporting Act 2015.	
Guidelines	1. Climate Change and Health Vulnerability and Adaptation Assessments: Workbook for the Canadian Health Sector: provides guidance to Canadian health authorities on conducting climate change and health assessments.  2. Climate Change and Health Vulnerability and Adaptation Assessments: A Knowledge to Action Resource Guide: Provides tools, case studies and data sources to support the development of comprehensive and participatory vulnerability and adaptation assessments at local to national levels in Canada.	1. A Guide to Local Climate Change Risk Assessments: Provides a framework for conducting local climate risk assessments, aligned with the National Climate Change Risk Assessment Framework.	1. Queensland Health Climate Change Adaptation Planning Guidelines together with the Queensland Health Almanac and Risk Templates provides a climate change risk assessment framework for hospital and health systems to determine their climate risks and develop an adaptation plan in response to those risks.
GHG Inventories / Emissions Reduction Plans	2030 Emissions Reduction Plan: Clean Air, Strong Economy	<ol> <li>Health NZ FY22/23 GHG Inventory</li> <li>Health NZ FY23/24 GHG Inventory</li> <li>Health NZ Emissions Reduction         Plan 2024 - 2027     </li> <li>Aotearoa New Zealand Emissions         Reduction Plan     </li> </ol>	1. Estimates of Australian Health System Greenhouse Gas Emissions 2021-22

	Integrated Risks Monitoring, Early Warning and GHG Emissions			
Surveillance & Monitoring	1. Federal Framework on Lyme Disease: Establishes a national surveillance system to track Lyme disease incidence and its economic impact.  2. National Air Pollution Surveillance Program: provides accurate and long-term air quality data of a uniform standard across Canada	1. Climate Sensitive Disease Surveillance: Surveillance for diseases linked to temperature changes and flooding, including leptospirosis and Vibrio vulnificus.  2. National Mosquito Surveillance Database: Specialized national database for mosquito surveillance to monitor potential climate-sensitive disease vectors.  3. Public Health Surveillance Strategy 2025 – 2030: The public health surveillance system can swiftly integrate new information, adjust surveillance strategies and methods, and communicate information to responding entities. The system addresses climate change, new technologies, new information needs (eg, in relation to the emergence of a novel pathogen), demographic changes, international surveillance, hazards, and emerging threats (eg, antimicrobial resistance, food safety), as necessary.	1. The National Notifiable Diseases Surveillance System (NNDSS) coordinates data on over 70 diseases that present a risk to public health in Australia. This helps us identify trends in diseases, assess the impact of disease control programs and develop policies to reduce the impact of these diseases.	
Heat Warning Systems	1. Heat Alert and Response Systems: Federal support and guidance to implement local systems for extreme heat.	1. Heat Alerts by MetService: Regional heatwave prediction scheme to issue public heat alerts for health, infrastructure, and animal welfare.	1. The Bureau of Meteorology's  Heatwave service for Australia provides a public warning that a heat hazard is forecast within the next 4 days and help	

			Australians to prepare for and lessen the impacts of a heatwave event.
	Health	& Climate Research	
National Assessments	1. Canada in a Changing Climate: National Assessment Process: Canada's national climate change assessment process. Provides national, regional, and sectoral assessments, including health-related reports, to support adaptation and inform decision-making.  See Canada's climate change and health assessments in section above on Assessments of Climate and Health Risks and GHG Emissions	1. Human Health Impacts of Climate Change for New Zealand: Released in October 2017 by the Royal Society of New Zealand Te Aparangi. This report provided an evidence summary of how climate change will affect the health of New Zealanders.  2. Climate Change and Environmental Health Report: This document provides an overview of the projected effects of climate change on environmental health, and how it may impact on the health of New Zealanders.  3. Vulnerability and Adaptation Assessment (in progress): Currently underway, due July 2026. Aims to understand the climate-related health risk to the New Zealand population. The assessment will undertake a quantitative analysis of the climate- related health risks specific to the New Zealand risk profile, including demographic, geographic, socioeconomic, sociocultural, environmental/climate and population health data.	1. A report outlining a recent academic review of the Australian research on climate change and health interventions (Action 7.2 of the National Health and Climate Strategy). The report summarises the key findings of the review.
Research Institutes	1. The Canadian Institutes of Health	1. PHF Science (New Zealand Crown	1. Healthy Environments and Lives

Research (CIHR): Canada's federal funding agency for health research that is composed of 13 Institutes that collaborate with partners and researchers to support the discoveries and innovations that improve health

- 2. International Development Research Centre: champions and funds research and innovation within and alongside developing regions to drive global change such as climate resilient food systems.
- 3. McGill Centre for Climate Change and Health: part of McGill's School of Population and Global Health, provides an interdisciplinary hub of research, learning, collaboration and outreach that on for all things related to environment, climate change, and improvement of population and global health.
- 4. Collaborative Centre for Climate, Health and Sustainable Care, University of Toronto: acts to catalyze climate & sustainability action for health & health systems through research, education, and practice & policy change.
- 5. <u>Climate Change and Global Health</u>
  <u>Research Group, University of Alberta:</u>
  conducts community-based, participatory
  epidemiology at the social-environmenthealth nexus, in the context of global
  environmental change.

Research Institute) Climate Change, Health & Wellbeing: Studying and addressing the health impacts of rising temperatures and flooding to safeguard New Zealand.

- 2. Climate Health Aotearoa: A research collective that works to generate novel policy-relevant findings at the intersection of climate change and public health. Based at Otago University.
- 3. Environmental Health Intelligence
  New Zealand: Health New Zealand |
  Te Whatu Ora contracts Massey
  University to maintain a set of
  environmental health indicators that
  describe the link between the
  environment and health, including
  specific indicators directly relating to
  climate change.

(HEAL) Network receives funding from the Australian National Health and Medical Research Council Special Initiative in Human Health and Environmental Change (Grant No. 2008937).

- 2. Climate Collaborate Action for Transformative Change in Health and Healthcare (CATCH) Lab based at the University of Melbourne.
- **3.** <u>Health and Climate Initiative</u> based at Monash University.
- **4.** <u>Sustainable Health and Environment Network</u> based at Deakin University.
- **5.** Sustainability, Climate and Health Collaboration based at the University of Sydney
- **6.** National Environmental Science Program
- 7. Australian Climate Service

## Research Programs/Funds

- 1. <u>Infectious Disease and Climate</u>
  <u>Change Fund</u>: Enhances capacity to
  monitor and analyze climate-sensitive
  infectious diseases through surveillance,
  education, and tools.
- 2. The Canadian Institutes of Health
  Research (CIHR): Canada's federal
  funding agency for health research that is
  composed of 13 Institutes that
  collaborate with partners and researchers
  to support the discoveries and
  innovations that improve health
- 1. Civil Defence Emergency
  Management (CDEM) Resilience
  Fund: The CDEM Resilience Fund
  enhances New Zealand's hazard risk
  resilience through the development of
  local and regional capability and
  practices. (not explicitly health related
  but will have health and safety
  impacts)
- 2. Natural Hazards Commission
  (NHC) Toka Tu Ake research funding:
  NHC invest approximately \$10M per
  year in research and initiatives that
  help reduce the impacts from natural
  hazards on people, property, and the
  community.
- 3. Natural Hazards and Resilience
  Platform: The purpose of the Platform is to enhance New Zealand's resilience to natural hazards. It will deliver science across the 4 Rs (reduction, readiness, response, recovery) to underpin New Zealand's Disaster Resilience Strategy, and support science capability important for New Zealand's resilience and emergency management.

- 1. <u>Climate System Hub</u>: Established under the National Environmental Science Program, the Climate Systems Hub conducts research on Australia's climate, extreme events, and climate drivers to inform adaptation efforts.
- 2. Medical Research Future Fund: The Medical Research Future Fund supports smoke-related research on the physiological impacts of prolonged bushfire smoke exposure.

#### Climate Resilient and Low Carbon Infrastructures, Technologies, and Supply Chain

#### Infrastructure Investment

- 1. <u>Disaster Mitigation and Adaptation</u>
  <u>Fund</u>: \$2B federal fund supporting largescale infrastructure projects that reduce
- **1.** State Sector Decarbonisation Fund: Objective: To help organisations meet their obligations under the Carbon
- 1. The <u>Disaster Ready Fund (DRF)</u> is the Australian Government's flagship initiative for disaster resilience and risk

	climate disaster risks and build resilience.  2. Northern Transportation Adaptation Initiative: Funds climate-resilient transportation projects in northern and Arctic regions to address infrastructure challenges.	Neutral Government Programme.	reduction. The Australian Government is providing up to one billion dollars through the DRF. The funding runs over five years from 1 July 2023. The funding supports projects. These projects address the physical and social impacts of disasters on our communities. Disasters that can be caused by climate change and other natural hazards.
Tools, Standards, and Guidance	<ol> <li>Climate Lens: A project-level tool used in infrastructure projects to assess GHG emissions and climate resilience, promoting informed design and decision-making.</li> <li>Climate-Resilient Infrastructure Codes and Tools: National efforts to develop climate-smart building codes, standards, and guidance that enhance the resilience of public infrastructure to climate impacts.</li> <li>Fundamentals for Thermal Comfort and Safety: Designing Climate-Ready Playgrounds: outlines four phases to help designers improve a playground's microclimate. An emphasis is placed on helping playground design planning committees navigate using climate data, conduct site assessments, implement modifications, maintain the playground, and evaluate outcomes.</li> </ol>	1. AHIA Climate Risk and Adaptation Guide: addresses climate-related risks for health infrastructure and supports planners and designers of health facilities throughout Australia and New Zealand to apply best practice approaches for enhancing resilience through climate adaptation.  2. Australasian Health Facility Guideline (AusHFG): provide a comprehensive suite of resources designed to support the planning, design, and management of health facilities across Australia and New Zealand. The guidelines incorporate evidence-based design principles, contemporary models of care, and operational best practices to ensure safe, sustainable, and efficient healthcare environment.  3. New Zealand Health Facility Design Guidance Note (DGN): The DGN provides design principles specific to Aotearoa New Zealand that are not	1. Australasian Health Infrastructure Alliance Key Sustainability Guidance: Climate Resilience and Adaptation Guide provides guidance on physical climate risks for infrastructure assets that can be addressed during the planning, design, construction and maintenance phases of new and existing assets.  2. National Aged Care Design Principles and Guidelines provide evidence-based guidance on accommodation design to support the delivery of high quality, safe, respectful and dignified care for older people residing in aged care accommodation.

	Management of Envi	included in the AusHFG. Includes environmentally sustainable design principles.	
Air Quality	Air Quality Health Index: A tool to help individuals understand air quality risks and make decisions to protect their health.	1. Resource Management (National Environmental Standards for Air Quality) Regulations 2004: National air quality regulations including; prohibitions and restrictions on discharges from certain activities; ambient air quality standards; resource consent requirements for discharges of PM <sub>10</sub> ; control of greenhouse gas emissions at landfills; and more.	1. The National Clean Air Agreement helps governments identify and prioritise actions to address air quality issues. Australia's environment ministers established the agreement on 15 December 2015. The agreement sets a framework for national collaboration on air quality issues to deliver health, environmental and economic outcomes for Australians. The agreement's work plan lists the environment ministers proposed actions, roles, responsibilities and timeframes for implementing the actions. It is reviewed and updated every two years.
Water Quality	1. Canadian Drinking Water Quality Guidelines	Water Services Policy and Legislation      Water Services (Drinking Water Standards for New Zealand)     Regulations 2022	1. Water Quality Australia
Climate-Informed Health Programs			
Indigenous Health Programs	1. Climate Change and Health Adaptation Program: Supports First Nations and Inuit communities to assess and address the health impacts of		1. Torres Strait and Northern Peninsula Area Climate Resilience Centre: A First Nations-led resilience centre in the Torres Strait and Northern Peninsula

	climate change.		Area, established with \$15.9 million investment to support regional adaptation and employ First Nations climate resilience officers.
	Climate-Related Emerg	jency Preparedness & Management	
National Strategy	1. Emergency Management Strategy for Canada: Provides an all-hazards approach that integrates climate considerations and resilience  2. Climate Change and Health Capacity Building Program: Advances knowledge and capacity to address climate-related health risks.  • Stream 1: HealthADAPT - Focuses on building climate-resilient and low-carbon health systems.  • Stream 2: HeatADAPT - Aims to protect health from extreme heat events.	1. National Disaster Resilience Strategy: Outlines long-term goals to enhance resilience by managing risks, strengthening emergency response and recovery, and supporting community resilience, with climate change considerations.	See above under 'Policy Frameworks' links to the National Disaster Risk Reduction Framework and the National Disaster Recovery Framework.
Guidelines	<ol> <li>Heat Alert and Response Systems to Protect Health: Best Practices Guidebook</li> <li>Communicating the Health Risks of Extreme Heat Events</li> <li>Adapting to Extreme Heat Events:</li> </ol>	1. Response to Wildfires: Guidelines for Public Health Officers: Provides guidance to help public health officers minimize health risks from wildfires.	

	Guidelines for Assessing Health Vulnerability  4. Extreme Heat Events Guidelines: Technical Guide for Health Care Workers  5. Wildfires in Canada: Toolkit for Public Health Authorities - summarizes information and bring together existing resources to support public health authorities in the mitigation, preparedness, response and recovery to human health risks associated with wildfires		
	Sustainable C	limate & Health Financing	
Health Sector Funds	Climate Change and Health Capacity     Building Program (HealthADAPT &     HeatADAPT): Supports health system readiness to climate impacts.		