

PHS climate change and sustainability strategic approach 2023–2026

Working together to build a greener, fairer, healthier future





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Version history

Version	Date	Summary of changes
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Contents

Contents	2
List of abbreviations	4
Executive summary	5
Foreword	7
Introduction	10
About Public Health Scotland	10
About our strategic approach to climate change and sustainability	11
Climate, health and equity	12
Climate and health	12
Climate and equity	16
Co-benefits of climate action	17
Scotland's population health challenges	19
Legislative and policy landscape	22
Developing our strategic approach to climate change and sustainability	24
Our vision for Scotland	24
Mapping our activity on climate change and sustainability	24
Engaging with stakeholders	25
Our strategic approach to climate and sustainability	27
Enablers	28
Leadership	28
Collaboration	29
Insights	29
Skills	29
PHS's public body responsibility	30
Our goal	30
Actions	30

Long-term outcomes	32
Key measures	33
Supporting the delivery of NHSScotland's climate emergency and sustainability strategy, and social care partners' climate ambitions	35
Our goal	35
Actions	35
Long-term outcomes	37
Key measures	37
Population health	39
Our goal	39
Actions	39
Long-term outcomes	43
Key measures	43
Next steps	46
Glossary of terms	48
References	54

List of abbreviations

CCRA	Climate change risk assessment
COP26	26th Conference of the Parties
COSLA	Convention of Scottish Local Authorities
COVID-19	Coronavirus Disease of 2019
IPPC	Intergovernmental Panel on Climate Change
NHS	National Health Service
PHS	Public Health Scotland
SCCAP	Scottish Climate Change Adaptation Programme
UK	United Kingdom
WHO	World Health Organization

Executive summary

The climate and ecological emergency is here. Every continent in the world has now been affected by extreme weather events. Our changing climate is affecting the quality of the air we breathe, the security of food and water and the spread of infectious diseases. It is undermining the building blocks of health and wellbeing and threatening our way of life. In parallel, natural habitats and species are being lost at an unprecedented rate.

Planetary and human health are inextricably linked. In Scotland, climate impacts will exacerbate, and be exacerbated by, the significant population health challenges we face. Life expectancy and healthy life expectancy are falling in our most disadvantaged communities. Our population is ageing. The burden of disease is projected to rise in the coming decades. Entrenched inequalities are widening, leaving our most vulnerable and marginalised people and communities behind. Concurrent shocks, including the COVID-19 pandemic, the energy crisis and the cost-of-living crisis, have weakened the resilience of our systems.

Climate change, and the measures we take to stop its progress (mitigation) and adjust to its impacts (adaptation), present risks to and opportunities for human health through both direct and indirect pathways.

As Scotland's national public health agency, we are committed to working in collaboration with partners and stakeholders to adopt a rights-and-values-based public health approach to tackle the climate and ecological crisis. Through this we will contribute to achieving a just transition to net zero and build climate-resilient, healthy and equitable communities. The actions we take on climate change must deliver co-benefits for population health and equity. We must embed climate and sustainability considerations in all our work to address Scotland's population health challenges.

In developing Public Health Scotland's first strategic approach to climate change and sustainability, we reviewed the evidence on health-related climate impacts and mapped our activity against a World Health Organization framework on the health argument for climate action. We then engaged extensively with cross-organisational colleagues and multi-agency partners and stakeholders to understand our role, where we can add value and what our priorities for action must be.

Our strategic approach to climate change and sustainability will enhance preparedness, increase resilience, and protect and promote human and planetary health through aligned actions on climate, population health and equity. The scale and complexity of the challenges is great. We must collaborate with partners and stakeholders across the whole system to realise our vision of a Scotland where everyone thrives.

Our strategic approach focuses on three key areas:

- PHS's public body responsibilities
- Supporting delivery of the NHSScotland climate emergency and sustainability strategy and social care partners' climate ambitions
- Population health

For each area we have identified an overarching goal, high-level actions that we will take from 2023 through to 2026, the long-term outcomes we want to contribute to beyond 2026, and key measures to monitor our progress. Four enablers, leadership, collaboration, insights and skills, will support delivery of our strategic approach.

We will develop a coordinated time-bound action plan to sit beneath our strategic approach with an outcomes framework to track progress. Collaboration and effective partnership working will be essential to delivering our strategic approach. We will work in collaboration with our co-sponsors (Scottish Government and COSLA), the Sustainable Scotland Network, Adaptation Scotland, NatureScot, Transport Scotland and other key partners to integrate a public health approach to climate and sustainability through a population health and equity lens. Our strategic approach will support the shared priority of our co-sponsors, the Scottish Government and COSLA, to transform our economy through a just transition to deliver net zero, as set out in the Verity House Agreement. It will also support delivery of the core aims of the Scottish Government's Care and Wellbeing Portfolio. This portfolio brings together key reforms to improve population health and wellbeing, reduce health inequalities and improve the sustainability of health and social care systems.

Together, we will work toward making Scotland a fairer, healthier, greener place to be born, grow, learn, live, work, play and age.

Foreword

I am proud to introduce Public Health Scotland's (PHS's) first climate change and sustainability strategic approach, for 2023 to 2026.

The climate and ecological emergency is here.¹ Global temperatures and sea levels are rising. Extreme weather events are becoming more frequent. Species and natural habitats are being lost at an unprecedented rate.

Human and planetary health are inextricably linked.^{2,3} A clean, healthy and sustainable environment is a human right.⁴ Globally, air pollution, water scarcity, poor sanitation, food insecurity, changing patterns of infectious diseases and the displacement of people, all linked to climate change, are directly and indirectly impacting on the health and wellbeing of people and communities, placing additional pressure on our health and social care systems.¹⁻³

Scotland faces significant population health challenges.^{5,6} The COVID-19 pandemic and cost-of-living crisis have widened existing health inequalities. In our most disadvantaged communities, life expectancy and healthy life expectancy are falling. These same communities will be disproportionately impacted by climate change. Scotland's Chief Medical Officer has called for urgent action to address the climate emergency.⁵

To achieve our climate ambitions, transformational societal change is needed.^{7,8} We must adopt a rights-and-values-based public health approach to stop climate change and adapt to its impacts.¹⁻⁸ Climate risks are also opportunities to deliver 'triple-wins' for climate, population health and equity.^{1-3,5,9} Affordable high-quality housing that is warm, dry, well ventilated, provides thermal comfort and meets sustainability criteria can improve indoor air quality, help alleviate fuel poverty and improve physical and mental health and wellbeing.¹⁰ Planning new and existing communities for local living can improve quality of life, build community wealth, and strengthen local resilience.¹¹ Ensuring that all of Scotland's citizens have access to high-quality open spaces can improve physical and mental health and wellbeing and reduce inequalities.¹²

The publication of our strategic approach marks our ambition to capitalise on these opportunities as we move beyond acting to reduce our own direct carbon emissions to aligned actions that will shape Scotland's response to climate change.

We will collaborate with partners and stakeholders across the whole system to address the interlinked challenges of climate change, population health and equity. Individually and collectively, our actions must protect and promote the health and wellbeing of our people and planet. This is our chance to build a greener, healthier and fairer society.

My thanks go to PHS colleagues, and our partners and stakeholders that dedicated time, thought and effort to support the development of our strategic approach. I look forward to joining forces with you as we work towards creating a Scotland where everyone thrives.



Paul Johnston, Chief Executive of Public Health Scotland

‘Tackling the twin crises of climate change and nature loss is the collective fight of our lifetime, with huge implications for generations to come. From wildfires to flooding, this is affecting our lives right now in Scotland and across the world and the need for climate leadership could not be more urgent.’

The connections between tackling the climate crisis and improving public health are clear. We welcome the role that Public Health Scotland is playing in this area and look forward to working with them as they deliver on the vital goals of this strategy.’



Màiri McAllan, Net Zero Secretary

‘It’s imperative that we recognise the health impact of worsening climate change on communities throughout Scotland. Climate change is not just an environmental crisis but potentially is also a social, economic and health crisis for the people of Scotland. I therefore support Public Health Scotland in its strategic work to embed health and wellbeing into the climate response.’



Councillor Gail Macgregor, COSLA Environment and Economy Spokesperson

Introduction

About Public Health Scotland

Established on 1 April 2020, **Public Health Scotland** (PHS) is a national NHS Board. Uniquely, we are co-sponsored by the **Scottish Government**, and the **Convention of Scottish Local Authorities** (COSLA), on behalf of local government.

As Scotland's national public health agency, we lead and support work across Scotland to

- prevent disease
- prolong healthy life
- promote health and wellbeing.

Our strategic plan 2022–2025 outlines our contribution to achieve a Scotland where everybody thrives.¹³ Our programmes of work focus on reducing Scotland's health inequalities and improving life expectancy.

We work collaboratively with partners and stakeholders across three domains of public health:

- **Health improvement.** Enabling people and communities to improve their health and wellbeing by addressing the wider determinants of health.
- **Health protection.** Preventing and responding to contagious or infectious diseases and environmental hazards, and promoting resilience to future risks.
- **Healthcare public health.** Improving population health by preventing disease or improving health-related outcomes through access to and use of effective healthcare interventions or treatments.

About our strategic approach to climate change and sustainability

With a step-change in urgency and ambition we set out our contribution, over the next three years, to support delivery of Scotland's net-zero, nature-positive, climate-adaptation ambitions. We will place population health and equity at the heart of Scotland's response to the climate emergency.

The first half of our strategic approach describes the direct and indirect impacts of climate change on population health and equity.

The second half outlines our role responding to climate change and the loss of our planetary ecosystems through a range of actions that will help to build climate-resilient, healthy and equitable places.

The social, cultural, political, economic, commercial and environmental conditions needed to deliver a just transition and equitable adaptation to our current and future climate are the same conditions that can improve population health and reduce inequalities.^{1-3,6,13} Climate risks are also opportunities for 'win-win' actions that can deliver multiple outcomes across multiple sectors.^{2,3,14} Given the urgency with which we must act, the scale of the challenge and the current economic context, collaborative working to identify and agree priorities and shared outcomes will be critical to achieving Scotland's climate ambitions.

Working collaboratively with local and national partners and stakeholders across the whole system, our strategic approach focuses on:

- PHS's **public body responsibilities**¹⁵
- Supporting the delivery of the **NHSScotland climate emergency and sustainability strategy**,¹⁶ and social care partners' climate ambitions
- Population health

Climate, health and equity

Climate and health

Human activities, primarily the burning of fossil fuels releasing greenhouse gases, have caused our planet's surface temperature to rise by, on average, 1.1°C from pre-industrial levels.¹ The legally binding **Paris Agreement** aims to limit global temperatures to well below 2°C, preferably 1.5°C, above pre-industrial levels to prevent the most extreme impacts of climate change.¹⁷

The **Intergovernmental Panel on Climate Change** (IPCC) has confirmed that across the world communities are experiencing direct and indirect impacts of climate change in a number of different ways.¹ In Scotland, extreme temperatures, frequent flooding, coastal erosion and changes to our natural environment will have wide-ranging effects on population health and wellbeing.⁹



Members of the Children's Parliament on the impacts of climate change:¹⁸

'It can have an impact on our way of life, on food, water, health and housing as well as our rights to do what we want to in our world.'

'It threatens our world as it affects our food and water, the air we breathe and our health.'ⁱ

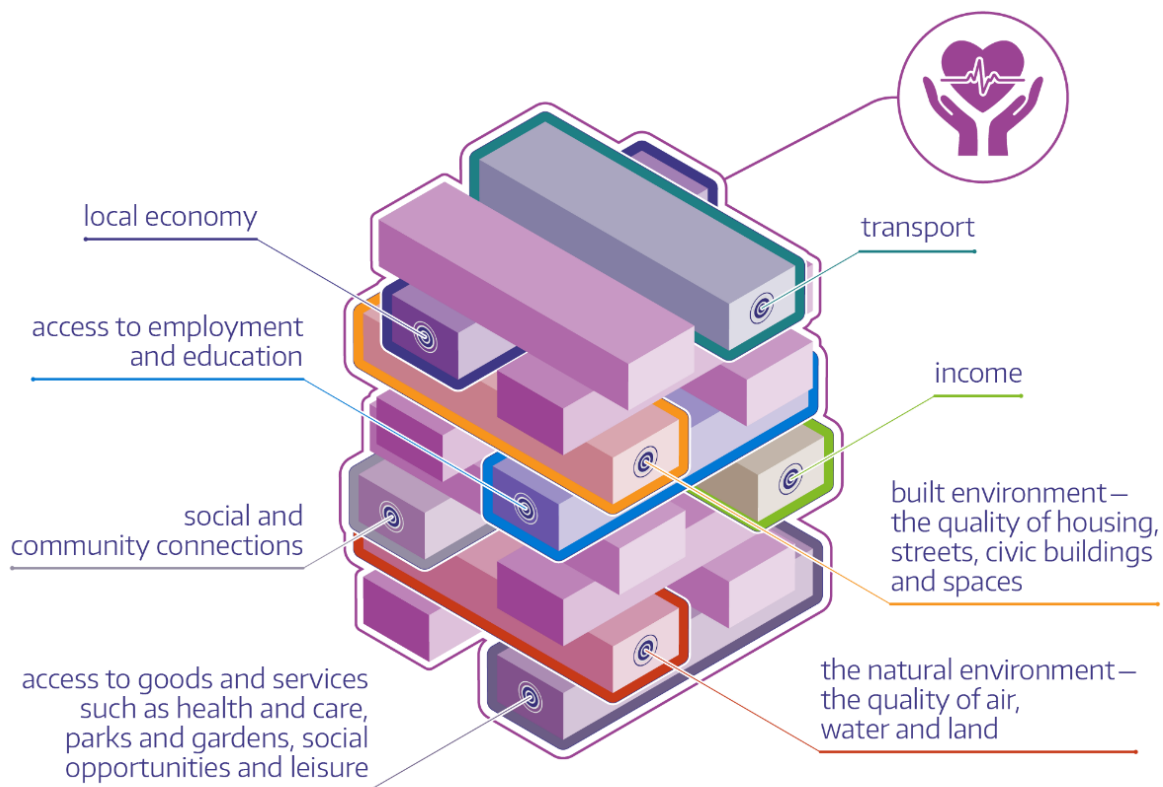
ⁱ From October 2020 to March 2021, just over 100 Members of Children's Parliament aged 7 to 14 years from across Scotland investigated climate change for Scotland's Climate Assembly. The children's calls to action on how Scotland should tackle the climate emergency were presented to the Scottish Parliament as part of Scotland's Climate Assembly report and recommendations.¹⁸ These quotes from the report highlight the children's views on how climate change could significantly compromise children's and adults' rights to life, survival and development, if tackling the climate emergency is not urgently addressed.

Higher temperatures increase heat-related illnesses as well as cardiac, respiratory, cerebrovascular and mental health conditions, causing excess deaths.^{1-3,5} Although Scotland will be warmer, because our population is ageing and the current and future projected burden of disease is high,¹⁹ there may also be an increase in excess deaths due to cold weather. Changes in temperature and rainfall will affect airborne pollen from trees and fungal spores that can trigger hay fever and exacerbate asthma symptoms.^{1-3,9}

Heavy rainfall and rising sea-levels are likely to increase the risks to health from river water, surface water and coastal flooding.^{1-3,9} Flooding may directly cause injury or death from drowning or hypothermia.²⁰ Loss of belongings, temporary homelessness, loss of utilities and disruption to education, work and health and social care services may indirectly negatively impact on physical and mental health and wellbeing.²⁰ Health-harming air pollutants, including particulate matter, nitrogen dioxide and ozone, contribute to poor indoor and outdoor air quality, causing excess deaths.¹⁻³

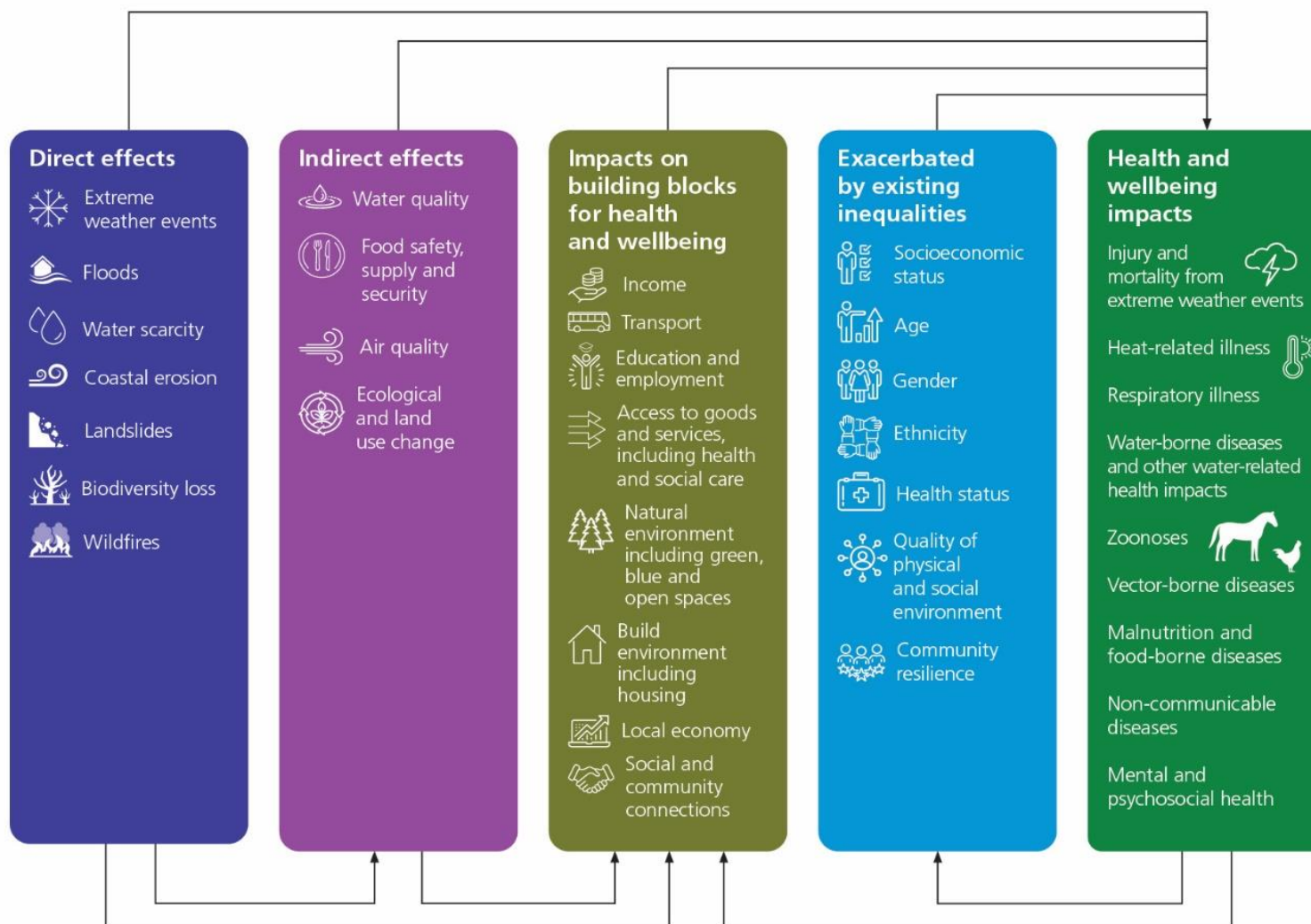
Climate change will indirectly impact health by undermining the building blocks of health and wellbeing in local places.^{1-3,9,14} These include affordable quality housing; accessible and affordable transport; biodiversity and high-quality blue, green and civic spaces; affordable, sustainably produced healthy food; education and fair work; health and social care services; and connected and empowered communities.

Figure 1: Building blocks of health and wellbeing¹⁴



Global climate change impacts may indirectly affect Scotland through the movement of people, goods and finances.^{1-3,21,22} International travel, violent conflict and immigration may contribute to the spread of existing and emergent infectious diseases that could cause future pandemics. Climate change has already exacerbated over 200 infectious diseases, and is changing the distribution of water, food, and vector-borne diseases and zoonoses.²²

Figure 2: The direct and indirect effects and impacts of climate change on health and wellbeing (infographic by Watt et al adapted for used by PHS³)



Climate and equity

Health inequalities are unfair and avoidable differences in health outcomes between groups of people.²³ These are caused by the unequal distribution of income, power and wealth which influence access to the building blocks of health and wellbeing, leading to poverty and marginalisation. Health inequalities are not inevitable. They are caused by the way that society is structured and organised.

Some people and communities are more likely to be exposed to, vulnerable to, and less able to respond and recover from, climate impacts.^{1-3,9,14,24} They are disproportionately impacted by climate change, exacerbating existing inequalities. This is unjust.

For example, environments characterised by poor-quality housing and lack of high-quality open spaces increase exposure to climate impacts. Individual factors, like age and existing health problems, may increase the likelihood of health-related climate impacts. Poverty, lack of resource and influence, social isolation and communication challenges may limit the ability of an individual or community to respond to and recover from climate impacts.

The interplay between personal, social, cultural, political, economic, commercial and environmental factors is complex and intersectional.^{13,14,23,24} People and communities can experience multiple drivers of poor health and wellbeing at the same time. These drivers can act independently, and cumulatively, across the life course to multiply risk.

To protect human and planetary health, urgent action is needed to reduce greenhouse gas emissions (mitigation) and ensure that our people, communities and systems are prepared for, and resilient to, current and future climate changes (adaptation).^{1-3,7,8} Mitigation and adaptation must be fair and address the avoidable differences in health outcomes between different populations.^{14,15,25} This is equity. Health equity is achieved when everyone can reach their full potential for health and wellbeing.²⁵

Co-benefits of climate action

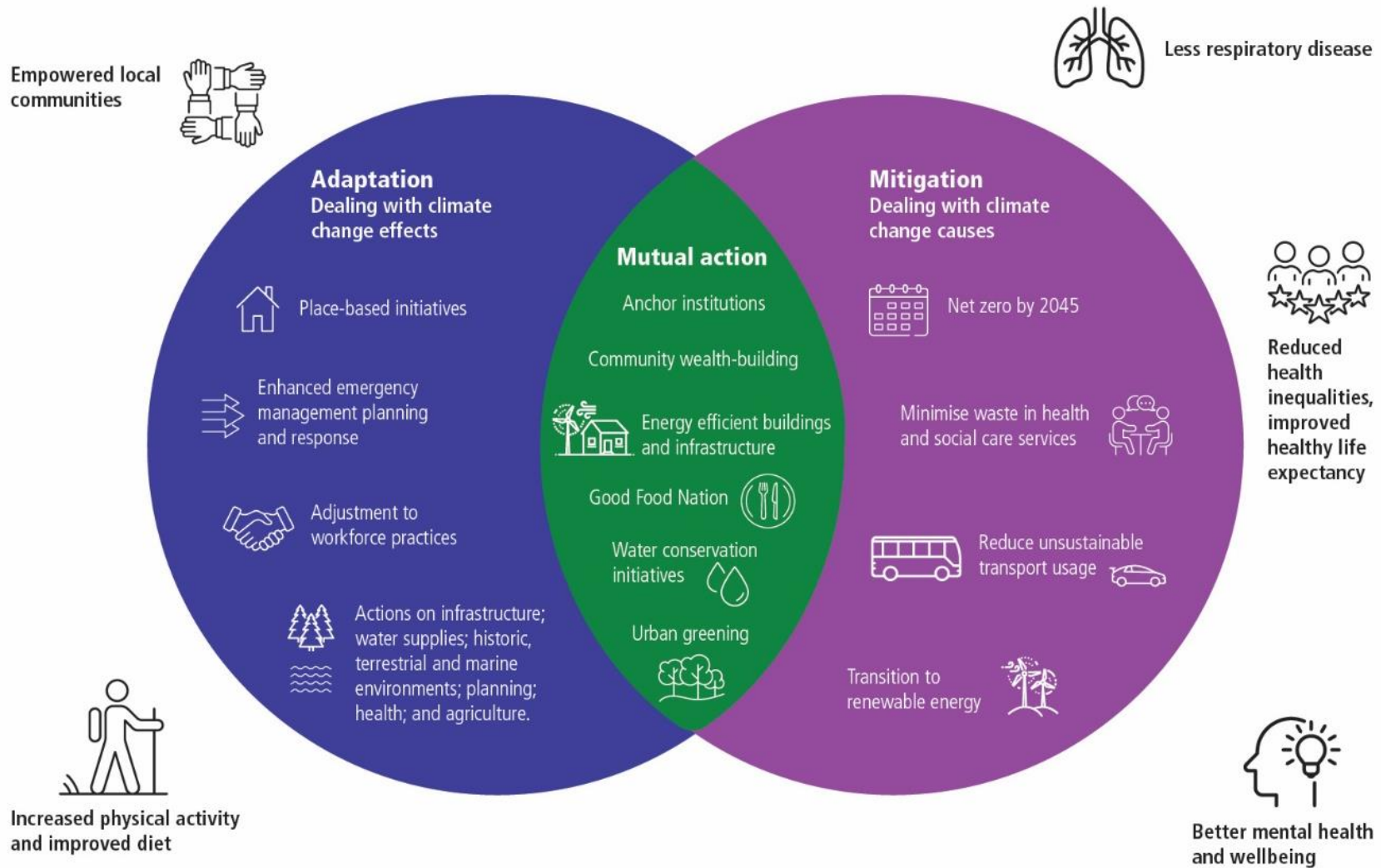
Climate change has been described as the largest threat to the future of global health, but also the greatest opportunity of the 21st century to redefine the building blocks of health and wellbeing.³

Scotland's vision for a fair, green 'wellbeing economy' is one in which our economic system, operating within safe environmental limits, serves people first, now and for the future.²⁶ This has the potential to achieve transformational societal change to address the interlinked challenges of climate, population health and equity delivering a 'triple win'. Creating a net-zero, nature-positive, climate-resilient future to enable healthy communities to thrive requires investment in areas such as transport, housing, green energy and the natural environment, as well as the economy.

For population health and wellbeing, people and communities need:⁹

- accessible and high-quality blue, green and civic spaces
- warm, dry, ventilated high-quality housing that provides thermal comfort and meets sustainability criteria
- affordable, accessible, sustainable transport systems
- sustainable, affordable, healthy food
- sustainable, equitable health and social care systems
- education, training, skills development, and fair, green jobs
- a sustainable local economy that prioritises population health and wellbeing, creates opportunities for community participation and operates within safe environmental limits.

Figure 3: Population health co-benefits of climate action (infographic adapted for used by PHS, source²⁷)



The **Place principle**, adopted by the **Scottish Government** and **COSLA**, states that all those responsible for providing services and looking after assets in a place need to work and plan together with local communities to improve the lives of people, support inclusive and sustainable economic growth, and create more successful places.²⁸ **The Place Standard tool** can be used to build a shared understanding of place and helps partners and communities collaborate to achieve better outcomes.²⁹ A new **Place Standard tool with a Climate Lens** is now available.³⁰

Case study: The Place Standard tool with a Climate Lens

A new 'Climate Lens' is now available for the Place Standard tool³⁰ that enables users to consider climate change at a local level. It offers communities the opportunity to consider the impact of climate change on health and wellbeing and Scotland's places. Building on the original **Place Standard tool**,²⁹ it is designed to support a joined-up, collaborative and participative approach to climate action within a place. It includes an extensive suite of tools for facilitators and organisers of Place Standard sessions. It has been developed within a collaborative partnership between **Sniffer, Sustainable Scotland Network, Architecture & Design Scotland, Scottish Government** and **Public Health Scotland** over an eighteen-month period engaging eight communities from across Scotland in the development process. Following its launch in December 2022, a further three communities are trialling the Climate Lens to consider its future application and development.

You can learn more about the **Place Standard with a Climate Lens** by visiting this website: www.ourplace.scot/Place-Standard-Climate

Scotland's population health challenges



Scotland faces significant population health challenges.^{6,13,31} Our **Chief Medical Officer's Annual Report 2023** identified four concurrent challenges to population health in Scotland:

1. The threat posed by the spread of infectious diseases.
2. The enduring challenge of improving health and reducing inequalities.

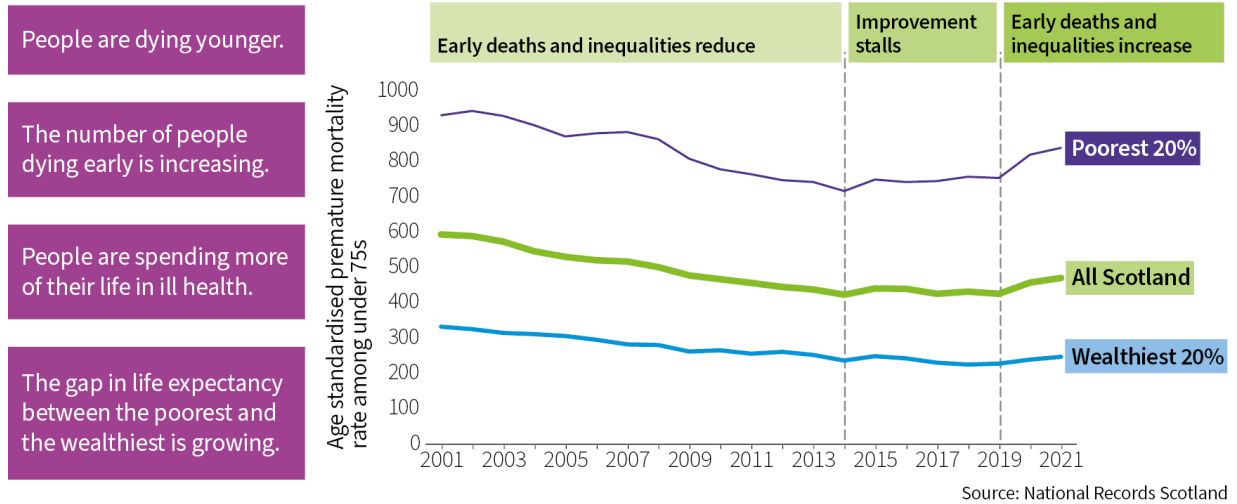
3. Delivering sustainable health and social care services to meet population needs when the burden of disease in Scotland is projected to increase by 21% by 2043.¹⁹
4. The urgency with which we must address the climate emergency.

Adopting a rights-and-values-based **whole-system approach**³² that aligns actions to address these interlinked challenges can help to build a healthier, fairer, greener Scotland.

Figure 4: Scotland's population health challengesⁱⁱ

-  People in the poorest neighbourhoods die 10 years before people in the wealthiest neighbourhoods
-  People in Scotland die younger than other UK and Western European countries

After decades of improvement, Scotland's health is worsening



-  1 in 4 households living in fuel poverty
-  1 in 4 children living in poverty
-  2 in 3 of low-income households have at least one adult in work
-  By 2045, Scotland's estimated population of 65+ up to 29.7%

The burden of disease in Scotland is forecast to increase 21% by 2043

Two-thirds of this increase will be due to increases in:

-  Cancers
-  Cardiovascular disease
-  Neurological conditions

ⁱⁱ The terms poorest and wealthiest, in this context, refer to multiple deprivation as measured by the Scottish Index of Multiple Deprivation (SIMD) 2020, most deprived and least deprived respectively. More information on SIMD can be found at www.gov.scot/collections/scottish-index-of-multiple-deprivation-2020

Legislative and policy landscape

The **Climate Change (Scotland) Act 2009** sets out the legislative framework for climate action in Scotland.³³ Secondary legislation sets out a duty on public bodies to report on compliance with their climate change duties.¹⁵ In the **Climate Change (Emissions Reduction Targets) (Scotland) Act 2019**, the Scottish Government sets a revised ambition of achieving net zero by 2045.³⁴

The **Update to the Climate Change Plan 2018–2032** sets out a pathway to meet Scotland's emissions reduction targets over the period 2018 through to 2023.³⁵ A refreshed plan due to be finalised in 2025 will cover the period up to 2040.

In 2018, a **Just Transition Commission** was set up as an independent advisory board to advise Scottish Ministers on how to apply Just Transition principles across sectors on Scotland's journey to a low-carbon economy.³⁶ In response, the Scottish Government created a **Just Transition planning framework** to guide activity and commit to preparing Just Transition plans for key sectors and regions across Scotland. This includes land use and agriculture, transport, energy, the built environment and construction.³⁷ A **refreshed Commission** has a remit to scrutinise and advise on this planning activity.³⁸

The **UK Government** must publish a UK Climate Change Risk Assessment (UKCCRA) every five years under provision in the **Climate Change Act 2008**.³⁹ This sets out risks and opportunities from climate change that the UK faces. The third assessment, **UKCCRA3**, was published in January 2022.⁴⁰ The **Climate Change Committee**, an independent statutory body, prepares independent advice reports on progress made in reducing greenhouse gas emissions and preparing for and adapting to the impacts of climate change for the UK Government and devolved administrations, that are reported to Parliament.⁴¹

As soon as is reasonably practical after each CCRA the Scottish Government must set out their response in a national adaptation programme, the Scottish Climate Change Adaptation Programme (SCCAP). Scotland's second adaptation programme, **SCCAP2**, covers the period 2019 through to 2024.⁴² The latest progress report prepared by the Climate Change Committee, **Is Scotland climate ready?**

was submitted to the Scottish Parliament in 2022.⁸ A refreshed SCCAP will be published in 2024.

The climate emergency is happening within a much broader legislative and policy landscape that includes Scotland's **Environment Strategy**,⁴³ **Biodiversity strategy**,⁴⁴ the upcoming national and relevant authority **Good Food Nation Plans**,⁴⁵ **National Transport Strategy**,⁴⁶ **Spatial Planning Frameworks**,⁴⁷ and **open space strategy**⁴⁸ requirements. The recent **Verity House Agreement**,⁴⁹ with its priority to transform our economy through a just transition to deliver net zero, provides the local context.

'The Directors of Public Health in Scotland are clear that the triple planetary crises of climate change, air pollution and biodiversity loss are driving a public health emergency that requires our collective action. Local public health teams are engaged in activities to reduce air pollution and are contributing to local action to take forward climate change adaptation across the whole public health system in areas such as active travel, use of green and blue spaces, and energy use and poverty. Public Health Scotland's first 'Climate change and sustainability strategic approach' sets out a very welcome set of actions that will enhance our existing national and local efforts to protect and promote human and planetary health.'

Susan Webb, Chair of the Scottish Directors of Public Health Group



Developing our strategic approach to climate change and sustainability

Our vision for Scotland

A public health approach to climate change will enhance preparedness, increase resilience, and protect and promote human and planetary health through aligned actions on climate, population health and equity.

The scale and complexity of the challenges are great. We must collaborate with partners and stakeholders across the whole system to realise our vision of a Scotland where everyone thrives.

Mapping our activity on climate change and sustainability

In developing our strategic approach, we reviewed evidence on the interface between climate and health. Taking account of the international, UK, national and local policy context, we identified key contributions public health actors could make to the climate change agenda. We mapped our activity against the framework set out in the World Health Organization's (WHO's) **COP26 special report on climate change and health: the health argument for climate action** to identify areas where we were contributing to the climate agenda, and gaps where future actions could focus.²

WHO recommendations on climate change and health adapted for Public Health Scotland²

1. Commit to a healthy, green and just recovery from COVID-19.
2. Place health and social justice at the heart of our international connections.
3. Harness the health benefits from climate action and prioritise those with the largest health, social and economic gains.
4. Build climate-resilient and environmentally sustainable health systems, and support health adaptation and resilience across sectors.
5. Guide a just and inclusive transition to renewable energy to save lives from air pollution, and end energy poverty in households and care facilities.
6. Promote sustainable, healthy urban design and transport systems, with improved land use, access to green and blue spaces, and priorities for active travel and public transport.
7. Protect and restore natural systems as the foundation for healthy lives and livelihoods.
8. Promote healthy, sustainable and resilient food systems which are affordable and deliver on **Good Food Nation Plans**,⁴⁵ climate and health outcomes.
9. Transition towards a wellbeing economy.
10. Mobilise and support the health community on climate action.

Engaging with stakeholders

We carried out extensive consultation with colleagues working across PHS. Working with the **Sustainable Scotland Network** we engaged with multi-sectoral, multi-agency partners and stakeholders, including local and national government, the third sector, the NHS, and other public bodies and academia. From May through July 2023, almost 200 people took

part in four workshops to inform the development of our strategic approach to climate change. Across the four engagement workshops, we heard that:

- PHS has an important and valued role to play in being an active and vocal collaborator on climate and health policy, practice, and partnerships.
- PHS is regarded as a trusted voice of expertise, and should play an active role in improving understanding, collaboration and decision-making in the public sector.
- PHS can contribute important data and insights to help public bodies, at national and local levels, better account for and deliver on climate and health outcomes.
- The key areas for action on climate change are connected well with many of the key policy areas relevant to public health outcomes, including energy, transport and travel, food, and place-making and spatial planning. Public-sector practitioners see an important and distinct role for PHS in these policy areas.
- The workshops supported PHS taking a systems approach to delivering public health outcomes and called for policy and action on climate and health to be better integrated and embedded across the public sector.
- The workshops identified the need for more to be done to foster consistent approaches, improve communications and public-sector collaboration, and to scale up the resources, tools and training available on climate and health. Delegates saw a vital role for PHS in fostering, advocating for and developing collaborative solutions to these challenges.

The findings from our stakeholder engagement were reflected in the ambitions and actions set out in our strategic approach to climate change, focusing on those areas where PHS can add value at local, national, UK and international level.

Our strategic approach to climate and sustainability

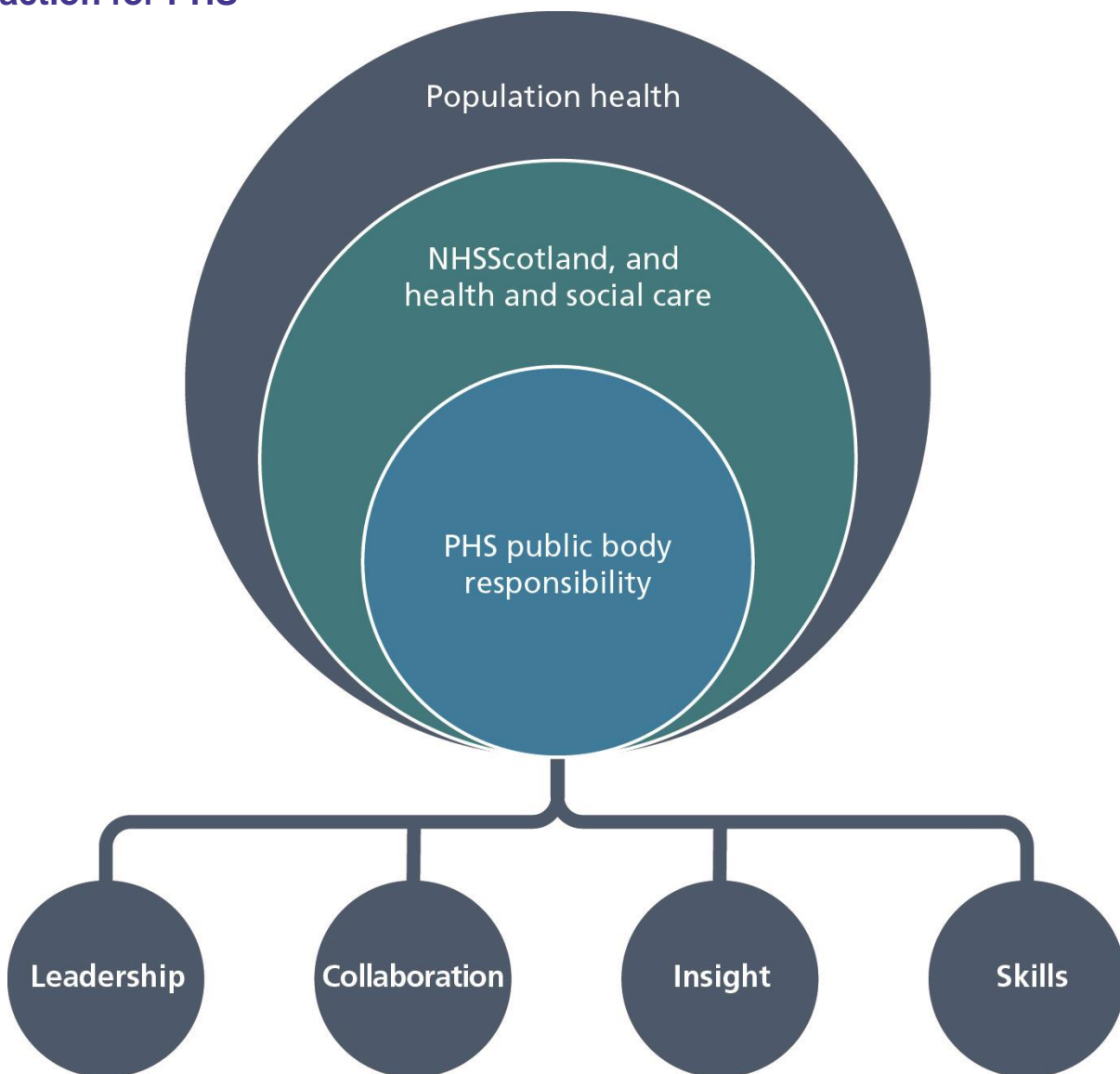
Our strategic approach focuses on three areas:

- PHS's **public body responsibilities**.¹⁵
- Supporting the delivery of the **NHSScotland climate emergency and sustainability strategy**,¹⁶ and social care partners' climate ambitions.
- Population health.

For each area we have:

- stated our overarching goal
- identified actions we will take from 2023 through 2026, to contribute to achieving that goal
- set out long-term outcomes we want to contribute to beyond 2026
- described measures to track progress against these outcomes.

Figure 5: Enablers of, and focus areas for, climate and sustainability action for PHS



Enablers

The four key enablers that will support delivery of our strategic approach are:



Leadership

As Scotland's national public health agency, we have a unique role to play in shaping the development, delivery, monitoring and evaluation of local and national policies to address

Scotland's population health and equity challenges and protect the health and wellbeing of our communities. We have a lead role to play in shaping the narrative on the risks and opportunities that climate change brings for population health and equity outcomes.



Collaboration

We will only achieve our ambitions by working closely across teams within PHS, and with a range of intersectoral partners and stakeholders adopting a **whole-system approach**³² to tackling climate change. We must embed climate action in all our existing and future programmes of work. Working with partners and stakeholders we will seek to embed health and equity in all policies across all sectors.



Insights

Timely, accurate and actionable public health knowledge, intelligence and evidence must underpin planning and decision-making. PHS has a lead role in developing intelligence to understand, measure and monitor climate-related health and equity impacts at the population level in Scotland and in sharing evidence of policy and practice that contributes to better outcomes. Collaborating with interdisciplinary partners and stakeholders, we will identify information gaps and upcoming intelligence needs. We will meet these, enabling effective policy development. Working with local areas we can identify opportunities to adopt a 'Once for Scotland' approach, supporting spread and scale of effective action and policy.



Skills

To realise transformational change, we must build capacity and capability in the wider public health workforce. In collaboration with partners and stakeholders, PHS has a role in learning and development, equipping the wider public health workforce with the values, knowledge, skills and agency to take individual and collective action that can contribute to net zero, climate resilience, population health and wellbeing, and equity.

'It is now very clear: climate change is real, it is happening now, and we must take effective action to prevent or minimise the harmful impacts of the climate emergency on the health of the Scottish population. Reducing the levels of greenhouse gases, making our health and care systems less damaging to the environment, and building more sustainable communities are all important ways in which we will adapt to meet the challenges of the climate emergency. By making work to address the climate emergency part of its everyday core activities, Public Health Scotland's new strategy is providing an example to Scotland.'

Phil Mackie, Consultant in Public Health, NHS Grampian, and on behalf of the Scottish Directors of Public Health in his role as Chair of Climate Emergency and Sustainability Subgroup



PHS's public body responsibility

Our goal

PHS will become a net-zero, climate-resilient and sustainable organisation.

Actions

Delivering against our goal, our actions will focus on:

- **Defining and responding to the scope of PHS's contribution to climate change.** Ensuring that we take measures to address our emissions, and we contribute to the broader efforts to combat climate change in Scotland. Our business practices will reflect our net-zero ambitions. We will work closely with our shared service provider

and other national Health Boards to continue to implement proactive strategies across energy efficiency, sustainable procurement, waste management and use of active transport to reduce our carbon footprint.

- **PHS's organisational culture.** Supporting PHS colleagues to develop their understanding of climate change and embrace more sustainable ways of working that contribute to personal and organisational health and wellbeing.
- **Leading the change.** Promoting sustainability and climate action across our workforce, demonstrating our commitment to environmental stewardship.

By 2026 we will:

- Develop a route map with clear milestones which charts our journey towards becoming a net-zero-carbon and climate-resilient organisation.
- Ensure a robust environmental management system to measure carbon emissions from direct PHS activities and support the prioritisation of improvement activities for those areas which will have the greatest impact.
- Deliver a PHS estates strategy that ensures the organisation is climate resilient and can achieve net zero carbon by 2040. This will include, where relevant, ensuring new development and retrofit of existing development fully responds to the intent and outcomes of **National Planning Framework 4**.⁴⁷
- Manage our offices, working with co-location partners and building owners, to minimise our use of energy and physical resources and reduce waste.
- Ensure our environmental ambitions are clearly expressed through our strategic and business planning processes, to drive ownership across our workforce.
- Ensure integration of climate ambitions into the PHS procurement strategy.
- Work with other building tenants and owners to improve our ability to use data to internally monitor and report our progress towards becoming a net-zero organisation.

- Work with **NHS National Services Scotland** to maximise our digital capability, making effective use of our existing technology and resources, and seeking out new solutions where appropriate, to reduce our carbon footprint.
- Regularly review and audit our online content and physical publications to reduce their environmental impact.
- Deliver a sustainable travel strategy with the purpose of continuing to reduce our business-related travel through smarter and more effective ways of working and the use of more sustainable methods of transport.
- Ensure that our business processes and policies encourage our workforce to choose the most environmentally sustainable options.
- Create a green champions network for PHS colleagues to encourage colleague-led activity that promotes more sustainable behaviours and practices across PHS, and in our personal lives.
- Support our colleagues to embrace more environmentally conscious decision-making at work, from waste reduction and recycling to choices on project design and delivery.
- Develop our workforce to have the values, knowledge, skills and agency to share our key messages on climate, population health and equity at meetings, conferences and other external forums.

Long-term outcomes

The long-term outcomes we want to achieve are:

- PHS is a net-zero, climate-resilient and sustainable organisation by 2040 – earlier if possible.
- Environmental considerations are embedded into our strategic, business and organisational plans, policies and procedures.

- Structures are in place in PHS to ensure oversight, accountability and transparency in our climate-related decision-making, and to track progress.
- Enhancement of PHS's digital capability, in line with technological advancements, to support our sustainability ambitions.
- The PHS workforce adopts green practices and sustainable ways of working, with co-benefits for their own health and wellbeing.
- Our ways of working clearly demonstrate a commitment to sustainability, health and equity, leading change in others.
- Our environmental performance is proactively managed and goes beyond mandatory requirements.
- We understand the potential impact of climate change on the organisation and have the governance, culture and skills to be adaptable to a changing climate.
- We expand our work with partners to share resources – physical, knowledge or skills – to make the most efficient use of our shared assets and reduce waste.

Key measures

The key outcomes we will measure are:

- Number of environmental performance metrics tracked beyond legal requirements, reflecting PHS's proactive approach to managing its environmental impact to reach its net-zero target by 2040 or earlier.
- Clear inclusion of environmental factors in business planning and reporting.
- All papers to the PHS Board and governance committees include climate impact considerations.
- Increase in the adoption and implementation of digital technologies and innovations to enhance sustainability efforts and PHS's carbon footprint.

- Increase in the proportion of PHS staff who report using sustainable modes of travel to work from baseline survey.
- Number of staff that participate in organisational-wide climate-related colleague engagement campaigns and initiatives.
- Assessment of PHS's ability to identify and tackle potential climate change impacts on its operations, measured through adaptation plans and successful implementation of resilience measures.

'Climate change is not just an environmental challenge. It is a profound public health issue. Embracing climate action is fundamental to safeguarding the wellbeing of present and future generations. That is why our climate strategy prioritises the achievement of net zero, climate resilience and adaptation, aiming to create a Scotland where communities thrive amid changing environmental challenges.'

Ewan Pow, PHS Non-Executive Director and Board Climate Change and Sustainability Champion





Supporting the delivery of NHSScotland's climate emergency and sustainability strategy, and social care partners' climate ambitions

Our goal

We will support the delivery of **NHSScotland's climate emergency and sustainability strategy**,¹⁶ encouraging NHS Boards to look beyond delivery of their core functions and consider how they can maximise their contribution to improving the health and wellbeing of communities.

We will collaborate with our co-sponsors, the **Scottish Government** and **COSLA** to understand how we can support the social care sector to respond to the climate emergency to inform future iterations of our strategic approach to climate change and sustainability.

Actions

Delivering against our goal, our actions will focus on:

- **Place-based impact.** PHS has an established **anchor institution programme**,⁵⁰ working jointly with the Scottish Government through the **Place and Wellbeing Programme**⁵¹ in the **Care and Wellbeing Portfolio**,⁵² to support NHS Boards. Through engagement with the communities they serve, NHS Boards can leverage their resources, expertise and long-term commitment for the benefit of these communities to address the interconnected challenges of climate, population health and equity.
- **Learning and development.** PHS recognises the importance of equipping the NHS workforce with a better understanding of the link between climate, population health and equity. Health services and clinicians can play a role in advocating for health promoting, environmental action in areas such as transport and access to nature. We will collaborate with our partners to develop climate change awareness training and educational resources for the NHS and wider public health workforce.

- **Public health knowledge, intelligence and evidence.** It is imperative that NHSScotland has access to the relevant data and evidence to monitor and assess progress against its **climate emergency and sustainability strategy**.¹⁶
- **Strategy and governance.** We will continue to engage with local and national government and NHS Boards to determine how and where we can most effectively contribute to a public health response to the climate emergency.

By 2026 we will:

- Support Health Boards to deliver on their **anchor organisation** role, using place-based approaches to maximise the population health and equity co-benefits for communities in a way that best meets their needs.
- Encourage Health Boards to engage, participate in and contribute to climate planning with local partners through key forums such as community planning partnerships, integrated joint boards, regional economic partnerships and city region deals.
- Lead the development of the health and wellbeing component of the natural capital assessment process in NHSScotland to value the NHS estate.
- Support **Green Exercise Partnership**⁵³ in development of NHS greenspace interventions to maximise health benefits.
- Within the greenspace and biodiversity workstream, develop guidance for NHS Boards to develop and implement a strategic framework for greenspace connecting the NHS estate with local authority **open space strategies**.⁴⁸
- Establish a learning network to support Health Boards to develop **Green Health Partnerships**⁵⁴ to maximise the therapeutic benefits of the environment for staff, patients and their local communities.
- Work with NHS partners including **National Services Scotland** and **NHS Education for Scotland** to develop e-learning modules for NHSScotland colleagues which strengthen their understanding of the climate emergency as a public health issue.

- Scope the health data and intelligence requirements of the **Scottish Government** and NHS Boards to supporting the delivery, monitoring and evaluation of **NHSScotland's climate emergency and sustainability strategy**.¹⁶
- Produce an up-to-date, digital NHSScotland geographic information system map of the NHS estate.
- Continue to participate in, and provide public health support to, the NHS Climate Emergency and Sustainability Strategy Board and delivery workstreams on the building blocks of population health and equity and generation of health benefits through climate action.
- Support the **Verity House Agreement**⁴⁹ collaborating with our co-sponsors, the **Scottish Government** and **COSLA**, to understand how we can support the social care sector to respond to the climate emergency. This will inform future iterations of our strategic approach to climate change and sustainability.

Long-term outcomes

The long-term outcomes we want to achieve are:

- NHS Boards fulfil their anchor institution responsibilities and contribute to creating net-zero, nature-positive, climate-resilient, healthy and equitable communities across Scotland.
- NHSScotland has access to the relevant public health data and intelligence to monitor progress on delivery of its **climate emergency and sustainability strategy**.¹⁶
- The NHS workforce has a high level of awareness and understanding of climate change as a significant public health issue.

Key measures

The key outcomes we will measure are:

- The number of NHS Boards that are actively engaged in initiatives to fulfil their **anchor institution** responsibilities.
- The number of NHS Boards using the **Place Standard tool with a Climate Lens**³⁰ to engage with local communities, enabling them to have a voice in the development of local services.
- Establishment of a learning network to support **Green Health Partnerships**.⁵⁴
- Completion of geographic information system mapping of the NHSScotland outdoor estate.
- Development of a health and wellbeing component of a natural capital assessment tool.

Case study: Mapping NHSScotland's outdoor estate

PHS is supporting the delivery of **NHSScotland's climate emergency and sustainability strategy**¹⁶ by leading the geospatial mapping of the NHS estate. This will allow Health Boards to visualise the boundaries of their estate and the types of land within, based on Ordnance Survey mapping and greenspace datasets.

While PHS has led this work, its benefits are for local NHS Boards and the communities in which they sit. We aim to align the assessment of the typology of land with the approach used by local authorities in their **open space strategies**.⁴⁸ This ensures our NHS estate is seen as part of the public realm, connecting to local communities and to green networks, thus contributing to the outcomes **open space strategies**⁴⁸ need to deliver for health, the environment and biodiversity. It also supports our function as an **NHS anchor organisation**.⁵⁰

The work is also part of developing a natural capital accounting approach for the NHSScotland estate. This is led jointly by **Public Health Scotland** and **NatureScot**, with PHS focusing on how we value the health and wellbeing benefits this brings for patients, staff and communities. It should also help NHS Boards to assess other areas where they can maximise sustainability benefits from the estate.

‘The climate emergency is no longer a potential or a distant threat. Instead, it is a public health emergency, already unfolding in multiple ways and affecting people globally. It requires greater action now to prevent its worst impacts, and health and care services must make their contribution in understanding and reducing these impacts. Clinicians and staff can be at the heart of work to achieve a culture of stewardship within NHSScotland, where resources are safeguarded and used responsibly to provide environmentally sustainable healthcare that delivers both for our patients and for our planet.’

Professor Sir Gregor Smith, Scotland’s Chief Medical Officer



Population health

Our goal

We will play a lead role in delivering transformational societal change through a just transition to a net-zero, nature-positive, climate-resilient Scotland, maximising population health, wellbeing and equity co-benefits and minimising health harms.

Actions

Delivering against this goal, our actions will focus on:

- **Creating understanding.** Raising awareness of the interconnected issues of climate, population health and equity. Engaging with the public, the wider public health workforce and policymakers to communicate how our changing climate affects health

and how climate action can contribute to improved population health and equity outcomes.

- **Developing and enhancing research, evidence and evaluation.** Building the evidence base to understand vulnerabilities to, and differential population health and wellbeing effects of, climate impacts in Scotland – and assessing the potential risks and opportunities to population health and equity from climate action.
- **Driving leadership and collaboration.** Through stakeholder engagement and advocacy, using an 'evidence into action' approach, integrate population health and equity into UK, national, regional and local climate policies and practices.
- **Ensuring preparedness and response.** Preparing for and responding to risks to health arising from climate change, such as adverse weather events and emerging climate sensitive infectious diseases.

By 2026 we will:

- Develop a communication strategy on the climate emergency as a public health issue, applying insights on framing from our partnership with **The Health Foundation**. Our communications will highlight population health and equity co-benefits of action taken at individual, organisational and community level, to tackle climate change. This links to the **Scottish Government's public engagement strategy for climate change**.⁵⁵
- Use PHS's existing programmes to disseminate climate, population health and equity messages through planned activities using communication channels, such as newsletters and blogs.
- Evaluate the impact of PHS's public communications on climate, population health and equity, considering emergent evidence on behavioural science and risk communication to continuously improve our core messaging.
- Develop our population health surveillance capacity, data and intelligence to understand, measure and monitor the direct and indirect population health and equity impacts of climate change in Scotland. For example, the health effects of adverse

weather events and climate sensitive infectious diseases. We will work at local, regional, national, UK and international levels to ensure data inform responses.

- Undertake a feasibility study of the potential to develop Scotland-specific climate-related health metrics and indicators on population health and equity impacts of climate change. Use the findings to understand how and in what way metrics and indicators could be used to prioritise the response to health threats.
- In collaboration with partners, identify gaps in data and evidence on the risks of climate change to population health and equity, and opportunities to deliver population health and equity co-benefits from action on climate change, influencing the direction of future research and/or commissioning in response.
- Continue to provide evidence of effective actions that generate ‘triple wins’ for climate, population health and equity.
- Drive the use of **health impact assessments**⁵⁶ and, where appropriate, integrated assessment approaches in the development of national policy related to climate change to ensure the most recent evidence of population health and equity impacts inform decision-making.
- Build on cross-agency climate health dialogues with UK-wide public health agencies and other relevant statutory bodies to share ideas, intelligence and best-practice in relation to our activity on climate, population health and equity. Through dialogue and cooperation, identify opportunities for joint projects, policy alignment and collective advocacy on a public health approach to climate action.
- Engage with public bodies, including regulatory and statutory bodies, to advocate for a public health approach to climate action that delivers co-benefits for population health and equity, including within those bodies’ climate action plans.
- Influence the integration of population health, wellbeing and equity impacts into national climate change adaptation and mitigation policy development. Between 2023 and 2026, this includes our contribution to the **UK Climate Change Risk Assessment**,⁴⁰ **Scottish Climate Change Plan**,³⁵ **Scottish Climate Change Adaptation Programme**⁴² and **Just Transition Plans**,³⁷ and input into the **Scottish Government’s Care and Wellbeing Portfolio**.⁵²

- Using public health approaches and tools, support the **Verity House Agreement**⁴⁹ through work at national, regional and local level to ensure cross-sectoral climate change mitigation and decarbonisation policy, investment and other actions minimise health harms and maximise co-benefits for population health and equity. Sectors include transport, food and energy systems, housing, natural environment, and the economy.
- Work with, and build the capacity of, local and regional partners to implement place-based policy and practice that promotes population health, equity and sustainability using public health approaches and tools, as outlined in **Working together to build climate-resilient, healthy and equitable places**.¹⁴ Key forums will include planning departments, community planning partnerships, integrated joint boards, regional economic partnerships and city region deals. Activities could include the development of place and wellbeing indicators to inform **local development plan**⁵⁷ evidence reports.
- Fully embed net zero, climate resilience and sustainability in our work on transport, housing, natural spaces and place-based working. Integrate climate considerations and the just transition into our programmes of work, including food and diet, the economy, healthcare, public health-related work and mental health.
- Using our knowledge and expertise, provide national leadership to locate climate and sustainability within actions to address Scotland's population health challenges ensuring the cumulative impact of climate change is considered and addressed with interconnected issues, including but not limited to the cost-of-living crisis and widening health inequalities.
- Develop an adverse weather and health plan for Scotland in partnership with the **Scottish Government** and other key partners and stakeholders.
- Further develop monitoring systems to better understand the changing factors that may affect disease spread in health and social care settings and to further understand the risk of disease spread in health and social care settings.

Long-term outcomes

The long-term outcomes we want to achieve are:

- The climate emergency is communicated and understood as a threat to human health. Our response to the climate emergency identifies opportunities to improve population health, wellbeing and equity.
- Climate-related health impacts, including the differential impacts on people and places, are better understood, informing planning and decision-making to create climate-resilient communities.
- Local and national decision-makers have access to public health knowledge, intelligence and evidence to enable effective climate-related policy development that maximises population health, wellbeing and equity co-benefits, and minimises harms.
- Local and national decision-makers in all relevant areas integrate a **health in all policies** approach.^{58,59}
- Climate, population health and equity outcomes are integrated into place-based approaches.
- Adverse weather and health planning for Scotland is developed and implemented with relevant partners and stakeholders.

Key measures

The key outcomes we will measure are:

- Number of climate change policies and strategies from Scottish public bodies that explicitly recognise the climate emergency as a public health issue and demonstrate a commitment to ensuring that climate actions benefit all communities, especially those disproportionately affected by climate-related health risks.
- The number of cross-sector local and national policies relevant to climate that adopt a **health in all policies**^{58,59} approach, as demonstrated by policies that are informed by **health impact assessment**,⁵⁶ or similar approaches.

- The completion of a feasibility study on development of Scotland-specific climate-related health metrics and indicators.
- The development of an adverse weather (heat, cold and flooding) health protection plan for Scotland.
- Measurement of public awareness and engagement levels related to climate change as a public health issue, indicating the success of communication and education efforts to mobilising public support.

Case study: Adaptation Scotland Partnership

Over the last three years Public Health Scotland has developed a strong working relationship with **Adaptation Scotland**. As a member of the Adaptation Scotland programme board, we bring a public health perspective to Scotland's approach to building climate resilience, supporting the delivery of action in a way that protects health and promotes better health and equity. PHS and Adaptation Scotland also recently teamed up with the Improvement Service to co-produce a briefing paper **Working together to build climate-resilient, healthy and equitable places**¹⁴ and will be working with partners to build on this work overing the coming year.

Case study: Public Health and Sustainable Transport Partnership Group

The Public Health and Sustainable Transport Partnership Group uses a **health in all policies** approach to understand the health impacts of and maximise health and equity benefits through sustainable transport policy and action. Partners include national and local government, including the **Society of Chief Officers of Transportation, COSLA** and the **Improvement Service**, public transport operator representation, active travel delivery partners and academia. A data and evidence group supports the partnership, in which academics and researchers collaborate on ways to strengthen or influence data and research to support policy. Both groups' collaborative approach ensures our work meets the priorities of our partners while improving our ability to influence national and local transport policies to realise co-benefits for population health, equity and sustainability. Work includes supporting partners at a local level to build capacity through our learning network. Outputs include scoping the health impacts of **A route map to achieve a 20% reduction in car kilometres by 2030⁶⁰** and a health impact assessment of **Road space reallocation in Scotland⁶¹**. Guest bloggers support amplifying key population health and equity messages in transport interventions, for example, **Clearing the air – the introduction of Glasgow's Low Emission Zone (LEZ)⁶²**.

Next steps

An established cross-organisational Climate and Sustainability Programme Group, led by Chief Officer, Manira Ahmad, will be responsible for monitoring progress and meeting reporting requirements.

A detailed, time-bound coordinated action plan will be developed to sit beneath our strategic approach. Where appropriate, actions will be subject to impact assessment. An outcomes framework will be developed and used to track progress. We will produce an annual report describing our activities, outputs and progress toward our long-term outcomes. We will continue to meet our mandatory responsibilities in relation to reporting as a **public body** and as an NHSScotland Board.¹⁵

Collaboration and effective partnership working will be essential to delivering our strategic approach. As well as our co-sponsors, we will continue to work with the Sustainable Scotland Network, Adaptation Scotland, NatureScot, Transport Scotland and other key partners to integrate a public health approach to climate and sustainability through a population health and equity lens. Delivery of our strategic approach will support the core aims of the **Scottish Government's Care and Wellbeing Portfolio** which brings key reforms to improve population health and wellbeing, reduce health inequalities and improve the sustainability of the health and social care system together. It will also support the **Verity House Agreement**⁴⁹ with its priority to transform our economy through a just transition to deliver net zero.⁵²

‘This strategic approach reflects the spirit of collaboration, uniting public health professionals, national and local policymakers, and communities to forge a sustainable and healthier future for Scotland. We look forward to working with all our partners, and the people across Scotland, to bring our approach to life.’

Manira Ahmad, Chief Officer, Public Health
Scotland



Glossary of terms

Adaptation

Adjustments in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderate harm or exploit beneficial opportunities.

Anchor institutions

Large, typically non-profit, public-sector organisations whose long-term sustainability is tied to the wellbeing of the populations they serve. Anchors get their name because they are unlikely to relocate, given their connection to the local population, and have a significant influence on the health and wellbeing of communities.

Biodiversity

Short for biological diversity, the diversity of life in all its forms. The diversity of species, of genetic variations within one species and of ecosystems.

Building blocks of health and wellbeing

The non-medical factors that influence health outcomes. They are the conditions in which people are born, grow, work, live and age, and the wider set of forces and systems shaping the conditions of daily life.

Climate impacts

Consequences of a climate change such as increased temperature, flooding, coastal change, damage to buildings and infrastructure, and changes to our natural environment or habitats.

Climate resilience

The capacity of a social-ecological system to cope with a hazardous event or disturbance, responding or reorganising in ways that maintain its essential functions, identity and structure, while also maintaining the capacity for adaptation, learning and transformation.

Community wealth building

An economic approach to supporting a local economy which in turn can reduce inequalities, reduce poverty and improve environmental sustainability and economic stability.

COP26

The 26th Conference of the Parties (COP26) saw the United Nations bring together almost every country on Earth in a global climate summit that took place in Glasgow, Scotland.

Ecosystem

Communities of organisms interacting with each other and with their non-living environment – forests, wetlands, mountains, lakes, rivers, deserts and agricultural landscapes.

Equity

The absence of unfair, avoidable or remediable differences among groups of people. Health is a fundamental human right. **Health equity** is achieved when everyone can attain their full potential for health and wellbeing.

Greenhouse gas

A gas that absorbs infrared radiation emitted from the surface of the Earth, helping to retain a portion of that energy in the atmosphere as heat.

Health and wellbeing co-benefits

Broader benefits to health and wellbeing beyond those primarily intended by the climate action. For example, green infrastructure can be used to increase absorption of rainfall, slow the rates of run-off, and reduce overheating by providing shade. It can also contribute to better mental and physical health by providing opportunities for physical activity, social interaction and relaxation.

Health impact assessment (HIA)

A practical way to systematically consider the potential, and sometimes unintended, effects a policy, strategy or service plan may have on the health of a whole population, or groups of people within a population.⁵⁶

Health in all policies

Health in all policies is an approach to public policies across sectors that systematically considers the health implications of decisions, seeks synergies, and avoids harmful health impacts, to improve population health and health equity.^{58,59}

Health inequalities

Health inequalities are unjust and avoidable differences in people's health across the population and between specific population groups.²³ Health inequalities go against the principles of social justice because they are avoidable. They do not occur randomly or by chance. They are socially determined by circumstances largely beyond an individual's control. These circumstances disadvantage people and limit their chance to live longer, healthier lives.

Healthy life expectancy

Healthy life expectancy is the average number of years that people spend in good health. Good health is based on how people rate their own health in an annual population survey.

Just transition

The process of designing policies to ensure the benefits of climate change action are shared widely, while ensuring the costs do not unfairly burden those least able to pay, or whose livelihoods are directly or indirectly at risk as the economy shifts and changes. The recent report from the Climate Change Committee for the Scottish Government '**The just transition and climate change adaptation** extended the working definition of the just transition process to climate impacts and adaptation interventions.

Life expectancy

The number of years a person can on average expect to live given the age they have attained. The most used measure of life expectancy is life expectancy at birth. This is the number of years a newborn would live if prevailing patterns of mortality at the time of birth were to stay the same throughout its life.

Mitigation

Actions to reduce the greenhouse gas emissions in the atmosphere to slow or stop global climate change.

Natural capital accounting

Natural capital is the value of our natural environment, its intrinsic value and as an asset that provides flows of ecosystem services that benefit us socially and economically. Natural capital accounting is a way of placing monetary value on the services provided by nature.

Natural habitat

A place or type of site where an organism or population naturally occurs.

Nature positive

Halting and reversing nature loss by 2030, measured from a baseline of 2020.

Net zero

Balancing the amount of greenhouse gas released into the atmosphere by human activity with the removal of greenhouse gases from the atmosphere. This can be done by reducing greenhouse gas emissions and absorbing carbon dioxide from the atmosphere.

Place-based approaches

Approaches that seek to understand the issues, interconnections and relationships in a place, and which coordinate action and investment to improve the quality of life for that community.

Place Standard tool

The **Place Standard tool** is a tool to assess place structured around 14 evidence informed themes.²⁹ It pinpoints the assets of a place as well as areas where a place could improve. A new **Place Standard Tool with a Climate Lens** is now available.³⁰

Public body

Bodies that have a direct relationship with the Scottish Government or Scottish Parliament and for which they are responsible.

Public health actors

Organisations that operate with a primary intention of protecting, promoting and improving population health and wellbeing, and reducing inequalities.

Stakeholders

Any group or individual who can affect or are affected by an issue.

Triple win

Policies and actions that contribute to better population health, equity, and climate outcomes.

Whole-system approach

Involves applying systems thinking, methods and practice to better understand challenges and identify collective actions. Adopting a **whole-system approach** requires partnerships between a broad range of stakeholders to deliver better lives for the people of Scotland.³²

Wider determinants of health

The social, cultural, political, economic, commercial and environmental factors that shape the conditions in which people are born, grow, live, work and age.

Wider public health workforce

Any individual who is not a specialist or practitioner in public health but has an opportunity or ability to positively impact health and wellbeing through their paid or unpaid work.

Win-win

Policies and action that contribute to beneficial outcomes for multiple stakeholders.

References

- ¹ Intergovernmental Panel on Climate Change (IPCC). **Climate Change 2023: Synthesis Report**. A Report of the IPCC. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change. Geneva: IPCC; 2023. (Accessed on 4 September 2023).
- ² World Health Organization. **COP26 special report on climate change and health: the health argument for climate action**. Geneva: World Health Organization; 2021. (Accessed on 4 September 2023).
- ³ Watts N, Adger WN, Agnolucci P, Blackstock J, Byass P et al. **Health and climate change: policy responses to protect public health**. Lancet. 2015;386:1861–1914. (Accessed on 4 September 2023).
- ⁴ United Nations General Assembly. Human Rights Council. **Forty-eighth session**. New York: United Nations General Assembly; October 2021. (Accessed on 4 September 2023).
- ⁵ Chief Medical Officer for Scotland. Annual Report 2022–2023. **Realistic Medicine: Doing the Right Thing**. Edinburgh: Scottish Government; 2023. (Accessed on 4 September 2023).
- ⁶ Finch D, Wilson H, Bidy J. **Leave no one behind. The state of health and inequalities in Scotland**. London: The Health Foundation; 2023. (Accessed on 4 September 2023).
- ⁷ Climate Change Committee. **Progress in reducing emissions in Scotland 2022 Report to Parliament**. London: Climate Change Committee; 2022. (Accessed on 4 September 2023).
- ⁸ Climate Change Committee. **Is Scotland Climate Ready? 2022 Report to Scottish Parliament**. London: Climate Change Committee; 2022. (Accessed on 4 September 2023).
- ⁹ Sniffer. **Evidence for the third UK Climate Change Risk Assessment (CCRA3) Summary for Scotland**. London; UK Climate Risk; 2021. (Accessed on 4 September 2023).

- ¹⁰ Public Health Scotland. Healthy Housing for Scotland. **A briefing paper setting out the fundamental links between housing and public health**. Edinburgh: Public Health Scotland; 2021. (Accessed on 4 September 2023).
- ¹¹ O'Gorman S, Dillon-Robinson R. **20 minute neighbourhoods in a Scottish context**. Edinburgh: ClimateXChange; 2021. (Accessed on 4 September 2023).
- ¹² Greenspace Scotland on behalf of Public Health Scotland. **Open Space Strategy & Play Sufficiency Assessment Draft Regulations Report of Health Inequalities Impact Assessment Scoping Exercise**. Edinburgh: Public Health Scotland; 2022. (Accessed on 4 September 2023).
- ¹³ Public Health Scotland. **A Scotland where everybody thrives. Public Health Scotland's three-year plan: 2022–2025**. Edinburgh: Public Health Scotland; 2022. (Accessed on 4 September 2023).
- ¹⁴ Public Health Scotland, Adaptation Scotland, Improvement Service. **Working together to build climate-resilient, healthy and equitable places: A briefing for local government and partners**. Edinburgh: Public Health Scotland; 2023. (Accessed on 4 September 2023).
- ¹⁵ Scottish Government. **Public Bodies Climate Change Duties: Putting them into practice. Guidance required by Part 4 of the Climate Change (Scotland) Act 2009**. Edinburgh: Scottish Government; 2011. (Accessed on 4 September 2023).
- ¹⁶ Scottish Government. **NHS Scotland Climate Emergency and Sustainability Strategy: 2022-2026**. Edinburgh: Scottish Government; 2022. (Accessed on 4 September 2023).
- ¹⁷ United Nations Framework Convention on Climate Change (UNFCCC). **The Paris Agreement**. New York: United Nations; 2016. (Accessed on 4 September 2023).
- ¹⁸ Children's Parliament and Scotland's Climate Assembly. **'It's up to you, me and all of us'**. Edinburgh: Scotland's Climate Assembly; October 2020–March 2021. (Accessed on 4 September 2023).
- ¹⁹ Public Health Scotland. **Scottish Burden of Disease study. Forecasting the future burden of disease: Incorporating the impact of demographic**

- transition over the next 20 years.** Edinburgh: Public Health Scotland; 2022. (Accessed on 4 September 2023).
- ²⁰ Public Health England. **The English National Study of Flooding and Health. Summary of the evidence generated to date.** London: Public Health England; 2020. (Accessed on 4 September 2023).
- ²¹ UK Health Security Agency. **UKHSA Science Strategy 2023 to 2033. Securing health and prosperity.** London: UKHSA; 2023. (Accessed on 4 September 2023).
- ²² Mora C, McKenzie T, Gaw IM et al. **Over half of known human pathogenic diseases can be aggravated by climate change.** *Nature Climate Change.* 2022;12:869–875. (Accessed on 4 September 2023).
- ²³ NHS Health Scotland. **Health inequalities: What are they? How do we reduce them?** Edinburgh: NHS Health Scotland; 2015. (Accessed on 4 September 2023).
- ²⁴ Lindley S, O'Neill J, Kandeh J et al. **Climate change, justice and vulnerability.** York: Joseph Rowntree Foundation; 2011. (Accessed on 4 September 2023).
- ²⁵ World Health Organization. **It's time to build a fairer, healthier world for everyone, everywhere. World Health Day 2021. Health equity and its determinants.** Geneva: World Health Organization; 2021. (Accessed on 4 September 2023).
- ²⁶ Scottish Government. **Scotland's National Strategy for Economic Transformation.** Edinburgh: Scottish Government; 2022. (Accessed on 4 September 2023).
- ²⁷ Victoria State Government. **Health and Human Services Climate Change Adaptation Action Plan 2022–2026.** Victoria: The State of Victoria Department of Health and the Department of Families, Fairness and Housing; 2022. (Accessed on 4 September 2023).
- ²⁸ Scottish Government. **Place Principle: Introduction.** Edinburgh: Scottish Government; 2019. (Accessed on 4 September 2023).
- ²⁹ Public Health Scotland. **The Place Standard tool.** Edinburgh: Public Health Scotland; 2022. (Accessed on 4 September 2023).

- ³⁰ Sniffer, Architecture & Design Scotland, Sustainable Scotland Network, Public Health Scotland, the Scottish Government. **Place Standard with a Climate Lens. Detailed guidance for organisers and facilitators**. Edinburgh: Sniffer; 2022. (Accessed on 4 September 2023).
- ³¹ Scottish Government. **Public health priorities for Scotland**. Edinburgh: Scottish Government; 2018. (Accessed on 4 September 2023).
- ³² Public Health Scotland. **Applying a whole system approach**. Edinburgh: Public Health Scotland; 2022. (Accessed on 4 September 2023).
- ³³ **Climate Change (Scotland) Act 2009**. (Accessed on 4 September 2023).
- ³⁴ **Climate Change (Emissions Reduction Targets) (Scotland) Act 2019**. (Accessed on 4 September 2023).
- ³⁵ Scottish Government. **Securing a green recovery on a path to net zero: climate change plan 2018–2032 – update**. Edinburgh: Scottish Government; 2020. (Accessed on 4 September 2023).
- ³⁶ Scottish Government. **Just Transition Commission**. Edinburgh: Scottish Government; 2019–2021. (Accessed on 4 September 2023).
- ³⁷ Scottish Government. **Just Transition. A fairer, greener Scotland**. Edinburgh: Scottish Government; 2021. (Accessed on 4 September 2023).
- ³⁸ Scottish Government. **Just Transition Commission. Advising on a net-zero economy that is fair for all**. Edinburgh: Scottish Government; 2023. (Accessed on 4 September 2023).
- ³⁹ **Climate Change Act 2008**. (Accessed on 4 September 2023).
- ⁴⁰ UK Government. **UK Climate Change Risk Assessment 2022**. London: HM Government; 2022. (Accessed on 4 September 2023).
- ⁴¹ **Climate Change Committee**. London: Climate Change Committee. (Accessed on 4 September 2023).
- ⁴² Scottish Government. **Climate Ready Scotland: climate change adaptation programme 2019–2024**. Edinburgh: Scottish Government; 2019. (Accessed on 4 September 2023).

- ⁴³ Scottish Government. **The Environment Strategy for Scotland: vision and outcomes**. Edinburgh: Scottish Government; 2020. (Accessed on 4 September 2023).
- ⁴⁴ Scottish Government. **Biodiversity Strategy to 2045: tackling the nature emergency**. Edinburgh: Scottish Government; 2022. (Accessed on 4 September 2023).
- ⁴⁵ **Good Food Nation (Scotland) Act 2022**. (Accessed on 4 September 2023).
- ⁴⁶ Transport Scotland. **National Transport Strategy. Protecting our climate and improving lives**. Edinburgh: Transport Scotland; 2020. (Accessed on 4 September 2023).
- ⁴⁷ Scottish Government. **National Planning Framework 4**. Edinburgh: Scottish Government; 2023. (Accessed on 4 September 2023).
- ⁴⁸ Scottish Government. **Planning Advice Note 65: Planning and Open Space**. Edinburgh: Scottish Government; 2008. (Accessed on 4 September 2023).
- ⁴⁹ Scottish Government. **New deal with Local Government. Verity House Agreement**. Edinburgh: Scottish Government; 2023. (Accessed on 4 September 2023).
- ⁵⁰ Public Health Scotland. **Anchor Institutions**. Edinburgh: Public Health Scotland; 2023. (Accessed on 4 September 2023).
- ⁵¹ Scottish Government. Health inequalities: **Place and Wellbeing Programme**. Edinburgh: Scottish Government. (Accessed on 4 September 2023).
- ⁵² Scottish Government. **Care and Wellbeing Portfolio Board**. Edinburgh: Scottish Government. (Accessed on 4 September 2023).
- ⁵³ Scottish Forestry. **Green Exercise Partnership Briefing**. Edinburgh: Scottish Forestry; 2015. (Accessed on 4 September 2023).
- ⁵⁴ Mitchell R, Finton B. **Green Health Partnerships in Scotland – evaluation of the first three years**. Glasgow: NatureScot; 2022. (Accessed on 4 September 2023).

- ⁵⁵ Scottish Government. **Climate change – Net Zero Nation: public engagement strategy**. Edinburgh: Scottish Government; 2021. (Accessed on 4 September 2023).
- ⁵⁶ Public Health Scotland. **Health impact assessment (HIA)**. Edinburgh: Public Health Scotland; 2023. (Accessed on 4 September 2023).
- ⁵⁷ Scottish Government. **Local development planning guidance**. Edinburgh: Scottish Government; 2023. (Accessed on 4 September 2023).
- ⁵⁸ Public Health Scotland. **Health in all policies**. Edinburgh: Public Health Scotland; 2023. (Accessed on 4 September 2023).
- ⁵⁹ World Health Organization. **Health in all Policies. Helsinki Statement Framework for Country Action**. Geneva: World Health Organization; 2014. (Accessed on 4 September 2023).
- ⁶⁰ Public Health Scotland. **A route map to achieve a 20% reduction in car kilometres by 2030: a health impact assessment scoping summary paper**. Edinburgh: Public Health Scotland; 2022. (Accessed on 4 September 2023).
- ⁶¹ Teuton J, Macdonald A, Douglas M. **Road space reallocation in Scotland: A health impact assessment**. Edinburgh: Public Health Scotland; 2022. (Accessed on 4 September 2023).
- ⁶² Whyte B. **Guest Blog: Clearing the air – the introduction of Glasgow's Low Emission Zone (LEZ)**. Edinburgh: Public Health Scotland; 2023. (Accessed on 4 September 2023).