Consultation on draft Statutory Guidance for public bodies: putting the climate change duties into practice

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Scottish Government
Riaghaltas na h-Alba

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Public Consultation Summary

The Climate Change (Scotland) Act 2009 ('the 2009 Act') places duties on relevant public bodies to reduce greenhouse gas emissions, contribute to delivery of the Scottish National Adaptation Plan, and to act in the most sustainable way. These duties are known as the climate change duties, or the public bodies climate change duties.

Under the 2009 Act, Scottish Ministers are required to provide the public bodies with guidance, to support them in putting their climate change duties into practice. Statutory guidance was originally published in 2011 and now requires to be updated. This consultation seeks your views on new draft statutory guidance which has been developed for this purpose, and which will replace the 2011 guidance. By law, public bodies subject to the climate change duties are required to have regard to the statutory guidance. The new guidance will only be effective if it is informed by, and tailored to, the needs of public bodies.

During the public consultation period on this draft statutory guidance a formal public consultation will be opened on the Scottish Government's 'Citizen Space'.

In this Public Consultation Summary, you will find details on:

- general questions on the proposed content of the guidance
- questions about specific sections of the guidance including the Carbon Management Plan template (Annex A) and the Climate Change Plan template for local authorities (Annex B)
- responding to this consultation and post-consultation next steps.

You will find questions in two formats, either open ended questions asking for general opinions or specific questions asking you to share if, and how much, you agree with the relevant question.

To respond to these questions please go to the Scottish Government's Citizen Space here - Scottish Government consultations - Citizen Space – and search for 'climate change duties'.

Finally, in addition to this Public Consultation Summary, you will also find a full copy of the draft guidance. The draft guidance includes a number of annexes that contain important supplementary information: Annex A – Carbon Management Plan template and Annex B – Climate Change Plan template for local authorities. These form part of the guidance and will be published in the final version.

Proposed content of the guidance

The public sector plays a vital role in enabling Scotland's just transition to net zero and climate resilience. Public bodies are required to meet the climate change duties as they 'exercise their functions'. These functions could be corporate operational functions, policy making functions or influence, and the overall delivery function (i.e. the purpose of the body).

All public bodies will be responsible for some direct greenhouse gas emissions, for example through their day-to-day operations, estate and fleet. However, many public bodies will, through their varied functions, have a wide and significant influence on climate change action and sustainable development far beyond their organisational boundaries.

For example, for a local authority, corporate operational functions may include procurement, estate management and finance. Policy making functions might include public transport and active travel planning, impacting on greenhouse gas emissions from transport in a particular local area, and on wider linked issues including resilience of infrastructure. Influence might include direct influence, for example over suppliers; and wider influence through Local Development Plans and engagement with local businesses. The delivery function or purpose would be to deliver local government services within that authority area.

The guidance aims to take a holistic approach that includes these broader functions and secures wider linked benefits including to health and wellbeing, biodiversity and equalities.

The proposed content of the guidance includes:

- the background to the guidance and an explanation of the relevant legislation
- the broader context, wider related legislation and policy, and impact assessments
- climate change and inequalities
- how public bodies should approach putting the climate change duties into practice, including the importance of leadership and governance, mainstreaming and how to take climate change into account in decision making
- dedicated chapters on each of the three climate change duties: reducing emissions, adaptation, and acting in the most sustainable way
- reporting on climate action and progress towards targets and outcomes
- a Carbon Management Plan template (Annex A) aimed at smaller and less complex public bodies that may have limited capacity to measure, monitor and report on their carbon emissions
- a Climate Change Plan template for local authorities (Annex B) intended to help them demonstrate their compliance with the three climate change duties, across their corporate and area wide boundaries.

Public consultation questions

Climate change and equalities
Chapter 3 of the guidance focuses on climate change and equalities, and aims to make it clear how effective climate action can help achieve wider outcomes including reduced inequalities and improved health and wellbeing outcomes. Section 2.2 outlines the most common impact assessments.

1. With respect to the protected characteristics, could the content of the statutory guidance be changed or added to, to strengthen any positive impacts or lessen any negative impacts as it is implemented by public bodies?

2. With respect to inequality caused by socio-economic disadvantage, could the content of the statutory guidance be changed or added to, to strengthen any positive impacts or lessen any negative impacts as it is implemented by public bodies?

Taking climate change into account in decision making
For public bodies to demonstrate compliance with the climate change duties, in particular to show how they have met the requirement to **best calculate** the impact of their actions in terms of mitigation and adaptation, climate change considerations should be embedded in decision-making processes, with a robust and auditable record.

Section 4.5 of the draft guidance provides information on embedding climate considerations into decision-making processes through the use of appropriate impact assessments and other tools. Chapter 5 and chapter 6 provide specific guidance around implementing duty (a) to contribute to mitigation targets and duty (b) to help deliver the National Adaptation Programme.

3. Does the guidance make it clear how public bodies can fulfil the requirement to 'best calculate' the climate impact of their actions?

4. Does the guidance make it clear how public bodies should take future climate scenarios into account when making plans and investment decisions?

The first duty - reducing emissions (climate change mitigation)
Chapter 5, Implementing the first duty: reducing emissions, lays out the overarching principles and actions which all public bodies would be expected to undertake, in a manner proportionate to their size and nature, to reduce their greenhouse gas (GHG) emissions, i.e. to develop and implement appropriate emissions reduction policies, strategies, route maps, plans and supporting action plans.

Annex A contains a template Carbon Management Plan and associated guidance. This is aimed at smaller and less complex public bodies, who may lack the capacity, skills or resource to develop their own carbon management plan. It is intended as a starting point, with bodies adapting it to suit their own organisation and circumstances.

Annex B contains a template Climate Change Plan for local authorities. It is intended to help local authorities demonstrate their compliance with the three climate change duties, across their corporate and area wide boundaries.

5. Do you have any comments about the guidance provided in this chapter on complying with the first duty?

6. Do you think the Carbon Management Plan template is suitable for its intended purpose? (Annex A - template Carbon Management Plan: 'baseline' plan aimed at smaller public bodies)

7. Do you think the Climate Change Plan template for local authorities is suitable for its intended purpose? (Annex B – template Climate Change Plan for local authorities)

The second duty – adaptation

Chapter 6, Implementing the second duty: adaptation lays out the overarching principles and actions which all public bodies would be expected to undertake, in a manner proportionate to their size and nature, to adapt and become resilient to the changing climate. Core to this is undertaking appropriate climate risk assessments and developing an adaptation plan or equivalent.

8. The guidance lays out an approach whereby public bodies should review the Scottish National Adaptation Plan (SNAP); identify the objectives relevant to them; contribute towards those objectives; and, where relevant, report annually on progress in their public bodies' climate change duties report. To what extent do you agree with this proposed approach?

9. Do you have any other comments about the guidance provided in this chapter about complying with the second duty?

The third duty - acting in the most sustainable way

Chapter 7, Implementing the third duty: acting in the most sustainable way, lays out the overarching principles and actions which all public bodies would be expected to undertake, in a manner proportionate to their size and nature, to implement the third duty. Key to this is to mainstream sustainable development into the functioning of Scottish public bodies, i.e. work must be carried out in a way that supports sustainable development.

The guidance notes that, due to the individual nature of each public body and the unique nature of the decisions that they make, it is not possible to take a prescriptive approach to this duty. Public bodies are required to consider their actions carefully and apply an awareness of wider impacts to their approach.

10. Having considered the content of the chapter, is it clear how public bodies should implement the third duty, to act in the most sustainable way?

11. Do you have any other comments about this chapter?

Reporting of scope 3 emissions

Chapter 8, Reporting, provides an overview of reporting, with a particular focus on the mandatory reporting required under The Climate Change (Duties of Public Bodies: Reporting Requirements) (Scotland) Order 2015, as amended (the public bodies climate change duties reporting).

Previously issued guidance mandated reporting of relevant scope 1 and 2 emissions, while reporting of scope 3 emissions was recommended on a voluntary basis. This new guidance proposes a reporting baseline for selected scope 3 emissions, which all public bodies would be expected to include in their inventory (see section 8.3.5), the emissions associated with: consumption of mains water; waste and waste water treatment; business travel; staff commuting and homeworking; student travel (for

colleges and universities); and fuel and energy-related activities not included in scopes 1 and 2.

12. To what extent do you agree with the proposed baseline reporting of the scope 3 emission categories as outlined?

13. Do you think that any other categories of scope 3 emissions should be included in the recommended baseline for reporting, where these are relevant and applicable?

    Please indicate which other categories of scope 3 emissions you think should be included, and provide an explanation.

Overall reflections

The purpose of the Statutory Guidance is to support public bodies in meeting their climate change duties. It aims to help public bodies to minimise their operational emissions, adapt and become resilient to the current and future impacts of the changing climate, live within environmental limits, and ensure a strong, healthy and just society.

14. Do you think that the guidance fulfils its stated purpose of providing support to public bodies in putting the climate change duties into practice?

15. Do you have any further comments about the guidance?

Responding to this consultation

We are inviting responses to this consultation by Friday 23 May 2025.

Please respond to this consultation using the Scottish Government's consultation hub, Citizen Space, to access and respond to this consultation online. You can save and return to your responses while the consultation is still open. Please ensure that responses are submitted before the closing date of Friday 23 May 2025.

If you are unable to respond using our consultation hub, please email your response together with a completed Respondent Information Form to: climate.change@gov.scot.

Alternatively, your response and a completed Respondent Information Form can be posted to:

Net Zero Public Sector Team
Scottish Government
Area 3F - South
Victoria Quay
Edinburgh
EH6 6QQ

If you have any questions please email: climate.change@gov.scot

Handling your response

If you respond using the consultation hub, you will be directed to the About You page before submitting your response. Please indicate how you wish your response to be handled and, in particular, whether you are content for your response to published. If you ask for your response not to be published, we will regard it as confidential, and we will treat it accordingly.

All respondents should be aware that the Scottish Government is subject to the provisions of the Freedom of Information (Scotland) Act 2002 and the Environmental Information (Scotland) Regulations 2004, and would therefore have to consider any request made to it under the Act or Regulations for information relating to responses made to this consultation exercise.

If you are unable to respond via Citizen Space, please complete and return the Respondent Information Form along with your response and post to the address noted above.

To find out how we handle your personal data, please see our privacy policy: https://www.gov.scot/privacy/

Next steps

Where respondents have given permission for their response to be made public, and after we have checked that they contain no potentially defamatory material, responses will be made available to the public at http://consult.gov.scot. If you use the consultation hub to respond, you will receive a copy of your response via email.

Following the closing date, all responses will be analysed and considered along with any other available evidence to help us. Whether you answer all of the questions, or only some, your views will be carefully considered by the Scottish Government when we are finalising the statutory guidance.

An analysis report will also be made available.

Comments and complaints

If you have any comments about how this consultation exercise has been conducted, please send them to the contact address above or email to climate.change@gov.scot.

Scottish Government consultation process

Consultation is an essential part of the policymaking process. It gives us the opportunity to consider your opinion and expertise on a proposed area of work.

You can find all our consultations online: http://consult.gov.scot. Each consultation details the issues under consideration, as well as a way for you to give us your views, either online, by email or by post.

Responses will be analysed and used as part of the decision making process, along with a range of other available information and evidence. We will publish a report of this analysis for every consultation. Depending on the nature of the consultation exercise the responses received may:

- indicate the need for policy development or review
- inform the development of a particular policy
- help decisions to be made between alternative policy proposals
- be used to finalise legislation before it is implemented

While details of particular circumstances described in a response to a consultation exercise may usefully inform the policy process, consultation exercises cannot address individual concerns and comments, which should be directed to the relevant public body.

Draft Statutory Guidance - Executive Summary

This statutory guidance is issued by the Scottish Ministers to Scottish public bodies under the Climate Change (Scotland) Act 2009 ('the 2009 Act').

The 2009 Act places a legal responsibility on relevant public bodies in Scotland to meet the climate change duties. The duties are set out in section 44(1) of the 2009 Act and require that a public body must, in exercising its functions, act –

(a) in the way best calculated to contribute to the delivery of emissions reduction targets (i.e. mitigation)
(b) in the way best calculated to help deliver the Adaptation Programme
(c) in a way that it considers most sustainable.

Under the 2009 Act, public bodies subject to the climate change duties are required to have regard to the statutory guidance. This guidance is an advisory document only, not a definitive statement of the law, and responsibility for compliance with the climate change duties rests with public bodies themselves.

The purpose of this statutory guidance is to support public bodies in performing their climate change duties. It aims to help public bodies to minimise their operational emissions, adapt and become resilient to the current and future impacts of the changing climate, live within environmental limits and ensure a strong, healthy and just society. This guidance will replace the statutory guidance published in 2011.

Within the guidance, while certain actions are recommended or encouraged, these should be undertaken in a way that is proportionate to the climate impact that the body has in terms of its size, assets, function and influence. Bodies are responsible for determining what is appropriate for their own organisation, and for taking such measures and actions forward in the most effective way.

The public sector has a critical role in helping Scotland to reduce greenhouse gas emissions, make a just transition to a low carbon economy and prepare for the future

climate. Public bodies have an important leadership role to play as corporate organisations with estates, fleet and staff; bodies delivering national, regional and local services; as anchor organisations with significant influence on local places and communities; as bodies with significant collective annual budgets and buying power; as partner organisations and as trusted messengers.

Leadership and Governance

Strong governance, leadership and commitment within the public sector is vital to ensure that Scotland meets its targets and commitments. Key outcomes that will help demonstrate that such leadership is in place within the body are:

- publishing a formal declared commitment to action on climate change. Making a public body's commitment to deliver against the climate change duties visible and transparent, both to those who work within the organisation and to stakeholders, suppliers and service users, will increase the level of scrutiny of climate change actions, and public bodies will begin to exert positive influence over the behaviours of their stakeholders, suppliers and service users
- ensuring climate change governance is integrated into the existing corporate governance approach, and that this is both robust and effective. By ensuring that responsibility for leadership on climate change is clear within the organisation, both at management level and cascaded throughout, accountability for climate change action will be increased
- embedding climate change into the management of risks and opportunities across the organisation
- reflecting climate action in the organisation's corporate plans and annual reporting mechanisms. These may include dedicated climate change strategies and carbon management plans to address carbon emissions reduction and adaptation plans. Climate and sustainability should be included in other relevant statutory plans including, where relevant, Local Outcome Improvement Plans and Locality Plans. Corporate strategies and plans should include targets; performance against these targets should be included in annual reports
- ensuring that climate change considerations are mainstreamed across the organisation (mainstreaming means ensuring that climate and sustainability issues are considered in everything that the body does, and in how it makes decisions)
- ensuring that climate change systemically informs strategic investment planning and decision-making processes. By integrating climate change within business and financial planning, for example through policy appraisal, impact assessment or Strategic Environmental Assessment, the body will develop a process whereby the 'climate change question' and 'sustainability question' is routinely asked as part of the decision-making process. This will ensure the impact of that decision on climate change is considered and public bodies are seeking to act sustainably
- ensure that taking effective climate action is a corporate priority, with commitment across the organisation. Investment should follow priority
- actively seeking opportunities for partnership working with other public bodies, for example those in the same or adjacent geographical area or working in the same sector, to share best practice, maximise efficiency and increase the

impact of climate change action and acting sustainably. Where possible, public bodies should put formal declarations of partnership in place to encourage formal working together at a strategic level. Such opportunities are more likely to contribute to multiple outcomes encompassing sustainability, health, equity and economic development.
- embedding climate change and sustainable development within corporate learning and development programmes.

Implementing the first duty: reducing emissions

The first of the climate change duties set out in section 44 of the Climate Change (Scotland) Act 2009 requires public bodies, in exercising their functions, to act in the way best calculated to contribute to the delivery of national emission reduction targets, i.e. to reduce greenhouse gas emissions, also known as climate change mitigation. In the context of the duties, 'targets' means both the national five-yearly carbon budgets and the 2045 target.

To help demonstrate compliance with this duty, public bodies should:
- develop a climate change strategy that includes net zero and other relevant targets and has regard to just transition principles
- develop and implement a carbon management plan or equivalent
- develop action plans to deliver key elements of the carbon management plan, detailing interim steps, costs, timescales and dependencies
- set up a process of monitoring and reporting, to report on performance against their targets and action plans
- ensure that mitigation actions maximise co-benefits, such as improved public health, reduced inequalities and enhanced biodiversity, and minimise unintended consequences such as maladaptation and negative environmental impacts
- undertake the above giving due consideration to their physical assets including buildings, land and fleet; their staff and service users; the services they deliver; the investments they manage; and the functions they exercise.

Key outcomes will be that public bodies:
- focus efforts on the material decarbonisation opportunities in each of their areas of wider influence, scopes 1 and 2, and scope 3
- work with urgency to reduce GHG emissions as quickly as possible in order to get under and stay under 1.5°C aligned decarbonisation pathways, i.e. to go as far as possible as fast as possible, and minimise cumulative emissions
- put governance processes, systems and senior level accountability in place that ensure policy and project development is aligned to national emission reduction targets
- measure, monitor and report on annual progress against their targets and decarbonisation pathway.

Implementing the second duty: adaptation

Under section 44 of the 2009 Act, relevant public bodies have a duty, in exercising their functions, to act in the way best calculated to help deliver the Scottish National Adaptation Plan (SNAP).

All public bodies must identify the national adaptation objectives from SNAP relevant to their functions and act in a way that supports the delivery of these objectives.

Organisations will have varying degrees of influence in relation to adaptation in Scotland depending on their particular role, functions and responsibilities, but all public bodies need to be resilient to the future climate and to plan for business continuity in relation to delivery of their functions and the services they deliver to the wider community.

To help demonstrate compliance with this duty, public bodies should:

- undertake a climate related risk assessment or assessments
- develop and implement an adaptation plan or plans with, as best practice, regard to just transition principles
- ensure that appropriate climate risks are included on corporate risk registers
- where applicable, note the specific adaptation action assigned to them in the SNAP and align their work with these
- actively seek to work in partnership with other organisations to develop and implement wider placed-based adaptation plans
- undertake the above giving due consideration to their physical assets including buildings, land and fleet; their staff and service users; the services they deliver; and the functions they exercise.

Key outcomes will be that public bodies:

- have a sound understanding of why adaptation is important for their organisation and what the impacts of climate change could mean, and will have identified and assessed their risks, vulnerabilities and any potential opportunities
- have identified and assessed the adaptation options, and have measures in place to implement their chosen strategies so that their physical assets, daily operations and service delivery are adapted to the changing climate and are resilient to its impacts
- monitor and evaluate implemented measures to ensure that adaptation efforts remain sufficient and responsive to changing conditions
- where applicable, contribute to the achievement of the specific adaptation outcomes assigned to them in the SNAP, and are able to track and report on delivery
- contribute to the effective adaptation of the places in which their sites, operations and services are located and delivered.

Implementing the third duty: acting in the most sustainable way

The third of the climate change duties set out in section 44 of the Climate Change (Scotland) Act 2009 requires public bodies, in exercising their functions, to act in the way that they consider to be most sustainable.

The National Performance Framework (NPF) is the overarching framework within which the work of central and local government, and the wider public sector, takes place. The NPF National Outcomes are aligned with the United Nations Sustainable Development Goals (UN SDGs). Section 1 of the Community Empowerment (Scotland) Act 2015 requires public authorities, in carrying out their functions, to have regard to the National Outcomes.

To help demonstrate compliance with the third duty, public bodies should:

- align their work to the NPF and delivery of the National Outcomes and, as best practice, to the just transition principles
- ensure that sustainable development is embedded in strategies, policies, plans and projects
- integrate a sustainable development impact assessment, or equivalent, process into decision-making processes, including financial decisions
- ensure that procurement activities are undertaken in line with relevant legislation and the Sustainable Procurement Duty
- monitor and evaluate policy implementation and outcomes against the five principles of the UK Shared Framework for Sustainable Development.

Key outcomes for public bodies will be that:

- potential policies and decisions are, before they are finalised, assessed for fairness, ecological impact, economic sustainability, whether they are based on good evidence, and whether those who are likely to be affected have had a chance to participate in the decision-making process
- activities remain within planetary boundaries, and focus on the fair distribution of both benefits and disbenefits
- good governance for sustainable development ensures participation, accountability and transparency
- the procurement process is used as an opportunity to maximise social and environmental, as well as economic, benefits; and to ensure that environmental and other harms are minimised
- they contribute, through their functions, to the National Outcomes and achievement of the UN SDGs.

Reporting

All public bodies subject to the climate change duties should include climate change and sustainability reporting as part of their annual corporate reporting process.

Over 180 public bodies deemed to be ‘major players’ have a statutory duty under The Climate Change (Duties of Public Bodies: Reporting Requirements) (Scotland) Order 2015, as amended, to report annually on their compliance with the climate change duties. These bodies are listed in schedule 1 of the Order.

Recording greenhouse gas emissions, and the actions taken to contribute to adaptation and sustainability, allows public bodies to set targets and monitor progress towards achieving these targets. In order to reduce emissions and work towards net zero and other targets, bodies need to understand how their emissions arise.

To date, emissions reporting by public bodies has focused primarily on scope 1 and 2 emissions: from heating and power used in buildings, and on the emissions from fleet vehicles. It is important, moving forwards, that while bodies continue to focus efforts on reducing their scope 1 and 2 emissions, they also start to measure, monitor and reduce scope 3 emissions from the wider value chain.

As a baseline, public bodies subject to the reporting duty are expected, as part of best practice, to include scope 3 emissions from:

- consumption of mains water
- waste and waste water
- business travel including, where appropriate, overnight stays
- commuting and homeworking
- fuel and energy-related emissions not included in scopes 1 and 2

Over time those subject to the reporting duties, in particular bodies with larger spend and influence, are expected to expand reporting of scope 3 emissions to include all relevant categories. For most public bodies, indirect emissions from the wider value chain will be where their greatest climate impact lies – typically from the procurement of goods, works and services, from construction, and from investments. It is important that public bodies work towards fuller reporting of scope 3 emissions, to provide a more complete picture of their climate impact. In turn, this will enable bodies to focus resource to where they can achieve the greatest emissions reductions.

Glossary and key definitions

This guide to key terms and glossary explains the meanings as intended within this guidance document. They should not be relied upon for any purpose beyond assisting with using this guidance.

In particular, bodies should note the following:

- **'Must':** the word 'must' is used where bodies have a statutory obligation to undertake the activity or meet the requirement. For example, relevant bodies must, under the Climate Change (Scotland) Act 2009, contribute to national emissions reduction targets. 'Must' is also used where a specified action is required in order to meet an external standard, for example the Woodland Carbon or Peatland Codes.
- **'Should': '**should' is used where bodies are expected or strongly recommended to undertake the activity, but it is not a legal requirement. For example, public bodies should, where relevant, develop a carbon management plan or equivalent.

'Could': 'could' is used where undertaking the action would be an example of best practice but it is not an expectation. These measures may not be appropriate or relevant to every public body. For example, a body could implement an environmental management system. However, this is neither legally required nor expected, and is likely to be an action more appropriate to a larger body.

Guide to key terms

'Exercising functions': public bodies functions are often conferred by legislation, depending on the nature of the body and whether it is set up by legislation or as a company limited by guarantee. Schedule 1 of the Interpretation and Legislative Reform (Scotland) Act 2010 defines "functions" as including both powers and duties.

In fulfilling the climate change duties, 'exercising functions' should be taken to encompass the body's corporate operational functions, policy making functions or influence, and the overall delivery function (i.e. the purpose of the body).

For example, for a local authority, corporate operational functions may include procurement, estate management and finance. Policy making functions might include public transport and active travel planning, impacting on greenhouse gas emissions from transport in a particular local area, and on wider linked issues including resilience of infrastructure. Influence might include direct influence, for example over suppliers; and wider influence through Local Development Plans and engagement with local businesses. The delivery function or purpose would be to deliver local government services within that authority area.

'Major players': within the context of this guidance, 'major players' is intended to mean public bodies deemed to be significant either within their sector or the public sector as a whole. They may be bodies with large estates and or large numbers of staff; large expenditure; provide an audit or regulatory function; or hold significant influence over other bodies, the sector or the wider public. They include local authorities, NHS health boards, integration joint boards, colleges and universities, transport partnerships, executive agencies and NDPBs.

The major players are listed in schedule 1 of the Climate Change (Duties of Public Bodies: Reporting Requirements) (Scotland) Order 2015, as amended.

Glossary

Adaptation - Adaptation to climate change involves the deliberate and systematic adjustment of systems and processes to effectively address both anticipated and actual climate change impacts.

Area wide - Area wide refers to the totality of activities either planned or currently occurring within a defined geographic area. This aggregates and then breaks down measures, activities, and actions at an area wide scale.

Bottom-up approaches - A bottom-up approach within an organisation is where employees are involved in the decision-making process, not just management or those at the "top" of the organisation. The bottom-up approach is based on the assumption that the employees have the best knowledge and experience of the daily operations and challenges of the organisation. They are able to provide valuable insights and suggestions that can improve the quality and effectiveness of the decisions. In the wider context, a bottom-up approach would involve local residents, businesses and other stakeholders in a similar way, to ensure that local needs and experience are built into the decision-making process.

Carbon credits - Measured in tonnes of carbon dioxide equivalent (tCO_2e), carbon credits reduce inputs to or remove from the atmosphere the equivalent amount of CO_2 or other GHG, and can be used to offset emissions generated by an organisation. Nature-based credits use natural carbon stores and sinks, such as woody biomass and soils. Other types of credits include engineered removals, such as direct air capture and storage technologies.

Within this guidance, we refer to three types of nature-based carbon credits, defined as:

- **Emissions reductions:** such as reducing the emissions from degraded peatland by undertaking restoration activities. The Scottish Government supported Peatland Code issues these type of carbon credits.
- **Removals:** such as creating new woodland which actively sequesters atmospheric carbon. The Scottish Government supported Woodland Carbon Code (WCC) issues these type of carbon credits.
- **Avoidance:** credits associated with, for example, retaining a carbon store or sink in its present condition, e.g. avoiding further deforestation. There are no current Scottish Government supported carbon codes that issue avoidance credits.

Carbon credits are externally verified and purchased or sold on a market. In principle, they could also be "gifted". This guidance relates specifically to carbon credits within the voluntary carbon market.

Carbon insets - Carbon 'insets' are carbon and GHG management and reduction activities within the organisation's operational boundary on their own landholdings or, by agreement, on the wider public estate. While a wide range of insetting activities exist, this guidance focuses on nature-based insetting projects, for example peatland restoration or woodland creation.

Carbon neutral - Carbon neutrality describes an approach whereby a body reduces and or **offsets** its carbon emissions. Unlike **net zero carbon**, this approach does not prioritise emissions reductions: carbon neutrality can be achieved by simply offsetting 100% of them. Carbon neutrality is a less robust approach to climate change mitigation, and as such is not supported or aligned to the Scottish Government's approach to climate change mitigation.

Carbon offsets - Carbon offsets are used to counterbalance emissions of carbon dioxide or other greenhouse gases (GHGs) generated by an organisation's operational activities. Measured in tonnes of carbon dioxide equivalent (tCO_2e), offsets reduce or remove from the atmosphere the equivalent amount of CO_2 or other GHG generated by the organisation. Offsetting allows organisations to balance emissions within their boundary with carbon savings realised elsewhere, for example carbon sequestered in woodland on a third party's land, to achieve overall net zero emissions. Offsets can take various forms: the most common are **carbon credits**.

Cascading risks - Cascading risk refers to the domino effect of risks. It is the principle that one risk may lead to further impacts downstream, or in another part of the system. For example, increases in heavy downpours of rain may lead to flooding.

Cascading risks from this might include soil run-off on contaminated land, leading to river pollution.

Climate justice – Climate justice is a people-centred, human rights-based approach that aims to share the benefits of equitable global development. It recognises that those who are being affected first and worst by climate change have often done little or nothing to cause the problem. Climate justice addresses the disproportionate impacts of climate change on vulnerable communities and systems. Prioritising equitable outcomes ensures that adaptation projects are inclusive and comprehensive. It involves actively seeking input from marginalised communities, who often bear the burden of negative climate impacts and events. This approach can result in more resilient strategies that cater to and accommodate the often very context-specific needs of these communities and reduce the likelihood of future resistance.

Climate scenarios - Climate scenarios are plausible representations of the future climate of the Earth, based on its current observed state and different greenhouse gas emission scenarios. They are useful for investigating potential impacts of anthropogenic climate change.

Co-benefits - A positive effect that a policy or measure aimed at one objective has on another objective, thereby increasing the total benefit to society or the environment. (IPCC Glossary) Health co-benefits are benefits to health and wellbeing beyond those intended by the climate action. They are delivered through key pathways including consumption of healthy sustainable diets, promotion of sustainable transport, increase use of nature based solutions, increasing the energy efficiency of homes and reductions in air pollution from replacing fossil fuel with clean renewable energy sources.

Community resilience - Communities and individuals harnessing resources and expertise to help themselves prepare for, respond to and recover from emergencies, in a way that complements the work of the emergency responders.

Data-informed climate change risk assessment - Data informs the risk assessment, however there is more focus on weaving in lived-experience, and qualitative data that is harder to quantify. An organisation using this approach might not need in-depth climate models or may value a quicker risk assessment process.

Data-led climate change risk assessment - Data is at the core of the risk assessment. A data-led approach prioritises the use of data to make assessments about climate change risk. This is a more scientific approach using quantitative analysis around climate risk. An organisation using this approach might model potential climate impacts on their organisation.

Decarbonisation pathway - A decarbonisation pathway sets out the trajectory for reaching **net zero carbon** by a target date. It defines interim emission reductions targets. Whether emissions are cut earlier or later in the pathway has a material consequence on the cumulative carbon emissions over time. A decarbonisation pathway which makes deep reductions in the early years will have significantly less

cumulative emissions that a pathway (for the same emission source) that leaves reductions until close to the target year.

Emission – The release of a greenhouse gas into the atmosphere. Under the **Greenhouse Gas (GHG) Protocol**, emissions are classified as direct or indirect, and are categorised into **scopes** for the purposes of carbon accounting and reporting.

Exposure - In relation to climate change **adaptation**, exposure refers to the degree to which a system (such as a human population or ecosystem) or asset is subjected to climate related **hazards**. Exposure is highly context specific and is influenced by various factors including geographic location, land use and land management practices, infrastructure and socio-economic conditions. It encompasses not only the physical hazard posed by the changing climate but also considers factors such as safety or mitigating measures that may be in place, societal vulnerabilities, and governance

Greenhouse gas (GHG) - Greenhouse gases in this guidance are as defined in the Greenhouse Gas Protocol, and are the six gases listed in the Kyoto Protocol: carbon dioxide (CO2); methane (CH4); nitrous oxide (N2O); hydrofluorocarbons (HFCs); perfluorocarbons (PFCs); and sulphur hexafluoride (SF6).

Greenhouse Gas (GHG) Protocol - GHG Protocol definition: “A multi-stakeholder collaboration convened by the World Resources Institute and World Business Council for Sustainable Development to design, develop and promote the use of accounting and reporting standards for business.” It comprises of a series of standards, including the GHG Protocol Corporate Accounting and Reporting Standard and the Corporate Value Chain (Scope 3) Standard, the principles of which public bodies are recommended to follow for their corporate GHG accounting and reporting.

Hazard - In relation to climate change **adaptation**, hazard refers to a specific climate related event or phenomenon with the potential to cause harm or adverse impacts on the environment, human health, economies or societies. Hazards associated with climate change include extreme weather events (hurricanes, floods, droughts and heatwaves) sea level rise, changes in precipitation patterns and shifts in temperature.

Just transition - For the Scottish Government a just transition means becoming a net zero, climate resilient economy in a fair way that seeks to tackle inequality and injustice. Just transition is about both the outcome – a fairer, greener future – and the way we get there in partnership with those most likely to be impacted by the change.

Mainstreaming – mainstreaming the climate change duties means ensuring that that climate and sustainability issues are considered in everything the public body does, and in how it makes decisions. Climate change and sustainability should be embedded across the organisation and in corporate processes.

Maladaptation - The unintended consequence of misjudged or miscalculated **adaptation** measures, that can lead to counterproductive and even harmful outcomes if not carefully considered and managed. Misguided adaptation actions and projects can result in economic losses and exacerbate social disparities, affecting marginalised communities disproportionately (contrary to the goal of ensuring **climate justice** and equitable adaptation), inadvertently harm the environment, fail to address the community's true needs and in some cases cause resistance to new or further projects.

Materiality - In relation to **greenhouse gas emissions**, materiality relates to significance and impact, and involves a value judgement. The emission sources which are most material to an organisation are those which contribute significantly to the overall footprint; and where mitigation action would have the highest impact, i.e. result in the greatest reductions in emissions. These sources may lie in **scope 3**, outside the direct control of the organisation, but within its influence (e.g. emissions related to procured goods and services).

Mitigation - Reducing greenhouse gas emissions that contribute to climate change.

Net zero (or net zero carbon) – Net zero describes an approach which reduces an actor's GHG emissions as far as possible. Any remaining unavoidable residual emissions may be **inset** or **offset** through a credible and robust offsetting mechanism.

Overshoot - In relation to **decarbonisation pathways,** overshoot occurs when emissions fail to be reduced in line with the chosen pathway, leading to higher cumulative emissions over the same time period. The emissions related to this overshoot can be balanced out (in terms of meeting targets) by an equivalent amount of **undershoot** in future years.

Place based – 'Place based' refers to the design of future solutions and approaches by considering the specific needs and attributes of a place (however that place is defined). This recognises the complex and interconnected nature of a place, and in this case the impact that has on the effectiveness of measures to address climate change.

Public body - Within this guidance, public bodies are those bodies subject to the climate change duties, defined in section 44(2) of the Climate Change (Scotland) Act 2009.

RCP pathways - Representative concentration pathways (RCPs) are scenarios used to help characterise the uncertainty in climate models so scientists can generate data about possible future climates

Residual emissions – see **unavoidable emissions.**

Resilience - Building long term capacity and enhancing a region's ability to absorb shocks or to recover from a **hazard** or impact of climate change. Leading to transformative change.

Risk - Interaction of a **hazard**, **exposure** and **vulnerability** where a hazard is a physical event such as a flood or heatwave, exposure is the regional area in which the hazard may occur and vulnerability refers to the propensity of those exposed to suffer

Scope – In relation to carbon accounting, scopes are a way of categorising emission sources in relation to the reporting organisation. They are used to provide transparency in emissions accounting, making it clear the type of emission source and the level of control of the reporting organisation over the source. Three scopes have been defined and are used on a global basis.

Scope 1 - Direct greenhouse gas emissions from sources owned or controlled by the reporting organisation. For example, emissions from fuel combustion in boilers or vehicles, fugitive emissions from refrigeration or air conditioning equipment or emissions from chemical production in processing equipment are all sources of scope 1 emissions if the equipment is owned or controlled by the organisation.

Scope 2 - The indirect greenhouse gas emissions from the generation of purchased electricity, heat, steam or cooling. While scope 2 emissions physically occur at a generation facility, responsibility for the emissions is allocated to the end-users based on the amount purchased.

Scope 3 - All other indirect greenhouse gas emissions which occur as a consequence of the activities of the reporting organisation, not already counted under scope 2. Scope 3 emissions can occur both upstream and downstream in the value chain from an organisation. Upstream emissions sources include purchased goods and services, transportation and distribution, business travel and employee commuting. Downstream emissions include use of sold products, end-of-life treatment of sold products, and investments. Under the **GHG Protocol**, scope 3 emissions are reported under 15 categories.

Stacked hazards (or stacked risks) - Stacked risks or hazards are simultaneously occurring risks or hazards impacting a spatial area, business unit or organisation. For example, flooding occurring alongside high winds and spring tides. These risks may or may not interact.

Sustainable development - UK Shared Framework for Sustainable Development definition: Sustainable development is based on five principles. The two essential conditions for sustainable development - living within environmental limits and ensuring a strong, healthy and just society – are supported by three additional conditions: achieving a sustainable economy, using sound science responsibly, and promoting good governance.

Theory of change – United Nations definition: “a theory of change is a method that explains how a given intervention, or set of interventions, are expected to lead to a specific development change, drawing on a causal analysis based on available evidence”, i.e. a theory as to how and why specific policies and activities lead to certain impacts and outcomes.

Transformative adaptation - Similar to **resilience**, transformative adaptation looks to address the root causes of vulnerability, leading to societal or systems change.

Transitional risk – Transitional risks are those that arise from efforts to move to a lower carbon economy. Transition risks include policy, legal, technological, market and reputational risks (TCFD, 2017).

Unavoidable emissions (or unavoidable residual emissions) - In the **net zero carbon** context, unavoidable residual emissions are those emissions which remain after a body has taken all reasonable steps to reduce or remove them. They may include emissions related to specific processes or technologies for which no viable alternative currently exists, for example anaesthetic gases used in healthcare settings or refrigerant gases used in heat pumps.

Undershoot - In relation to **decarbonisation pathways,** undershoot occurs when emissions are reduced faster than the chosen pathway, leading to lower cumulative emissions over the same time period.

Vulnerability - In relation to climate change **adaptation**, vulnerability is the extent to which a society, economy or ecosystem is at risk of adverse impacts from climate related **hazards**. This concept focuses not only on physical exposure to climate driven events but considers socio-economic factors like poverty, inequality and access to resources. It also considers the system's capacity to recover and adapt following climate related events.

Whole life carbon - Whole life carbon assessment considers the entire life cycle of a product or asset. Whole life carbon includes the carbon associated with resource extraction, the manufacture or construction of the asset or product, and its treatment at end of useful life, as well as the carbon associated with maintaining and operating it.

Whole systems approaches (or whole systems thinking) - Whole systems thinking works to understand how systems, and elements within those, are connected, where dependencies lie, and how they influence each other. Whole system approaches take systems thinking and tools and apply them to support collaborative action across a broad set of partners to address complex problems.

Draft Statutory Guidance

Climate change duties: Draft Statutory guidance for Scottish public bodies on putting the climate change duties into practice

1. Context

This section outlines the legal context, the purpose of this guidance, who should have regard to it and how it should be used.

1.1 The climate change duties – legal basis

This statutory guidance is issued by the Scottish Ministers to Scottish public bodies under the Climate Change (Scotland) Act 2009 ('the 2009 Act').

The 2009 Act places a legal responsibility on relevant public bodies in Scotland to meet the climate change duties. Section 44(2) defines a "public body" as a Scottish public authority within the meaning of section 3(1)(a) of the Freedom of Information (Scotland) Act 2002 (asp 13). Public bodies must check whether they fall within the definition and act accordingly.

The duties are set out in section 44(1) of the 2009 Act and require that a public body must, in exercising its functions, act –

(a) in the way best calculated to contribute to the delivery of emissions reduction targets (i.e. mitigation)
(b) in the way best calculated to help deliver the Adaptation Programme
(c) in a way that it considers most sustainable.

The purpose of this statutory guidance is to support public bodies in performing their climate change duties. It aims to help public bodies to minimise their operational emissions, adapt and become resilient to the current and future impacts of the changing climate, live within environmental limits and ensure a strong, healthy and just society.

Section 45 of the 2009 Act requires Scottish Ministers to give guidance to public bodies in relation to the duties. When deciding how best to fulfil their duties, public bodies are required to take this statutory guidance into account – under the Act they must have regard to such guidance.

Statutory guidance for public bodies under section 45 was first published in 2011 ('the 2011 guidance'). Since the 2011 guidance was published, related legislation covering areas including emission reduction targets and reporting on compliance with the climate change duties has come into force. In addition, the fields of knowledge around carbon reporting, mitigation, adaptation and sustainable development have moved forward significantly. This guidance replaces and supersedes the 2011 guidance in full.

Interim, non-statutory guidance Public Sector Leadership on the Global Climate Emergency was published in 2021 ('the 2021 interim guidance'). It was supplementary to the 2011 guidance, and aimed to provide more up to date advice for public bodies on certain key areas. This statutory guidance supersedes the 2021 interim guidance.

The climate change duties require public bodies, in exercising their functions, to act in the way best calculated to contribute to emissions reductions (climate change

mitigation), climate change adaptation, and to act sustainably. It is important that the three duties are considered together in an integrated and holistic way, and that they are given equal weight or importance in decision making.

This guidance is intended to be useful to all public bodies, not just those legally subject to the duties. The guidance aims to be a potential source of information, tools and support for any public body aiming to contribute to Scotland's national climate change targets and plans.

1.2 Proportionality

What is required in compliance with the climate change duties will vary between bodies, depending upon various factors including the size of body, its functions, budget and wider influence. It is considered appropriate that actions taken by individual bodies are proportionate to that body's nature and function.

Actions taken by a small public body with limited influence on emissions, and a small estate or staff numbers and budget should reflect their resources and the nature of what they do. Equally, there are a number of public bodies that Scottish Ministers consider to be 'major players' as they have a larger influence or impact on climate change than others, for example local authorities, NHS health boards, colleges and universities, transport partnerships and executive agencies. The major players are expected to show leadership in climate action.

The major players are listed in Schedule 1 of The Climate Change (Duties of Public Bodies: Reporting Requirements) (Scotland) Order 2015.

1.3 Development of the guidance

This guidance was co-developed in discussion with the Sustainable Scotland Network (SSN) Steering Group, and through a series of pre-consultation stakeholder engagement workshops and events held to inform the preparation of the guidance and the supplements. Content and case studies have been contributed by bodies from across the public sector.

This draft guidance was issued for public consultation in February 2025 for a 12 week period, seeking views to inform development of the final guidance. A copy of the consultation document can be accessed via Scottish Government's consultation website. In due course, where respondents have supplied the appropriate permissions, their responses will be made available, along with the consultation analysis report.

1.4 Structure of the guidance

This document forms the statutory core of the guidance to public bodies, and is intended to provide guidance on the overarching principles and the high level actions that all public bodies are expected to undertake. This core statutory guidance will be accompanied by a series of non-statutory topic supplements, which are intended to provide more detailed guidance to practitioners working in each area, and some of which may be more relevant to some public bodies than others. The intended

content of these supplements is outlined below. Additional supplements may be added in the future as required.

Due to their non-statutory nature, the supplements are not included in this consultation. They are not publicly available at this time.

Built Estate – estate decarbonisation, heat in buildings, energy and renewables, heat networks, social housing, whole life carbon.

Travel and Transport – the sustainable travel hierarchy, active travel, public transport, fleet decarbonisation, sustainable travel planning.

Land and Nature – nature based solutions, biodiversity, regenerative agriculture, coastal change adaptation planning, estimating land-based emissions.

Sustainable Places – place based approaches, planning, National Planning Framework 4 (NPF4), community wealth building and community planning partnerships, sustainable development impact assessments.

Health and Wellbeing – the NHS sector, public health, guidance for Integration Joint Boards (IJBs).

Finance – ethical investing, adaptation finance, reporting on emissions associated with investments, writing an effective business case.

Working Together - collaboration, behaviour change and engagement, community climate hubs.

Sustainable Procurement - sustainable procurement, the circular economy, supplier and contract management, estimating Scope 3 emissions from purchased goods and services.

Public bodies must ensure that they familiarise themselves with the content of this core statutory guidance before referring to the supplements. Although the supplements are arranged by topic, public bodies are likely to find that relevant information may be covered by several supplements. The case studies included are intended to be useful on a number of levels and illustrate various aspects of best practice. For example, a case study in the Travel and Transport supplement may also talk about finance, procurement, health and wellbeing and working together.

The core guidance and the topic supplements will be kept under review to ensure that they remain an effective tool for assisting public bodies in their action on climate change. Further materials which support this guidance will also be made available through the Scottish Government, and through the Sustainable Scotland Network (SSN), Scotland's public sector network on sustainability and climate change.

1.5 How the guidance should be used

This guidance should be used by public bodies to assist them in fulfilling their duties under section 44 of the 2009 Act. Public bodies are reminded that it is an advisory document only, not a definitive statement of the law, and that **responsibility for compliance with the climate change duties rests with public bodies themselves**.

Following this guidance will assist public bodies in considering how they mainstream climate action into their strategic and corporate processes. It does not constitute legal advice to public bodies on compliance, nor does it absolve them of the duties placed upon them in legislation. In all matters of interpretation of the duties set out in the 2009 Act, public bodies must satisfy themselves that they are compliant, seeking their own legal advice if required.

Public bodies operate in a complex landscape of policy, legislation and statutory obligations, often dependent upon the sector in which they function. In following this guidance, bodies must ensure that they take the wider context into account, as appropriate to their role and sector. It is the responsibility of the public body itself to ensure that it follows all current and relevant legislation and regulation as it develops its corporate policies and plans to fulfil its climate change duties.

The Scottish Government strategies, policies, plans and guidance referred to in this guidance will change over time – many of them require to be updated at five yearly intervals, for example. Bodies should be aware of this and ensure that they refer to the current versions, which may supersede those referenced by name in this guidance.

2. Strategic Framework

This chapter outlines Scotland's strategic framework for climate action: the policies and legislation which embed climate change and sustainable development in the work of government.

It also aims to set climate and sustainability action within the wider context of a just transition, highlighting other key interlinked areas of policy and legislation including biodiversity, the wellbeing economy, community wealth building, sustainable development, equalities, health and wellbeing, human rights and health and safety.

The chapter ends with a section on impact assessments, outlining the key statutory and non-statutory impact assessments that bodies are likely to undertake as they develop and implement climate and sustainability plans, programmes and projects.

The strategic framework is supported by relevant sectoral legislation, for example covering heat in buildings, heat networks and the circular economy. This supporting legislation is detailed in following chapters and the accompanying supplements.

2.1 Scotland's Strategic Framework

The Scottish Government's strategic framework for action on climate change, sustainable development and a just transition puts them at the heart of government. Action is embedded through the National Performance Framework (NPF) and through various strategies, programmes, policies and plans. This strategic framework is made up of legislation, policies, practical support and tools. Delivery of the climate change duties by public bodies is an important aspect of the framework, both in terms of bodies exercising their functions, and in the influence they can bring to bear on service users, stakeholders and the supply chain.

The Environment Strategy creates an overarching framework for Scotland's environment and climate change policies, including the Climate Change Plan and National Adaptation Plan. The Scottish Government recognises biodiversity loss as a crisis as significant as, and closely interlinked with, the climate crisis, and has responded by publishing the Scottish Biodiversity Strategy. Over the coming years, biodiversity delivery plans and a monitoring framework will be progressed through developing and driving investment in nature based solutions. The biodiversity framework will play a significant role in delivering the national commitment to a nature-positive net zero and climate resilient Scotland.

Our action on climate change and biodiversity are aligned with our vision to create a wellbeing economy, where Scotland thrives across economic, social and environmental dimensions.

Public bodies should ensure they understand the strategic framework and take relevant policy, legislation and statutory obligations into account as they work to fulfil their climate change duties. Relevance will vary depending on the nature of the public body and its functions, and the sector in which they work. Key elements are described in the sections below.

2.1.1 National Performance Framework

The National Performance Framework (NPF) is the overarching framework within which the work of central and local government, and the wider public sector, takes place. The NPF aims to create a more successful country, with increased health and wellbeing and reduced inequalities, and where social, environmental and economic progress are given equal importance. It includes values which guide the approach to government and public services in Scotland - to treat all our people with kindness, dignity and compassion, and act in an open and transparent way.

To help achieve its aims, the framework sets out National Outcomes. The Outcomes describe the kind of country the framework is trying to create. These align with the United Nations Sustainable Development Goals (UN SDGs), reflect the values and aspirations of the people of Scotland and are intended to help to track progress towards their achievement.

Figure 1: the National Performance Framework

Climate action is likely to contribute primarily to the Environment Outcome 'we value, enjoy, protect and enhance our environment'. However, due to the multiple dependencies between climate, environment and other factors, and the opportunities offered by a just transition to a low carbon economy, it will also contribute to all the key outcomes. For example:

- Economy – we have a globally competitive, entrepreneurial, inclusive and sustainable economy
- Fair Work and Business – we have thriving and innovative businesses, with quality jobs and fair work for everyone
- Communities – we live in communities that are inclusive, empowered, resilient and safe
- Health – we are healthy and active.

Climate change is not a single-issue policy area. Appropriate and effective action to tackle climate change and promote sustainable development is likely to enhance all National Outcomes. Conversely, the impacts of the changing climate will add stress and complexity to the achievement of the other outcomes.

The NPF measures Scotland's progress against the National Outcomes using a series of National Indicators. These include a range of social, environmental and economic indicators, and are intended to give a measure of national wellbeing. These illustrate how climate action is embedded across all of the National Outcomes, and how rising to meet climate challenges can achieve benefits across society and the economy. For example:

- Installing an air source heat pump to generate renewable heat and displace oil consumption from an old boiler contributes to the Environment Outcome, through the energy from renewable sources indicator; and to the Economy Outcome through the carbon footprint indicator. Reducing pollution and contributing to improved air quality contributes to the Health Outcome; while supporting renewable technology can provide opportunities for skills development and employment.
- Developing a sustainable business travel strategy to reduce travel emissions will contribute to the Economy Outcome through the carbon footprint indicator; and to the Health Outcome through the physical activity, active travel journeys and mental wellbeing indicators. Reducing the emissions associated with transport will help improve air quality, again contributing more widely to the Health Outcome.
- Creating new woodland to help manage flood risk as part of an adaptation plan may contribute to the Environment Outcome biodiversity indicator; to the Economy Outcome natural capital indicator; and Community Outcome access to blue and green space indicator. Increased opportunities to access green space and nature can contribute positively to the Health Outcome indicators for mental wellbeing and physical activity. Equally, by reducing the risk of peoples' homes being flooded, the many negative impacts on physical and mental health and wellbeing can be reduced.

2.1.2 The Climate Change (Scotland) Act 2009

The Climate Change (Scotland) Act 2009 as amended is the central legislation of the climate change framework and supports the just transition to a sustainable, resilient, low-carbon economy.

It requires the Scottish Government to take action in relation to both climate change mitigation and adaptation, to develop a public engagement strategy, and allows for the provision of subordinate legislation, if required to take certain actions forward. As outlined in section 1.1, section 44 of the 2009 Act places climate change duties on public bodies to contribute to emission reduction targets (mitigation), to the adaptation programme, and to act in a way that it considers most sustainable.

2.1.2.1 Mitigation

Statutory reduction targets for Scotland's greenhouse gas (GHG) emissions were first introduced by the 2009 Act, covering carbon dioxide and other GHGs including methane and nitrous oxide. In direct response to the Paris Agreement, an international treaty under the United Nations Framework Convention on Climate Change, the original targets were strengthened by the Climate Change (Emission Reduction Targets) (Scotland) Act 2019 ('the 2019 Act'), creating the Scottish net zero target of 2045, and introducing annual and interim targets.

The Climate Change (Emission Reduction Targets) (Scotland) Act 2024 ('the 2024 Act') recently adjusted this approach, replacing the annual and interim targets with 5-year carbon budgets while 2045 remains the national net zero target. The carbon budgets are to be set through secondary legislation pending receipt of advice from the Climate Change Committee. This advice is expected in spring 2025: once received, Scottish Government will have three months in which to introduce draft regulations to the Scottish Parliament. It is therefore expected that the national carbon budgets will be set in legislation before the end of 2025.

The 2009 Act also sets out the principles for achieving a just transition to net zero, as outlined in section 2.1.2.3 below.

All of Scotland's statutory targets are economy-wide and include all territorial greenhouse gas emissions, a share of those from international aviation and shipping, and territorial removals (including from the land use sectors). The statutory framework sets a default position that the targets must be met through domestic action alone.

Public bodies should be aware that, in addition to the national targets, further specific non-statutory targets are in place. Such targets are detailed in the relevant supplements.

2.1.2.2 Climate Change Plan

Part 3 of the 2009 Act requires Scottish Ministers to produce a climate change plan every five years. The Climate Change Plan (CCP) is a strategic delivery plan and sets out Scottish Ministers' proposals and policies for meeting the emissions reduction targets over the plan period. The CCP is required to cover sectors including energy supply, transport, business and industrial processes, buildings

(residential and public), waste management, land use, land use change and forestry, and agriculture.

The draft of the next Climate Change Plan, covering period 2026 to 2030, will be introduced to the Scottish Parliament within two months of the secondary legislation setting the national 5-year carbon budgets coming into force. Due to this dependency, it is not possible to provide a specific date at this stage. A period of scrutiny on the draft requires to be carried out before the plan can be finalised.

Scottish Ministers are required to publish annual statutory monitoring reports against the Climate Change Plan by the 2009 Act. Each annual report must contain an assessment of progress towards implementing the proposals and policies contained in the Climate Change Plan.

2.1.2.3 Just Transition

For Scottish Government a just transition means becoming a net zero, climate resilient Scotland in a way that also seeks to deliver fairness, tackle inequality and injustice and improve health. Just transition is about both the outcome – a fairer, greener future – and the way we get there in partnership with those most likely to be impacted by the change. It is a cross-cutting agenda that encompasses our economic, societal and environmental ambitions.

Scotland has shown international leadership in embedding just transition principles into its statutory climate legislation. The 2009 Act requires the next Climate Change Plan (draft due 2025) with reference to the just transition principles to:

(a) explain how the proposals and policies set out in the plan are expected to affect different sectors of the Scottish economy and different regions in Scotland, including how they are expected to affect employment in those sectors and regions

(b) set out the Scottish Ministers' proposals and policies for supporting the workforce, employers and communities in those sectors and regions.

The 2009 Act also embeds the just transition principles, requiring Ministers to have regard to them in preparing the Climate Change Plan. The just transition principles set out the importance of taking action to reduce net Scottish emissions of GHGs in a way which:

(a) supports environmentally and socially sustainable jobs

(b) supports low-carbon investment and infrastructure

(c) develops and maintains social consensus through engagement with workers, trade unions, communities, non-governmental organisations representatives of the interests of business and industry and such other persons as the Scottish Ministers consider appropriate

(d) creates decent, fair and high-value work in a way which does not negatively affect the current workforce and overall economy

(e) contributes to resource efficient and sustainable economic approaches which help to address inequality and poverty.

The just transition principles provide vital context to our wider just transition obligations and ensure that our wider climate actions support a fair transition.

2.1.2.3.1 Just Transition Planning

Where the Climate Change Plan must set out the overall roadmap to net zero by focussing on the proposals and policies for meeting emission reduction targets in the plan period, Just Transition (JT) Plans are concerned with the manner of the transition, identifying economic, environmental and social opportunities (and risks). They will aim to provide greater certainty for businesses, workers and communities on what the journey to net zero means in practice.

The Scottish Government published the National Just Transition Planning Framework in September 2021. This set out the government's intention to develop sectoral, regional and site Just Transition Plans and an approach to just transition planning more broadly. It sets out a framework to guide others in their own planning for net zero.

The framework sets out eight broad National Just Transition Outcomes. These have been distilled into the following four areas reflecting the main goals for just transition across all sectors:

- **Jobs, skills and economic opportunities** – Scotland has a thriving net zero economy, enabling businesses to set up and grow sustainably. People are equipped with the skills and opportunities to access good, green jobs in a net zero economy. This economy delivers a liveable world for people and planet, ensuring a thriving, biodiverse environment and fair work and full lives for people (National Just Transition Outcomes 2 and 4).

- **Communities and places** should be accessible places for people to grow, investing in their environment and economy. Communities should be empowered to reach net zero in a way that meets their needs, and builds on their unique local strengths, in an equitable fashion as part of a just transition (National Just Transition Outcomes 1 and 7).

- **People and equity** – People are able to enjoy basic rights, freedoms and quality of life and have access to necessities such as heat, food, housing, employment, childcare and wider wellbeing. They are healthier, happier and treated with respect and have access to full, varied opportunities that add value to their lives. Opportunities, wealth and power are spread more equally; costs primarily fall to those who can bear them (National Just Transition Outcomes 3 and 8).

- **Environment, biodiversity and adaptation** - Our environment must meet the needs of those living in and depending on it – this includes both our natural and built environment. Our spaces must be resilient to the impacts of climate change and restore our biodiversity. Spaces must provide those living or dependent on them with everything they need to live full and healthy lives as they support the transition (National Just Transition Outcomes 5 and 6).

These outcomes reflect what Scottish Government has identified as the main areas that just transition activity should cover, including effective reskilling and new

economic opportunities, as well as engaging communities and reflecting fairness and a person-centred approach in policy making.

Sectoral Planning

The draft Energy Strategy and Just Transition Plan was published in 2023 for public consultation. A finalised version of the document is due to be published. The plan will lay out a shared vision for Scotland's energy system, and identify concrete steps to manage the economic and social impacts of the transition fairly.

Three further sectoral just transition plans are currently in development:

- Aligning with the National Transport Strategy 2, the **Transport Just Transition Plan** will set out a pathway towards reducing transport emissions in a way that tackles existing inequalities and promotes a managed transition to a future transport system, supporting behaviour change away from private car use and identifying the workforce and skills changes needed in the transport industry.

- The **Land Use and Agriculture Plan** will take a wider lens on the livelihoods, skills, health, and wellbeing of those who live in and rely on Scotland's land as well as on maintaining and supporting thriving rural and island communities. It will look to introduce and promote a baseline approach and policy actions whilst setting out the strategic direction of travel for future plans.

- The development of a **Built Environment and Construction Just Transition Plan** will follow the Transport and Land Use and Agriculture Just Transition Plans. This will focus on providing a pathway for our built environment and construction sectors to deliver net zero.

To support the development of these sectoral plans, the Scottish Government published three discussion papers in June 2023: these set out proposed JT outcomes and priority policy areas for the transport, land use and agriculture, and the built environment and construction sectors.

Site Planning

Site Plans will focus on areas in which significant industrial change is expected to take place. On 7 November 2024 we published the draft version of a site-specific Just Transition Plan for the Grangemouth Industrial Cluster. This Plan seeks to understand the impacts of major structural changes at Grangemouth on a wide range of actors, including industrial operators at the forefront of technological change, their workforces who hold much of the skills and expertise to support this, and crucially, the surrounding community which has an intrinsic link with the industrial cluster. A co-designed vision for the future charting the actions that will be required in order to make this transition as equitable as possible for those in Grangemouth was also published alongside the draft Plan on 7 November. A discussion paper on this Plan was published in September 2023.

The Scottish Government has committed to developing a Just Transition Plan for the Mossmorran industrial complex. Work on this plan is scheduled to begin following the publication of the final version of the Grangemouth Just Transition Plan.

Regional Planning

We are also committed to setting out an approach to support regional planning. We will be working with key partners, including COSLA, the Just Transition Commission and existing regional partnerships to explore possible options. The goal will be to learn from areas (such as the North East, Glasgow and Edinburgh) where net zero plans are already more developed and design an approach that can best coordinate and enhance existing work.

2.1.2.4 Public Engagement Strategy

Under section 91 of the 2009 Act, Scottish Ministers are required to publish a public engagement strategy setting out steps to inform people about climate change targets, encourage them to contribute to achieving those targets and identify actions which people in Scotland can take. The strategy must be reviewed every five years. Where Ministers vary the strategy following review, the revised strategy must be published as soon as reasonably practicable.

The latest strategy, Net Zero Nation: A Public Engagement Strategy for Climate Change, was published in 2021 and is a framework for engaging the public and communities on climate change. It takes a people-centred approach to climate change policy; and underpins the role of public engagement in mitigating and adapting to climate change, moving from encouraging incremental changes in attitudes and behaviours, to supporting a society-wide transformation.

The Scottish Government is supporting the development of a network of regional community climate action hubs, to provide a strategic regional approach to climate change action.

The government is not, should not and cannot be, the only body that engages with the public on climate change issues. Public bodies should, in all cases, engage with their staff and key stakeholders as they develop their own climate change policies and plans. Additionally, the majority of public bodies are likely to engage with other bodies, stakeholders and the public as they exercise their functions. Through this engagement, public bodies can play a key role, as 'trusted messengers', in broadening the conversation on climate, and in ensuring that the interests of people and communities most affected by our transition to net zero are understood, and acted upon. Public bodies and community climate action hubs should work together to ensure full community engagement, as appropriate.

The 2021 strategy is focused on three strategic objectives: Understand, Act and Participate. It aims to ensure people are aware of the action that all of Scotland is taking to tackle climate change and understand how it relates to their lives. It aims to enable people to actively participate in shaping just, fair and inclusive policies that promote mitigation of and adaptation to climate change. And it aims to encourage households, communities and places across Scotland to take action on climate change.

Bodies should reference the strategy and consider their own stakeholder engagement using the approaches outlined.

2.1.2.5 Mitigation – scope of the duties

The first of the climate change duties is that, in exercising their functions, public bodies must act in the way best calculated to contribute to delivery of the emission reductions targets, described above. The targets include both the overarching target of net zero by 2045, and the 5-yearly carbon budgets. While the targets are economy-wide and do not constitute specific targets for the public sector, **public bodies should lead by example by setting ambitious targets for their own emissions**. In keeping with their leadership role, public bodies should consider setting their own emission reduction targets and develop delivery plans to reach net zero by 2045 or, wherever possible, ahead of this date.

Public bodies contribute direct GHG emissions, for example through the use of natural gas to heat buildings and water, and the use of petrol and diesel in fleet vehicles. They also contribute indirect emissions, for example: emissions associated with mains electricity; emissions from the treatment of waste and waste water generated by the organisation; and transport emissions associated with business travel. Bodies may also play a key role in influencing GHG emissions in the wider environment through the way they exercise their functions in relation to policy, service delivery and procurement. **Public bodies are advised to approach the climate change duties broadly and include both direct and indirect emissions, and give due consideration to those within their wider sphere of influence.**

The climate change duties and the other actions that, as best practice, public bodies should take are explored in more detail in chapter 5 Implementing the first duty: reducing emissions, and chapter 8 Reporting. As equalities and climate change are interlinked, bodies should also refer to chapter 3 Equalities. Section 2.2 provides guidance on impact assessments.

2.1.2.6 Adaptation

The framework for climate adaptation is set out in relevant sections of both UK and Scottish legislation. Section 56 of the UK Climate Change Act 2008 requires the Secretary of State to lay reports before Parliament assessing the risks for the UK of the current and predicted impacts of climate change ('the UK Climate Change Risk Assessment') every five years. The Climate Change Committee (CCC) has a duty to provide advice on the preparation of each report.

Section 53 of the 2009 Act establishes the legislative framework to pursue the Scottish Government's ambitions for climate adaptation. After each round of UK Climate Change Risk Assessment, Scottish Ministers are required to prepare a strategic programme for climate adaptation – now referred to as the Scottish National Adaptation Plan (SNAP). This programme must set out the objectives in relation to adaptation, the proposals and policies for meeting those objectives, arrangements for involving stakeholders, mechanisms for ensuring public engagement and the timescales within which the proposals and policies will be introduced. The 2009 Act also requires annual reporting to the Scottish Parliament

on progress towards delivering the programme, and two rounds of independent assessment of progress within each five year cycle.

2.1.2.7 Scottish National Adaptation Plan 2024-2029 (SNAP3)

The third Scottish National Adaptation Plan (SNAP3) was published in September 2024. SNAP3 sets out five long term adaptation outcomes, a set of 23 shorter term national adaptation objectives, and policies and proposals to respond over the period 2024 to 2029 to the risks for Scotland identified in the 2022 UK Climate Change Risk Assessment (CCRA3).

SNAP3's strategic aim to build Scotland's resilience to climate change aligns with the National Performance Framework, and its five long-term adaptation outcomes are:

- **Nature connects** across our land, settlements, coasts and seas
- **Communities** are creating climate-resilient, healthy and equitable places
- **Public services** are collaborating in effective and inclusive adaptation action
- **Economies and industries** are adapting and realising opportunities in our Just Transition
- **Scotland's international role** supports climate justice and enhanced global action on climate adaptation.

2.1.2.8 Adaptation – scope of the duties

The second element of the climate change duties requires public bodies, in exercising their functions, to act **in the way best calculated to help deliver the Scottish National Adaptation Plan**.

All public bodies must **identify the national adaptation objectives relevant to their functions and act in a way that supports the delivery of these objectives.** Organisations will have varying degrees of influence in relation to adaptation in Scotland depending on their particular role, functions and responsibilities, but **all public bodies need to be resilient to the future climate and to plan for business continuity in relation to delivery of their functions and the services they deliver to the wider community.**

Typically, the first step involved is to understand the likely impacts the changing climate will have on the organisation and the risks that these pose. All bodies should undertake climate risk assessments, put appropriate adaptation plans into place and be in a position to track and report on delivery. Further details are provided in chapter 6 Implementing the second duty: adaptation.

2.1.2.9 Acting sustainably – scope of the duties

The third duty places a requirement on public bodies, in exercising their functions, **to act in the way they consider most sustainable**. In reaching well informed decisions, public bodies should ensure that the full range of social, economic and environmental considerations are fully taken into account alongside the impact on GHG emissions, and that these aspects are viewed over the short and long term.

Public bodies should integrate sustainability into their decision-making processes, for example by assessing the sustainability of policy decisions and strategies, budgets and capital projects; and by considering how these contribute to the National Performance Framework outcomes. Impact assessments can be an effective tool for integrating sustainability into decision making.

Sustainable development and the actions public bodies are expected to take are explored in more detail in chapter 7 Implementing the third duty: acting in the most sustainable way.

2.1.2.10 Reporting on compliance with the climate change duties

As laid out in chapter 1, public bodies have climate change duties under section 44 of the 2009 Act. Scottish Ministers may require certain public bodies, by order under section 46 of the 2009 Act, to report on their compliance with the climate change duties.

The Climate Change (Duties of Public Bodies: Reporting Requirements) (Scotland) Order 2015, as amended, sets out annual reporting requirements and the list of major public bodies who must fulfil such requirements. Reporting, both statutory and non-statutory, is covered in detail in chapter 8.

2.1.3 Wider context, legislative and regulatory framework

Public bodies operate within a wider landscape of legislative, policy and regulatory frameworks. Some key elements are detailed below.

2.1.3.1 Scotland's Environment Strategy

The Environment Strategy provides an overarching framework for Scotland's environment and climate policies, including the Climate Change Plan and Adaptation Plan. It aims to bring strategies and plans together, and identify new strategic priorities and opportunities to promote a whole-of-government approach supporting Scotland's role in tackling the climate and nature emergencies.

In guiding us as we protect and restore Scotland's natural environment and strive to live within our planet's sustainable limits, the strategy recognises that this will require transformative, systemic changes in Scotland's economy and society. Therefore, it aims to explore what these transformations will mean in practice in Scotland, and how the Scottish Government can help to drive these, as part of its commitment to a just transition, in ways that create wider benefits for people's health and wellbeing, for tackling inequalities and for supporting green jobs and businesses.

The Environment Strategy forms part of the Scottish Government's strategic approach to environmental policy and was placed on a statutory basis by the UK Withdrawal from the European Union (Continuity) (Scotland) Act 2021 ('the Continuity Act') which created new duties for Scottish Ministers to publish an 'environmental policy strategy' and to have due regard to it when developing policies. While the full Strategy is being developed in phases, its vision and outcomes will help to guide the future development and delivery of our environmental strategies and plans by establishing our long-term direction and shared goals.

Scotland's arrangements for environmental governance are defined by the Environment Strategy, Environmental Standards Scotland and our Statutory Guidance on the Guiding Principles on the environment.

The guiding principles, which were also established by the Continuity Act, support the objective to maintain and improve environmental standards, contributing to Scotland's response to the twin climate and nature emergencies and keeping aligned as far as possible with EU standards. The duties in the Continuity Act require Scottish Ministers and Scottish public authorities to have due regard to the guiding principles on the environment. The duty on Scottish Ministers to have due regard to the guiding principles on the environment will extend to all policy development (including proposals for legislation). The duty on other public authorities only applies to projects which require an environmental assessment under the Environmental Assessment (Scotland) Act 2005.

2.1.3.2 Biodiversity and the natural environment

A consensus is building internationally around the urgent need to address the twin crises of biodiversity and nature loss and climate change together. Similar to climate change, the degradation of our natural environment and the loss of species poses an existential threat to humanity. The Scottish Government is clear that this is an emergency, and requires an emergency response. The Scottish Biodiversity Strategy to 2045 sets out a clear vision in response to the challenge, to take urgent action at scale across Scotland's land and seas, in order to halt biodiversity loss by 2030 and reverse that trend by 2045. Restoring and regenerating biodiversity will build climate resilience, and Scotland's communities and people are central to a nature positive future.

Collaboration is at the heart of the Strategy. No one can tackle the nature emergency alone, and it will be vital that public bodies work together and with their many stakeholders and communities, to deliver the changes that are needed over the coming years.

The strategic delivery framework for responding to the biodiversity crisis includes the Strategy itself, the Natural Environment Bill, five-year Delivery Plans setting out detailed actions to be taken, an Investment Plan and a monitoring and reporting framework. Public bodies, in particular those with landholdings, should ensure that their policies and actions are in line with the Strategy and other elements of the strategic framework.

The final strategy and the Strategic Biodiversity Delivery Plan 2024-2030 were published on 27 November 2024, following public consultation in 2023. Broad frameworks and specific guidance relating to the implementation of Nature Networks, protecting 30% of our land by 2030 ('30 by 30'), and developing with nature through the National Planning Framework (NPF4) are published by NatureScot.

The Natural Environment Bill to be introduced in this Parliamentary session (2021-2026) will set out a framework for statutory targets for nature recovery. While the detail is still being progressed, we expect to develop targets that will support delivery of the priority themes and outcomes laid out in the Biodiversity Strategy. The Bill will

also contain legislation that supports our National Parks, the management of wild deer, and the ambitious '30 by 30' commitment.

Every public body, in exercising its functions, is under a duty to further the conservation of biodiversity, so far as is consistent with the proper exercise of those functions under the Nature Conservation (Scotland) Act 2004. Guidance in relation to the biodiversity duty is published by NatureScot. Every effort should be made by public bodies to enhance biodiversity and restore nature, and public bodies should also maximise opportunities for enhancing biodiversity as an essential co-benefit of taking climate action. For example, bodies with landholdings should maximise opportunities to restore nature and further enhance biodiversity as part of wider land based mitigation and adaptation projects.

2.1.3.3 Wellbeing economy

The National Strategy for Economic Transformation (NSET) has a vision of a Wellbeing Economy, based on the principles of prosperity, equality, sustainability and resilience. It involves taking a broader and more holistic view of what a successful country, society and economy look like, putting people and planet at the centre. It will improve economic resilience, reduce our vulnerability to future economic and environmental shocks, and so improve wellbeing for current and future generations. Boosting fair, green, economic growth helps achieve the Scottish Government's four priorities and promotes the wellbeing of all Scotland's people.

The NSET is aligned with the National Performance Framework, and with existing plans targeted at specific aspects of our economy, and regional and sectoral strategies, including the Climate Change Plan, Environment Strategy, Just Transition Plans and Energy Strategy, the Green Industrial Strategy, the Biodiversity Strategy and the Circular Economy Strategy.

One practical way to support the achievement of a wellbeing economy is through the Community Wealth Building (CWB) approach to economic development. CWB encourages public bodies to consider their role as 'anchor organisations' through using their economic levers, such as spend, employment, land and assets and investment, in different ways to maximise the benefits for the economy, local communities and the environment. The Scottish Government has committed to introducing legislation on CWB within this Parliamentary session.

2.1.3.4 Land Use

Scotland's land is a valuable resource and fundamental to the economy, the environment, biodiversity and the wellbeing of the nation. Public bodies, when considering their land and land management, must think beyond how it is used to who benefits from that use, and how land use can help achieve wider outcomes and benefits, as laid out in the Land Use Strategy 2021-26 Land – getting the best from our land. This sets out the Scottish Government's long term vision for sustainable land use in Scotland, a set of sustainable land use principles to guide decision making, as well as key objectives and policies for delivery.

In line with the legal requirement that Scottish Ministers produce a Land Use Strategy every five years, the process of developing a fourth strategy for publication in 2026 is beginning. This will build on previous strategies while also reflecting recent changes in the policy context in order to ensure that the strategy is aligned with Scotland's national outcomes, as set out in the NPF, and contributes to delivery of the UN SDGs.

The Land Rights and Responsibilities Statement and the Land Use Strategy's Principles for Sustainable Land Use should be at the centre of land use and land management decision making.

Management and use of public land for carbon such as increasing carbon removals (e.g. woodland creation, hedgerows, seagrass) and reduction of emissions, such as peatland restoration or improved soil management, should be undertaken in line with the SG's Natural Capital Markets Framework. This sets out how natural capital projects, including those focussed on carbon goals, should support integrated land management (delivery of wider co-benefits beyond carbon e.g. biodiversity improvements, resilience of food supply and natural flood management) and community benefits. Investment in natural capital for carbon management should be both measurable and verifiable, such as through the government-backed Woodland Carbon Code and the Peatland Code.

2.1.3.5 Circular economy

The Scottish Government recognises that sustainable consumption and production are essential for Scotland's transition to a low carbon and green economy, which will meet Scotland's obligations to tackle the twin climate and nature emergencies. Material consumption and waste are primary drivers of nearly every environmental problem Scotland currently faces, from water scarcity to habitat and species loss. Estimates suggest around four fifths of Scotland's carbon footprint comes from the products and services we manufacture, use and throw away. A circular economy gives us an alternative economic model that can benefit everyone within the limits of our planet.

Building a more circular economy requires all parts of Scottish society to play their part. The Circular Economy (Scotland) Act 2024 contains provisions to underpin Scotland's transition to a circular economy and modernise Scotland's waste and recycling services. Primarily, the Act delivers enabling powers that will set a framework for taking action into the future.

Some of the provisions included in the Act are:

- **Circular economy strategy:** placing a duty on Scottish Ministers to publish or refresh a circular economy strategy at least every 5 years in order to direct national policy on the circular economy.
- **Circular economy targets:** developing statutory targets for the Scottish Ministers to provide a focus for action.
- **Restrictions on the disposal of unsold consumer goods:** providing powers to limit the disposal or destruction of unsold goods in order to reduce wasteful practice.

- **Charges for single-use items:** creating a power to set a minimum charge for certain throwaway items in order to drive waste reduction and greater use of reusable items (the intention is for this initially to be applied to single-use disposable beverage cups).
- **Local Authorities:** development of a code of practice on household waste recycling; development of recycling targets for local authorities; and enforcement provisions relating to fly tipping and household waste.

2.1.3.6 Equalities legislation

The Equality Act (2010), section 149, introduced the Public Sector Equality Duty (PSED) which requires public authorities, in exercising their functions, to have due regard to what are known as the 'three needs', that is the need to: eliminate discrimination, harassment, victimisation and any other conduct prohibited under the 2010 Act; advance equality of opportunity between those who share a relevant protected characteristic and those who do not share it; and to foster good relations between those who share a protected characteristic and those who do not share it.

The Equality Act 2010 (Specific Duties) (Scotland) Regulations 2012 place further duties onto listed Scottish public authorities, including to report progress on mainstreaming the equality duty, and to assess the impact of applying new or revised policies, plans or processes against the three needs of the PSED. This assessment typically takes the form of an Equality Impact Assessment (EQIA). Further details on EQIA are provided below in section 2.2.

Under Part 1 of the Equality Act 2010, certain bodies are also subject to the public sector duty regarding socio-economic inequality. In Scotland, this duty was introduced in 2018 as the Fairer Scotland Duty (FSD). The duty places a legal responsibility on named public bodies in Scotland to pay due regard to how they can reduce inequalities of outcome caused by socio-economic disadvantage, when making strategic decisions.

Bodies should refer to chapter 3 for further guidance on equalities and climate change.

2.1.3.7 Health and wellbeing

Planetary and human health are inextricably linked [1, 2]. Climate change, and the measures we take to achieve net zero and adapt to its impacts, present risks to, and opportunities for, human health.

Climate impacts will exacerbate, and be exacerbated by, the significant population health challenges Scotland faces [3, 4]. Life expectancy and healthy life expectancy are falling, and health inequalities are widening. Our population is aging, and the burden of disease is projected to rise placing additional pressure on our health and social care system. Concurrent system shocks including the COVID-19 pandemic and the cost-of-living crisis have exposed, and deepened, existing inequalities leaving our most vulnerable and marginalised people and communities behind: the same people and communities that will be disproportionately affected by the impacts of climate change.

The impacts of climate change in Scotland and globally are, and will continue to, impact directly and indirectly on the health and wellbeing of people and communities [5]. Higher temperatures increase heat-related illness. Frequent flooding can increase risk of exposure to pathogens and directly cause injury or death from drowning or hypothermia. Wildfires can exacerbate respiratory illness and may directly cause injury or death. Climate impacts also affect health indirectly. They undermine the building blocks of health including a safe and secure home, access to transport, health and social services, and affordable and healthy food (food security), contributing to physical and mental health problems. They also influence changes in disease and disease vectors, global security and migration patterns.

For example, flooding can have a wide range of social and economic impacts, which in turn affect health. The immediate losses – being displaced from homes, ongoing disruption to work and education, restricted access to essential services, and disrupted utilities – can have long term and severe impacts on mental and physical health. Research suggests that the biggest burden of ill-health from major flood events will be on mental health [6].

The action we take to achieve a net zero, nature-positive, climate-resilient future are an opportunity to deliver wider benefits for climate, health and equity – sometimes referred to as 'triple wins' [7]. Investment in areas such as transport, housing, clean energy, sustainable livelihoods and the natural environment will bring a wide range of health and social benefits for individuals and communities.

Integrating health and equity at the heart of tackling the interconnected climate and nature emergencies can contribute to achieving a just transition to net zero and climate-resilient, healthy, equitable communities. Working nationally and locally and adopting a 'Health in All Policies' approach, public bodies can deliver near-term co-benefits for population health, wellbeing and equity from cross sectoral climate action[8] .

2.1.3.8 Human Rights

Public bodies have a legal obligation to embed human rights considerations throughout the policy-making process. This ensures that new policies and legislation comply with legal requirements and uphold human rights principles. Human rights should be considered in all impact assessments, as they encompass a broad range of policy areas.

The National Performance Framework includes the outcome 'We respect, protect and fulfil human rights and live free from discrimination', which aligns with the UN SDGs. By taking a human rights-based approach to policy development, public bodies can empower individuals to understand and claim their rights, while improving accountability for those responsible for respecting, protecting, and fulfilling these rights. This approach is crucial for leading by example in human rights, including economic, social, cultural, and environmental rights.

2.1.3.8.1 Children's Rights

Our vision is of a Scotland where children's human rights are embedded in all aspects of society. We are taking steps to ensure that children enjoy their rights, as set out in the United Nations Convention on the Rights of the Child (Incorporation) (Scotland) Act 2024 (the 'UNCRC Act'). These include:

- Section 6 of the UNCRC Act, makes it unlawful for public authorities, including Scottish Government, to act incompatibly with the UNCRC requirements when delivering relevant functions under powers conferred by or under an Act of the Scottish Parliament or common law. Some private and third sector organisations may be caught by the duty if they carry out certain functions of a public nature.

- Section 17, legally requires Scottish Ministers to prepare and publish a Child Rights and Wellbeing Impact Assessment (CRWIA) in respect of all new Bills, most Scottish Statutory Instruments, and all decisions of a strategic nature that relate to the rights and wellbeing of children (refer to section 2.2 of this document)

- Section 1 of the Children and Young People (Scotland) Act 2014 (the "2014 Act") placed a duty on the Scottish Ministers to keep under consideration whether there are any steps which they could take which would or might secure better or further effect in Scotland of the UNCRC requirements, and, if they consider it appropriate to do so, take any of the steps identified by that consideration. Section 22 of the UNCRC Act, repeals Part 1 (including section 1) of the 2014 Act and this duty is now replaced with new, stronger, duties in the UNCRC Act.

- Further to this, section 23 obliges the Scottish Ministers when bringing forward any new legislation (save for certain SSIs) to make a statement about its compatibility with the UNCRC requirements.

The UNCRC is the base standard for children's rights, and is the most widely ratified human rights treaty in the world. It sets out the specific rights that all children have. Article 24 (right to health) emphasises the importance of clean drinking water, taking into consideration the dangers and risks of environmental pollution .

The UN Committee on the Rights of the Child has published General Comment No. 26, which focuses on the environment and climate change. General Comments are intended to assist States Parties in their implementation of the UNCRC, but are not legally binding documents in themselves. General Comment No. 26 explains how certain rights, such as the right to non-discrimination, the right to life and the right to health are being particularly threatened by climate change. The general comment emphasises the need for urgent action, clarifies obligations of States, and provides guidance on appropriate measures to address environmental harms, with a focus on climate change. As the youngest members of society children have not contributed to the changing climate but are those most likely, over the coming decades and the course of their lifetimes, to feel its impacts. Currently children's rights are, globally, being threatened by climate change and other environmental harms.

2.1.3.9 UK Emissions Trading Scheme

The UK Emissions Trading Scheme (ETS) was implemented across the UK following the UK's exit from the EU. The UK ETS is administered by the ETS Authority, which is comprised of the UK, Welsh, and Scottish governments, as well as the Department of Agriculture, Environment and Rural Affairs in Northern Ireland. The ETS is used as a mechanism to incentivise cost-effective decarbonisation and continues from the EU ETS in the provision of a cap-and-trade system with a market-determined price on carbon emissions.

The UK ETS applies to energy intensive industries, the non-renewable power generation sector, and some aviation emissions. In future it will also apply to maritime emissions and energy from waste and waste incineration - this may be of particular interest to local authorities and other public bodies. More information can be found at the links below. In addition, there is a scheme for hospitals and small emitters which is applied to emitters with emissions lower than 25,000t CO2e per annum. Operators of sites covered by the UK ETS should be aware of their inclusion.

Guidance on how to participate in the scheme is published on the UK Government website, and is also available from the Scottish scheme regulator, SEPA (UK Emissions Trading Scheme | Scottish Environment Protection Agency (SEPA).

2.1.3.10 Best Value

Since 2002, a number of public bodies now covered by the climate change duties including NDPBs, Executive Agencies and NHS bodies, have also been subject to the Best Value in Public Services duty. This duty requires relevant bodies to ensure continuous performance improvement in delivering services, maintaining an appropriate balance between cost and quality, and in making those arrangements **to contribute to the achievement of sustainable development**. Guidance on the Best Value duty is provided in the Scottish Public Finance Manual and in guidance for Accountable Officers.

Local authorities are not subject to the duty of Best Value in Public Services. They are however subject to a similar duty under Part 1 of the Local Government in Scotland Act 2003. This places a duty on local authorities to make arrangements which secure best value – best value being defined as continuous improvement in the performance of the authority's functions. This duty must be discharged in a way **which contributes to the achievement of sustainable development**. Statutory guidance on this duty has been published by Scottish Ministers.

Public bodies and local government should build a shared understanding of Best Value, especially given the need for collaboration and partnership working.

2.1.3.11 Health and Safety legislation

The Health and Safety at Work etc. Act 1974 places a duty on employers to ensure, so far as is reasonably practicable, the health, safety and welfare of all of their employees. The duty applies to those working in offices or on sites owned by the employer, to agile and remote workers, and to those working from home.

Public bodies should be aware of the potential interlinkages between the impacts of climate change and their legal responsibilities in relation to health and safety. For example, the impacts of the changing climate such as increased heavy rainfall events causing a site to flood, or flood more severely or more frequently, should be assessed though a climate risk assessment (refer to chapter 6), but are likely to also pose a health and safety risk. Other examples might include the risks posed to outdoor workers during heatwaves and the risks posed to those who travel for work by extreme weather events. All employees are likely to become increasingly vulnerable to potential injury, delays, disruption and damage as the climate changes.

Bodies will be aware of the responsibilities named individuals within their organisation hold in relation to health and safety. They should ensure that all such individuals are suitably trained in relation to climate impacts and climate risks, so these can be taken fully into account as bodies discharge their responsibilities in relation to health and safety.

2.1.3.12 Sectoral and wider policy areas

Climate change action is embedded across many policy areas including energy, heat in buildings, transport, waste and the circular economy, business and industry, procurement, planning, community planning, agriculture, forestry, marine and land use. The supplements accompanying this guidance will provide subject-specific guidance on themes that include many of the areas listed. The policies, legislation and regulations relevant to each theme will be set out in these supplements.

2.2 Impact assessments

As public bodies develop, update and implement climate change policies, strategies and plans, it is likely most will be required to undertake one or more impact assessments. Impact assessments are designed to test policies, plans and projects against certain criteria, to gain a deeper understanding of likely impacts, allow negative impacts to be mitigated against, minimised or removed, maximise opportunities for positive outcomes and, critically, to feed into the development of the policy or plan.

In all cases, it is important that public bodies:

- approach the assessment with an open mind and with the aim of gaining a deeper understanding of the issues
- start the assessment process early, so that the results can feed into the development of the policy or plan and influence decisions
- gather relevant qualitative and quantitative evidence, and engage with appropriate individuals, groups, communities and organisations as part of the consultation process and to gather additional evidence of likely impact where required
- ensure that the results of the assessment feed into the proposal and help bring about demonstrable change
- make a plan to monitor the success of any mitigating or enhancing actions set out in the assessment
- take an approach proportionate to the size of body and the size or scope of the proposal.

The requirement to carry out any particular assessment will vary depending on the body and the nature of the proposed policy or plan. It is the responsibility of the public bodies themselves to ensure they are aware of their statutory obligations in relation to impact assessment. Bodies not required to undertake specific assessments on a mandatory basis may still find them a valuable exercise to carry out as best practice.

Guidance has been developed for each assessment outlined below. In some cases, toolkits and templates are also available. Bodies are, however, free to take their own approach, and could consider an integrated impact assessment process. Integrated impact assessment aims to take an holistic view, and assess various criteria or factors as part of a single exercise. There are almost always interdependencies, for example between socio-economic disadvantage, equalities, health, the impacts of climate change, the ability to adapt effectively to a changing climate, etc., and this more holistic approach highlights these, helping to avoid unwanted impacts in other domains. Where an integrated approach is taken, bodies must ensure that any specific legal duties related to the requirement for the individual assessments are fulfilled, and that any associated statutory guidance is given due regard.

The most commonly required assessments are outlined below.

Strategic Environmental Assessment (SEA)

- **Legislation:** Environmental Assessment (Scotland) Act 2005.

- **Description:** SEA is a broad, integrated assessment process that aims to establish the likely environmental effects of implementing a Plan, Programme or Strategy. The findings of the assessment are detailed within an Environmental Report and a public consultation has to be carried out on both the plan and the report, early in the preparation process and prior to the adoption of the plan.

The environmental report must consider likely significant effects on the environment across the short, medium and long-term, on aspects including biodiversity, human health, water, air and climatic factors. SEA is therefore a key tool in ensuring positive climate change actions are integrated at both a local and national level.

SEA aims to ensure that significant adverse effects, where possible, are either avoided or mitigated and where feasible significant positive environmental effects enhanced.

SEA can help those developing plans consider how they could be delivered differently, to achieve better environmental outcomes, while still resulting in the planned outcomes.

- **Qualifying criteria:** The Act requires responsible authorities to undertake SEA for qualifying plans that have the potential to generate significant environmental effects. Qualifying plans may include, for example, Local Development Plans, Transport Strategies, Corporate Plans and Flood Risk Strategies. Section 2.4 of the SEA guidance provides further information on which plans are likely to require a SEA, and which may be exempt.

  It should be noted that most plans of a public character will require screening or pre-screening if they do not fall into a full SEA. During the screening process, the requirement for a SEA should be confirmed with assistance from the consultation authorities. Only plans that are set out in section 4(3) or section 6 of the Act are fully exempt.

  Responsible authorities are defined in section 2 of the Act and include the majority of public bodies to whom climate change duties apply.

- **Guidance and tools:** Scottish Government have published non-statutory guidance on SEA. Further guidance is provided by NatureScot, Historic Environment Scotland and SEPA, including guidance on the consideration of climatic factors within SEA. Enquiries can also be directed to the SEA Gateway mailbox.

Guiding Environmental Principles

- **Legislation:** UK Withdrawal from the European Union (Continuity) (Scotland) Act 2021.

- **Description:** The Environmental Principles are not a form of impact assessment. However, the principles should be considered alongside any other impact assessments that are required.

  The principles are:
  - protecting the environment should be integrated into the making of policies
  - the precautionary principle as it relates to the environment
  - preventative action should be taken to avert environmental damage

- environmental damage should as a priority be rectified at source
- the polluter should pay.

Ministers and public authorities should give due regard to the guiding principles through the established SEA processes, including during the completion of SEA pre-screening, screening and environmental report.

- **Qualifying criteria:** Under section 14, in making policy (including proposals for legislation), Scottish Ministers are required to give the guiding principles due regard. Under section 15, other responsible authorities are required to have due regard to the principles when undertaking anything to which the duty under section 1 of the Environmental Assessment (Scotland) Act 2005 applies.

- **Guidance and tools:** Statutory guidance published by Scottish Government provides information on how officials across government should apply the environmental principles when developing policy: Scotland's guiding principles on the environment: statutory guidance.

Environmental Impact Assessment (EIA)

- **Legislation:** The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017. Related sector-specific regulations covering electricity works; transport and works; roads; marine works; agriculture, land drainage and irrigation projects; and forestry.

- **Description:** EIA forms part of the Planning process, and is a means of drawing together, in a systematic way, an assessment of the likely significant environmental effects arising from a proposed development. The EIA must identify, describe and assess the likely significant effects of the proposed development on environmental factors including population and human health; biodiversity; land, soil, water, air and climate; and material assets, cultural heritage and the landscape.

- **Qualifying criteria:** Developments falling within a description in Schedule 1 automatically require an EIA. Those described within Schedule 2 of the 2017 EIA Regulations and that meet the threshold in Column 2 or are within a 'sensitive area' need to undertake screening to determine whether an EIA is required.

- **Guidance and tools:** Planning Advice Note 1/2013: Environmental Impact Assessment and Planning Circular 1/2017: Environmental Impact Assessment regulations.

Equality Impact Assessment (EQIA)

- **Legislation:** Equality Act 2010. Equality Act 2010 (Specific Duties) (Scotland) Regulations 2012, as amended.

- **Description:** EQIA are intended to ensure that new or revised policies and plans consider their impact on each protected characteristic as defined by the Equality Act, in respect of the three needs of the Public Sector Equality Duty (PSED).

  The PSED was placed on public authorities by the Equality Act 2010 and requires them, in the exercise of their functions, to have due regard to the need to eliminate discrimination, harassment and victimisation, to advance equality of opportunity and foster good relations between persons who share a protected characteristic and those who do not.

  Additional specific duties for listed Scottish public authorities were introduced by the 2012 Regulations as amended. Under these regulations, listed authorities are required to assess the impact of implementing a proposed new or revised policy or practice against the three needs of the PSED, i.e. to carry out an EQIA and publish the results.

  There are multiple dependencies between climate change and equalities, particularly when the consideration of different socio-economic groups, rural and island communities are included.

- **Qualifying criteria:** Public authorities are listed in Schedule 19 of the Equality Act 2010. Scottish bodies subject to the 2012 regulations are listed in the Schedule and include many of the bodies also subject to the climate change duties.

- **Guidance and tools:** The Equality and Human Rights Commission publishes guidance on meeting the PSED and the specific duties for Scottish public authorities. This includes dedicated guidance on how to undertake equality impact assessments.

  The following chapter of this guidance, Equalities, provides further detail on the potential dependencies between equalities and climate change, given their possible significance.

  The chapter aims to provide bodies with guidance and examples of how to effectively consider and embed equalities into climate change plans and actions. Taking an integrated approach to the consideration of climate action and the furthering of the PSED can harness these interdependencies and create multiple positive outcomes.

Fairer Scotland Duty assessment (FSDA)

- **Legislation:** Part 1 of the Equality Act 2010.

- **Description:** The Fairer Scotland Duty requires named public bodies, to actively consider ('pay due regard to') how they can reduce inequalities of outcome caused by socio-economic disadvantage, when making strategic decisions. It is recommended that listed authorities publish a written assessment demonstrating their consideration of the duty.

The duty seeks to reduce the inequalities associated with being socio-economically disadvantaged. Examples of these inequalities are worse health outcomes and lower life expectancy, poorer educational outcomes, fewer opportunities to work, train or enter quality and fair work, and difficulty accessing quality housing. As with equalities, there are multiple dependencies between socio-economic disadvantage, the impacts of climate change and the ability to respond effectively to a changing climate

- **Qualifying criteria:** Named bodies subject to the Fairer Scotland Duty include local authorities, health boards, integration joint boards and a small number of other bodies.

- **Guidance and tools:** Statutory FSD guidance for public bodies is published by the Scottish Government. The following chapter of this guidance, section 3.4, provides further information and an illustrative example.

Island Communities Impact Assessment (ICIA)

- **Legislation:** The Islands (Scotland) Act 2018. Section 8 of the Islands Act requires relevant authorities to carry out an Island Community Impact Assessment (ICIA) for any new policy, strategy or service, when the impact on island communities is likely to be significantly different from its effect on other communities.

- **Description:** The Islands Act contains measures designed to improve outcomes for island communities. Communities living on Scotland's islands can have different needs and vulnerabilities to mainland communities. Islands are often reliant on life-line ferry services, and can face higher costs, limited services and other challenges associated with a more remote location.

  Islands also face the direct impacts of climate change, such as increased storms disrupting ferry services, and rising sea levels predicted to inundate low-lying areas. Adaptation to the changing climate is therefore of particular importance to such island communities.

- **Qualifying criteria:** Relevant authorities as defined in section 7(2) of the Islands Act must have regard to island communities in carrying out their functions.

  The relevant authorities are listed out in the Schedule and include many public bodies to whom climate change duties also apply (relevant local authorities, NHS health boards, integration joint boards, Transport Partnerships and others).

- **Guidance and tools:** Statutory guidance on carrying out an ICIA, and a toolkit, have been published by Scottish Government.

Business and Regulatory Impact Assessment (BRIA)

- **Legislation:** BRIA are encouraged as best practice. They are not a statutory impact assessment.

- **Description:** BRIA helps assess the likely costs, benefits and risks of any proposed legislation, policy changes or guidance that may have an impact on the public, private or third sector. The BRIA can help identify and address unintended impacts on businesses and on competitiveness.

- **Qualifying criteria:** BRIA are likely to be of most relevance to local authorities and other large bodies, working at a regional level and developing policy.

- **Guidance and tools:** a toolkit providing guidance and information on how to complete a BRIA is available on the Scottish Government website. The intended audience for this guidance is government officials; while it may be used by other bodies, they should first consider whether it suits their purposes.

Human Rights impact assessment

- **Legislation:** Human Rights Act 1998. This Act incorporates much of the European Convention on Human Rights (ECHR) into UK law. The ECHR is an international agreement which sets out basic human rights. The Scotland Act 1998 ensures that the Scottish Parliament can only pass laws that are compatible with the Convention rights.

- **Description:** Public authorities have a legal obligation to ensure that all new policies and legislation comply with existing laws and uphold human rights. Taking a human rights based approach to policy development is important. There are some underlying principles which are important in applying a human rights based approach in practice. These are known as the PANEL Principles. This approach supports understanding and analysis of the impact of our policy on the human rights of those who will be mostly affected. Convention rights should be considered whenever undertaking any form of impact assessment (but are not a form of assessment in themselves).

- **Qualifying criteria:** Convention rights must be respected and realised at all levels of governance in Scotland. Scottish Government Ministers have 'no power to act' in a way that breaches these ECHR rights. All decisions and law we make must be compatible with the rights set out in ECHR.

- **Guidance and tools:** Information on taking a human rights based approach is available on the Scottish Human Rights Commission website.

Child Rights and Wellbeing Impact Assessment (CRWIA)

- **Legislation:** United Nations Convention on the Rights of the Child (Incorporation) (Scotland) Act 2024. CRWIA are not a statutory impact assessment for Public Authorities but are for Scottish Government and Executive Agencies.

They are recommended by UNICEF, and are recognised as one of the general measures of implementation under the UN Convention on the Rights of the Child (the UNCRC). The UN Committee on the Rights of the Child also recommends all levels of government - national, regional and local – complete a CRWIA as part of their policy development.

- **Description:** Part 3, section 17 of the UNCRC Act, legally requires Scottish Ministers to prepare and publish a CRWIA in respect to all new Bills, most Scottish Statutory Instruments and all decisions of a strategic nature that relate to the rights and wellbeing of children.

- **Qualifying criteria:** Scottish Government and Executive Agencies are included in Part 3 section 17 of the UNCRC (Incorporation) (Scotland) Act 2024.

- **Guidance and tools:** Guidance and example templates for external stakeholders are available on the Scottish Government website, along with non-statutory guidance on Taking a children's human rights approach. Statutory guidance for public authorities will be published in the coming months.

Habitats Regulations Appraisal (HRA)

- **Legislation:** The Conservation (Natural Habitats, &c.) Regulations 1994. A Habitats Regulations Appraisal (HRA) is required for any plan or project that could affect a European site – no matter how far away it is.

- **Description:** The term ‘European site’ is used to refer to what were previously known as ‘Natura’ sites: Special Protection Areas (SPAs) and Special Areas of Conservation (SACs). These were originally designated under European legislation and protect species and habitats shared across Europe.

  Under the Habitats Regulations, all ‘competent authorities’ must consider whether a project or plan could have a significant effect on a European site before it can be authorised to be carried out. If the action is considered likely to have a significant effect, they must carry out an ‘appropriate assessment’ (AA).

  HRA comprises both the process for determining whether an AA of the environmental risk is required, and the AA itself. Where an AA is required, the competent authority must consult NatureScot.

- **Qualifying criteria:** Bodies should be aware if any of their land is a designated SPA or SAC site. A ‘competent authority’ is the body with the power or duty to determine whether or not a proposal can proceed. They include Scottish Ministers, government departments, local authorities, SEPA and Scottish Forestry, among others.

- **Guidance and tools:** Guidance is published on the NatureScot website.

Health Impact Assessment (HIA)

- **Legislation:** HIA is not currently a statutory requirement but are encouraged as good practice. EIA and SEA should include impacts on human health but do not consider all relevant impacts. Poor health outcomes resulting from socio-economic inequality can be considered as a relevant category when undertaking a Fairer Scotland Duty Assessment. Completing an HIA may meet the requirements for some other impact assessments and so form a useful integrated assessment.

- **Description:** Health Impact Assessment is a combination of procedures, methods and tools that systematically judges the potential, and sometimes unintended, effects of a policy, program or project on the health of a population, and the distribution of those effects within the population – i.e. health inequalities. HIA identifies appropriate actions to manage those effects.

- **Qualifying criteria:** May be relevant to any plan, policy or strategy that affects people and can be proportionate to the nature, scale and scope of the proposal and kinds of impacts being assessed.

- **Guidance and tools:** Public Health Scotland provides guidance on HIA on their website.

Consumer Duty impact assessment

- **Legislation:** The Consumer Duty is a statutory duty introduced by the Consumer Scotland Act 2020 that places an obligation on relevant public authorities in Scotland to improve the extent to which consumers are considered in strategic policy and decision making.

  Consumer Scotland, the statutory and independent body for consumers in Scotland, has the legislative responsibility for developing the guidance to support the Duty.

- **Description:** the Consumer Duty aims to put consumer interests at the centre of strategic decision making across the public sector to deliver better policy outcomes. An impact assessment approach has been developed to assist public authorities to meet the Consumer Duty requirements.

- **Qualifying criteria:** relevant public authorities subject to the Duty are listed in the Schedule of The Consumer Scotland Act 2020 (Relevant Authorities) Regulations 2024. They include local authorities, executive agencies, executive NDPBs, IJBs and NHS Health Boards.

  All relevant public authorities must have regard to the impact of strategic decisions on consumers in Scotland and the desirability of reducing harm to them. This should be applied in a proportionate manner aligned to the impact that the decision has upon consumers.

As laid out in section 1.11 of the draft guidance for public authorities, it will be for each individual Scottish public authority to determine if a decision is of a strategic nature. However, it is expected that this type of decision will be made at an executive or board level rather than operational day-to-day decision making.

- **Guidance and tools:** Draft guidance has been issued by Consumer Scotland: this includes advice on how to meet the Consumer Duty for public authorities and senior decision makers and includes a draft impact assessment template. A final version of the guidance will be issued by April 2025, following the 2024-25 implementation year.

3. Equalities

Bodies should be aware that the impacts of the decisions they make in relation to climate change and sustainability could potentially affect everyone in Scotland, directly or indirectly. Where policies and plans may have potential equality impacts, it is a legal requirement that appropriate assessments are undertaken. It is therefore important that bodies integrate equality considerations and mainstreaming into their climate action, and approach equality impact assessment and Fairer Scotland Duty assessment as an integral part of climate policy and project development.

3.1 Introduction

Climate change and inequalities are inextricably linked. Globally, those least likely to have contributed to emissions are often those to feel the first, and most severe, impacts of the changing climate [9]. Within Scotland too, the impacts of the changing climate will be felt in unequal ways, with some areas more likely to be subject to drought, some at high risk of extreme flooding, and others at risk of coastal erosion. The impacts of the changing climate will be felt in unequal ways, with the worst impacts likely to fall on the most vulnerable in society, and those least able to take individual action to protect themselves.

It is likely that the changing climate will deepen existing inequalities within our society unless action is taken, be those related to health, environment, housing, education, employment opportunities or income. Social inequalities including housing, education and employment often contribute to and exacerbate health inequalities [10, 11].

Intersectionality – multiple and compounding inequalities – is highly relevant to vulnerability to climate change. Climate change and social, economic and personal factors (such as gender, race, income, age, religion and health status) can act together as risk multipliers, contributing to the negative impacts climate change has on health and other inequalities. For example, non-Christian religious minorities are less likely to be employed than those with no religion, with the employment gap particularly acute for Muslims. Despite overall exclusion rates declining across Scotland, having additional support needs (ASN), or being assessed or declared as having a disability continues to be associated with an increased likelihood of exclusion. Households headed by single women with dependent children, and single men without dependent children are most likely to experience poverty [12].

Public sector bodies must take a leadership role in mitigating the negative impacts of climate change on the environment and any related impact on inequalities. They must work to actively improve outcomes and wellbeing for all in their work to mitigate and adapt to climate change, by maximising on the opportunities available to them as anchor organisations to consider equalities as part of this work. Climate action and sustainability should be embedded throughout their governance, how they direct resources and develop their organisational capabilities, and how they collaborate with partners and communities.

How public bodies choose to implement this guidance as a whole will determine the impacts on service users, staff, customers, stakeholders, local communities and wider society. Equality impact assessment and Fairer Scotland Duty assessment should be fully integrated into climate policy and project development.

As mentioned in section 2.2 above, bodies could, where appropriate, use integrated impact assessment approaches that consider impacts holistically on protected characteristics, socio-economic status, health and sustainability, with the proviso that any integrated approach must meet the legal requirements for each individual assessment.

The duties and illustrative examples of fairness, equality, procedural justice and health in this chapter illustrate why Scottish Government has embedded just transition principles in climate legislation and emphasised the importance of planning for a fair transition.

3.2 Climate, health and equalities

3.2.1 How climate impacts affect health

Local and international climate impacts, such as increased temperatures, extreme weather events and reduced food production will affect the health and wellbeing of people in Scotland. Most will contribute to poorer health and risk worsening health inequalities, though some opportunities have been identified [13, 14] .

The risks to health include direct effects. For example, higher temperatures increase the risk of heat-related mortality and respiratory and cardio-vascular problems; extreme flood events can cause death, injury or health issues due to biological and chemical contamination and changing vector distributions can lead to different patterns of vector borne diseases [15] .

Climate impacts also affect health and wellbeing indirectly through the social, economic, and physical environment we live in. Known as the building blocks of good health, these include warm, dry, affordable housing, accessible and good quality transport systems and natural environments, strong social networks, affordable nutritious food, and secure, high quality employment.

Damage to homes and critical infrastructure from flooding, for example, may cause displacement, financial difficulties and limit access to education, work and services. This in turn can result in mental health problems, which research suggests is the biggest burden of ill-health from major flood events in the UK. Similarly, extreme weather events are likely to affect international food production and markets. This may influence food purchasing decisions and consumption of healthy diets.

3.2.2 Unequal distribution of health and social risks

The impacts of climate on human health are not evenly distributed. In addition to geographical variation, individuals and communities living in climate impact-prone areas vary in the extent they are affected [16, 17] . This depends on their:

- level of exposure to climate impacts: housing conditions and the physical and natural environment people live in can accentuate or offset the severity of a climate impacts.
- level of adaptive capacity: income, knowledge, insurance, community networks and mobility can influence how well people and communities can prepare for, respond to and recover from climate impacts.
- sensitivity to climate impacts: age and current health status can increase the likelihood of an adverse effect on health and wellbeing.

People experiencing social and economic disadvantage are one, but not the only, group likely to be disproportionately affected by climate impacts. They are more likely to live in poor quality housing and environments, for example with a higher proportion of vacant and derelict land and less green space. This can increase their exposure to high temperatures and flooding. They often have fewer financial resources to make adaptations, obtain insurance or move. Private tenants, for example, have fewer rights to adapt their home and may be on a lower income. Social isolation, lack of information and poor English language skills can also limit capacity to respond and recover from extreme weather events. People living in areas of deprivation are also more likely to be in poor health and therefore more sensitive to climate impacts.

Climate impacts and these social, economic and personal factors act together as risk multipliers to increase the risk of poor health and health inequalities.

Illustrative example
A housing development starts to flood more regularly and more severely. The rental and sale values of the properties drop, and the more affluent residents move away. The development becomes home to those on low incomes with less choice in where they can afford to live, including elderly residents and those reliant on welfare payments. These residents are less likely to be able to afford the high home insurance premiums demanded due to the high flood risk, and as a result most are uninsured. The homes may also now be owned by landlords less inclined or less able to spend money on adapting the properties against flooding.

When the homes do flood again, causing damage to the properties and loss of personal belongings, residents are unable to afford to make good or replace personal items. This leaves them more vulnerable and likely to require additional support from local government, charities and the social security system. However, they may also lack the resources or social networks to support them in finding temporary accommodation or in accessing support. In addition, the flooding causes anxiety and emotional upset, impacting on mental health and wellbeing. For those of working age, this may have a negative impact on their ability to work, or to work full time. They may have the kind of employment that is difficult to sustain under such circumstances.

3.2.3 Policy response and widening inequalities

Policies or actions to address climate impacts and reduce GHG emissions may not equally benefit everyone [18]. For example, recent work in Scotland suggests that suspending travel services during severe weather is important from an overall risk-reduction perspective but disproportionately impacts those on the lowest incomes, particularly those employed on zero-hour contracts or who are less able to work from home [19] .

Policies and plans can also have unintended negative health and social impacts. For example, costs associated with improving homes to make them more climate resilient or more energy efficient can be passed on to tenants through rent increases. Considering the differential impacts and potential unintended negative consequences of policies and plans is important. It allows mitigation measures to be considered and implemented or trade-offs to be made.

3.2.4 Procedural justice

People experiencing social and economic disadvantage often have less power and influence to inform decisions about their lives and their communities. This is due to lack of resources such as knowledge, prestige and beneficial connections. Inequalities in power, influence and decision making are underlying drivers of both health inequalities and the unjust distribution of climate impacts.

Empowering communities to exercise control over decisions which support their ability to adapt, such as local development and coastal management plans and housing rights, is important in achieving a just transition to a climate resilient and net zero Scotland.

3.3 Public Sector Equality Duty

As outlined in section 2.1.3.6., section 149(1) of the Equality Act 2010 ('the 2010 Act') places a Public Sector Equality Duty (PSED) on public authorities, requiring them, in the exercise of their functions, to have due regard to the need to –

(a) eliminate discrimination, harassment, victimisation and any other conduct that it prohibited by or under the 2010 Act
(b) advance equality of opportunity between persons who share a relevant protected characteristic and persons who do not share it
(c) foster good relations between persons who share a relevant protected characteristic and persons who do not share it.

These are known as the three needs of the PSED.

Section 5 of the Equality Act 2010 (Specific Duties) (Scotland) Regulations 2012 places a duty on listed authorities to undertake an assessment of applying a proposed new or revised policy or practice against the three needs. This assessment – an equality impact assessment (EQIA) – must be made for all protected characteristics, bearing in mind that it is the degree of impact, rather than the number of people affected that is relevant. When approaching climate change and equalities, public bodies are strongly advised to take an intersectional approach and

look beyond the protected characteristics to include wider socio-economic considerations such as those living in low income areas, in island communities and in remote rural areas. However, if a public body identifies these types of impacts, they cannot satisfy their legal obligations by only including a section in the EQIA. They must also fully complete the relevant impact assessments, namely the Fairer Scotland Duty assessment and or Island Communities Impact Assessment.

As bodies develop or revise policies, strategies, plans, programmes and projects that support implementation of the climate change duties, it is important that these are assessed for equality impacts for two primary reasons:

- bodies must not assume that decisions or changes that are advantageous in terms of the climate change duties will be so in terms of the PSED – it will be important to assess whether the proposals have the potential to negatively impact on particular groups of people or equalities communities
- where the needs of the PSED and impacts on protected characteristics and other equality groups are taken into consideration as part of developing proposals associated with the climate change duties, decisions are likely to be more robust. Importantly, they are also likely to be more sustainable, thus bringing them in line with the third climate change duty: to act in the most sustainable way. The EQIA is a tool for better and more robust decision making that can identify unintended consequences of proposed actions before these are implemented.

3.4 Fairer Scotland Duty

Under Part 1 of the Equality Act 2010 certain bodies, including local authorities, Health Boards, integration joint boards and the enterprise agencies, are also subject to the public sector duty regarding socio-economic inequality. In Scotland, this duty was introduced in 2018 as the Fairer Scotland Duty (FSD). The duty places a legal responsibility on named public bodies in Scotland to actively consider ('pay due regard' to) how they can reduce inequalities of outcome caused by socio-economic disadvantage, when making strategic decisions. Due regard is best demonstrated in a published assessment (FSDA).

The duty applies to strategic decisions – these are the key, high-level decisions that the public sector takes, such as deciding priorities and setting objectives. In general, they will be decisions that affect how the public body fulfils its intended purpose. They may also be coordinated with other strategic decisions as part of an overarching plan. These would normally include strategy documents, decisions about setting priorities, allocating resources, delivery or implementation and commissioning services – all decisions agreed at Board level (or equivalent). The duty also applies to any changes to, or reviews of, these decisions, not just the development of new strategic documents. Examples of strategic decisions include: preparation of a corporate plan, preparation of annual budgets, major procurement exercises, decisions about the shape, size and location of the estate, and making strategic decisions on workforce planning. For a full list of examples and further information refer to the statutory guidance on the Fairer Scotland Duty published by the Scottish Government.

There may be key ways that the climate change duties can align with the Fairer Scotland Duty, given that decisions taken in line with the climate duties may very well have a high potential to lessen inequalities of outcome resulting from socio-economic disadvantage.

Illustrative example
A city council may take a decision that could reduce air pollution in areas of the city where they know there is a higher concentration of both pollution and socio-economic inequality according to the SIMD, such as by increasing pedestrian only zones or restricting heavy vehicle traffic. This is likely, in time, to lessen inequalities in health outcomes between these areas and those that are less deprived.

Conversely, if they choose to make it easier for heavy industrial traffic to drive from one side of the city to the other, without considering whether the routes they are trying to open up to heavier traffic run predominantly through areas of higher socio-economic deprivation, this will likely worsen inequalities of outcome from socio-economic inequality. The same thinking can be applied to where a local authority may choose to invest money or focus in terms of promoting or increasing access to green spaces, improving parks, and so on, given the inequality that exists in access to blue or green spaces.

3.5 Illustrative worked example - EQIA and FSDA

This illustrative example is hypothetical. It is intended to illustrate how undertaking an EQIA and a FSDA for the development of a policy or practice related to climate action can ensure the achievement of wider linked benefits both for groups with protected characteristics and for groups experiencing socio-economic inequalities. This example is focused on the development of a sustainable travel plan.

A public body decides to develop a corporate sustainable travel plan, primarily to help reduce carbon emissions associated with staff commuting and business travel. The body is located in a large office building in an edge-of-city business park, adjacent to a housing estate which is in a low SIMD area. The residents in the housing estate are generally on low incomes, and more likely to be elderly or belong to a minority ethnic group.

Through developing its sustainable travel plan, the public body aims to reduce the number of staff driving to work. This could have positive impacts on local air quality, in turn benefitting the health of local residents. It may also help reduce traffic congestion at peak times.

With a focus on encouraging staff to use active travel for their commute, the public body engages with their local authority to lobby for improved cycling infrastructure in the area and the development of off-road cycleways. Increasing cycling rates would have direct health benefits for those staff. As the cycleways would be open to all, this could result in wider health and wellbeing benefits for local residents too. Cycling is usually an affordable means of transport and would improve accessibility for residents. The creation of pathways with associated trees and other planting could improve the quality of local greenspace and help enhance biodiversity.

Improved cycling infrastructure and public transport provision may make the business park a more attractive proposition and encourage other businesses to lease space or develop there, increasing local employment opportunities and stimulating other local development.

As legally required, the public body undertakes an equality impact assessment as well as a Fairer Scotland Duty assessment as part of the process of developing its sustainable travel plan. The EQIA considers the three needs of the PSED while the FSDA considers impacts on inequality for groups experiencing socio-economic disadvantage. Undertaking the EQIA highlights areas where the body can deliver on its statutory obligations against the three needs of the PSED; undertaking the FSDA does so in relation to statutory obligations under the Fairer Scotland Duty.

The EQIA

(a) Eliminating discrimination
The body wants to encourage all staff to cycle to work more, but their last travel survey indicated that very few female staff cycle to work. The body investigates these findings by engaging with their staff as part of the EQIA process, and finds that many female staff are put off by the route into the business park which is via a busy road and exposed, leaving them feeling vulnerable to potential attack or anti-social behaviour. They also feel that the current cycle parking, which is at the edge of the car park, is isolated and poorly lit adding to feelings of insecurity.

The body wants to ensure that all staff feel safe and able to cycle if they wish. They improve the lighting to the staff car park and move the cycle parking close to the main entrance to the building to ensure line of sight to reception, enhancing perceptions of safety.

Another barrier identified in information gathered for the EQIA was lack of adequate facilities for cyclists and other active travellers. While the office does have showers, three of these are located in the men’s changing area, with only one in the female changing area. Needing to queue for a shower upon arrival has put a number of the female staff off using active travel to commute. The public body reconfigures the washroom facilities, ensuring that equal provision is provided. They also increase the number and size of storage lockers available so that active travellers have space to keep their kit.

(b) Advancing equality of opportunity
The body sets up a bicycle user group to encourage and facilitate cyclists to support one another, and as a forum to discuss cycling related issues. Representatives from the group become key points of contact for related areas of the business including facilities management and HR, ensuring that cyclists and would-be cyclists have a stronger voice and are involved in relevant decision making.

The public body also prioritises engagement with the local authority to lobby for the development of off-road cycling and walking infrastructure to establish an alternative route avoiding the busy road, to create a safe route for active travel for all.

The public body wants to increase the proportion of staff using public transport. The body engages with the local bus company to improve bus service provision to the business park. It also reviews its working arrangements, and allows for more flexible working hours to enable staff to adjust their start and finish times to meet specific bus services or to avoid peak times when journey times are longer. These improved arrangements help bus travel become a feasible option for many more members of staff, in particular benefitting women with caring responsibilities and younger members of staff, as identified through the staff travel survey.

(c) Fostering good relations
Through the travel survey and the bicycle user group, it is identified that lack of skills and the confidence to cycle on busy roads is a barrier to many employees, including those with disabilities, women, and others who are nervous about cycling. A cycling buddy scheme is set up, where more skilled and confident cyclists, including those with experience in adaptive cycling, lead a series of lunchtime rides and accompany less confident riders on part of their commute. This builds confidence and skills in the less able riders, increases understanding between the two groups of riders, and helps build positive social relationships. Over time, initially less confident cyclists, including those with disabilities, are enabled to lead rides and act as buddies; and the scheme is extended to members of the local community facing similar barriers. Additionally, the organisation reviews its salary sacrifice Cycle to Work scheme, to ensure that it includes provision of adaptive bicycles and necessary accommodations to ensure inclusivity for all participants.

The FSDA

In the FSDA process, the public body identified statistical evidence that low income groups were more reliant on public transport than higher income groups, were less likely to travel by private car, and that their active travel was more likely to involve walking than cycling. They consulted with groups experiencing poverty in the local community, and identified that an improved bus service would also benefit local residents through more regular provision of affordable and accessible public transport, widening access to employment opportunities. Affording, securing and insuring cycles were seen as a barrier to cycling for many in the area.

Local residents in the adjacent low SIMD housing benefit from more buses at peak times and services that run later into the evening. This improves access to services, and opens up additional employment opportunities such as shift work, which would previously not have been an option for many due to lack of affordable transport options.

Wider influence

The public body introduces an affordable cycle leasing scheme with a local supplier and engages with the local authority to lobby for improved local cycling infrastructure, including off-road shared-use pathways with good connections to public transport and secure lockup facilities. The local authority undertakes community consultation and engagement around the design of the pathways and associated green spaces. Different community groups, including marginalised groups, and users, including the public body, are engaged in the co-design exercise. This leads to improved understanding of the needs of different groups, a sense of community ownership, greater community cohesion, and a design that successfully meets wider needs.

New relationships between the public body and the local community are built during the consultation process. The bicycle user group expands and becomes more diverse, extending its lunchtime rides and buddying scheme to include local community members. A beginners' running group is formed to make use of the new dual-use pathways. The body explores possibilities to set up a work experience and summer internship scheme with local youth groups.

Staff surveys suggest that inequalities in feeling healthy, worrying about finances and job satisfaction have decreased between those on the lowest and the highest incomes, and between male and female employees.

4. Putting the duties into practice

This chapter focuses on putting the climate change duties into practice. While certain actions are recommended, these should be undertaken in a way that is proportionate to the climate impact that the body has in terms of its size, assets, function and influence. Bodies are responsible for determining what is appropriate for their own organisation, and for taking such measures and actions forward in the most effective way.

The chapter starts by outlining a whole systems approach; provides a step by step model aimed at bodies who may be at a less mature stage in taking climate action; and covers leadership, governance and mainstreaming. The following chapters then look in more detail at implementing each of the three duties in turn.

4.1 A whole systems approach

Climate change is a complex problem. Coordinated actions across the whole of society are needed to achieve a just transition to net zero and make Scotland a climate resilient, healthy, equitable place to live, work and play. Aligned policy actions across a wide range of areas can deliver multiple social, economic and environmental outcomes while protecting and improving population health and wellbeing and reducing inequalities. This will support Scotland deliver against our national outcomes located within the UN Sustainable Development Goals.

Determinants and impacts are interdependent. Solutions that have positive impacts in one policy area can have unintended negative consequences in another. Whole system approaches take systems thinking and tools and apply them to support collaborative action across a broad set of partners to address complex problems. This often involves challenging the effectiveness of current systems and focusing on the longer-term impacts, social injustices and power imbalances. These approaches involve stakeholders across the local or national system working together to build a shared understanding within a local context and agree aligned actions to deliver multiple outcomes, strategies to mitigate unintended consequences and make decisions about trade-offs.

Local authorities and other public bodies are well placed to work with communities and local partners to reduce emissions, adapt and act sustainably in a way that also maximises other policy outcomes. This will require collaboration and effective partnership working across national and local government, the public, private, third sectors, academia, and local communities. Collective and adaptive leadership will be required to agree priorities and secure commitment to deliver aligned shared outcomes.

The balance between a strategic approach to design and delivery, and enabling local solutions is challenging. Climate change plans and route maps should include mechanisms that support creativity and innovation and foster a learning culture to ensure spread and scale of effective local approaches.

A robust monitoring and evaluation framework, populated with timebound outcomes, is required to demonstrate impact on multiple policy outcomes. Monitoring and

evaluation are key to learning and refining actions, ensure that intended outcomes are being delivered, equity maximised, and unintended harms minimised.

4.1.1 Key principles to a whole systems approach

There are several key principles to a whole systems approach. These characteristics are reiterated across the guidance in relation to meeting public bodies duties both within organisations and in the communities and geographical areas public bodies serve.

Principle 1: Shared outcomes
Scotland's public sector should play a key role and set an international example through:

- ensuring that the transition to a low carbon economy is a just one. Public bodies should embrace the opportunities the transition offers to realise multiple outcomes across sectors, for example delivering wider social, health and equity benefits consistent with the NPF outcomes and just transition principles. The Just Transition Planning framework may be a helpful resource to aid planning
- building a resilient Scotland prepared for the challenges of the changing climate, biodiversity loss, health, social and economic challenges
- using their wider influence to further climate action in the wider community through engagement with service users, suppliers, the third sector, local businesses, community groups and other stakeholders
- ensuring that we meet the needs of the present without compromising the ability of future generations to meet their own needs, in line with the UK Shared Framework for Sustainable Development (see section 7.3).

Principle 2: Leadership
Through exercise of their wider functions and community engagement, the public sector has a leadership role in Scotland's response to climate change. Local authorities, for example, are thought to have influence over around a third of emissions in their authority area [20]. Public sector influence comes from procurement of goods, works and services; investments; Planning; policy making, regulation and wider partnership working; public engagement and place making.

As well as reducing their own corporate emissions, public bodies have a key role to play in leading by example and promoting climate change action more widely. Strong leadership at all levels will be crucial if Scotland is to meet its ambitious climate change targets.

Principle 3: Effective and efficient
Knowledge, intelligence and evidence should underpin adaptation and mitigation plans and route maps. This should include data and intelligence about climate risks and the effectiveness of climate actions. It should factor in social vulnerability, protected characteristics, the health of the local population as well as the building blocks for health - such as poverty, access to services, housing and natural capital. Community voices should feature in this data and intelligence.

Keeping abreast of data and evidence is essential if public bodies are to understand climate change issues and methodologies for tackling these. Public bodies should use evidence-based policy and decision making to identify priorities and in due course demonstrate compliance with the duties. It is also important that public bodies have information about the communities they serve, and the people they employ, in order to champion climate change mitigation and adaptation in the broader sense.

Public bodies may wish to make use of existing mechanisms in relation to corporate planning processes and existing reporting arrangements where possible, in order that planning and reporting on progress is done in an effective and efficient way, and so that public bodies are not required to duplicate work. The guidance also has regard to proportionality: what is expected of public bodies should be a reflection of their impact and influence, as well as the nature of what they do, in order to balance proportionality and flexibility with effectiveness and delivery.

This approach to implementing the climate change duties seeks to mainstream climate change action across organisations and make it a natural part of decision-making processes, with the aim of keeping associated potential costs as low as possible. Reducing emissions through, for example, improved energy efficiency may also contribute cost savings.

Principle 4: Collaboration and partnership working
Public bodies should ensure stakeholder participation when planning and implementing actions in relation to the climate change duties. Just transition principles include the need to develop and maintain social consensus on climate action, through engagement with workers, communities, NGOs, business, industry and any other relevant groups.

Public bodies are encouraged to work together through existing mechanisms, such as Community Planning Partnerships and Regional Transport Partnerships, or through devising new partnerships, and to explore opportunities for building capacity, sharing best practice and involving of a broader range of delivery partners.

Principle 5: Open and accountable
Public bodies should be open and transparent to enable the Scottish Government, the Scottish Parliament and the wider community to understand their plans in relation to climate change action and to determine progress.

Public bodies should determine their own priorities and plans in relation to climate change. The guidance aims to offer suggested actions which empower public bodies themselves to deliver the duties in a way which best meets their own circumstances and those that they deliver services to.

Principle 6: Building capacity and capability
Knowledge and research about climate change and what is effective in tackling it are growing all the time. While taking timely and effective climate action can be a formidable task, it also brings many opportunities and supports improved health,

wellbeing and equity. In taking forward their responsibilities, public bodies should consider how best to build capacity both within their organisation and in the wider communities they serve. Building capacity to take action on climate change should be a core action for public bodies. This may mean looking at embedding new approaches and cultures across their operations or creating or improving capacity in relation to specific tools or projects.

Cultural and behavioural change among organisations and employees will be a key part of successful climate change action. Cultural and behavioural change have been shown to be most successful when seen as a joint endeavour where individuals are equal partners in collective action towards the same goal, with mutual benefits for both employer and employee. One example is encouraging and supporting employees to consider alternative methods of travelling to work, such as walking or cycling, which will not only help them to live longer healthier lives but also assist the organisation in reducing its carbon footprint. Public bodies should consider how they will work with their staff as joint partners in promoting cultural change, in order to achieve buy-in to action throughout the organisation, and identify those areas of activity which would both help meet their climate change duties and have positive effects on employees' everyday lives.

4.2 Implementing the climate change duties: a step by step method

It is crucial that climate action and sustainability are mainstreamed in all public bodies' business processes and functions. To do this effectively, public bodies should set targets and milestones and integrate climate and sustainability into business practice, through their existing processes and procedures.

Many bodies will be at a mature stage, and will already have successfully integrated climate action into their corporate structures and processes. However, other bodies may be at a less advanced stage, or may have made more progress in some areas and less in others. The step by step approach outlined below is intended to assist those bodies requiring support. It is not intended to be prescriptive, or to replace approaches bodies may already have developed and successfully implemented themselves.

Chapters 5, 6 and 7 provide guidance on the actions that all public bodies are expected to take to help ensure compliance with each of the three climate change duties.

Further topic specific guidance will be contained in the supplements accompanying this guidance, aimed primarily at practitioners working in each field (see section 1.4).

4.2.1 A step by step method: key outcomes

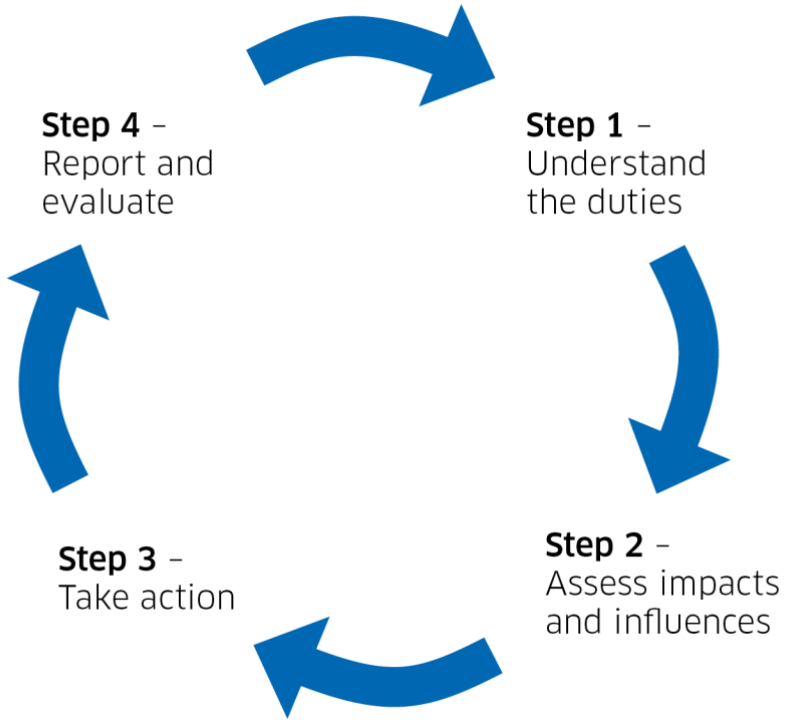
The outcomes of the step-by-step process will be:

- climate change and sustainability action is mainstreamed into the corporate governance of public bodies
- the public sector provides a leadership function to the rest of Scotland (private sector, voluntary sector, individuals and households) in its approach to climate change and sustainability.

Mainstreaming of climate change into strategic and corporate processes and actions is the overarching goal for public bodies to work towards. However, it is acknowledged that public bodies will be at different stages of development and understanding of climate change action, and that effective mainstreaming could require more time and effort for some bodies than for others.

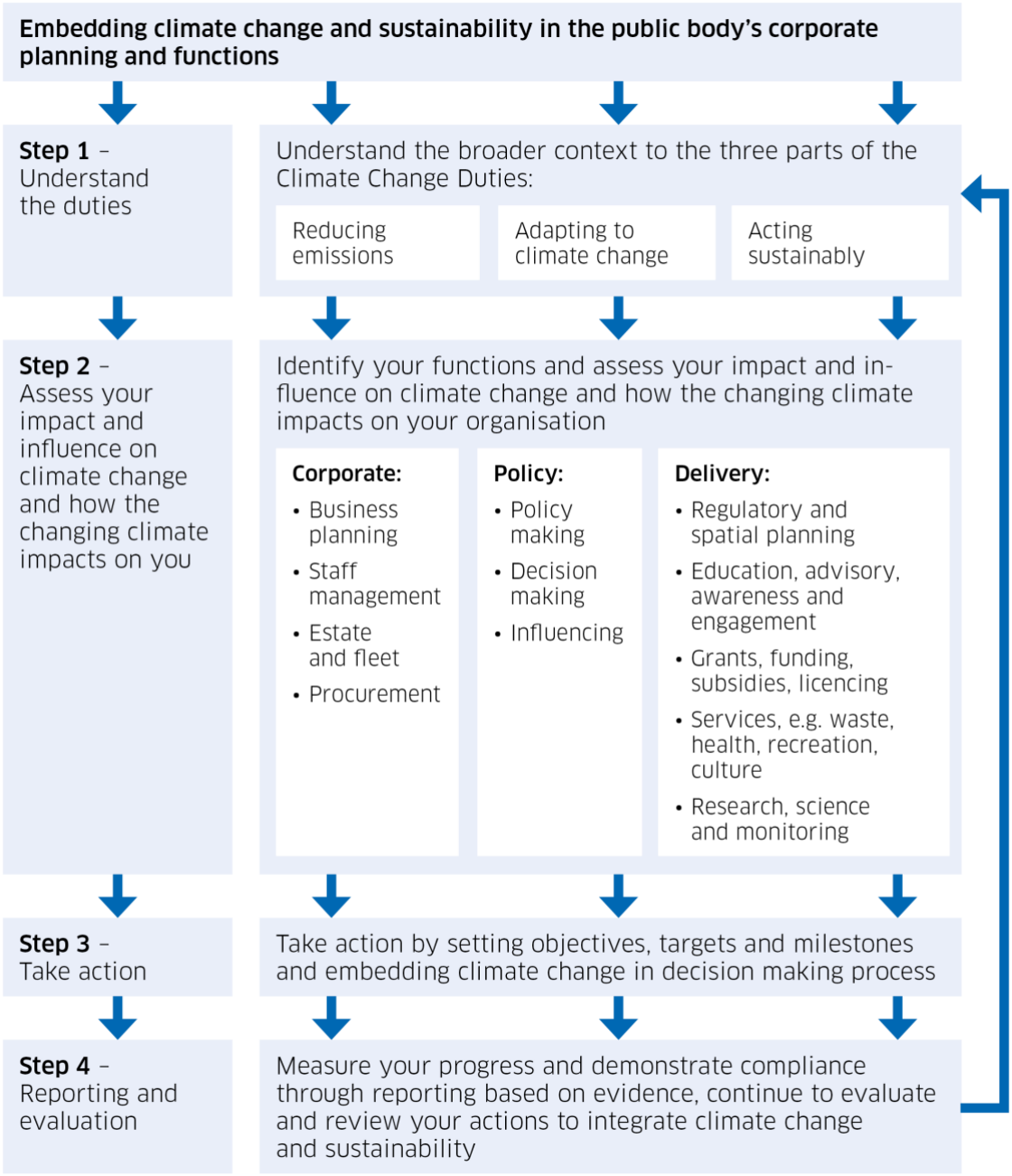
Addressing climate change is an ongoing process. To reflect this, the step by step process has been developed into a cyclical diagram (with Step 1 following Step 4 in a new cycle), representing public bodies' continual evaluation of and building upon their climate change and sustainability action. However, the steps can also be undertaken concurrently as developing knowledge and individual areas of action inform new or revised approaches to embedding climate change action.

Figure 2: a step by step method



Further details on what is involved in each step are provided in figure 3 below.

Figure 3: A step-by-step approach for public bodies to climate change action


Embedding climate change and sustainability in the public body's corporate planning and functions
Step 1 – Understand the duties
Understand the broader context to the three parts of the Climate Change Duties:
Reducing emissions
Adapting to climate change
Acting sustainably
Step 2 – Assess your impact and influence on climate change and how the changing climate impacts on you
Identify your functions and assess your impact and influence on climate change and how the changing climate impacts on your organisation
Corporate:
• Business planning
• Staff management
• Estate and fleet
• Procurement
Policy:
• Policy making
• Decision making
• Influencing
Delivery:
• Regulatory and spatial planning
• Education, advisory, awareness and engagement
• Grants, funding, subsidies, licencing
• Services, e.g. waste, health, recreation, culture
• Research, science and monitoring
Step 3 – Take action
Take action by setting objectives, targets and milestones and embedding climate change in decision making process
Step 4 – Reporting and evaluation
Measure your progress and demonstrate compliance through reporting based on evidence, continue to evaluate and review your actions to integrate climate change and sustainability

4.2.2 Step 1: Understanding the duties

The outcome of Step 1 will be:

- public bodies understand the three climate change duties: mitigation, adaptation and acting sustainably. This understanding should extend across the organisation's senior leadership team and across departments: it is not sufficient for understanding of the duties to be limited to a single climate change officer or team.

In order to deliver the climate change duties effectively, public bodies need a good understanding of the legislative and policy context influencing action on climate change in Scotland, as set out in chapter 2. Public bodies should be mindful of key drivers to reduce greenhouse gas emissions, adapt to the changing climate and act sustainably.

The climate change context is continually evolving. For the latest position please refer to the Scottish Government website.

More information on:

- the importance of reducing greenhouse gas emissions can be found in section 5.2 below
- the importance of adapting to the changing climate in sections 6.2 and 6.3
- acting sustainably in section 7.2.

4.2.3 Step 2: Assess climate impacts

The outcomes of Step 2 will be that public bodies can identify:

- how they impact on and influence greenhouse gas emissions
- how they can help prepare Scotland for a future climate and how climate change could affect their organisation
- how they can incorporate the principles of sustainability into their decisions and actions.

Public bodies are required by the 2009 Act to consider the climate change duties in 'exercising their functions'. Step 2 explores how to assess a public body's impact and influence on greenhouse gas emissions, how to understand the impact of the changing climate upon a public body as an organisation, and a public body's influence in preparing Scotland for a changing climate.

Impact and influence on emissions

Public bodies have a direct impact on emissions through management of their staff and estate, and how they carry out their daily operations. In addition, the way bodies carry out their functions, the decisions they make and their engagement with stakeholders means that they have a much wider influence on GHG emissions. It is important that public bodies understand this indirect impact and wider influence, and how they can address GHG emissions through their influence.

Chapter 5 provides further details on reducing GHG emissions, and chapter 8 provides guidance on reporting. Sections 4.6 and 5.5 provide further guidance on wider influence.

Adapting to the impacts of the changing climate
The impacts of climate change will be felt by all organisations, their staff and the communities they serve irrespective of their size, location, activities and services. Public bodies depend on secure supply chains, resource supplies (energy, water, materials) and infrastructure and these are likely to face risks related to the changing climate. To operate effectively, public bodies must become resilient to climate change. Understanding the changes and how these changes could impact on the day to day running of the organisation is a useful starting place (see chapter 6).

Through carrying out their functions, some public bodies will play a central role in preparing Scotland for a changing climate, for example planning authorities taking account of flood or drought risk in local development decisions. Public bodies can also influence Scotland's resilience by, for example, protecting ecosystem services such as natural flood management. Another key role for public bodies will be in influencing and supporting the resilience of individuals and communities to the impacts of climate change, for example by building adaptive capacity through raising awareness of impacts and community consultation as part of the adaptation planning process, and by ensuring people have the resources, skills and opportunities to adapt.

Chapter 6 provides further details on adapting to the changing climate. Section 6.3 is aimed at those at a lower level of maturity in relation to adaptation action, while section 6.4 provides more technical guidance aimed at public bodies with greater adaptation needs, owing to the size or nature of their organisation, or because they deliver essential services.

Functions
All functions of a public body need to be examined in relation to their impact and influence on GHG emissions, and how the changing climate could impact on those functions. The wide range of public sector functions can be grouped into three high level generic areas: corporate, policy and delivery. Public bodies should also consider how a changing climate might impact on the measures they have in place under each of these areas, and on action to reduce emissions.

- Corporate functions - include business planning, staff management, estate and fleet management, finance and budgeting, and procurement
- Policy – includes policy making, decision making, influencing and consultation functions of public bodies
- Delivery - includes regulation, spatial planning, education, advice, awareness, engagement, grants, funding, subsidies, licensing, research, monitoring, science and other service delivery such as waste collection, healthcare and recreation.

Acting sustainably
Public bodies must also ensure they are acting sustainably through their actions and through the decisions they make, including procurement decisions. To do this

effectively, bodies should robustly and transparently integrate sustainability into their decision making and other processes.

One approach to integrating sustainability into the decision-making process could be through the use of appropriate impact assessments.

Further guidance is provided in chapter 7. The 'Sustainable Procurement' supplement will, in due course, provide guidance on procurement, the sustainable procurement duty and related tools and resources.

4.2.4 Step 3: Plan and Take action

The outcomes of Step 3 will be:

- public bodies have strategies and action plans to address climate change as appropriate
- public bodies' governance supports climate change action
- public bodies set outcomes and targets for emission reductions
- public bodies integrate climate action into decision making through the impact assessment process
- public bodies take action to help them implement the climate change duties
- public bodies are prepared for a changing climate
- public bodies supporting climate change awareness and engagement work
- public bodies in Scotland are acting sustainably.

Mainstreaming means integrating climate change into the everyday work of a public body at all levels including senior management, policy makers, service delivery and external partners. This will require strong leadership and robust and transparent governance, as outlined in chapter 4. Strong governance, leadership and commitment within the public sector is vital.

As outlined in chapter 5 below, bodies should develop appropriate strategies, plans and route maps, and set targets, to clearly lay out their journey to net zero carbon. Bodies should report on their performance against their targets, to track progress and ensure that they remain on course.

As detailed in chapter 6, bodies should undertake climate related risk assessments, and develop an adaptation plan. Climate related risks should be included in corporate risk registers.

Acting sustainably will mean building in sustainability principles across a public body's functions and decision-making processes and considering the principles of sustainable development in setting out plans and priorities, as outlined in chapter 7.

To take effective climate action, bodies will need to work with others: other public bodies, the third and private sectors, communities and the public. Bodies are encouraged to work together through existing mechanisms such as Community

Planning Partnerships and, where applicable, regional adaptation partnerships; and to pro-actively seek out new opportunities and partners for collaborative action.

4.2.5 Step 4: Reporting

The outcome of Step 4 will be:

- transparent and open reporting on the delivery of the climate change duties, which generates public confidence in the performance of public bodies, drives improvement and assists public bodies in demonstrating compliance with their climate change duties.

It is important that public bodies monitor how they are doing in respect of their climate change duties to gauge progress and to make adjustments if necessary. They also need to be accountable for this to stakeholders, Scottish Ministers, the Scottish Parliament, audit and regulatory bodies, and their communities. Transparent and open reporting is a crucial element of maintaining public confidence in the performance of a public body. It will also assist a public body in demonstrating that it has complied with its climate change duties.

Public bodies are used to reporting their performance across many aspects of their functions. Bodies are expected to ensure that their reporting addresses the progress they are making in relation to climate change and sustainability action. It is important that their reporting is linked to the outcomes, indicators and targets for climate action set through the body's business planning process (see Step 3: Take Action). This will enable public bodies to review when and where adjustments in policy and practice might be required over time.

All public bodies are expected to report annually on their climate and sustainability performance, and to ensure that such reports are publicly available. Refer to chapter 8 for further guidance on reporting.

4.3 Leadership and governance

Key outcomes

In implementing the climate change duties, key leadership and governance deliverables or outcomes for public bodies should include:

- publishing a **formal declared commitment to action on climate change**. Making a public body’s commitment to deliver against the climate change duties visible and transparent, both to those who work within the organisation and to stakeholders, suppliers and service users, will increase the level of scrutiny of climate change actions, and public bodies will begin to exert positive influence over the behaviours of their stakeholders, suppliers and service users

- ensuring **climate change governance** is integrated into the existing corporate governance approach; and that this is both robust and effective (see section 4.3.4 below). By ensuring that responsibility for leadership on climate change is clear within the organisation, both at management level and cascaded throughout, accountability for climate change action will be increased
- **embedding climate change into the management of risks and opportunities** across the organisation (see section 4.3.5)
- reflecting **climate action in the organisation's corporate plans and annual reporting mechanisms**. These may include dedicated climate change strategies and carbon management plans to address carbon emissions reduction (section 5.4) and adaptation plans (section 6.3). Climate and sustainability should be included in other relevant statutory plans including, where relevant, Local Outcome Improvement Plans and Locality Plans. Corporate strategies and plans should include targets; performance against these targets should be included in annual reports
- ensuring that **climate change considerations are mainstreamed** across the organisation (see section 4.4)
- ensuring that **climate change systemically informs strategic investment planning and decision-making processes** (section 4.5). By integrating climate change within business and financial planning, for example through policy appraisal, impact assessment or Strategic Environmental Assessment, the body will develop a process whereby the 'climate change question' and 'sustainability question' is routinely asked as part of the decision-making process. This will ensure the impact of that decision on climate change is considered and public bodies are seeking to act sustainably
- ensure that taking effective climate action is a **corporate priority**, with commitment across the organisation. Investment should follow priority
- actively seeking opportunities for **partnership working with other public bodies**, for example those in the same or adjacent geographical area or working in the same sector, to share best practice, maximise efficiency and increase the impact of climate change action and acting sustainably. Where possible, public bodies should put formal declarations of partnership in place to encourage formal working together at a strategic level. Such opportunities are more likely to contribute to multiple outcomes encompassing sustainability, health, equity and economic development.
- **embedding climate change and sustainable development within** corporate **learning and development programmes**.

4.3.1 Leadership

The public sector has a critical role in helping Scotland to reduce greenhouse gas emissions, make a just transition to a low carbon economy and prepare for the future climate. Strong governance, leadership and commitment within the public sector is vital to ensure that Scotland meets its targets and commitments.

Public bodies have an important leadership role to play as:

- corporate organisations with estates, fleet and staff
- bodies delivering national, regional and local services
- bodies with considerable influence over policy, infrastructure, stakeholders and the general public
- anchor organisations with significant influence on local places and communities through employment, environmental sustainability, land and assets, and service design and delivery
- bodies with significant collective annual budgets and buying power, as buyers with considerable influence over their supply chain, suppliers, logistics, the circular economy and waste management, and the related carbon emissions
- partner organisations working across wider regional areas or delivery programmes
- trusted messengers.

By showing clear leadership through the way that they deliver their functions and use their influence, public bodies can help drive wider positive change, fulfil their climate change duties, and in doing so make a significant contribution to delivering Scotland's climate change targets and programmes. Public bodies should become exemplar organisations in terms of climate action, driving innovation, stimulating the market and creating the culture and conditions to enable the private sector and wider society to take the necessary action.

Actions taken in response to climate change have the potential wider linked benefits of improving population health and wellbeing, reducing health and social inequalities, protecting health and improving air quality as well as enhancing biodiversity and protecting the environment. Public bodies should actively take impacts on these wider outcomes and the interconnectedness of ecosystems into consideration.

4.3.2 Corporate leadership

Within an organisation, leadership is vital to ensure that action is taken and lasting change is made. The importance of having senior leadership buy-in to drive climate action and embed climate thinking into decision making cannot be overstated.

Public bodies should:

- ensure that all managers receive appropriate carbon, biodiversity and sustainable development training. In addition, senior leaders should receive appropriate climate leadership training to provide them with the knowledge and skills to lead their organisation in taking effective climate action
- ensure that climate change, sustainability practices and compliance with the climate change duties are fully integrated into corporate governance structures and risk management processes
- assign ultimate responsibility for compliance with the climate change duties and delivering on net zero commitments to the most senior level of leadership. Accountability should sit at the most senior level of the organisation, with responsibility clearly identified in roles

- ensure that strategic plans and major financial decisions are consistent with net zero targets and pathways or carbon budgets, and support effective climate change adaptation and sustainable development
- consider and act on climate change and sustainability as core deliverables for the public body, across all business areas. Public bodies should seek to understand the wider context and systems within which they work; successful climate action is likely to be linked to broader outcomes across the system.

In addition to the essential points above, as best practice, public bodies could consider:

- appointing a Chief Sustainability Officer with board-level responsibility, or equivalent. This could help embed sustainability within the organisation by creating a structure similar to other corporate functions such as procurement, finance or HR
- implementing an Environmental Management System based on relevant ISO standards (ISO 14001, 26000, etc.) or equivalent to assist in the continuous improvement of environmental performance. With leadership at the centre of the model, it also allows for proactive management of environmental risks and opportunities, reducing impacts, increasing compliance, and a structured manner to evidence the achievement of environmental objectives
- applying for or complying with an external accreditation scheme, such as the Carbon Trust Route to Net Zero Standard
- ensuring that relevant staff receive communications training, to enable them to confidently communicate with non-experts around climate, sustainability and behaviour change.

4.3.3 Leaders as role models

In addition to their corporate role, senior leaders also have significant influence as individuals. Members of an organisation will look to their leadership, take cues from their behaviour and model their actions. The behaviour of, and choices made by, leaders influence organisational culture. It is essential that senior leaders ‘walk the talk’ and demonstrate a commitment to their organisation’s climate action and targets through, for example, how they make and prioritise financial and other decisions, how they travel for business, and in their support for and compliance with internal environmental and climate policies. Organisational culture will not shift in relation to climate change if employees and stakeholders see leaders treating it as low priority or as optional.

4.3.4 Governance

Public bodies should:

- **ensure that structures are in place** to guarantee oversight, accountability and transparency in climate-related decision making
- **assign responsibility to named roles and individuals** to ensure accountability
- **embed climate change and sustainability into decision making** at all levels, with evidence reported and recorded of how this influences decisions on plans, projects and resources
- **actively engage with internal or external auditors** to seek feedback and drive improvement, strengthening their climate governance processes and structures
- **work to proactively influence partners, citizens and stakeholders** to drive change at scale, locally, regionally and nationally.

Governance can be described as the system and processes by which organisations are led and controlled, including the processes for making and enforcing decisions. Good governance provides leadership, empowerment and strategic oversight. It is also essential to ensure accountability and fairness. A key element of governance is risk management, enabling the organisation to plan and respond effectively to changes, both internal and external. Particularly for public bodies, good governance should ensure transparency and is vital to maintaining the trust of staff, stakeholders and the public.

Public bodies work within a wide range of statutory duties and compliance regimes, including the climate change duties. Governance should ensure that such obligations and compliance are met, including in relation to the conduct of the governance boards or committees themselves. Supporting the governance structure are governance processes: the systems and procedures used by the public body to provide oversight of risks and control measures. The systems used should monitor performance and alert boards and management if there is an increased risk of failing to meet statutory duties.

Public bodies should ensure that appropriate internal governance structures are in place in relation to climate change and sustainability. Climate change governance should be mainstreamed and embedded into the corporate governance structure. Such arrangements will vary by the size and nature of the body. For small bodies, oversight by their Board may be considered adequate. For larger or more complex bodies, extended lines of governance spanning different functions and management levels within the organisation are likely to be required.

In all cases it is essential that the climate governance structure is clear and that responsibility is assigned to named roles and individuals to ensure accountability. Ultimate responsibility and oversight should lie with the most senior level of leadership.

The governance structure should be clearly laid out in the body's corporate strategy or equivalent document, and should be available to staff, stakeholders and to the public.

Establishing a climate and sustainability steering committee or group can be a useful approach and provide a level of dedicated focus to drive climate action across the organisation. Steering groups should include representation from all key parts of the organisation, to ensure that climate change is embedded across all areas. These include both areas responsible for operational emissions and those that have a wider role in influencing climate action by the stakeholders, suppliers and communities that the organisation works with. They should have clear outputs or deliverables aligned to setting or meeting the organisation's targets. However, care should be taken to ensure that climate change is mainstreamed and not seen as the remit only of these specialist sub-groups: climate change action should be embedded fully into the corporate governance structure.

Public bodies should proactively engage with the audit process in relation to climate change, to help drive improvement, identify areas of weakness and increase the robustness and effectiveness of their climate governance. Taking action to strengthen a public body's governance, leadership and commitment in regard to climate change will significantly contribute to the successful implementation of the climate change duties. Further guidance on the role of audit is provided in section 4.7 below.

General guidance on governance has been published by CIPFA: International Framework: good governance in the public sector.

4.3.5 Risk and opportunity

Risk management is a key element of governance, enabling the organisation to plan for and respond effectively to changes. It is the process of taking actions to reduce, mitigate or avoid risk, for example by putting measures in place to decrease the likelihood of an event occurring, or to reduce the negative consequences if it does. In positive terms, it can also involve ensuring that bodies plan for and are ready to take advantage of the opportunities offered by an event or change.

All public bodies will have risk management processes in place, and should ensure that climate related risks and opportunities are identified, assessed and managed as part of their mainstream corporate risk management system. Public bodies should take a broad and thorough approach to identifying climate risks. Examples relevant to public bodies may include:

- **Compliance risks** – the risk of being in breach of regulations, potentially resulting in regulatory action or fines. An example might include more frequent heavy rainfall events resulting in increased discharge of untreated waste water to sea by the water company, with subsequent fines from the water quality regulator, loss of stakeholder trust and reputational damage.

- **Legal risks** – the risk of being in breach of the law, leaving the body open to legal challenge. For example, if a public body made no attempt to reduce its

greenhouse gas emissions, or made decisions that resulted in a significant increase in emissions, it could be open to legal challenge in the courts.

- **Reputational risks** – these are risks that threaten the public standing of the body, or trust in the body. For example, if a public body set corporate net zero targets but then failed to put in place action plans to work towards these or make any progress, this would likely result in loss of public trust and confidence, and damage to the reputation of the body.

- **Strategic risks** – strategic risks can occur when a strategy is flawed, or where leaders fail to follow the strategy. As an example, if a health board failed to consider the changing climate in its long term estate strategy, and did not consider the adaptation measures required, it could find in the future that its main hospital campus was no longer fit for purpose or able to cope with extreme weather events. This could result in the health board being unable to fulfil its primary purpose of delivering emergency and planned health care services.

- **Financial risks** – financial risks can occur when an organisation fails to undertake adequate financial planning and costing. It is highly likely that the changing climate will impose costs on organisations. These could include direct costs related to, say, repairing storm or flood damage; or more indirect costs such as the investment needed to adapt buildings and infrastructure to the changing climate or to relocate buildings away from flood plains. While the investment needed to upgrade and adapt assets to the changing climate can seem high, this often constitutes preventative spend, resulting in savings in the long term as the costs of retrospective action may be much higher. It is also important that public bodies understand the concept of 'spending to stand still' - i.e. the level of investment required to ensure that services can continue to be provided at the agreed level over the coming decades in the context of the changing climate - and incorporate this into their financial planning (see section 6.4.6.2).

- **Operational risks** – operational risks threaten business as usual activities. They can include damage to assets, or risks that threaten the delivery of a service. For example, an extreme weather event such as a major storm may cause flooding, knock out power lines and prevent public transport from running, all of which could prevent the delivery of at-home social care services as well as directly impacting on vulnerable service users. Operational risks may also impact on supply chains. For example, the manufacture of computer chips is a water intensive process, and global supply of such essential IT components could be impacted by drought in the country of manufacture. This could lead to, say, issues with sourcing laptop computers, which are now essential for the day to day running of many organisations.

- **Physical risks** – physical risks threaten physical assets including buildings and infrastructure, and people. As the changing climate increases the likelihood of hotter, drier summers, the incidence of wildfires is likely to increase. For a public body with large landholdings, this could result in commercial timber crops being lost to wildfire. The body would lose income

from sale of the timber and could incur costs clearing and replanting the area and repairing damage to boundary fencing.

It is essential that climate risks and opportunities are incorporated into the existing risk management process. Public bodies are likely to manage risk at various levels, and have separate risk registers for different functions and activities ranging from project risk registers to overarching strategic risk registers. Climate risks and opportunities should, where appropriate, be escalated to higher levels within the risk management structure to ensure that they are given due consideration. Bodies will have different appetites to climate risks, dependent on the nature of their functions and on the risks they have identified. This appetite will, in turn, influence the measures bodies chose to take and the priority placed on specific reducing risks.

Refer to chapter 6 for further guidance on the assessment of climate risks.

Further general guidance on risk management can be found in the Scottish Public Finance Manual. Guidance on management of risk in government has been published by the UK Government. The HM Treasury Orange Book provides guidance on the principles and concepts of risk management.

4.4 Mainstreaming

While it is for public bodies themselves to determine how best to mainstream the climate change duties in their day-to-day functions, key actions should include:

- **considering the climate change duties when exercising functions**, both wider functions and corporate functions and processes including budget setting and project planning. For example, a body could ask itself "how can the climate change duties be performed in the exercise of this function?" A public body may typically have functions related to employment and service delivery. For each function, the body should consider how the function can be carried out in a way which helps the body to minimise emissions, adapt to the changing climate and act in the most sustainable way.
- **integrating climate change and sustainability into development, planning and decision-making processes** using tools such as equality, climate change, sustainable development and health impact assessments
- ensuring that corporate templates, such as for Board reports and other relevant decision-making reports, feature climate change and sustainability
- **reporting on progress** to integrate the climate change duties into the exercise of its functions, where relevant.

If climate change is to be tackled effectively, it should be mainstreamed across all areas and decisions – public bodies cannot take a siloed approach. **Mainstreaming the climate change duties means ensuring that climate and sustainability issues are considered in everything the body does, and in how it makes decisions.** Climate and sustainability considerations should be integrated into the everyday work of the public body at all levels, including senior management, policy

makers, service delivery, procurement functions and external partners. Historically, climate change has often been seen as the reserve of specialist functions such as facilities management. Public bodies should work to ensure that all functions understand how their work contributes to, and is impacted by, climate change; and how in turn they can contribute to the organisation's climate response and act in the most sustainable way.

The climate change duties can be used as a lever, alongside other statutory duties and obligations, to drive continuous improvement. A useful parallel can be drawn to equalities law, and the approach that public bodies have taken to mainstream the three needs of the Public Sector Equality Duty (PSED). In implementing the PSED, public bodies have worked to embed equalities into their leadership and governance structures, staff training programmes, organisational culture, internal processes and corporate performance indicators. Public bodies should build on approaches to delivering the PSED to ensure that climate change and sustainability are equally embedded across the organisation. Climate change and inequalities are interlinked, and bodies are recommended to consider them together, as outlined in chapter 3 above.

A second useful example can be drawn from the implementation of health and safety legislation. Health and safety is, rightly, seen as an area where compliance is essential – this is reflected in governance arrangements, and the clear assignment of overall responsibility to named senior leaders. Employees have a duty to contribute to both their own health and safety, and that of the overall organisation; and structures can be put in place to support this. General mandatory training is required for all employees, with further specialist training for particular roles.

There are clear links between an organisation's response to climate change – in particular the adaptation measures put in place to manage the risks posed by the changing climate – and aspects of health and safety. Public bodies should consider if the existing governance structure and processes that ensure their compliance with health and safety legislation could be revised to include relevant aspects of compliance with the climate change duties.

The examples above were selected, in particular, to illustrate the weight that public bodies should be giving to compliance with the climate change duties. The duties should, from a leadership perspective, be thought of as an area of compliance with equal weight to equalities and health and safety, and should be fully mainstreamed in an equivalent way. Under the 2009 Act, compliance with the climate change duties is a legal obligation.

4.4.1 Organisational capability and maturity

It is important that senior leaders have a clear understanding of their organisation's capability and maturity in relation to climate action. Leaders should undertake regular assessments to identify strengths and weaknesses in their organisational response to the climate and nature emergencies, and identify areas where further action is needed.

A useful tool for undertaking such an assessment is the Leader's Climate Emergency Checklist co-developed by Scottish Government, SSN, the Improvement Service, NHS and other public sector partners, published on the SSN website and illustrated in Table 1 below. Adaptation Scotland have produced an Adaptation Capability Framework which identifies four key capabilities for a body's adaptation journey, and the tasks to develop over four stages from starting to mature (refer to section 6.3.2).

The Leader's Climate Emergency Checklist is based on the mainstreaming of climate action within standard corporate structures and systems, and is designed as a capability framework. It facilitates assessment of performance in key areas including governance, finance, skills and delivery, and lays out a maturity pathway for each. Organisations are likely to find that their maturity varies across different areas, so regular assessments can help track improvements in performance and identify areas to prioritise action. The checklist will assist leaders to understand legislative responsibilities and align with national and local policy developments while ensuring a just transition that delivers sustainable benefits for Scotland's people and environment.

Table 1: Leaders Climate Emergency Checklist (taken from the SSN checklist)

	Foundation (structured and focused)	**Advanced** (comprehensive and professional)	**Exemplary** (innovative and transformational)
Strategy	Action on climate change is a strategic corporate priority.	Key areas for action have robust strategies in place to inform delivery.	Climate change is embedded in all organisational strategies and plans, and shapes decision making and resource allocation.
Targets	Targets set with clear baselines, boundaries, inventories and interim targets, supported by delivery pathways and aligned with national policy objectives.	Targets and outcomes set for key functions of the body, including procurement and supply chains, upstream and downstream impacts of the body's functions.	Targets and outcomes go beyond net zero, aimed at regenerative and holistic sustainability transformations.
Governance	Structures are in place to ensure oversight, accountability and transparency in climate-related decision making.	Climate change embedded into decision making at all levels, with evidence reported of how this influences	The body is proactively influencing partners, citizens and stakeholders to drive change at scale, locally,

		decisions on plans, projects and resources.	regionally and nationally
Delivery	Climate action incorporated in policy development and service design, with policies and projects in place and actively managed.	Coordination of delivery across service areas and projects to maximise benefits and avoid unintended consequences.	Working collaboratively to align and scale policies, projects and partnerships on climate action
Finance	Investigating how to align spend with targets and steps being taken to progress.	Understanding of how to align spend with targets. Finance gaps identified and work underway to secure resources.	Resource and spend clearly aligned with targets, climate impact of investments being managed, and collaborations in place to leverage in resources.
Performance	Mandatory climate change reporting used to inform delivery and communicate progress.	Progress on climate change is part of regular performance monitoring and accounts and corrective actions taken.	Monitoring is above and beyond mandatory requirements and reporting is shared and reviewed with stakeholders.
Skills	Key staff aware of how climate change is part of their roles and responsibilities.	All staff understand how climate change fits into their activity and key staff taking action to embed climate change.	All staff empowered to act and contribute to climate targets and outcomes.

4.4.2 Organisational culture

Organisational culture relates to shared values and behaviours in the workplace. Culture can include the way things are perceived in an organisation, and extend to the way that people think and act. Culture therefore effects the way that employees interact with each other and with stakeholders, and how a body fulfils its functions and influences its stakeholders.

Mainstreaming climate change and sustainability thinking within the culture of an organisation can be encouraged by:

- senior management **demonstrating visible leadership** in this area and by linking **climate change and sustainability performance to the objectives of senior leaders** to ensure clear accountability
- ensuring **leaders undertake suitable carbon, biodiversity, sustainability and climate leadership training**
- introducing **mandatory climate, sustainability and biodiversity training for new staff** as part of their induction, rolling out mandatory training to existing staff and ensuring that refresher training is delivered at regular intervals
- providing **specialist training for roles where an additional level of knowledge is required**, or where staff are keen to deepen their knowledge; and by creating opportunities and roles for staff at all levels to take a leadership role on climate or sustainability action
- **cascading climate objectives down** to team and individual level to ensure every role contributes to the organisation's climate response
- using points such as the development or revision of plans and programmes as an opportunity to **reconsider how services are delivered** and to actively engage with stakeholders to **seek low carbon and more sustainable models**
- using procurement as an opportunity to **embed sustainability including circular economy aspects into contracts and ensuring ongoing supplier and contract management** to realise and measure progress
- ensuring staff receive **regular communications around the organisation's climate performance**
- providing **opportunities for staff to feedback to the organisation**, to make suggestions and for innovation to be fostered
- **reporting** on climate change and sustainability initiatives such as training and integration into the staff performance management system in annual reports.

4.4.3 Capacity building

For climate change to be successfully mainstreamed, most public bodies will need to build the capacity of their existing staff. While use of specialist external consultancy will continue to be appropriate for some projects, public bodies are strongly encouraged to invest time and resource in building the knowledge and skills of their own staff. This should offer best value for money in the longer term, provide valuable opportunities for staff development and result in an appropriately skilled workforce, increasing the resilience of the organisation and the public sector as a whole.

Leaders should ensure that staff are given the time and training opportunities to ensure the workforce is climate literate. Public bodies should consider delivering general climate, carbon, biodiversity and sustainability training to all staff. In addition, practitioners working in functional areas are likely to require more specialist and technical training, for example Climate Literacy for Procurers e-learning is available on the Sustainable Procurement Tools website. It is important that all staff understand that every role and function has an impact on climate and sustainability, albeit some roles more directly than others. Staff should be given the time to consider the climate and sustainability impacts of their area's core functions, and managers should ensure that these are reflected in performance indicators and objectives.

Due to the importance of training across organisations some public bodies have worked with external providers to seek a 'Train the Trainer' approach, with a smaller group attending external training courses and then being able to train others within their organisation. This approach can be very effective and save costs while maximising impact. Examples include the Carbon Literacy Project and training offered by the Royal Scottish Geographical Society. Historic Environment Scotland are establishing a new national hub for retrofit of traditional buildings which will deliver training. Sniffer offer training on becoming climate resilient.

There is a depth and breadth of knowledge and experience across the Scottish public sector. Bodies are strongly encouraged to actively seek out opportunities to work with and learn from other organisations, and to share their knowledge in turn. Staff should be encouraged and supported to engage with practitioners' networks and forums, maximising opportunities for peer to peer learning. Opportunities may be found in membership organisations, professional groups, the Public Sector Climate Adaptation Network and through the SSN.

4.4.4 Organisational KPIs

To ensure that climate change and sustainable development are fully mainstreamed into an organisation, bodies should include climate change and sustainability performance in their key performance indicators (KPIs). These should have a clear link back to the body's climate change and sustainability plans and targets, but may also focus on more specific areas of climate and sustainability action that are the priority for the current period, for example those that form part of the action plans for the coming year.

For some areas, such as mitigation, it is easier to have directly measurable KPIs. For other areas such as adaptation, this is more challenging. In the absence of directly measurable KPIs, bodies should consider the use of intermediate or proxy indicators. Process or structural indicators can also be helpful in demonstrating change ahead of longer term outcome indicators.

KPI performance should be regularly monitored as part of the organisation's overall performance management, and action taken if performance is going off track. Annual performance against KPIs should be included in the body's annual corporate report or equivalent.

Examples of typical KPIs could include:

- **Emissions reductions**: reporting performance against targets for scope 1 direct emissions and scope 2 emissions; against specific targets relating to the decarbonisation of buildings and fleet; against an overall net zero target; and against specific targets that might be set for scope 3 emissions, for example those related to procurement, business travel or investments. Bodies could consider a targeted approach to procurement emissions, for example by focusing on their largest suppliers or priority product categories in terms of annual spend per year.

- **Capacity building**: reporting performance related to staff training, such as the number or proportion of staff who have received carbon and biodiversity training, or the number of senior leaders who have received climate leadership training.
- **Adaptation:** bodies could consider developing indicators that relate to SNAP outcomes they can contribute to, as illustrated in sections 6.3.4 and 6.4.6.1, e.g. the number or percentage of traditional buildings on their estate that have been climate risk assessed, or the number or proportion of third party organisations in receipt of grant funding, who are taking adaptation action.
- **Sustainability:** the number or proportion of staff who have received sustainability training; use of sustainable development impact assessments for relevant policies and plans; the number or proportion of buildings for which a sustainability assessment has been carried out.

Bodies could also set KPIs related to initiatives designed to engage service users or other stakeholders. Areas of priority focus could include, for example, procurement and contract management: KPIs could be designed to monitor use of the sustainable procurement tools, specialist training undertaken by staff, supplier engagement and the use of continuous improvement clauses within existing contracts to improve environmental performance.

4.5 Taking climate into account in decision making

It is essential, if public bodies are to be compliant with their obligations under the 2009 Act, that the climate change duties are a part of decision making; and that the thought process behind the decision can be clearly demonstrated and explained.

There are various methods available to assist with integrating climate thinking into the decision-making process, both quantitative and qualitative. A small number are outlined below. Bodies may choose to use a single method, or a variety, as best suits their organisation, its function, and the nature of the decision that requires to be made.

Integrating climate and sustainability into the decision-making process is important to meet the duties, but also to avoid unintended consequences that may increase carbon emissions, lock in high carbon behaviour or result in maladaptation.

Scottish Public Finance Manual and HM Treasury's 'Green Book'

It is important to develop policy and take decisions with an awareness that our climate is changing. Climate projections are clear: warmer, wetter winters, hotter, drier summers, more extreme weather events and rising sea levels are all set to increase for decades to come. Many policies, programmes and projects will be directly or indirectly affected by climate impacts. Appraisal should account for such impacts, where significant, and respond to them where cost-effective to do so. Otherwise decisions will not necessarily be being based on full understanding of how public value can best be delivered over time.

Well established and updated guidance is available on how to factor climate impacts into decision making. Key sources are outlined below. It is noted these guides support that global temperature scenarios below +2 degrees of warming may be more appropriate for analysing transitional risks rather than physical risks. The HMT Green Book, Defra Adaptation Reporting Power and the latest assessments of climate risk from the Climate Change Committee all use scenarios based on global warming levels focussed on both +2 and +4 degrees by the end of the century.

The Scottish Public Finance Manual (SPFM) is issued by the Scottish Ministers to provide guidance on the proper handling and reporting of public funds: Appraisal and evaluation - Scottish Public Finance Manual

HM Treasury's Green Book is guidance issued on how to appraise policies, programmes and projects. It is not a mechanical or deterministic decision making device. It provides established thinking models and methods to support the provision of advice to clarify the social – or public – welfare costs, benefits and trade-offs of alternative implementation options for the delivery of policy objectives.

Defra has issued supplementary guidance to HM Treasury's Green Book which is tailored to climate adaptation. This guidance supports analysts and policy makers to ensure, where appropriate, that policies and projects are resilient to the effects of climate change and that these are considered when appraising options: Accounting for the effects of climate change - Supplementary Green Book guidance

4.5.1 Climate change in impact assessments

The most commonly used impact assessments are outlined in section 2.2. While a small number of these explicitly include climate, such as Strategic Environmental Assessment (SEA), many decisions fall outside the scope of these statutory assessments. Public bodies should therefore ensure that their internal assessment process adequately accounts for climate.

Strategic Environmental Assessment

SEA is required when bodies are preparing a plan, programme or strategy that deals with issues that can be considered to be of a public character (the phrase 'public character' seeks to capture the full extent of the public sector) and where the plan, programme or strategy is likely to result in significant environmental effects, which can be positive or negative. As noted in the SEA guidance, 'significance depends on the character, quality and sensitivity of the environment which will be affected by the plan as well as the scale, magnitude, frequency and certainty of the effects occurring.' [21] Examples of plans where full SEAs have been undertaken include Local Development Plans, Climate Change Strategies, Transport Strategies, Corporate Plans and Flood Risk Strategies.

Some plans or programmes, where the environmental effects will be minimal, can be 'pre-screened' out of the SEA process. However, the majority will require to be screened and the requirement for a SEA confirmed with assistance from the consultation authorities. Guidance on SEA is provided on the Scottish Government

website, and by NatureScot, Historic Environment Scotland and SEPA. Further enquiries can be directed to the SEA Gateway mailbox.

Climate change impact assessment

One way that bodies can incorporate climate thinking into their decision-making process is through the use of climate change impact assessments (CCIA). These can use both qualitative and quantitative data to help inform and shape the decision-making process. As with all impact assessments, CCIA should be undertaken early in the overall process, and can be used iteratively as the project develops over different stages. CCIA is suitable for use on all types of projects, plans and policies, and including procurement.

Similar to the way that equality impact assessment seeks both to minimise potential harms and to maximise positive opportunities, CCIA aims to help understand and then remove or minimise potential negative climate impacts, and to maximise and promote the opportunities for positive interventions and outcomes. For example, carrying out a CCIA would typically involve minimising carbon and other greenhouse gas emissions from the project, avoiding maladaptation, and actively seeking to contribute to effective adaptation and create wider benefits that may include enhanced biodiversity, cleaner air and improved public health.

Although introducing a CCIA framework into the decision-making process is not statutory, there are several reasons why introducing such a framework is beneficial to meeting the requirements of the climate change duties:

- it creates a mechanism for gathering appropriate evidence to analyse, record, monitor and demonstrate the potential carbon and climate impacts of projects or spending proposals. In doing so, it helps to mainstream climate change within the organisation and ensure it is a central consideration
- it ensures climate impacts are visible and understood at the point at which a project is proposed and to be decided upon. It does not in itself stop a project from progressing, but it removes the potential for decisions to be taken in ignorance of their climate impacts
- it should be a platform to understand and promote positive as well as negative ramifications, and exists to better inform decision making. It is a demonstrable introductory action to meet multiple policy drivers and aligned statutory requirements to which public bodies are held accountable, including:
    - where the organisation has declared a Climate Emergency or a date by which to be net zero, the CCIA is a tool for putting the principle into practice and ensuring projects are delivered in line with the necessary carbon reduction pathway
    - the public bodies climate change reporting duties which require that public bodies include in their annual returns “how the body will align its spending plans and use of resources with emissions targets”, where applicable

- Audit Scotland have written to public bodies to confirm their expectation that all funding and investment decisions are based on their contribution to climate change ambitions. Further, there is an expectation that the public sector is able to demonstrate that climate change is at the heart of decision-making at all levels, and a central element of all local authority activity.

Practical guidance on developing and implementing a CCIA process has been published by the SSN, Developing a Climate Change Impact Assessment Framework Guidance for Local Authorities and Public Sector Bodies.

Without a CCIA or equivalent assessment no quantifiable judgement can be made, with any impacts only being captured retrospectively at best, when it is too late, increasing the risk of negative consequences on the climate, environment and other policy areas; and missing opportunities to mitigate risks.

Guidance on project or programme climate resilient appraisal is provided in the HM Treasury Green Book and the accompanying supplements.

An alternative approach could be to develop an integrated impact assessment process, where climate change is considered alongside other aspects such as sustainable development, equalities and public health. This is a more complex approach, but can ensure that issues are considered in the round. It can also be an effective method of identifying wider, less tangible benefits or unintended consequences than if climate is considered alone. This approach may be particularly suitable where a place based approach is being taken.

4.5.2 Financial decision making

It is vital that public bodies understand the climate impacts of their financial decisions and embed carbon into their business cases, budgetary processes, financial planning and reporting. If climate change is treated as a corporate priority, it will impact on how the body allocates and spends its budget, and ensure that spend is directed to where it will have the greatest impact. Public bodies' strategic planning and major budgetary decisions should be consistent with their net zero and wider climate goals, over both capital and resource expenditure.

Finance teams should be actively engaged in this process. Achieving net zero will be dependent on the processes, skills and knowledge held by the finance team. Where net zero targets and pathways have been set, finance teams will be well placed to contribute to the development of budgets and investment programmes, report on progress and to integrate climate change into the decision-making process.

Public bodies should, as best practice, align with appropriate good practice guidance. The Accounting for Sustainability Net Zero Practical Guide for Finance Teams outlines appropriate actions bodies should adopt such as:

- embedding net zero targets into decision-making processes, including budgeting and capital planning processes

- recognising the broader influence and impact that your organisation can have on local development and investment planning
- incorporating sustainability into your organisation's financing strategy and communications.

Public bodies subject to the statutory reporting duty should include information on their financial decision-making processes and alignment with net zero in their annual reports. Following a robust process, including use of the tools and methodologies outlined below or others, can help demonstrate compliance with the climate change duties.

As best practice, public bodies could consider reporting to external frameworks such as the Task Force on Climate-related Financial Disclosures (TCFD).

4.5.2.1 Tools and methodologies to aid financial design making

Often, more sustainable and energy efficient products, services and assets carry a price premium. The principle of 'spend to save' means spending more initially to obtain a better quality product, asset or outcome that costs less to run, is likely to last longer and is future-proofed to a reasonable degree. It is important that carbon and wider sustainability factors are taken into account when making such decisions, to ensure that best value over the useful life of the asset is achieved.

CCIA, explained above, can be a useful tool to aid the financial decision-making process and could be a suitable starting point for bodies unused to integrating climate explicitly into their thinking process.

Other tools and methodologies are available. Bodies should consider and implement a proportionate approach which will best suit their own organisation. Examples include:

- carbon budgets
- including the cost of carbon in business cases
- assessment of whole life carbon, for example using the Net Zero Public Sector Building Standard, the UK Net Zero Carbon Buildings Standard, the RICS whole life carbon assessment or by following PAS 2080 (2023)
- The Institute for Climate Economics (I4CE) methodology for the climate assessment of local authority budgets
- Sustainable Procurement Tools.

4.6 Functions and wider influence

The public sector plays a vital role in enabling Scotland's transition to net zero and climate resilience. Through their varied functions, public bodies can have a wide and significant influence on emissions and climate action far beyond their organisational boundaries. Public bodies can and should act collaboratively to create the conditions by which national, regional and local targets and outcomes can be achieved.

The 2009 Act places duties on all public bodies to use the range of their functions to address climate change. Public bodies have a wide range of functions that can

influence emissions and adaptation. These include spatial and transport planning, service delivery, place-making, investment, infrastructure development, economic development, funding, regulation, communications, education, community development, and partnership development and facilitation.

Public bodies must ensure that the policies and plans they develop to take climate and sustainability action encompass their wider functions.

At a local authority area level, community planning is a statutory requirement to support and enable community empowerment and place making. Local authorities have planning and financing powers, and at national and regional levels a range of public bodies have powers and responsibilities for planning, development, investment and public engagement. All of these functions need to be brought to bear to enable Scotland to increase the scale and pace of climate action and support a just transition to net zero.

The wider influence of public bodies on emissions can be categorised, in part, as the scope 3 upstream and downstream impacts of their functions. For example, when developing new housing in a locality, there will be upstream impacts due to the resources used in the construction of the housing, and there will be downstream impacts due to the emissions generated by the new households. Housing should be developed with these upstream and downstream impacts in mind, and action taken to have a positive influence along the value chain that public bodies can influence.

Another way of addressing these wider influence emissions is through the lens of place making and the need to transition to net zero places. In many local authority areas, for example, public bodies are working together to develop net zero plans and partnership on area wide emissions. Local authority place based emissions work is guided by the Greenhouse Gas Protocol for Cities and the Global Protocol on Community-Scale Emission Inventories, and can often be linked to local authority commitments, such as the Global Covenant of Mayors.

The sections below outline key areas where public bodies are likely to wield wider influence and how the climate change duties can be incorporated into these.

Anchor institutions

Public bodies, particularly larger bodies including the NHS, colleges and universities, central government bodies and local authorities, are often anchor institutions in the places they are located. They tend to have significant physical assets and influence with other bodies that operate in the area including public transport providers, businesses and the local authority. Their assets and daily operations can be used to meet the climate change duties, support the local community and bring wider benefits, for example through employment, procurement, training and educational opportunities, and land and building use.

As anchor organisations, public bodies can influence development in their locales, for example by connecting to or developing district heat networks.

Policy setting

All public bodies will have a policy setting function. For some bodies, such policies will relate to and primarily influence corporate operations only. For others, their policies will have a much wider influence, impacting on for example, local businesses and industry, land use or land management practices, local and regional transport, delivery of services, service users and the general public.

Public bodies should in all cases consider the climate impacts of their policies and routinely assess these alongside other impacts, such as on equalities, health, biodiversity and business. This could be achieved using the climate change impact assessment process outlined above in section 4.5.1.

Bodies should also consider how their policies can contribute to wider priority policy objectives such as the just transition and tackling poverty, and maximise opportunities for wider linked benefits such as enhanced biodiversity, improved public health, reduced fuel poverty and reduced inequality.

Planning and delivering services
Many public bodies are involved in planning and delivering services. Bodies should consider how services are delivered, and look for ways to reduce emissions and make the service more resilient. The changing climate is highly likely to pose risks to the delivery of essential services in the future, and it is vital that bodies assess and take appropriate steps to mitigate these risks (see section 4.3.5 and chapter 6).

In some cases delivery of the service will be undertaken by others, and public bodies should use the procurement or funding award process to drive positive climate and sustainability action. Where bodies are responsible for delivering services themselves, they should mainstream climate change into the delivery model and actively seek opportunities to reduce emissions, adapt for the impacts of the future climate and act in the most sustainable way.

Education
Scotland's learning for sustainability action plan, Target 2030: A movement for people, planet and prosperity, aims to build an inspiring movement for change so every place of education for learners aged 3 to 18 years becomes a Sustainable Learning Setting by 2030. Local authorities and other public bodies involved in places of education should integrate the 2030 commitment into their improvement plans, strategic plans, curriculum frameworks, corporate plans and activities. Refer to section 7.6 for further details.

Higher and further education institutions, and other public bodies involved in adult and further education, should consider how a similar commitment and aims can be integrated into the work of their organisation. In considering their wider influence, this is particularly important in relation to the range and content of courses that are offered, and to the local community and place within which the body works.

Procurement
Public sector procurement in Scotland is worth over £16 billion annually. It is essential that public bodies work to reduce the climate impact of this spend. Procurement, supplier management and ongoing contract management processes can be used to drive carbon reductions and improve environmental and sustainability

performance through the supply chain. Procurement can be used to support the move to a circular economy, reduce waste and improve resource efficiency.

By carefully considering if, what, how and how much they buy, public bodies can contribute to the delivery of emissions reductions and ensure that they are acting sustainably. Further detailed guidance will be provided in the 'Sustainable procurement' supplement in due course.

Grants and other funding
Many public bodies are responsible for awarding or distributing funding to other organisations across the public, private and third sectors. This may be in the form of grants, loans or other funding mechanisms. Public bodies should embed climate and sustainability action into this funding where appropriate, for example through eligibility criteria, terms and conditions, and service level agreements.

Investments
Public bodies may have investments. These are most likely to include pension funds, but may also include forms of trust funds or endowments. Some bodies may have commercial investments in joint ventures or companies. For example, a local authority may be a major shareholder in a company that provides sports or public transport services in the authority area.

In all cases, public bodies should consider the climate impact of their investment. Bodies should consider developing and adopting an ethical investment policy and, over time, may wish to align their investments with their net zero and other climate targets. Examples may include divesting from fossil fuels or prioritising investments in renewables and sustainable technologies. Bodies are strongly encouraged to minimise any negative climate impacts from their investments, and to actively seek out opportunities for their investments to contribute to wider sustainability aims.

For example, a body could use its pension fund to invest in the development of new, high quality low carbon social housing or a district heating system, which would benefit local communities, help tackle fuel poverty and contribute to the delivery of wider national policies and outcomes including improved health and reduced reliance on health services.

Working together
It is vital that public bodies collaborate to achieve the scale and pace of action needed to reduce emissions and adapt to the changing climate. Bodies should proactively seek opportunities to work with other public bodies to share knowledge and practical learning; to develop larger scale investable projects; and to benefit from economies of scale and shared resources.

Public bodies can influence the implementation of the climate change duties by other bodies. Wherever possible, public bodies should facilitate benefits for others, for example, a body may generate waste heat that could be offered to and utilised by another public body located in the area.

To support delivery of the statutory Public Engagement Strategy for Climate Change, many public bodies, including the NHS and local authorities, can act as trusted

messengers and encourage positive climate action in the community through communication and engagement with their stakeholders and service users. Public bodies should maximise opportunities to influence and encourage behaviour change in the wider public, local businesses, third sector organisations and other stakeholders through leadership, community engagement, communication and partnership working, including through Community Climate Action Hubs. This may include participating in or promoting national initiatives such as Scotland's Climate Week.

Local authorities may also want to reach out to third sector organisations with a focus on climate change or environmental activities that are active in their local area. The Scottish Communities Climate Action Network and Transition Network Hub which supports community-led action in Scotland to address the climate and nature emergency and work for a just, thriving and resilient Scotland might be able to assist to make these connections.

4.7 The role of audit

Auditing climate change is becoming increasingly important internationally. The International Organisation of Supreme Auditing Institutions for example, conducted a survey in 2021 showing that climate change and environmental auditing of national governments is increasing [22]. In Scotland, Audit Scotland has published a strategy setting out how it will audit climate change across the public sector. Internal auditors are increasingly focussing on climate change within their work.

Climate change auditing standards, methods, and expertise is growing, and public sector audit increasingly treats climate change as an inherent and embedded key aspect of good governance and effective management.

4.7.1 Climate change and the role of audit

Audit has a vital role to play in supporting public bodies to comply with their climate change duties and to improve the design and delivery of public sector climate action. Both internal and external audit in Scotland is embedding climate change duties as a key focus.

Audit plays an important role in reviewing and supporting:

- **effective responses** to legislative requirements in the Climate Change (Scotland) Act 2009, and related policy and legislation, including mandatory public bodies climate change duties reporting
- **embedding** climate change into organisational decision making, assurance, management and governance systems and structures across all areas of activity
- **transparency** of actions and spend, and assessment of the impact and value for money of plans and projects
- **leadership, risk management** and **public sector transformation**.

Both internal and external audit can help enhance the planning, performance, improvement and accountability of public bodies' climate change action.

4.7.2 Understanding the various forms of public sector audit

Internal audit
Internal audit undertake a systematic and continuous review of an organisation's internal controls, risk management and governance arrangements in line with regulations, legislative obligations and Public Sector Standards for Internal Audit, through delivery of a risk-based annual plan.

Internal audit supports public bodies to meet their climate change responsibilities by:

- ensuring that climate change is embedded into decision making at all levels within the organisation and across all business areas
- providing independent assurance on the completeness, accuracy and timeliness of management information on progress and risks
- providing effective challenge about the extent to which policy development integrates climate change and on internal collaboration across disciplines
- helping ensure targets are clear and transparent and that there is a clear understanding of the gaps between climate change targets and policy objectives and the actual plans, policies and resources in place to achieve them
- helping ensure that governance and risk management processes are working effectively
- providing an objective assessment of the capacity, knowledge and skills required to support decision making on climate change.

The recommendations that internal audit make are a fundamental part of supporting continuous improvement and ensuring that risks are managed effectively. That includes managing the risks of the organisation failing to respond effectively to the climate emergency, of not making sufficient progress towards emissions reduction goals, or of failing to build resilience and prepare for the impacts of climate change. Internal audit could also assist by assessing a body's legal compliance in relation to the climate change duties. For example, the audit could review evidence relating to decision making, and whether decisions have been clearly and robustly made 'in the way best calculated' to meet the duties. If this cannot be demonstrated, the audit should highlight this as governance failure, and the body can work to strengthen their systems and processes accordingly.

The SSN Leaders Climate Emergency Checklist provides an effective overarching framework for public body leaders and practitioners to scope, assess, and track performance improvement and transformational change. It will help support internal audit processes as public bodies seek to assess their climate change performance.

External annual audit
The Auditor General for Scotland and the Accounts Commission for Scotland are responsible for securing the independent audit of the accounts and performance of public sector bodies in Scotland. Audit Scotland, the national public sector audit agency, supports them in delivering their work programmes, appointing auditors and undertaking two-thirds of the annual audits of public bodies (the remaining one-third is undertaken by external firms appointed by Audit Scotland).

External audit perform the statutory audit of a public body's annual report and accounts in accordance with the requirements of various public sector audit regulations.

External auditors have a role in assessing whether climate-related risks are considered as part of the accounting carried out by public bodies for areas such as property, plant and equipment and provisions. They also assess whether accurate, relevant climate-related disclosures are included in bodies' annual report and accounts.

Current guidance on climate related disclosures required in public bodies' annual reports and accounts is limited but is likely to expand over the next few years.

Guidance on disclosure requirements are emerging and beginning to be applied to bodies including the following:

- Task Force on Climate-related Financial Disclosures (TCFD) – aligned disclosure application guidance
- IFRS S1 – General requirements for disclosure of sustainability related financial information
- IFRS S2 – Climate-related disclosures.

Certain Scottish central government and arms-length bodies must comply with the TCFD aligned disclosure application guidance from 2023-24. Other public bodies may adopt the TCFD aligned disclosure in full or in part. Required climate-related disclosures to be included in annual reports and accounts are likely to be expanded across the public sector in the coming years. Auditors will review compliance with any existing and emerging standards that apply to Scottish public bodies.

Until new standards emerge, the work of external auditors will be determined by their local risk assessment processes. The latest guidance for external auditors is on the Audit Scotland website.

External performance audit

Audit Scotland undertakes performance audits on behalf of the Accounts Commission or the Auditor General. They produce national reports that focus on efficiency and effectiveness in the use of public resources across the public sector.

The challenge of tackling climate change is hugely complex and requires a whole-systems approach, with effective collaboration between public bodies, the private sector and communities. Public audit can look across the public sector to consider these complex relationships and assess how well public money is being spent and how services are performing, and identify opportunities for improvement.

Audit Scotland has a programme of performance audit work on climate change, which includes consideration of:

- roles and responsibilities, governance arrangements, key risks and risk management
- the development and implementation of plans and strategies to reduce emissions

- progress in integrating climate change adaptation into policies, strategies and implementation plans
- investment, alignment of spend across policy areas, and value for money
- partnership working and collaborative leadership
- good practice, barriers and challenges.

Performance audit reports and recommendations can support public bodies in meeting their climate change responsibilities by providing assurance, offering constructive challenge, supporting decision-making and sharing learning to help drive change and improvement.

4.7.3 Public sector climate change audit examples

Examples of performance audit work undertaken by Audit Scotland include the following:

- Scotland's councils' approach to addressing climate change (September 2022) - This briefing on behalf of the Accounts Commission highlights the critical role of councils in helping Scotland achieve its national climate change goals and includes recommendations for councils to consider to help improve their response to the climate emergency.
- Decarbonising heat in homes (February 2024) – This report on behalf of the Auditor General highlights the significant increase in the scale and pace of domestic heat decarbonisation required, if Scotland is to be able to phase out fossil-fuel home heating systems by 2045.
- How the Scottish Government is set up to deliver climate change goals (April 2023) – This report on behalf of the Auditor General focuses on how effective the Scottish Government's climate change governance and risk management arrangements are in supporting it to drive the delivery of Scotland's national net zero targets and climate change adaptation outcomes.

5. Implementing the first duty: reducing emissions

The first of the climate change duties set out in section 44 of the Climate Change (Scotland) Act 2009 requires public bodies, in exercising their functions, to act in the way best calculated to contribute to the delivery of national emission reduction targets, i.e. to reduce greenhouse gas emissions, also known as climate change mitigation. In the context of the duties, 'targets' means both the national five-yearly carbon budgets and the final 2045 target.

To help demonstrate compliance with this duty, public bodies should:

- develop a climate change strategy that includes net zero and other relevant targets and has regard to just transition principles
- develop and implement a carbon management plan or equivalent
- develop action plans to deliver key elements of the carbon management plan, detailing interim steps, costs, timescales and dependencies
- set up a process of monitoring and reporting, to report on performance against their targets and action plans
- ensure that mitigation actions maximise co-benefits, such as improved public health, reduced inequalities and enhanced biodiversity, and minimise unintended consequences such as maladaptation and negative environmental impacts
- undertake the above giving due consideration to their physical assets including buildings, land and fleet; their staff and service users; the services they deliver; the investments they manage; and the functions

5.1 Introduction to the first duty

To support the duty to reduce emissions, this chapter briefly sets out:

- the importance of taking action to mitigate emissions
- the net zero approach to mitigation
- decarbonisation pathways
- reducing emissions in practice – climate strategies, target setting, carbon management plans, monitoring and reporting.

It is likely for most public bodies that the majority of direct scope 1 emissions will come from heating buildings. Public bodies should make decisions about the heating systems in their buildings in line with the Local Heat and Energy Efficiency Strategy (LHEES) for their area. When installing or replacing heating systems, due consideration should be given to individual clean heating systems and the future potential for heat networks, as suggested by an LHEES. These set out zones where heat networks may present a potential decarbonisation option. Public sector buildings should be an early focus to allow exploration of opportunities for coordinated action on decarbonisation of heat, including the identification of public buildings that could act as anchor loads in any future heat network. Harder to treat buildings many benefit from this early exploration.

For some public bodies direct emissions from fleet, process emissions and fugitive emissions may also be significant. Bodies are also likely to have substantial indirect

scope 2 emissions associated with acquired electricity, and potentially heat, steam and cooling.

However, the majority of total emissions will likely be indirect scope 3 emissions from the wider value chain, in particular those resulting from purchasing e.g. all of the things a public body buys in order to deliver its functions, from buildings to vehicles, and furniture to IT equipment.

It is therefore likely the key actions for most public bodies will include:

- The decarbonisation of heating systems and fleet e.g. replacing gas boilers or combined heat and power plants with air, water or ground source heat pumps, or connecting to a district heating network powered by the same.

  Public bodies should focus investment in reducing emissions in those buildings that are planned to remain part of the estate in the longer term. The 'Built Estate' supplement will, in due course, set out the recommended approach to understanding future estate needs. This should be followed, so as to focus energy efficiency and clean heat investment on those buildings for which there is confidence on future need. Where a public body expects to vacate a building, improvements should be limited to those required as part of planned maintenance requirements and to meet other statutory obligations.

- Public bodies having clear long term strategies for their assets and the sustainable management of those assets**.** Public bodies should consider the size and location of their estate, whether it matches service requirements and future needs, opportunities for co-location of services – to maximise use and minimise waste (including emissions). This includes adapting the assets to net zero standards and making assets resilient to a changing climate.

- Replacing petrol and diesel vehicles with electric or low carbon fuelled vehicles.

- The reduction of electricity use wherever possible via, for example, improved building fabric to reduce heating demand, installation of renewables, LED lighting, and replacement of inefficient equipment with energy efficient alternatives.

- Achieving net zero will, generally, see public bodies using more electricity for heat in their buildings – particularly if they are moving to electrical heating. At the time of writing, electricity costs more than other heating fuels, notwithstanding the efficiencies of electrically-powered heating systems like heat pumps. Public sector organisations may therefore consider on-site electricity generation technologies. This should always be supported by an investable business case that does not expose the body to excessive risk. Public bodies could consider investing any savings made in energy costs into improvements to the fabric of their buildings and or the additional costs of clean heating systems

- The move to a circular economy approach to procurement by:
    - thinking early about whether, what, how much and how to buy
    - extending the life of equipment wherever possible
    - considering leasing and shared ownership models where practical and economical
    - reusing and repurposing equipment wherever possible
    - where a purchase is required, procuring products that have been used (including refurbished products) or remanufactured, or are designed to be repaired, reused, refurbished, remanufactured or recycled.

This chapter lays out the high level actions that bodies should take, such as setting targets and developing a carbon management plan or equivalent. Detailed guidance on the individual measures that bodies could take, for example to decarbonise the heating in their buildings or to develop a sustainable travel strategy, will be provided in the topic supplements which will accompany this guidance.

5.2 Reducing emissions: background and context

5.2.1 The importance of taking action to reduce emissions

In order to limit future climate change caused by human activity, we need to rapidly reduce, by significant amounts, levels of greenhouse gases being emitted to the atmosphere. The most recent synthesis (AR6) from the Intergovernmental Panel on Climate Change (IPCC) notes that we need to achieve 43% global emissions reductions from 2018-19 levels by 2030 to give a 50% chance of avoiding exceeding 1.5°C of global warming, the temperature targeted by the Paris Agreement in 2015 as the safe limit of climate change.

A more recent synthesis of the science suggests that five climate tipping points cross a 50% probability threshold, i.e. become more likely than not, at 1.5°C [23]. These include the collapse of the Greenland Ice Sheet, the abrupt thaw of boreal permafrost (which holds vast reserves of methane gas), and the die-off of low latitude coral reefs.

A climate tipping point by its nature is irreversible, representing a shift from one stable state to another. Once the process starts, even if we were to immediately cease all carbon emissions, change will continue until the end of its change process, shifting to a different stable state, e.g. the Greenland ice sheet would continue melting until gone. Whilst some of these tipping points may take hundreds or thousands of years to complete, they could be triggered in the coming decade if we do not achieve 1.5°C aligned decarbonisation pathways.

There is also a risk of cascading tipping points, where the triggering of one may raise temperatures sufficiently to trigger another. For example, the loss of Antarctic sea ice reduces the albedo effect, meaning the dark ocean surface absorbs more heat than the reflective white surface of sea ice, further warming the Earth. The abrupt thaw of the boreal permafrost would release vast reserves of methane gas, a potent greenhouse gas, further accelerating climate change and risking triggering further tipping points.

This highlights that every increment of warming matters, and stabilising the climate with minimal 'overshoot' beyond 1.5°C remains a key objective from a global and national equity viewpoint.

5.2.2 Maximising co-benefits and minimising unintended consequences

Co-benefits

Many of the actions to reduce emissions can deliver benefits for other policy areas such as health and wellbeing, equity and economic development. Bringing these benefits to the fore can help drive more ambitious climate action and provide an additional narrative across stakeholders. The Lancet Pathways to a healthy net-zero future noted:

> "a focus on the opportunities for transformative change to an economy that supports health and equity within planetary boundaries can provide hope and a compelling vision of an inclusive and sustainable future, engage more diverse audiences and build support for change" [1]

There is increasing evidence that many actions to reduce emissions can deliver near-term health co-benefits [24]. Several programmes of work are underway in the UK and internationally to understand the scale of these benefits and how we can maximise them. Health co-benefits can be achieved when climate action addresses the building blocks of good health, for example through:

- promotion of active and sustainable transport which can increase physical activity, reduce air and noise pollution, and increase footfall in local areas with positive impacts on the local economy
- replacing fossil fuels with clean renewable energy which reduces air pollution
- consumption of sustainable and healthy diets
- promotion of accessible greenspace with benefits for mental and physical health.

Key to a just and equitable transition will be to ensure that benefits delivered by climate mitigation in relation to emissions, health, equity and social outcomes are fully accessible to all.

Unintended consequences

Implementation of mitigation actions can have both positive and negative, planned and unintended impacts on other policy areas and inequalities. For example, urban planting, both a mitigation and adaptation measure, can have benefits for health and wellbeing thereby supporting just transition outcomes. However, there is some evidence urban trees can increase property values and if unevenly distributed to lead to gentrification, making land inaccessible to low income residents [25, 26]. Similarly, retrofit schemes to increase energy efficiency are associated with improved health and social outcomes. However, increasing the airtightness of buildings without sufficient ventilation can contribute to poor indoor air quality. For some residents the

cost of housing retrofit can be passed on in increased rental values, particularly for low income residents in the private rental sector. Where mitigation actions are not considered in relation to adaptation this can contribute to policy fragmentation and increase the risk of unintended consequences.

Whilst trade-offs across policy areas may be necessary, if the unintended impact on different population groups and different policy areas are not explicitly considered, these trade-offs can be unacceptable.

Working with stakeholders across policy areas, staff and the wider community, in particular the most affected population, using systems approaches to co-design and implement mitigation actions, and integrating mitigation and adaptation, can help support the delivery of multiple policy objectives, avoid maladaptation, reduce the risk of unintended consequences and prevent increased inequalities.

5.2.3 The net zero approach to mitigation

Activities that help reduce greenhouse gas emissions are referred to as climate change mitigation.

Climate mitigation is often framed by one of two concepts, **net zero carbon** or **carbon neutral**. These terms are sometimes used interchangeably. It is important that public bodies understand that they are not synonymous and actually reflect quite different approaches.

- **Net zero carbon (or net zero)** is intended to describe an approach which reduces an actor's emissions as far as possible, with only the remaining unavoidable residual emissions offset through a credible and robust offsetting mechanism.
- **Carbon neutrality** by comparison can be achieved either in the same way as net zero carbon or by not reducing emissions whatsoever and offsetting 100% of them.

If a body achieves net zero carbon, it is by definition carbon neutral. However, carbon neutrality can be achieved without reaching net zero carbon.

Carbon neutrality is a less robust approach to climate change mitigation, and as such is not supported or aligned to the Scottish Government's approach to climate change mitigation. **Public bodies should achieve climate mitigation through a net zero approach in a meaningful way**.

In the net zero context, '**unavoidable residual emissions**' are those emissions which remain after a body has taken all reasonable steps to reduce or remove them. They may include emissions related to specific processes or technologies for which no viable alternative currently exists, for example anaesthetic gases used in healthcare settings or refrigerant gases used in heat pumps.

Some sectors, such as aviation and maritime transport, face greater challenges and technological solutions may not currently be available on the market. In these cases, emissions should be reduced as far as possible, for example by seeking greater efficiencies and using alternatives where feasible. New technologies and solutions are continually being developed, and bodies should ensure that opportunities to further reduce or remove emissions are maximised when they become available.

Cost and complexity should not be used as excuses to delay mitigation action, particularly for situations where existing and robust alternative technologies are available. There may be a point beyond which costs become excessive, e.g. to remove the final residual 5-10% of emissions associated with a particular source. However, bodies should bear in mind the future costs that will be imposed on society should mitigation targets fail to be reached. Whole life analysis, incorporating the financial cost of carbon into business cases and appropriate use of impact assessments, as noted in section 4.5 above, can assist bodies to make robust and equitable decisions.

5.2.4 Decarbonisation pathways

It is important to understand that within the net zero carbon approach it is not simply the date by which an organisation reaches net zero that matters, but the pathway to net zero carbon as the following example demonstrates.

Example

The figures below illustrate four different hypothetical decarbonisation pathways, each with the same starting and finishing points. Whether emissions are cut earlier or later in a decarbonisation pathway en route to a net zero carbon target has a material impact on the cumulative greenhouse gases emitted. As illustrated, an organisation might for example emit 4 million tonnes of CO2e (figure 4), or less than 1.5 million tonnes of CO2e (figure 7) depending on its approach, and still technically achieve net zero carbon by the same target date.

Figures 4 to 7: Hypothetical pathways to net zero illustrating cumulative carbon emissions based on early versus late carbon emissions reductions

Figure 4: Graph illustrating a 'typical' pathway to net zero emissions

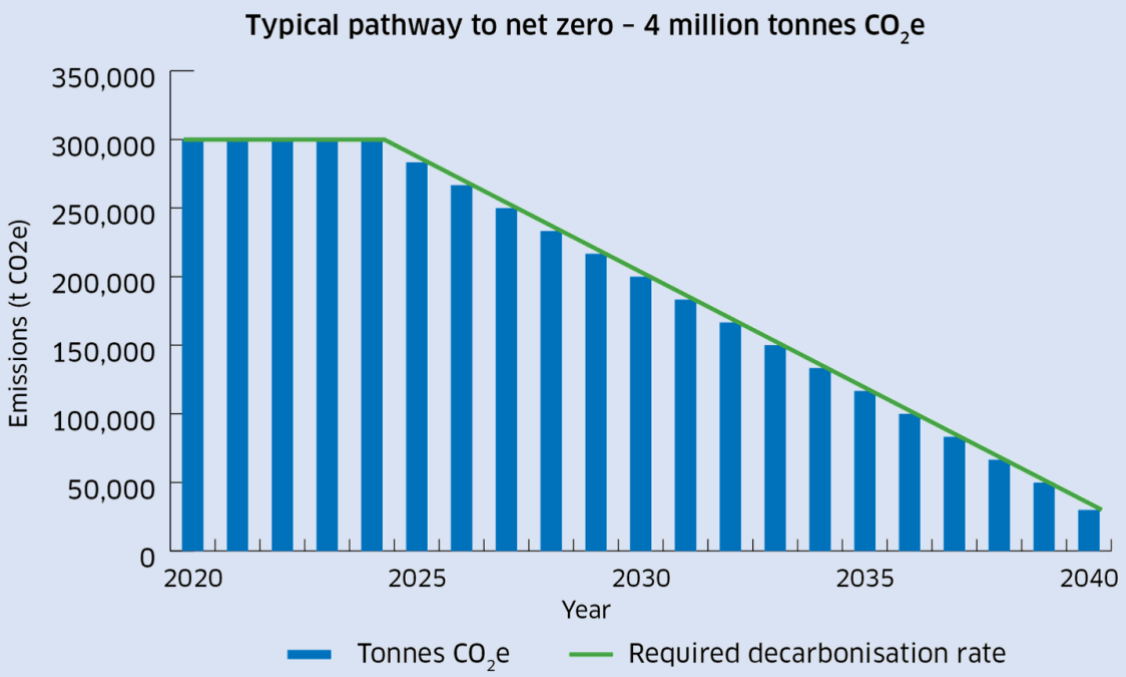


Figure 5: Graph illustrating a 'straight line' pathway to net zero emissions

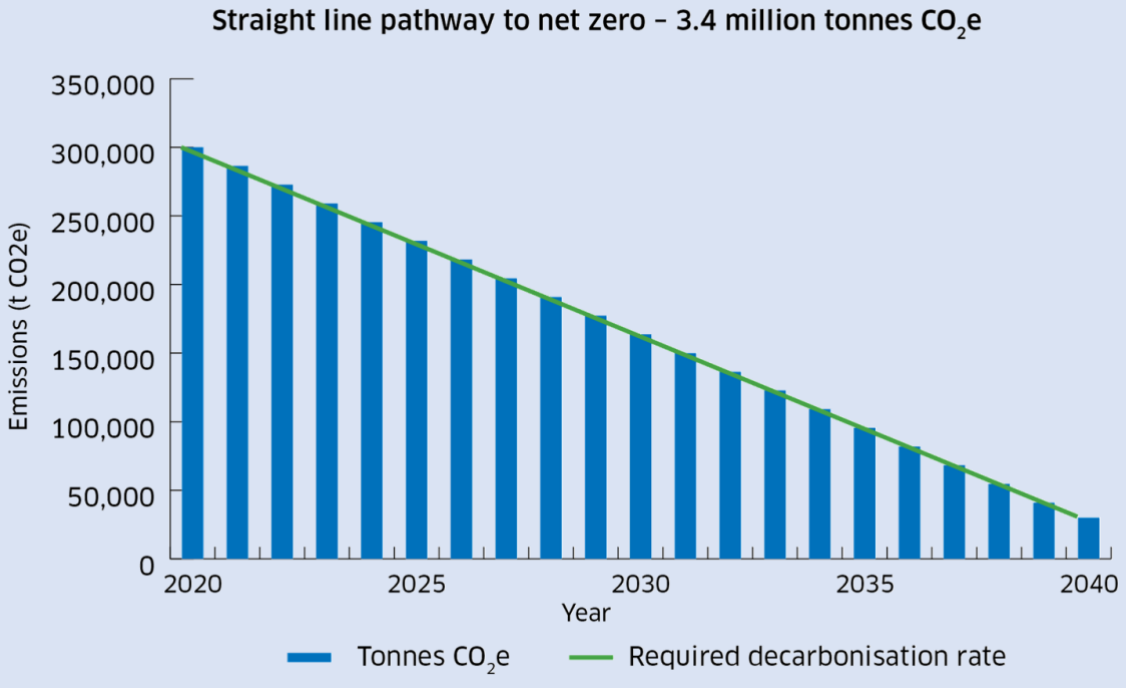


Figure 6: Graph illustrating a 10% reduction pathway to net zero emissions

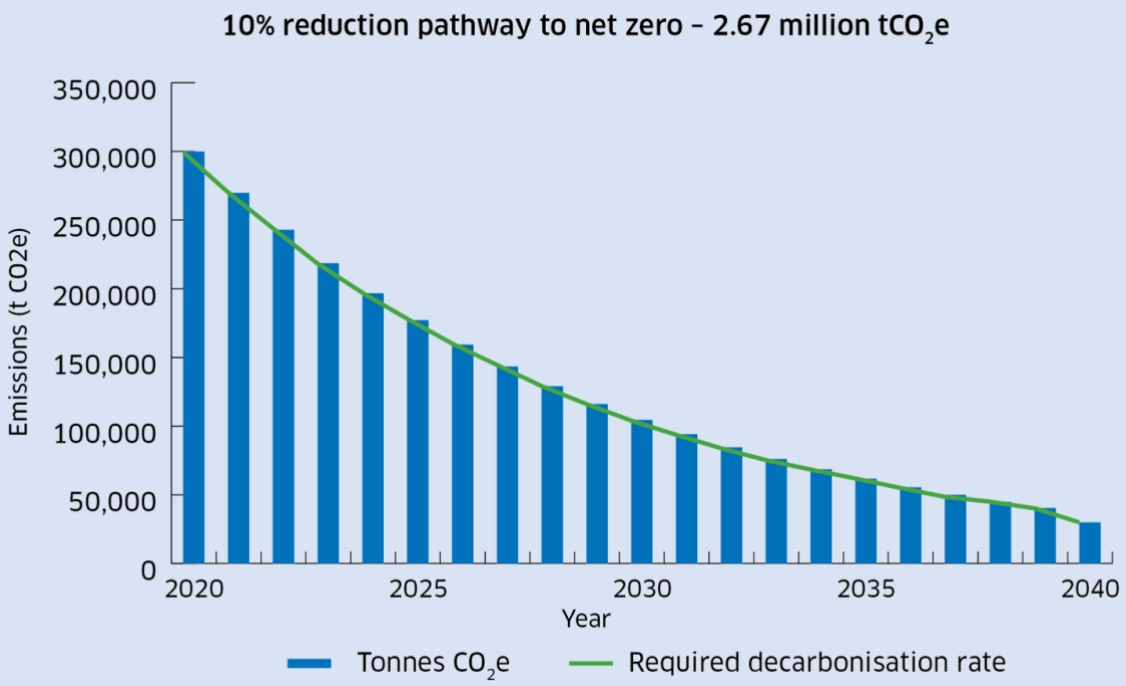
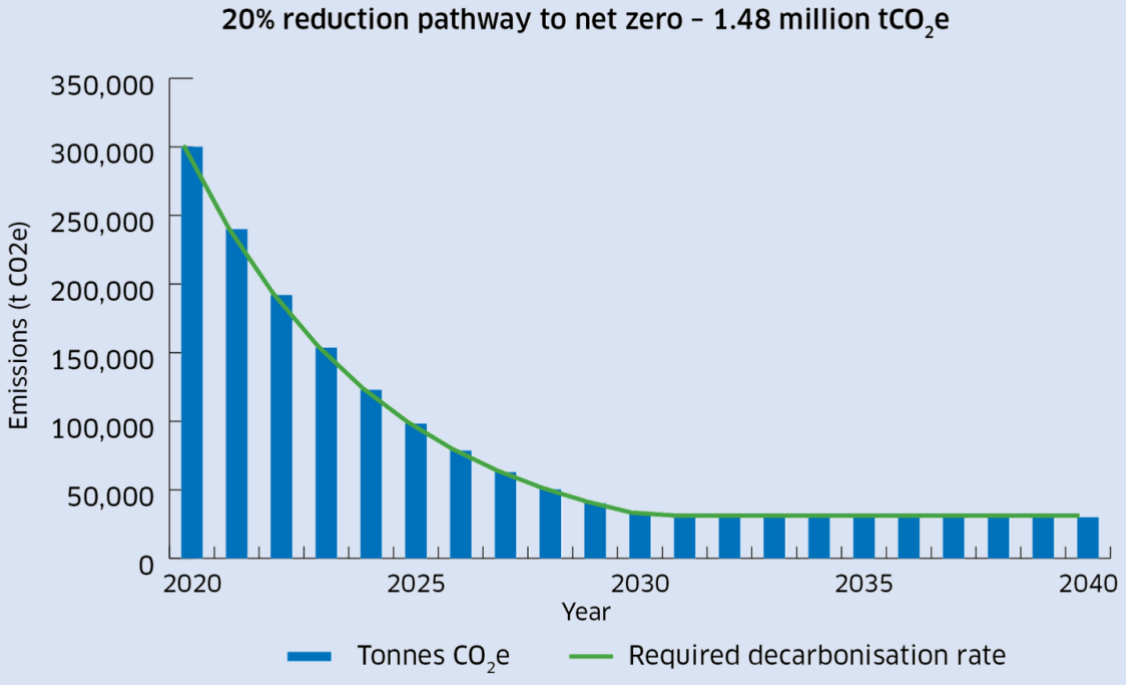


Figure 7: Graph illustrating a 20% reduction pathway to net zero emissions



Due to the impact of cumulative emissions, public bodies should, wherever possible, set a corporate decarbonisation pathway that reflects the national pathway, and are strongly encouraged to set a pathway aligned to the IPCC recommendations for a 1.5°C, Paris Agreement pathway. Scotland's national emissions reduction target is net zero by 2045.

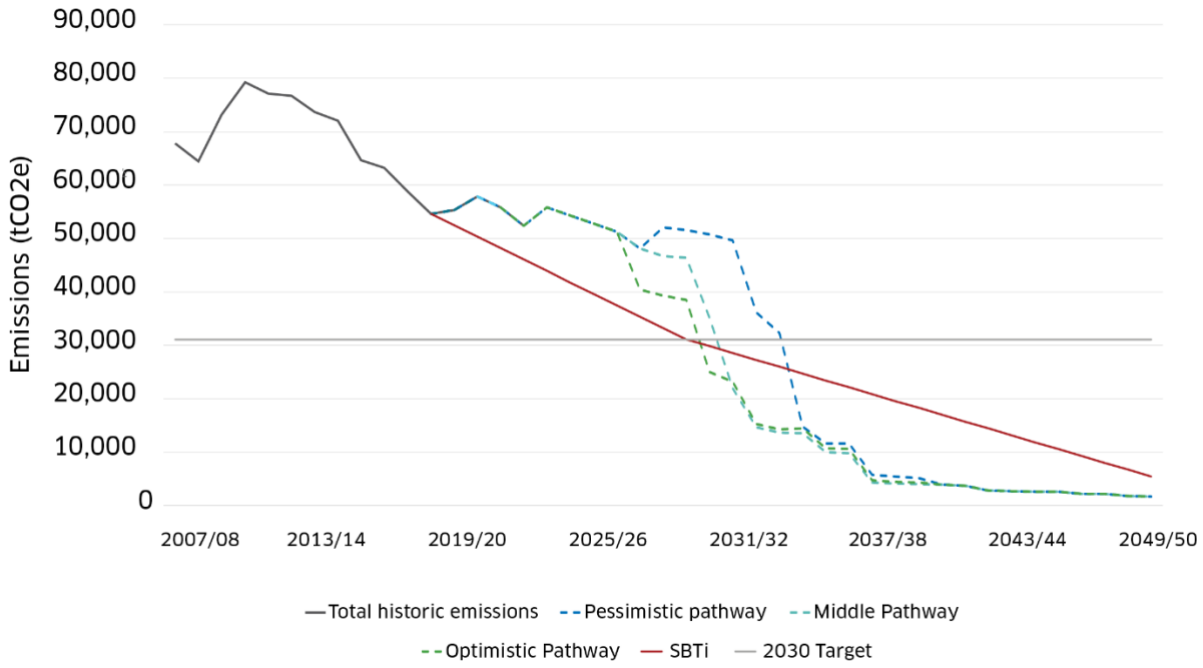
A pathway can be developed based on annual or less frequent targets; or bodies can take a carbon budgeting approach similar to the national approach. In either case, the absolute amount of carbon emitted over the given time or budget period (e.g. 1 or 5 years) decreases over subsequent periods, down to the target date and residual or zero emissions level.

The decarbonisation pathway should be calculated, visualised and planned for against scope 1 and 2 emissions combined, and separately for wider scope 3 (indirect) emissions. This is aligned to the Greenhouse Gas Accounting protocol. Should progress in scope 3 emissions reductions be ahead of target, this cannot be used to justify or "net off" any shortfalls in scope 1 and 2 emissions, they must be treated separately.

Public bodies can use nature based carbon removal insetting projects and offsetting to achieve net zero by counterbalancing residual unavoidable emissions within scopes 1 and 2. Bodies are not expected to use any purchased offsets against residual emissions within scope 3. Instead, they can achieve net zero emissions within scope 3 by ensuring the supply chain uses insetting or offsetting for those residual emissions owned by the supply chain. Any offsetting required by public bodies of the supply chain should meet minimum offset standards as defined in section 5.4.6 below.

Visualising a 1.5°C aligned decarbonisation pathway
In the visualisation below (figure 8), the red line represents the decarbonisation pathway required to give a 50% chance of limiting global warming to 1.5°C for a hypothetical organisation. The other lines represent alternative potential decarbonisation pathways for the organisation. Note that none of the proposed pathways in this figure satisfy a science aligned 1.5°C pathway due to the absolute amount of carbon emissions before 2030 being above the 1.5°C pathway ('overshoot'). For any emissions that overshoot the pathway, a later equivalent 'undershoot' is required to balance the total carbon emitted.

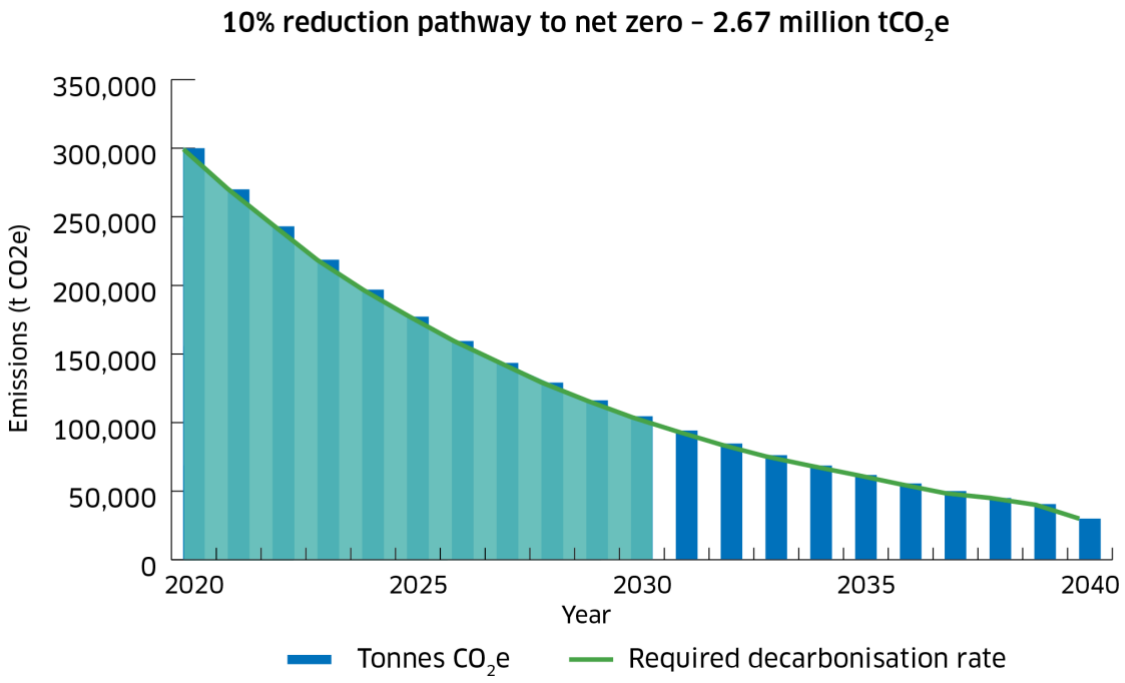
Figure 8: Graph illustrating a 1.5°C aligned decarbonisation pathway



5.2.5 Carbon budgets

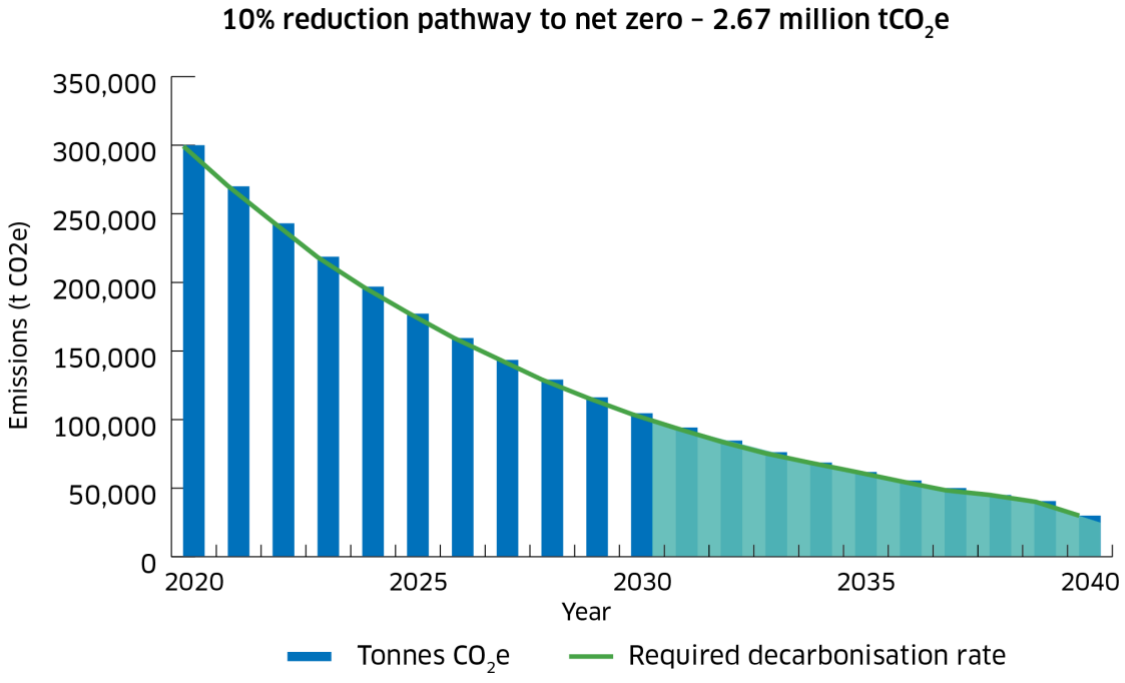
One way of monitoring the balance of carbon emissions ahead of target reductions is for public bodies to work to carbon budgets. As best practice, organisations taking this approach should work to at least two carbon budgets: one up to 2030, and one for the period 2031 to 2045. The reason for breaking the approach into two sections is due to the risk of triggering climate tipping points by exceeding 1.5°C, which is likely to happen on current projections without significant change before 2030. Splitting the time into four 5-yearly carbon budgets (2026 to 2030, 2031 to 2035, 2036 to 2040 and 2041 to 2045) would align with the national budget periods.

Figure 9: Visualising your carbon budget 2020 to 2030



Using one of the graphs from the example above to illustrate, the shaded area in the graph represents the carbon budget from 2020 to 2030.

Figure 10: Carbon budget 2031 to 2045



The carbon budget from 2031 to 2045, represented by the shaded area in figure 10 above, is significantly smaller than the carbon budget from 2020 to 2030. This is aligned to the idea that significant decarbonisation will have taken place before 2030. This leaves a much smaller carbon budget to work within, and with likely harder

actions required to achieve these smaller reductions, having achieved the easier measures before 2030.

5.3 Reducing emissions in practice: key principles

To achieve the national net zero target of 2045, a step change in ambition and action is required.

Before outlining some principles that will help guide this step change in ambition, it is important to recognise that the approach bodies will take to developing their plans will differ due to their size, nature and purpose. This guidance is organised by duty (mitigation, adaptation and acting in the most sustainable way) for clarity. However, bodies should consider the duties together in an integrated way and may choose to develop plans or strategies that include all aspects.

To help focus action in those areas likely to have the greatest emission reduction impact, following a number of broad principles will be helpful.

Materiality
It will be necessary to focus efforts on those actions which achieve the most material impacts first.

Traditionally totemic actions may have been the focus of much climate action, such as recycling, electric vehicles or on-roof solar PV, which while they bring benefit are rarely the most impactful actions. In the future, there may be a greater focus on procurement policy and purchasing behaviour across the organisation's buying community, exploring major renewables installations with direct wire connections or sleeved power purchase agreements with explicit additionality in the contract.

It is worth noting that a significant proportion of Scotland's GHG emissions come from the land and land management activities. It is important that landholding bodies work to understand and address GHG emissions from their land, such as from degraded peatland, to maximise nature based opportunities to reduce emissions and to capture and store carbon, and to ensure that their lands are resilient in the face of the changing climate.

Wider influence
Closely related to materiality, is ensuring consideration of an organisation's wider impacts. For example, a local authority may achieve far greater emission reductions via adjusting the local plan by introducing a carbon tax per tonne of embodied and operational carbon on all new developments than by installing PV on the roofs of its own buildings (noting that the former will contribute to area wide targets that may in place, and the latter primarily to corporate targets).

Similarly, ensuring the local transport plan drives the reductions in car mileage aligned to Scottish Government targets for reducing car mileage may be more effective than converting its own fleet to electric vehicles. Ultimately both direct and indirect area wide emissions will need tackled, but prioritising those areas of influence with the largest impact will be critical to achieving a science aligned pathway.

Below are some prompts to help public bodies consider where their own potential wider impacts and influences on climate change might be. These can then be used as a starting point to explore action to be taken in response. For example, answering 'yes' to any of the questions should prompt further inquiry into the nature and materiality of the impact and the means by which this is best understood and managed.

Does your public body influence:

- the construction or reconstruction of any infrastructure?
- the construction methods and energy standards of homes, offices or other developments?
- energy generation, energy efficiency or energy consumption?
- planning and or land use strategies including development, farming, forest planting, forest management, nature based solutions or soil management?
- agricultural practices and production?
- travel patterns including number and length of journeys and the mode of travel?
- individual behaviour such as dietary choice, physical activity levels, or time in nature?
- waste arising or the amount of biodegradable waste going to landfill?

Urgency

Due to the risk of triggering climate tipping points, and the fact climate change is driven by absolute and cumulative carbon emissions, the importance of the pathway to the net zero carbon target is equally important to arriving at net zero on the target date.

Spending effort on actions that result in immediate reductions is important, whilst working on actions for the largest carbon reductions that might take longer to put in place. For example, replacing a large combined heat and power (CHP) plant with an air source heat pump might take over four years from concept to finish. Switching off that CHP (assuming there are back-up gas boilers) now would immediately offer significant carbon savings based on the difference between the emissions from the CHP and grid electricity emissions. This may result in increased revenue spend as electricity is more expensive than gas, but may be a rapid way to make significant carbon reductions whilst larger changes are worked on.

Public bodies should focus on urgent action to reduce emissions as far as possible as fast as possible over the next decade to minimise cumulative emissions, whilst still ensuring the goal of achieving net zero by 2045.

Supply chain

Most effort has, historically, gone into addressing scope 1 and 2 emissions, primarily generated by heating and powering buildings and fleet. For most public bodies indirect scope 3 emissions from the wider supply chain will make up the majority of emissions, and can be influenced or controlled by the public body to some degree. Categories of scope 3 emissions likely to be significant hotspots for public bodies

include the emissions associated with purchased goods, works and services, capital assets and investments.

For example, whilst the scope 3 emissions from the construction of a new building are the scope 1 and 2 emissions of the construction company procured to undertake the project, ultimately the public body's decision to commission that building creates those emissions. An alternative, particularly in a hybrid working environment, of better utilising existing space via hot desk policies, refurbishment, repurposing buildings, or purchasing and refurbishing existing buildings rather than building new, would significantly reduce scope 3 emissions in this example.

Bodies wield considerable influence over their supply chain through their procurement practices and activities; influence that can cascade down through the tiers of a contract or supply chain. Climate and sustainability action can be built into the procurement process, from the initial identification of need and specification, through to the end of contact or the useful life of the asset.

Mainstreaming
Ultimately, in regards to each of the principles above, it is crucial that climate change action is mainstreamed in all public bodies' business processes and functions, as laid out in section 4.4 above. To do this effectively, public bodies will need to set targets and milestones and integrate climate change into business practice, through their existing processes and procedures. Embedding decarbonisation into core day to day business will be essential to achieve corporate and national net zero and other targets.

Demand management
When considering any source of emissions, whether energy or purchased goods, demand management is key – the lowest carbon option is always not to buy or consume at all. It is therefore important that approaches begin from a demand reduction perspective.

This will be of particular importance as buildings and fleet are electrified, placing higher demands on grid infrastructure. Bodies should work to ensure that such demands are minimised, for example by reducing heat demand by insulating buildings and by undertaking behaviour change programmes with staff and building users.

Worked example: Materiality

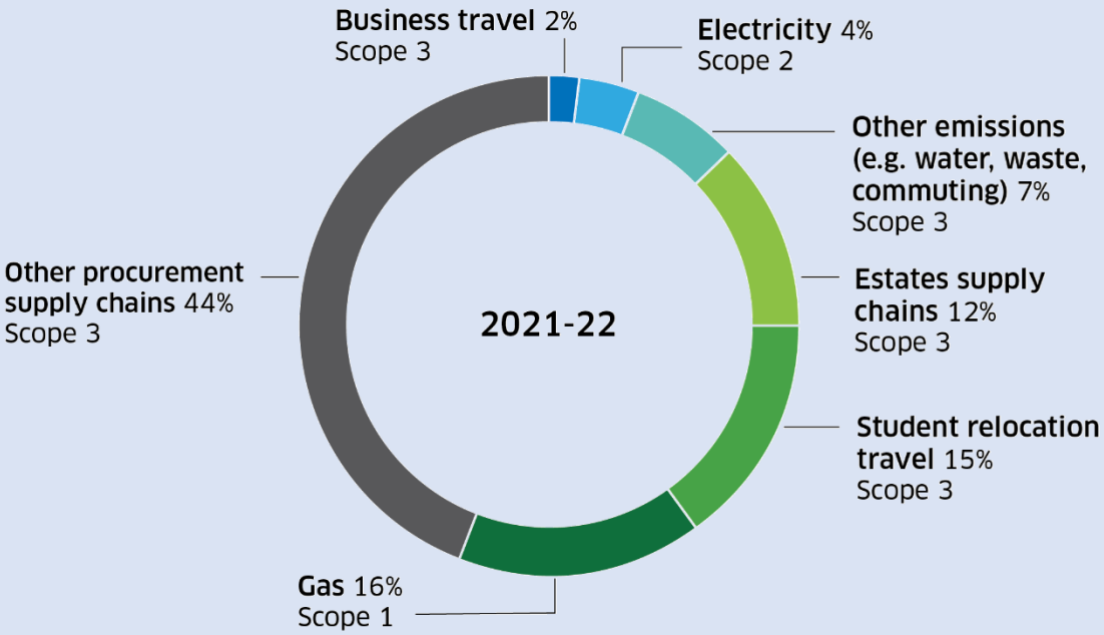
Taking a large Higher Education institution as an example, there are several areas of materiality in each of the main themes below.

Direct and indirect emissions
Indirect scope 3 emissions will make up a significant proportion of emissions, with most institutions having between 65% and 85% of their emissions within scope 3. Within scope 3, the material sources of emissions are typically, in order of size: the things the organisation buys including, in this example, laboratory equipment, IT equipment, vehicles and furniture; then international student flights; followed by the construction of new buildings, as illustrated in figure 11.

Within scopes 1 and 2, building heating will be the largest source of emissions, with electricity usage typically the next material source of emissions. Fleet emissions will usually be relatively small.

In this example the priority actions would be in engaging with procurement and the buying community to reduce purchasing wherever possible.

Figure 11: Illustrative large Higher Education emissions breakdown



Wider influence
In this Higher Education institution example, arguably the largest impact is through the education of its students, and through research into solutions such as renewable technology and energy storage. Whilst this does not directly impact on the Higher Education institution's emissions, embedding climate change meaningfully across degree programmes, and incentivising and supporting research into climate solutions, is arguably the largest impact that the institution can have, whilst reducing its own direct and indirect measurable emissions.

5.4 Taking corporate mitigation action

This section outlines the key actions that all public bodies are expected to take, in a proportionate manner, to reduce their corporate (organisational) emissions. Many public bodies will already be at a more mature stage, and have some or all of these elements already in place.

- **Climate change statement** - a clear statement that outlines the body's approach to climate change and sustainability. For example, many local authorities will have a high level statement that recognises the climate and nature emergencies, and makes a commitment to reach net zero.
- **Climate change strategy** – a strategy that outlines the body's headline mitigation targets, key milestones and actions.
- **Route maps** – alongside the strategy, the body should develop route maps laying out, at a high level, steps illustrating how targets and milestones will be achieved. It may be appropriate for bodies to develop separate route maps for different areas of activity, e.g. for building and fleet decarbonisation.
- **Targets** – alongside an overarching net zero target, public bodies should set individual targets, such as a date for achieving clean heating in all of their buildings, and a date for electrifying their fleet. Targets should be ambitious but achievable, evidence-based, and appropriate to the body.
- **Carbon management plans** – carbon management plans are more detailed than the strategy, and lay out how the strategy will be implemented over a given time period. Smaller bodies may find that the strategy and plan can be combined as a single document, to take a proportionate approach.
- **Action plans** – action plans sit below the carbon management plan and lay out in detail interim steps that need to be taken. They should include critical milestones, decisions, dependencies, costs, key people and lead times.
- **Monitoring and reporting** – bodies should monitor progress and report on this through their corporate reporting processes.

5.4.1 Climate change statement

It is essential that public bodies have a statement or policy in place that clearly states their approach to climate change and sustainability. For example, many local authorities have a climate statement which recognises the interlinked climate and nature emergencies and makes a commitment to reaching net zero. Bodies should ensure that their statement and or policies cover all three climate change duties and are signed off at senior level.

Bodies should ensure that other pertinent policies, for example those relating to procurement and business travel, properly reflect the climate change duties. In particular the third duty, to act in the most sustainable way, is highly likely to be relevant to most other corporate policies.

All policies should be easily available to staff and stakeholders. As best practice bodies should make them publicly available, for example through their website.

5.4.2 Climate change strategy

Climate change statements can be a useful starting point when it comes to developing a climate change strategy. While actions on mitigation, adaption and

acting sustainably have, for clarity, been laid out in separate chapters in this guidance, bodies may find that developing a strategy which encompasses all three areas is the most effective approach.

When developing or reviewing their climate strategy, public bodies should be cognizant of the wider policy context. For example, local authorities will have developed Local Heat and Energy Efficiency Strategies (LHEES) and Heat Network Zones (HNZs) which are likely to influence their corporate climate strategy and related plans, and certainly their area wide planning.

A climate change mitigation strategy should include:

- scopes 1 and 2, and detail the elements of scope 3 included
- a description of the wider material influences the organisation has on carbon emissions
- what the final decarbonisation targets are for the organisation, including any targets or action regarding its wider influence
- a visual breakdown of the organisation's carbon footprint
- a high level timeline of key actions that will achieve the targets (i.e. a route map, see section 5.4.3 below)
- a narrative of where the material impacts are, including an explanation of why certain actions are being prioritised over others chronologically or by effort
- the approach that will be taken to offsetting, which residual emissions offsetting will cover, and what proportion these residual emissions represent of the baseline carbon footprint
- a high level overview of risks.

As a minimum, and as detailed in Reporting chapter 8, bodies are recommended to include within their boundary scope 3 emissions from water, waste and waste water, business travel, student travel where relevant, and staff commuting and homeworking.

In addition to the above, the strategy should consider, where relevant, the contribution the body can make to wider net zero aims. For example, a body may generate significant waste heat which could be made available to other bodies or to a local district heat network. There will be other strategic opportunities to assist the wider public sector or community, and such opportunities should be maximised.

5.4.2.1 Sectoral approaches

Sector wide approaches to mitigation, including sectoral targets and aligned approaches, are being taken by key parts of the public sector. Due to the varied nature of public bodies, appropriate approaches and actions will differ.

NHS Scotland

A policy for NHS Scotland on the climate emergency and sustainable development (DL (2021) 38) was issued by Scottish Government to Health Boards on 10 November 2021. It sets out the aims and associated targets relating to sustainable development and climate change for Health Boards to work towards. It takes account

of relevant wider Scottish Government policies and existing statutory duties. Further details will be provided in the Health and Wellbeing supplement in due course.

The NHS Scotland Climate Emergency Strategy 2022-2026 sets out actions directed at achieving the aims and targets in policy DL (2021) 38 noted above. It sets out actions which will either begin between 2022 and 2026, be completed during that period, or are already underway and will continue during that time.

Integration Joint Boards (IJBs)
While developing a climate change strategy is likely to be appropriate for most bodies, a different approach may suit others. For example, Integration Joint Boards (IJBs) are a unique type of public body and own no assets – their emissions and influence lie entirely in scope 3 indirect emissions. For IJBs, a more suitable approach would be to embed climate and sustainability action within their Strategic Plan.

Local authorities
Local authorities (LAs) have worked in partnership with central government to establish the Scottish Climate Intelligence Service (SCIS). This jointly funded service aims to build capacity within councils to develop and deliver area wide programmes of emission reductions. The SCIS supports a national digital platform to collate area wide emissions data, enabling LAs to build a baseline of emissions and calculate, visualise and report on their area wide emission reduction strategies. The service will, through a network of regional officers, support LAs in building the knowledge and skills to use the data effectively to enable planning, monitoring, reporting and delivery of area wide climate action.

A consistent approach by local authorities to developing climate change plans, covering both corporate and area wide emissions, will be facilitated by the use of a standard template (see Annex B).

Further and Higher Education
The Scottish Funding Council's (SFC) Net Zero and Sustainability Framework for Action establishes a clear, long-term plan to support Scotland's colleges and universities through the transition to net zero, reflecting improved corporate accountability and collective responsibility across the Further and Higher Education sectors.

The SFC expects institutions to have or to put in place organisation-wide net zero plans by the end of 2024, and to be able to highlight key priorities and dates for delivery of these.

5.4.3 Route maps

Net zero carbon targets are typically longer term targets ranging from 5 to 25 years into the future. Science aligned decarbonisation pathways require significant carbon emission reductions well before typical net zero target dates. In addition, where woodland creation is a key part of achieving a net zero target, the time lag between planting and active sequestration (typically 15 to 25 years) means that such activities also require urgent action if aligning to net zero 2045 targets.

A route map is therefore helpful in breaking down the journey to net zero, helping to ensure that sufficient action is taken to deliver the chosen pathway.

Route maps can take a variety of visual forms. A high level visual giving key dates and top line actions can be useful for overview presentations.

A more detailed quantification of carbon emissions reductions delivered by each intervention can be useful in delivering a granular analysis of how the decarbonisation pathway is going to be achieved, and to clearly identify any gaps between planned action and the pathway.

High level route maps can include actions on both scopes 1, 2 and 3, as well as insetting and offsetting, as a helpful overview of the full mitigation programme, and if not over-crowded could also include adaptation.

A public body route map will typically include the following specific actions on decarbonisation as a minimum:

- heat in buildings
- fleet
- business travel
- waste
- reduction in electricity consumption (excluding increases caused by the electrification of heating and the transition to electric vehicles).

As best practice, bodies should also include:

- supply chain action
- insetting and offsetting action, where relevant
- land and land use, where relevant
- investments.

Table 2 below is an example of the kind of high level actions that might be used to populate a decarbonisation route map for a public body.

Table 2: Example timeline of actions that might be placed along a route map for a public body*

Year	Decarbonising heat	Decarbonising fleet	Electricity	Supply chain	Investments
2025		All end-of-lease vehicles to be replaced by EV	Achieve 50% LED lighting across the estate	Circular economy policy; buy less, share, lease etc. Publish supply chain route map	

2026	Deep retrofit of most carbon intensive buildings	Introduce cargo bikes for appropriate journeys	Upgrade most carbon intensive equipment	Analyse supply chain impacts	
2027	Deep retrofit of less carbon intensive buildings	Complete upgrades of onsite charging infrastructure	Achieve 75% LED lighting across the estate	Begin supplier engagement to reduce largest emissions	
2028	First major CHP replaced	100% of car and LCV fleet replaced by EV		33% supply chain emissions 1.5°C aligned	Divest from all fossil fuels
2029	Retrofit of least carbon intensive buildings		Achieve 100% LED lighting across the estate		Establish 1.5°C pathway for investments
2030	Second major CHP replaced	25% of HGV fleet to be low emissions vehicles	25% of electricity consumed to be self-generated using renewable technologies	66% supply chain emissions 1.5°C aligned	Start adjustment of investments to ensure 1.5°C alignment
2031					
2032	District Heating Network for social housing completed	50% of HGV fleet to be low emissions vehicles	33% of electricity consumed to be self-generated using renewable technologies	80% supply chain emissions 1.5°C aligned	Complete adjustment of investments to ensure 1.5°C alignment

*Note: the examples provided in the table above are illustrative only. It is for each public body themselves to determine the most appropriate range of actions and measures in their journey to net zero.

Route maps should typically cover at least a five year period (e.g. to align with the body's carbon management plan), and could cover the full journey to net zero carbon if appropriate, and where actions and timelines are understood (i.e. to illustrate the full strategy). It is likely that most public bodies will have a clearer picture of the next

five years, with decreasing certainty with time. For that reason public bodies in most cases should develop route maps 5 to 10 years in duration, noting any material action that will be required beyond the end of the route map horizon, and noting that this will be updated at least one year in advance of the end of the current route map timeline.

It is likely, especially for larger public bodies, that achieving net zero will be reliant to some extent on the activities of others, such as for the development of heat networks. Bodies intending to electrify the heat in their buildings and fleet may be dependent on upgrades to grid infrastructure taking place in advance of work commencing on their sites. A vital part of developing the route map will therefore be identifying the key partners and stakeholders associated with each element or project, establishing contact and building relationships. This process can be lengthy, and bodies are encouraged to establish these relationships early, especially with their Distribution Network Operator (DNO) in relation to grid upgrades, as these can take many months or even years to come to fruition.

5.4.4 Emissions reduction targets

The approach to setting targets

Targets often form the most visible and public part of an organisation's strategy for taking climate action. It is therefore important that these are well considered, evidence-based and appropriate to the body. When setting targets, bodies should consider the nature and functions of their organisation, their resources and the actions that will be needed to deliver on the targets, as outlined in the following sections.

It can be helpful to approach target setting using the SMART criteria:

- **Specific** – be clear on what is included and excluded in your target or targets, and avoid general 'catch-all' targets. For example, if setting a target related to car kilometres travelled per year, be clear as to whether that applies to pool cars, hire cars, grey fleet, etc. Aim to develop specific targets relating to the body's significant sources of emissions, such as heat in buildings or road fleet.

- **Measurable** – to enable realistic targets to be set, and for performance to be monitored and reported on, the target must be measurable. Consider the data sources available, data quality, where improvements can be made to enhance accuracy and reliability of data, and to streamline or automate data collection and verification processes.

- **Ambitious (but achievable) –** it is important that targets are stretching and drive action, but it is also important that they are evidence-based and are felt, with due effort, to be achievable. Unachievable targets may, in effect, set a body up to fail and may work against delivery by facilitating delays and the prioritisation of other work or spend, and by demotivating staff. There are also significant reputational risks associated with missing targets, or with having to alter them in the future.

- **Relevant** – targets should be relevant to the organisation and to the body's overall footprint. Efforts should be focused where they will have the most impact, or where targets support other priority outcomes or policies.

- **Timebound** – effective targets should be timebound. They should include a target date plus, where relevant, a baseline year which progress is measured against. Where a target lies in the more distant future, such as 2045, consider milestones and how to maintain focus and help ensure that progress stays on track.

Corporate emission reduction targets

Corporate emission reduction targets should include, as best practice and where relevant:

- an overall net zero target for scopes 1 and 2 of no later than 2045, earlier where possible
- individual targets for zero direct emissions from heating of buildings, zero direct emissions from road fleet vehicles (some public bodies may find it appropriate to have separate targets for cars, LCVs and HGVs) and zero direct emissions from the ferry fleet
- targets related to land use and land use change, in particular where land based emissions, such as those from degraded peatland, are a source of direct scope 1 emissions
- targets covering other direct emissions, e.g. from use of machinery
- targets covering waste, e.g. waste to landfill, recycling rates, circular economy
- targets related to procurement
- targets related to other sources of indirect emissions, such as business travel, car kilometres travelled, etc.

The organisational net zero strategy should map out any intended use of nature-based carbon removals on the body's landholdings (insetting) or carbon offsetting required to achieve net zero targets. The residual unavoidable emissions that will be sequestered should be estimated as part of net zero planning. Residual emissions should be as small as possible, and any assumptions and uncertainties clearly explained. Further information is provided in section 5.4.6 below.

In addition to net zero targets and those related to decarbonisation of buildings and fleet, bodies are strongly encouraged to set wider additional targets that reflect, or go further than, national policy, such as a 20% reduction in car kilometres by 2030.

In all cases, targets should include:

- specific information around what is, or is not, covered by the target
- a target date
- where relevant, baseline information.

For example, a target focused on reducing car kilometres travelled could be:

- 20% reduction in car km taken for business travel by 2030, including pool cars and grey fleet, in relation to the baseline year 2019.

Targets may relate to carbon (e.g. absolute or relative reductions in emissions) or may take alternative forms, as in the car kilometres example above. For example, a body may decide that the most effective way for them to tackle the emissions associated with procurement would be to carry out an emissions reduction programme based on prioritisation of procurement of goods, works and services with a high climate impact. Public bodies may use early market engagement and the contract management process to identify key performance indicators (KPIs) that can be used to seek and measure improvements against a baseline during the lifetime of the contract. KPIs should be relevant and proportionate to the contract in question. This may start with qualitative data, moving to quantitative date over time as data available improves.

Other measures of progress on procurement and climate maturity may include, for example, indicators from the Procurement and Commercial Improvement Programme (PCIP) such as numbers of staff having completed climate literacy training or evidence that climate has been consistently addressed in relevant procurements.

Illustrative baseline targets can be found in the template Carbon Management Plan (Annex A). This is aimed at smaller and less complex bodies and should be adapted to suit the circumstances of the individual body.

5.4.5 Carbon management plan

A carbon management plan (CMP) is a more detailed document than a climate change strategy, and lays out how the strategy will be implemented over a given time period. While the term CMP is used in this document, bodies may use different terms such as, for example, carbon reduction plan or climate action plan.

The CMP should include the boundary and governance arrangements, the baseline and targets set by the organisation and a visualisation of the decarbonisation pathway. It should reflect the principles outlined at the beginning of this section, i.e. an approach created through the lens of materiality, wider influence, supply chains, urgency and demand reduction, and which embeds approaches reflecting all of the above in the core business governance systems and processes.

Illustrative targets are included in the template baseline carbon management plan in Annex A.

An important element of developing the CMP will be the identification of key stakeholders and partner organisations, who will be critical to successful implementation of the plan. Such stakeholders may be internal or external and are likely to include the Distribution Network Operator (DNO), other public bodies, local Planners and district heat network developers or providers. Internal stakeholders are likely to include Finance, Estates, Fleet, Facilities Management and Procurement colleagues.

It is important that an organisation's CMP and other key strategies and plans are aligned with, where relevant, the estate strategy, planned maintenance and plant replacement schedules, fleet strategies and fleet replacement plans, and the procurement strategy. There are likely to be many dependencies between these strategies and plans, particularly in relation to budgets and implementation.

Public bodies may often achieve value-for-money by installing clean heating systems when existing plant has reached (or is nearing) the end of its useful or economic life and where works can be combined with wider building improvements. Public bodies should understand and refer to their planned maintenance schedules for heating system replacement and building refurbishment projects. When making a decision on the technology to install in place of the current heating system, public bodies should undertake feasibility studies and decisions should follow the process set out in the supplementary guidance on the Built Estate (to follow in due course).

Interim solutions

Expensive or technically complex interventions can take longer to develop or gain approval for, so that emissions reductions are not realised in the short or medium term. In such cases, public bodies could explore interim solutions that can mitigate emissions in the meantime whilst long term interventions are developed. It may be possible to utilise hybrid technology that helps reduce emissions until a full transition to a zero emissions system can be realised.

Leasing assets whilst awaiting capital budget, maturation of technology or approval for long term purchases is another bridging mechanism that allows for short term emissions reductions whilst working on long term solutions. For example, a body may have an asset at end of useful life. While a zero emissions alternative may not currently be available, the body may be confident that an option will be brought to the market within a few years. In this case, leasing a replacement asset as an interim stage could be an appropriate approach and avoid the lock-in that a purchase now would result in.

Flexible approaches

Approaching budgets flexibly may be necessary in reflecting short, medium and long term decarbonisation opportunities, and bodies are encouraged to consider their investment budgets holistically. It may be helpful to temporarily move budget from, for example, estates to fleet whilst estates plans are further developed but immediate spend is not required; and then move fleet budget to estates later when major capital works are required. Similar policy-related budget flexibility may be wise in maximising area wide impacts.

5.4.5.1 Template plans

Annex A contains a baseline carbon management plan template and associated guidance. It is intended to assist smaller public bodies that may have limited capacity. It has been designed to align with the mandatory public bodies climate change duties reporting. In all cases, public bodies should use the template as a starting point and develop it to reflect their own needs and circumstances.

Annex B contains a template climate change plan for local authorities. This is a more extensive document and covers mitigation, adaptation and acting sustainably from both an organisational and an area-based perspective. It is intended to act as a guide to what local authorities' plans are expected to include.

5.4.6 Dealing with residual emissions: carbon insetting and offsetting

Definitions of carbon offsets, carbon insets and carbon credits, including types of credits (emission reductions, removals and avoidance), as used in this guidance, are provided in the glossary.

The main focus of climate change mitigation action for Scottish public bodies should be action within Scotland to reduce greenhouse gas (GHG) emissions and increase nature-based carbon sinks. Public bodies should have plans and demonstrable actions in place to reduce GHG emissions to as close to zero as possible, including land-based GHG emissions. Offsetting and carbon removal insetting projects must not be a replacement for emission reductions.

Offsetting should only be used as a last resort and, in most cases, as an interim measure while solutions to emissions that bodies are currently unable to eliminate are developed. Offsetting and insetting should form part of organisational targets and transition plans aligned with Scotland's statutory national emission reduction targets and the global goals of the Paris Agreement.

The use of insetting and offsetting should be clearly laid out in the carbon management plan or equivalent, that is transparent as to:

- why and how insetting and offsetting are to be used as a tool on the route to net zero
- what proportion (%) and amount (tCO_2e) of emissions are to be inset or offset
- what type of insets and offsets are to be used and where they are sourced from
- which emissions sources or categories these are to cover
- how the insets and offsets will be appropriately accounted for to avoid double-counting (e.g. in the case of peatland credits which may also be part of the body's land-based scope 1 emissions).

Where insetting and or offsetting have been deemed appropriate, public bodies with landholdings should maximise opportunities for nature-based insetting projects on their own land. On the route to organisational net zero carbon, investment in insetting projects should be prioritised ahead of the purchase of carbon offsets from elsewhere. Landowning public bodies should consider carefully the emissions saving claims they make in relation to nature-based projects on their land, in line with good-practice carbon accounting and reporting principles (further guidance will be provided in the Land and Nature supplement in due course). For example, peatland carbon credits produced on a public body's own landholding cannot be used to counterbalance other emissions within their inventory as this would constitute double counting (as land-based emissions from degraded peatland, where relevant, should be reported as part of the public body's land-based scope 1 emissions).

For some public bodies with larger landholdings, nature-based projects on their land may enable the removal and storage of more carbon than they emit through their operations, or that is required for insetting residual emissions as part of a Paris Agreement aligned transition plan. Public bodies with a nature-based carbon surplus beyond their own requirements to reach net zero should give careful consideration as to the most appropriate use for this surplus. Central government bodies could consider allocating (which could include selling or gifting) the surplus to other public bodies who are unable to reach net zero within their own boundary. Other bodies, including local authorities, should ensure that decisions made in relation to the end-use of such carbon savings or credits are transparent and equitable, and consistent with wider climate change duties.

Opportunities for insetting projects on a public body's landholdings should be balanced with other local, regional and national priorities including food security, housing and energy. Care should be taken to promote, and not to harm, other objectives especially climate adaptation and nature recovery. Where possible, nature-based projects on the public estate should be designed to achieve multiple objectives in line with other relevant SG policy, including the Land Use Strategy, the Natural Capital Market Framework and the Scottish National Adaptation Plan.

Consideration should be given to wider linked issues and policies. Partnership working, collaboration and area-based approaches will be important to achieve the highest quality outcomes, for example via landscape scale clusters of public and Scottish Crown Estate land. Projects should benefit local communities and contribute to a just transition. Guidance on delivering community benefits from land is published by the Scottish Land Commission.

Public bodies with coastal holdings should also consider the protection and restoration of blue carbon habitats such as saltmarsh and seagrass: blue carbon is the organic carbon captured and stored in marine and coastal habitats. With their ability to sequester and store carbon, to provide natural coastal protection, and to support complex biodiverse ecosystems, such habitats offer a small but important role in climate change mitigation, adaptation and resilience.

Adaptation and mitigation agendas should, where possible, be integrated, ensuring that climate risk assessments are included in carbon and GHG emissions assessments. Emissions from degraded or vulnerable nature-based carbon stores may affect the ability of public bodies, particularly those with larger landholdings, to reach net zero. Therefore targeted actions to restore any such degraded carbon stores, especially peatlands, may be required. Where these activities are also to be used for insetting purposes, care needs to be taken with the type of claims made linked to high-integrity carbon accounting and reporting practices as noted above.

When considering changes to land use on public land as part of insetting or offsetting activities, carbon leakage should be avoided, i.e. where actions taken on a public body's landholdings displace carbon-generating activities elsewhere which then take place outside the reporting boundary.

If offsetting activity is to be undertaken as part of an organisation's net zero transition plan, there is a strong preference for public money to benefit communities and high-integrity projects within Scotland, as opposed to investing in international offsets. Supporting high-integrity nature-based carbon reduction projects within Scotland can bring benefits to local economies and communities, enhance biodiversity and provide wider environmental benefits, in addition to contributing to progress towards Scotland's statutory national emissions reduction targets.

As laid out in the GHG Protocol Land Sector and Removals Guidance, public bodies should ensure that any carbon credits obtained for offsetting purposes meet quality criteria including additionality, credible baselines, permanence and avoid leakage. Credits should be high-integrity and verified under Scottish Government supported carbon codes such as the Peatland Code and the Woodland Carbon Code. Use of credits verified under the Codes can provide confidence that the GHG Protocol's quality criteria will be met: for example, both the current SG supported Carbon Codes include tests of legal and financial additionality.

Offsetting by public bodies should only be used as a last resort. Scotland's climate change legislation sets a default position that statutory national emissions reduction targets will be met solely through domestic effort, without any reliance on purchase of international offsetting credits by the Scottish Government. Any international offsets purchased by other bodies would not contribute to progress towards Scotland's national emissions reduction targets. However, there may be other motivations for bodies to engage in international offsetting. Scottish Government has adopted the principle of climate justice internationally and recognises that mitigation activity and carbon offsetting projects must not cause loss and damage to communities or habitats overseas.

5.4.6.1 Offsetting business travel emissions

Bodies may be asked, for example as part of funding conditions, to offset any business travel emissions associated with research or other programmes. As noted, the preference is for emissions generated in Scotland to be offset within Scotland. Where it is not possible to source high integrity, verified credits directly attributable to Scottish projects, a reasonable approach would be to purchase UK-based credits. Any purchased credits should be from a government supported code such as the Woodland Carbon and Peatland Codes. Bodies should refer to section 8.3.6 in relation to how purchased credits should be included in the annual public bodies climate change duties report.

Offsetting international flights

As noted above, bodies may find that a requirement to offset business travel, including international flights, is a condition of grant or research funding, in particular in the higher education sector. If a body chooses to offset international flights, whether business travel or other flights such as student travel, the country of departure should be taken as having national ownership of those emissions. For example, for a return flight from Scotland to the USA, the emissions from the outbound leg to the USA would be classed as Scottish emissions, and those from the return leg as USA emissions. Such Scottish emissions should be offset or inset

within Scotland. The body may choose where to offset the non-domestic share, i.e. within Scotland or internationally.

Bodies who wish to offset the domestic share of international aviation emissions may do so using Peatland Code credits. Offsetting of such emissions is not, at the time of writing, permitted using Woodland Carbon Code credits due to differences in the way that the codes have been established. Bodies could also, where feasible, consider nature-based carbon removals projects on their own lands, externally verified to an MRV standard equivalent to one of the SG supported carbon codes.

They could also consider, for the non-domestic share, the purchase of high integrity, verified international credits from an accredited scheme such as the Gold Standard.

5.4.6.2 Selling carbon credits from projects on publicly owned land

Landowning public bodies may be in a position to generate investment in nature-based projects through the sale of carbon credits. Any such projects should be included in the body's carbon management, climate change or equivalent plans, and contribute to key outcomes that the public body has identified. Such outcomes are likely to go beyond carbon and could include adaptation, flood risk management and biodiversity. Any credits intended for sale should be high-integrity and verified through one of the government supported codes.

Bodies should consider carefully:

- whether the sale of credits is appropriate to their function, objectives and legal basis or constitution
- whether the nature-based project supported by carbon finance would be considered additional, corporately in terms of any potential legal drivers that influence the body's objectives or functions and therefore how it is required to manage its land (e.g. legal obligations to reduce land-based emissions) and also at the project level in relation to whether the project passes the additionality tests of the code in question
- their own organisational carbon footprint and how the sale of any carbon credits may impact on their ability to achieve their own net zero targets
- wider benefits and outcomes the investment can be used to help deliver
- what additional considerations may be required, for example, who the carbon credits are being sold to and for what purpose (e.g. that the credits are to be used for offsetting residual emissions only or as part of a transitional plan). Bodies should be careful to ensure that the intended use of the credits avoids any accusations of 'greenwashing' and potential reputational damage.

It is for individual bodies to make such decisions, taking their own legal advice where necessary.

Carbon credits verified through the Woodland Carbon and Peatland Codes can be used to offset emissions generated in the UK. However, **there is a strong preference for credits arising from publicly-owned and Scottish Crown Estate land in Scotland to be used only to offset emissions generated within Scotland.** Bodies should assure themselves that the buyer intends to use the credits against emissions generated by their operations within Scotland only.

The design of the arrangements for checking and auditing that only emissions from activity in Scotland are being offset by carbon credits issued from public land is for individual public bodies to determine. Bodies could, for example, take a risk-based approach such as requiring information and a statement of assurance from each buyer. This could be backed up by an audit process drawing on a sample-based approach as an alternative to the need to audit every purchaser. However, it would be a matter for individual bodies to ensure they comply with legal and financial duties and Scottish Public Finance Manual guidance. Further guidance on demand-side issues and engagement with buyers of nature-based credits, including carbon, is included in the Natural Capital Market Framework.

Responsible private investment for natural capital projects on the public estate has the potential to play an important role contributing to land use policy delivery and value for money in public expenditure. Public bodies considering private investment for natural capital projects should ensure that their projects and financing arrangements are aligned with relevant Scottish Government policy, notably the vision for high-integrity markets for natural capital as set out in the Principles for Responsible Investment in Natural Capital and the Natural Capital Market Framework. This includes ensuring that projects deliver integrated land use and community benefits, contributing to a just transition. The overall goal should be to ensure that any engagement by public bodies with private finance for natural capital is responsible and of high integrity.

5.4.7 Action plans

Below the CMP will sit an action plan, or series of action plans. These will take the headline actions outlined in the CMP, and clearly lay out the interim steps that need to be taken in order to achieve the end results. The action plans should include critical milestones, decisions, dependencies, costs, key people and lead times. They can form the basis of a project plan to deliver that element of the work.

For example, the CMP may include a target to replace any remaining fossil fuelled fleet vehicles with electric vehicles by 2030. The action plan would break this down into a series of steps, likely arranged by financial year, required to meet this target. Typical steps might include: getting senior management sign off for the target; confirming vehicle costs and lead times with suppliers; developing a 5-year budget; getting sign off on the budget; updating the fleet replacement plan; and developing a plan to schedule in the placing of orders, delivery of new vehicles, disposal of old vehicles, etc.

Developing action plans will be vital to ensure the CMP is delivered. Many projects will have dependencies, for example gaining Planning permission or being contingent upon electrical grid upgrades, and it is important that these are identified early and allowed for. They can assist in the identification and management of risks, and facilitate resource planning. Progress should be monitored and reported on through existing project management processes and KPIs.

5.4.8 Monitoring and reporting

Public bodies with statutory reporting duties under the Climate Change (Duties of Public Bodies: Reporting Requirements) (Scotland) Order 2015, as amended, must report all scope 1 and 2 emissions, along with relevant scope 3 emissions, as outlined in chapter 8 Reporting below.

Bodies out-with the mandatory reporting duty are encouraged to follow the guidance provided in the Reporting chapter, as best practice, and to include the information within their annual corporate reports. Climate action and sustainability should be integrated into existing monitoring and reporting processes and documents, such as the annual corporate report and organisational KPIs.

Public bodies should monitor and report emissions annually, tracking progress against their decarbonisation pathways and or carbon budgets. Detailing any emissions over or under budget, and tracking a cumulative figure, is key to staying within the organisation's carbon budget.

As well as reporting on overall progress toward targets, bodies should ensure that progress on action plans is monitored and reported on, to ensure that barriers and potential delays to delivery are identified early, and solutions can be developed.

5.5 Area wide emissions and wider influence

Section 44 of the 2009 Act provides that public bodies have duties, **in exercising their functions,** to address mitigation, adaptation and sustainability. Many public body functions are key to supporting wider society's transition to net zero, building climate resilience and achieving sustainable development outcomes. This section addresses the area wide emissions that public bodies have a critical role in tackling as part of Scotland's just transition net zero.

Public bodies, especially local authorities, can have significant influence on area wide emissions. This is recognised in a range of policy documents and reports emphasising the importance of local area action on climate change, notably:

- The Scottish Parliament's Net Zero, Energy and Transport Committee Report on the Role of Local Government and its Cross-Sector Partners in Financing and Delivering a Net Zero Scotland (January 2023)
- Environmental Standards Scotland's Climate Change Delivery Investigation Improvement Report (December 2023)
- The Climate Change Committee's Local Government and the Sixth Carbon Budget Report (2020)
- The Carbon Scenario Tool report by Edinburgh Climate Change Institute (May 2022)

5.5.1 Local area wide emissions and place based climate action

‘Area wide’ and ‘place based’ are terms often used interchangeably. Broadly speaking, for the purposes of this guidance, they are used as follows:

- **Area wide** refers to the totality of activities either planned or currently occurring within a defined geographic area. This aggregates and then breaks down measures, activities, and actions at an area wide scale, in this context those specifically related to sources of emissions and actions for emissions mitigation.
- **Place based** refers to the design of future solutions and approaches by considering the specific needs and attributes of a place (however that place is defined). This recognises the complex and interconnected nature of a place, and in this case the impact that has on both emissions from a place and the effectiveness of measures to target them. The Place Standard with a Climate Lens is a useful resource for addressing climate change at a place based level.

Places, and place based solutions, should be designed and optimised at different scales for different challenges and solutions. In this guidance, area wide is used primarily to describe plans for emissions reduction which target emissions sources at a local authority level.

5.5.2 What makes up area wide emissions

‘Area wide emissions’ refers to all emissions allocated to local authority areas. There are various methodologies that can be used for this, but protocols and data sets are being established that are improving consistency and clarity. Key for work in Scotland are:

- The Global Protocol on Community-Scale Emission Inventories, produced by the GHG Protocol initiative of the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD).

- The Local Authority GHG Emissions datasets produced annually as Official Statistics by the UK Government, under the National Atmospheric Emissions Inventory (NAEI).

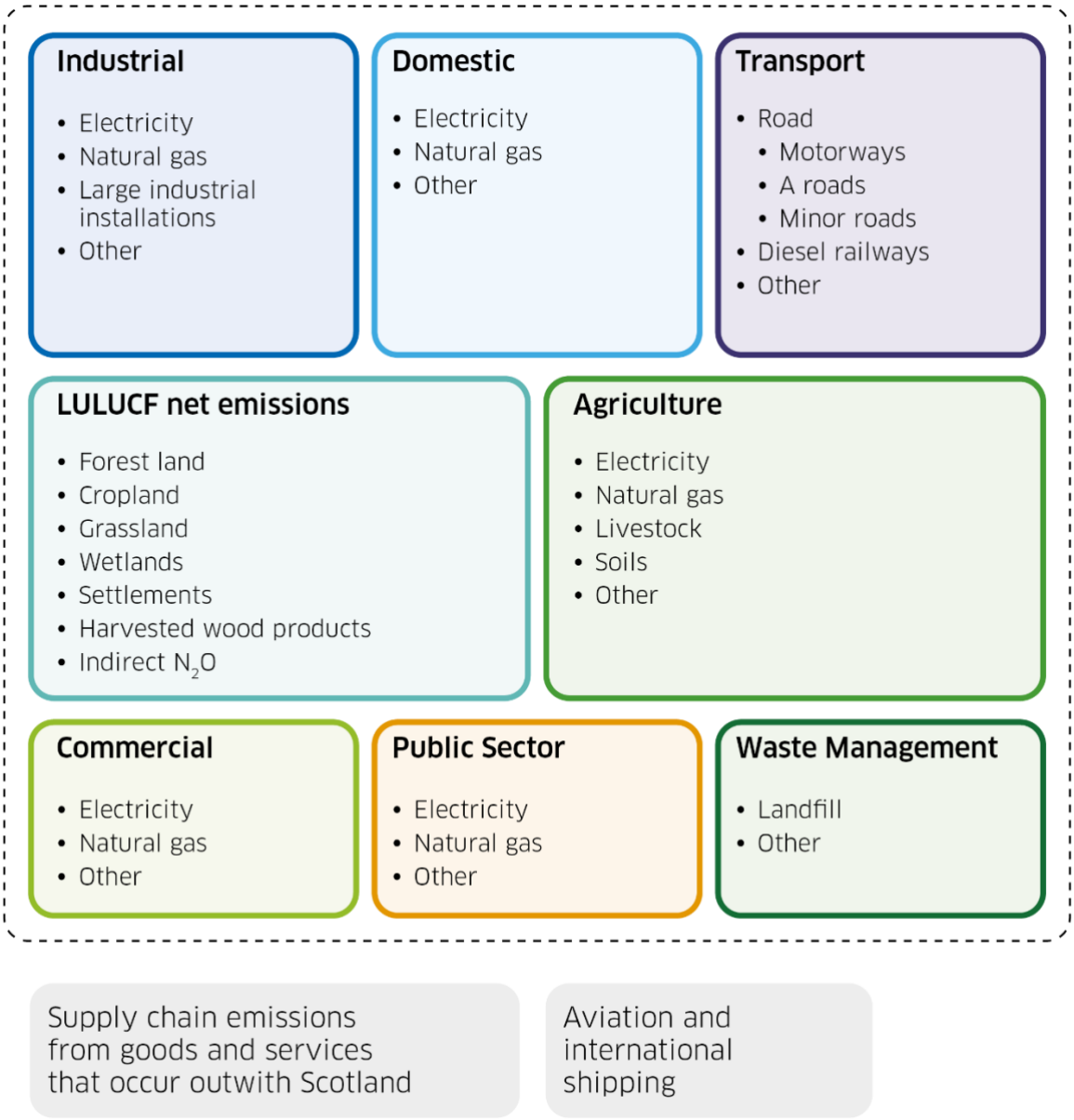
- The PAS 2080 Standard (and associated Guidance from the Institute of Civil Engineers) on the carbon assessment of infrastructure, buildings, and wider public sector investment decisions.

Estimates of greenhouse gas emissions are produced for each local authority and National Park area in the UK from the following broad source categories:

- industry (including electricity-related emissions)
- commercial (including electricity-related emissions)

- public sector (including electricity-related emissions)
- domestic (including electricity-related emissions)
- transport
- land use, land use change and forestry (LULUCF) (including removals of carbon dioxide from the atmosphere, so that net emissions from this sector can sometimes be negative)
- agriculture (including electricity-related emissions)
- waste management (distributed based on the waste arising in each local authority.

Figure 12: Territorial emission sources of a typical local authority area wide inventory



Breaking down emissions by source enables the alignment of local area plans, actions and measures for emissions reduction and can be used to develop cost

estimates for area-wide emissions reduction pathways. An example of this is the Net-Zero Carbon Roadmap for Edinburgh published in 2020.

Local area wide emissions reduction plans should also be designed to secure co-benefits relevant to the National Performance Framework and policy commitments on adaptation, wellbeing, health, economic development, justice and inclusion and biodiversity improvement.

The Scottish Climate Intelligence Service, established in 2023, supports a consistent approach to area wide emissions accounting and local area wide emission reduction planning and action across all local authority areas.

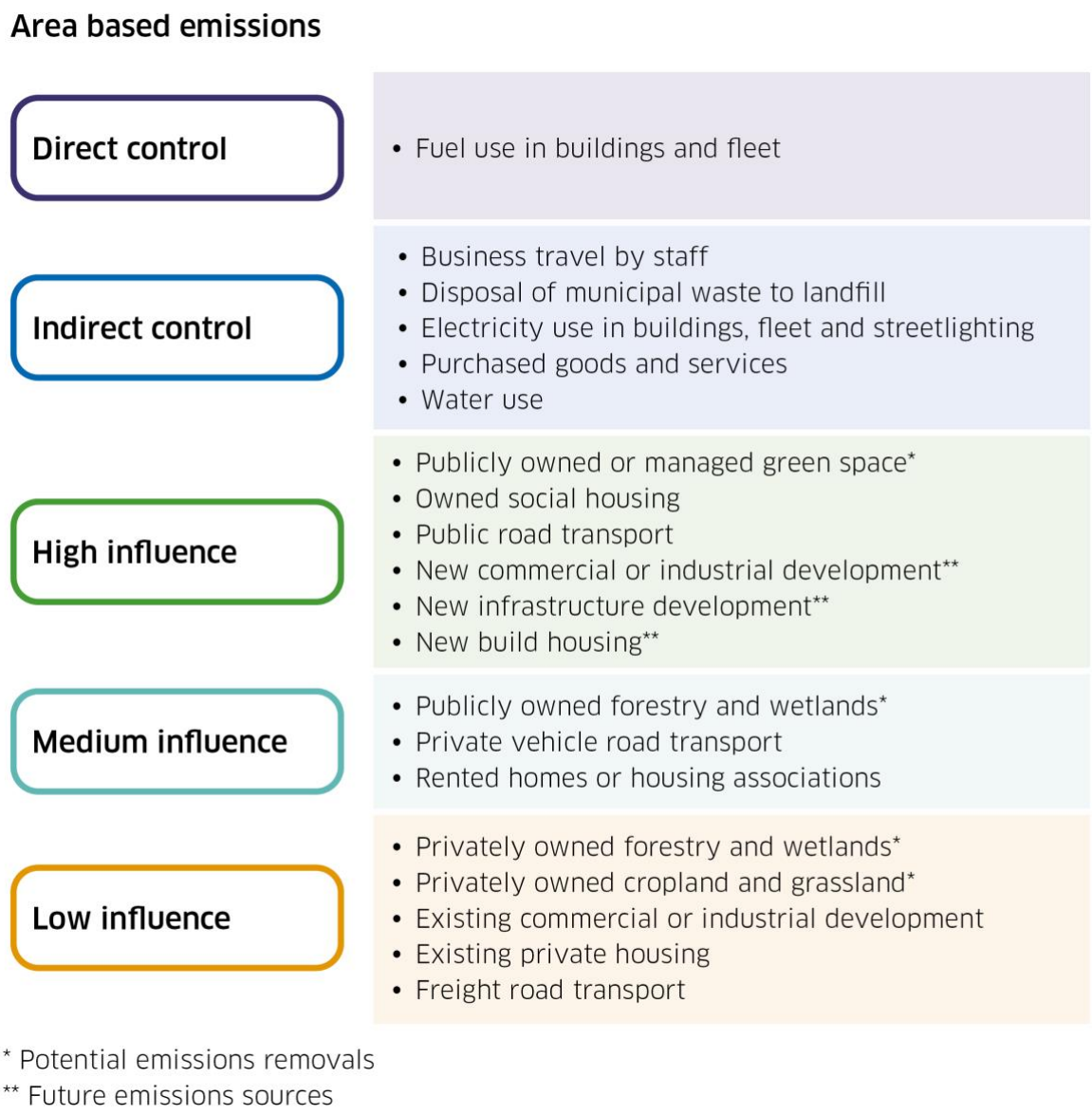
5.5.3 Public bodies duties and action on area wide emissions

5.5.3.1 Public bodies' influence and collaboration

Public bodies need to use their various functions to influence the reduction of area wide emissions. Central to this is the role of local authorities and their Community Planning Partners. Other public bodies can support plans, projects and policies at local authority level to support efforts to reduce emissions locally.

Key to working on area wide emissions is recognising that public bodies have significant influence on these emissions, while they mostly do not have direct control. Much like local economic development and public health improvement, for example, public bodies should work to use their various functions and to collaborate across the public sector and with communities, businesses and third sector organisations, to influence local area emissions from various sources.

Figure 13: Control and influence on area wide emissions (developed from Figure 1 in the Carbon Scenario Pathfinder Project report (2022), ECCI [27])



5.5.3.2 Developing plans, projects and policies to reduce area wide emissions

Having clarified the area wide emissions inventory, public bodies (especially local authorities) should develop a plan for area wide emissions reduction. These plans need clarity on targets, emission reduction pathways, projects and policies. Local authorities and public bodies can draw on Scotland's Climate Change Plan for relevant policies and projects, and also supplement these with local initiatives.

Of critical importance is a clear policies and projects register, with associated carbon impact assessment that allows calculation of reduction pathways and projections.

Good practice area wide emissions reduction plans should:

- develop plans with clear policies and projects that have a clear and auditable impact on emissions
- consider the functions of your public body and how these influence local area emissions

- identify the collaborations and partnerships needed to effect change and scale up impact
- allocate resources, financial and human, to ensure projects and policies are implemented
- maintain the area wide emissions reduction plan as a live document that remains relevant and impactful on decision making and investment, with on-going monitoring and reporting of progress (where applicable, linked to mandatory public bodies climate change duties reporting).

Influencing area wide emissions is a complex, multi stakeholder challenge. Public bodies are encouraged to use holistic, systems thinking approaches to plan and implement actions. A helpful approach is to make use of the Scottish Government's Individual, Social, Material (ISM) framework to understand and address the multiple barriers that can affect the effectiveness of projects and policies. For example, consideration needs to be given to material change (infrastructure, technical actions), social change (community engagement, public level information, shifting social norms), and individual change (actions that individuals and families can take and how public bodies can support these).

5.5.3.3 Focusing on resource allocation and implementation

Plans, policies and projects to reduce area wide emissions need to be resourced and implemented to be effective. The policies and projects register should provide a register of commitments and opportunities that require resourcing.

Public bodies need to take steps to align their own financial, staff and other resources to support implementation of the policies and projects. However, area wide emissions plans require investment, support and resources from other local actors, within the public sector and within business, the voluntary sector and communities. Projects will be of varying scales and will require different levels of investment over varying timescales.

Area wide emissions reduction plans need to be treated as investment plans, with pipelines of investable opportunities. These plans should form the basis of investment portfolios that local authorities and their partners can use to attract both public and private sector investment.

5.5.3.4 Monitoring, reporting and decision making

It is vital that area wide plans are actively managed, monitored and reported on, and used to attract and scale up investment towards net zero targets on an ongoing basis. Effective monitoring and reporting of area wide plans are needed to ensure they are used for active and committed decision making. The data and reporting of area wide plans should provide leaders and decision makers with information that can be used in spatial and investment planning and decision making.

Local authorities and their partners should use the voluntary Wider Influence section of the mandatory public bodies climate change duties report to report on their area

wide emissions plans, policies and projects, and to report progress towards targets. Guidance can be found on the SSN website.

5.5.4 What does this mean for public bodies?

All public bodies across Scotland should be contributing to area wide emissions reduction in designing and delivering their services. Different bodies have distinct roles in designing, supporting, and delivering area wide emissions reduction programmes:

- **local authorities** are currently leading area wide emissions reduction strategies and action planning across Scotland
- **national and regional public bodies** should support delivery of local area wide strategies by using their functions to contribute to delivery of projects and policies; and by prioritising their investments, regulatory functions, and activities to enable effective implementation of local projects and policies
- **all public bodies** should contribute to area wide emissions reductions by minimising their operational impact in the areas in which they are based and operate
- **all public bodies** should improve their contribution to area wide emissions reductions by recognising and using their wider influence on place.

For all public bodies, this means embedding climate impact into organisational decision making, service delivery and future investment.

5.5.4.1 What action public bodies should be taking

All public bodies should fully understand their role in area wide emissions reduction and deliver it to the best of their ability. This means building internal capability and capacity to ensure climate impact is embedded into decision making at all levels, and actively supporting other public bodies to develop and deliver area wide emissions reduction strategies.

Given the different roles of public bodies, what this means in practice is that:

- **Local authorities** should have a plan in place for area wide emissions reduction, which sets out actions for climate mitigation against their place based emissions profile on a pathway to net zero by 2045 at the latest. Plans should have estimated costs based on recognised methodologies against sets of actions for climate mitigation. Local authorities should also be actively convening local partnerships of critical partners who can support and enable development and delivery of area wide programmes.

- **National and regional public bodies** should prioritise area based emissions reduction as part of their climate change duties, coordinating effectively with local authorities and between public bodies to target measures where national investment is needed to enable effective delivery of local area wide emissions reduction strategies, and where national investments and policies can deliver the most impact into local area wide emissions reduction plans.

- **All public bodies** should fully contribute to area wide emissions reduction using both their operations and their wider influence. This means that as well as delivering their own commitments to reduce operational emissions, they should actively use their influence on partners, suppliers and service users to reduce area wide emissions, contribute to local partnerships for planning and delivery of emissions reduction, and look for opportunities to share the costs and risks of investment in mitigation actions.

5.5.5 Developing partnerships for area wide emissions reduction

Many of the solutions required for net zero delivery cannot be optimised within one organisation and often other organisations may be better placed to facilitate change. Recognising this, it is important to identify and engage critical local partners as early as possible and to share resources and build collaborations for net zero delivery. Critical partners will come from both the public and private sectors, in particular organisations within an area who may be:

- responsible for a significant share of local emissions
- able to share assets and investment to make better use of resources
- able to reduce the emissions impact of delivering local services
- able to engage local stakeholders in changes to behaviours or business practices.

To realise the benefits of partnerships in delivering net zero, it is important to find mechanisms and resources to ensure partners are aligned, work is coordinated, opportunities are realised, investment is shared, and effort is not duplicated.

Several mechanisms exist or are emerging which either build on or establish new mechanisms focussed on net zero delivery. These include partnerships for strategic infrastructure investment, independent local bodies such as climate commissions and community-led initiatives for local action. All of these can contribute to accelerating place based approaches to climate action making the need for coordination even more vital for effectiveness and impact.

Formal public sector partnerships at local or regional levels can also be important in fostering a partnership approach to local area emissions planning and delivery. These include:

- Community Planning Partnerships
- Regional Land Use Partnerships

- Regional Growth Deal Partnerships
- Regional Economic Partnerships
- Regional Transport Partnerships
- Community Climate Action Hubs
- Local public health partnerships
- Local biodiversity and environmental partnerships

5.5.6 What support is available?

Support is available to local authorities and public bodies for the development and delivery of area wide emissions reduction plans through the recently established Scottish Climate Intelligence Service (SCIS) This has been established by joint funding from Scottish Government and the 32 local authorities to build capacity in local authorities to deliver area wide programmes of emissions reduction as part of the national Climate Change Plan. The SCIS manages a national data platform and supporting service to help local authorities to design, manage, monitor and deliver area-wide programmes for emissions reduction. It is delivered in partnership by the Edinburgh Climate Change Institute, the Improvement Service, and the Sustainable Scotland Network.

The Sustainable Scotland Network (SSN) is an established network of sustainability practitioners across all of Scotland's public bodies. SSN runs an active programme of events, forums and challenge-specific networks to support collaboration and knowledge sharing across the public sector in responding to climate change and delivering climate impact. It welcomes approaches from public bodies where SSN can support collaboration and progress on key issues.

6. Implementing the second duty: adaptation

Under section 44 of the 2009 Act, relevant public bodies have a duty, in exercising their functions, to act in the way best calculated to help deliver the Scottish National Adaptation Plan (SNAP).

All public bodies must identify the national adaptation objectives from SNAP relevant to their functions and act in a way that supports the delivery of these objectives.

Organisations will have varying degrees of influence in relation to adaptation in Scotland depending on their particular role, functions and responsibilities, but all public bodies need to be resilient to the future climate and to plan for business continuity in relation to delivery of their functions and the services they deliver to the wider community.

To help demonstrate compliance with this duty, public bodies should:

- undertake a climate related risk assessment or assessments
- develop and implement an adaptation plan or plans with, as best practice, regard to just transition principles
- ensure that appropriate climate risks are included on corporate risk registers
- where applicable, note the specific adaptation actions assigned to them in the SNAP and align their work with these
- actively seek to work in partnership with other organisations to develop and implement wider placed based adaptation plans
- undertake the above giving due consideration to their physical assets including buildings, land and fleet; their staff and service users; the services they deliver; and the functions they exercise.

Key outcomes will be that public bodies:

- have a sound understanding of why adaptation is important for their organisation and what the impacts of climate change could mean, and will have identified and assessed their risks, vulnerabilities and any potential opportunities
- have identified and assessed the adaptation options, and have measures in place to implement their chosen strategies so that their physical assets, daily operations and service delivery are adapted to the changing climate and are resilient to its impacts
- monitor and evaluate implemented measures to ensure that adaptation efforts remain sufficient and responsive to changing conditions
- where applicable, contribute to the achievement of the specific adaptation outcomes assigned to them in the SNAP, and are able to track and report on delivery
- contribute to the effective adaptation of the places in which their sites, operations and services are located and delivered.

6.1 Introduction to the second duty

This chapter starts by providing a brief explanation of what climate adaptation is, why it is important and by providing context for adaptation action. It is understood that public bodies will be at differing levels of maturity in relation to adaptation action. The guidance aims to provide a baseline level of information, aligned with the guidance and resources developed by the Adaptation Scotland programme.

The chapter then moves on to provide more technical and complex guidance aimed at organisations with greater adaptation needs, either owing to the size and nature of their estate and assets, or due to their function, i.e. those bodies responsible for delivering essential services.

6.2 What is adaptation to climate change?

The climate is changing. Current advice from the UK Climate Change Committee is that Scotland needs to adapt to 2ºC of warming and assess the risks up to 4ºC [28].

Whilst global efforts to mitigate further warming will continue, we must ensure we are prepared for the future climate.

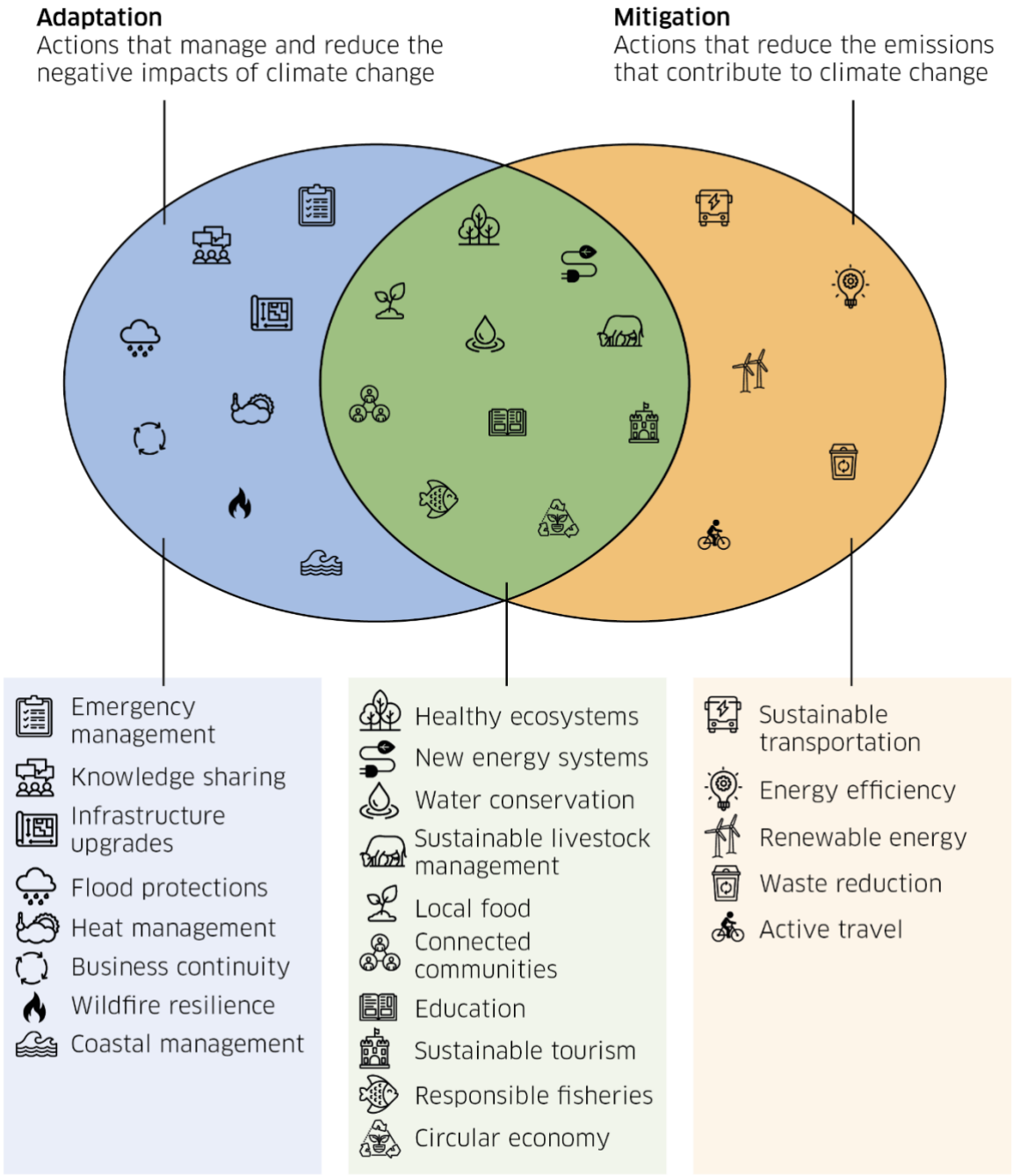
Adaptation refers to adjusting to the impacts of climate change, including hazards such as flood and heatwaves. Adaptation involves the deliberate and systematic adjustment of systems and processes to effectively address both anticipated and actual climate change impacts. This comprehensive approach focuses on increasing preparedness to future extreme weather events, reducing existing vulnerabilities, increasing climate resilience, mitigating damages caused by climate change impacts, and takes advantage of positive opportunities that changes may offer.

Adaptation to climate change addresses a range of challenges enabling societies and ecosystems to thrive in a changing climate. It is an ongoing process that requires collaboration and flexibility within and between organisations; and integration into broader strategies, plans and operational practices, including links to policy areas such as climate change mitigation, land management, health and welfare.

Human and natural systems are complex. Adaptation will take place within the context of significant societal challenges including those related to population health, the cost of living crisis, and the biodiversity and loss of nature crisis. Integrated and aligned policy actions can deliver multiple outcomes for population health, equity, the environment and the economy, contributing the Scotland's National Outcomes and the UN SDGs.

Key areas of focus for adaptation in practice include understanding when and how to adapt infrastructure to cope with increased weather extremes, and changing land management practices. There are however areas of significant overlap with activities that could help to meet both mitigation and adaptation goals, such as naturalising river catchments for flood risk and water management, woodland restoration, blue-green infrastructure and education, all of which will deliver multiple benefits. Figure 14 demonstrates the differences and the areas of overlap between adaptation and mitigation.

Figure 14: Venn diagram showing the differences and the crossovers between mitigation and adaptation (based on a diagram developed by Highland Adapts)

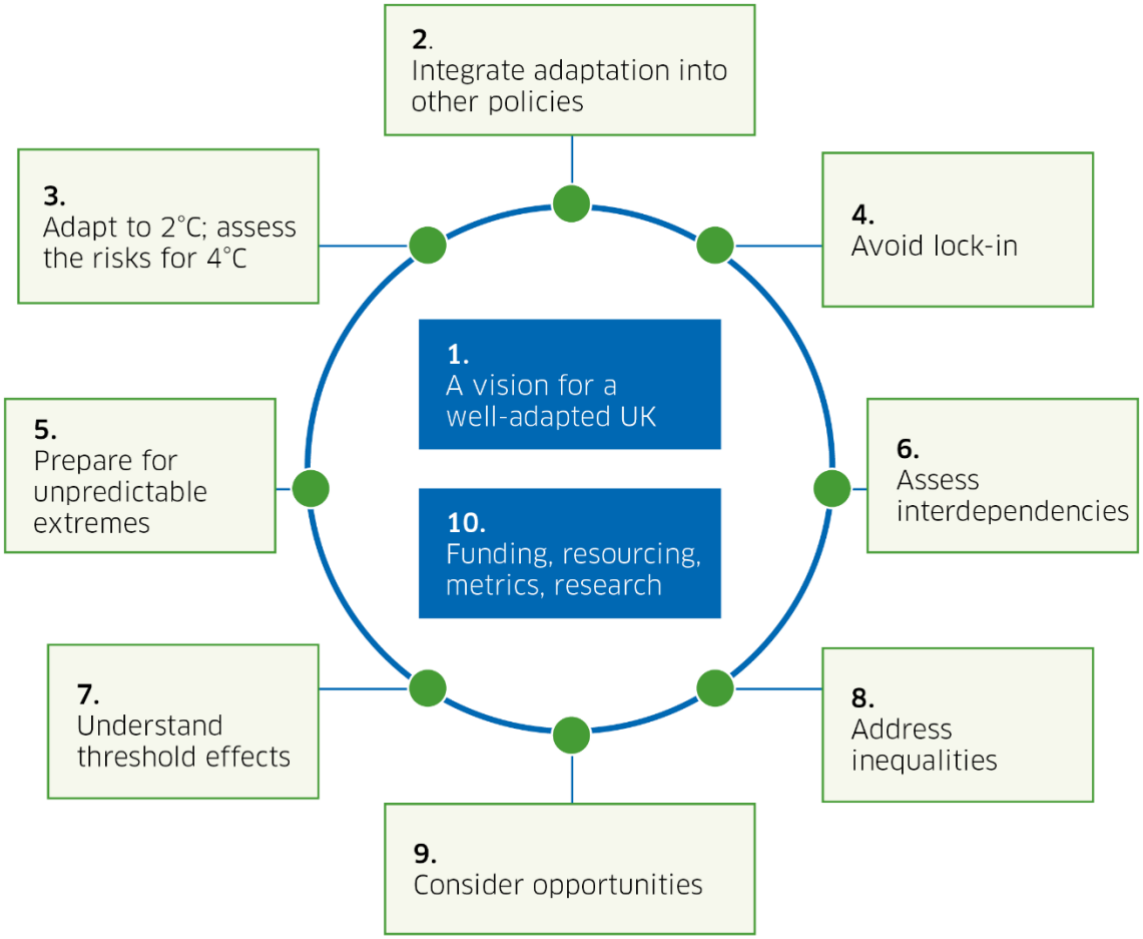


6.3 How to adapt

6.3.1 Key principles for effective adaptation

The Climate Change Committee has set out ten principles for effective adaptation as part of the third Independent Assessment of UK Climate Risk (CCRA3) [29]. These can be used to sense check adaptation planning or decision making and to ensure any initial planning takes big picture adaptation aims into account.

Figure 15: Ten Principles for effective adaptation (based on a Climate Change Committee visualisation from CCRA3 [30])



The ten principles include:

1. Ensuring that adaptation plans fit the vision for a well-adapted UK and Scotland. Public bodies can do this by reviewing the SNAP3; identifying the national adaptation outcomes relevant to them; and contributing towards those outcomes.

2. Integrating adaptation into other policy areas and organisational priorities. A host of organisational priorities and goals will be undermined by the effects of climate change. Current policies on climate change mitigation and healthcare for example should be explored to determine where and how adaptation could be addressed simultaneously, while addressing any co-benefits or trade-offs.

3. Organisations should be planning for tomorrow's climate and not today's. Public bodies can do this by considering the lifetime of plans, policies, projects and assets and making decisions based on future warming scenarios and the public bodies own climate risk assessment.

4. Adaptation plans should aim to avoid ‘lock-in’. An example of lock-in is building new homes without designing in adaptations to future conditions including extreme heat. Retrofitting windows and shutters is around four times more expensive than including them at design stage. Adaptation plans should create flexibility within an organisation or body, offering different pathways for the future and the ability to deal with extreme events and hazards.

5. Adaptation plans should allow preparation for unpredictable extremes by increasing flexibility. Undertaking storyline approaches or ‘what if’ scenarios could be used here, and more headroom could be given to policies and operations to account for any sudden extreme changes including reaching climate tipping points.

6. Interacting risks or ‘compound risks’ such as a heatwave and drought occurring simultaneously can cause significant challenges when addressing climate risks. Adaptation planning should consider a range of hazards and how they may interact. Siloed thinking can pose problems particularly for risks that interact or those that could lead to cascading impacts that are dealt with by different groups or departments. This highlights the importance of collaboration between groups and with a range of stakeholders. Examples of regional adaptation collaborations include Highland Adapts and Climate Ready Clyde.

7. Understanding threshold effects is a key part of an effective adaptation plan. Bodies should understand what thresholds exist for their critical assets and services. Risk assessments that look at average changes over time assume that a risk will gradually increase, so can miss specific points that ‘tip’ the system or asset into a different state.

8. Adaptation plans should reduce inequalities and focus on socially just outcomes. Actions to address climate change could also exacerbate existing inequalities without careful planning, known as maladaptation. This includes using the holistic definition of risk as a function of hazard, exposure and vulnerability. This highlights the importance of understanding where vulnerabilities lie. Collaborating with community groups and a wide range of relevant stakeholders can help to address this. Use of participatory tools, such as the Place Standard with a climate lens and health impact assessments, can be used to identify and assess differential impacts of adaptation and policy responses, take steps to maximise health, wellbeing and equity benefits and minimise harms.

9. Opportunities should also be considered when creating adaptation plans. This could relate to, for example, opportunities that come from milder winters as well as opportunities for heightened collaboration and co-benefits with other policy areas. This includes integrating mitigation and adaptation policy.

10. Funding and resourcing are critical to effective adaptation. Knowledge sharing could help in this regard. In addition, having strong governance and

accountability in place within a body or organisation is key to be able to monitor and track progress against relevant indicators.

6.3.2 Getting started

The Adaptation Scotland programme provides advice and support to help organisations, businesses and communities prepare for, and build resilience to, climate change.

The Adaptation Capability Framework for the Scottish public sector, developed by Adaptation Scotland, outlines four capabilities needed for an organisation's adaptation journey. It describes 42 tasks to develop these capabilities over four stages from 'starting' to 'mature' (table 3). The four capabilities are:

- understanding the challenge
- organisational culture and resources
- strategy, implementation and monitoring
- working together.

The Capability Framework is supported by a handbook which contains information related to each of the tasks.

Table 3: Adaptation Scotland capability framework [31]

Stage	Understanding the challenge	Organisational culture and resources	Strategy, implementation and monitoring	Working together
Starting	UC1A Learn about Scotland's changing climate and impacts UC1B Develop understanding of climate risk and vulnerability UC1C Record and consider the impact of recent weather events on your organisation	OC1A Consider how adaptation fits with your organisation's objectives OC1B Identify resources already available for adaptation OC1C Identify key internal stakeholders for adaptation	SIM1A Consider how you contribute to Scotland's adaptation outcomes SIM1B Identify existing adaptation work within your organisation SIM1C Define strategic adaptation outcomes and or vision	WT1A Define your objectives and opportunities for joined working WT1B Identify relevant groups, partnerships and forum WT1B Identify relevant groups, partnerships and forums
Intermediate	UC2A Map out how your organisation's	OC2A Engage with colleagues to	SIM2A Identify a range of potential	WT2A Engage with relevant groups,

	functions might be affected by climate change UC2B Consider scenarios for future climate change impacts UC2C Engage with stakeholders using participatory approaches	optimise adaptation opportunities OC2B Define resource requirements to plan and deliver adaptation OC2C Establish governance	adaptation actions SIM2B Identify plans, policies and procedures that can include climate adaptation SIM2C Deliver initial adaptation actions	partners and forums WT2B Co-ordinate with partners to deliver initial actions
Advanced	UC3A Carry out climate change risk assessment UC3B Integrate climate adaptation knowledge into internal training and procedures UC3C Improve understanding of stakeholder needs	OC3A Ensure key people are responsible for adaptation actions OC3B Develop an investment plan to mobilise resources for adaptation	SIM3A Appraise adaptation options SIM3B Develop an adaptation strategy and action plan SIM3C Develop a monitoring approach for achieving your adaptation outcomes	WT3A Formalise partnership working WT3B Develop communicatio n activities with partners
Mature	UC4A Undertake project-level risk assessment UC4B Mainstream climate change risk assessment UC4C Identify knowledge gaps, seek	OC4A Review and update governance arrangements for adaptation OC4B Secure resources to plan and deliver adaptation	SIM4A Implement a programme of adaptation actions SIM4B Adopt an adaptive management cycle for adaptation planning	WT4A Enhance long-term partnership working WT4B Lead in networks and peer organisations

	expertise and foster links with research and innovation			

The Adaptation Scotland starter pack provides information for bodies who are beginning their adaptation journey. The starter pack outlines how to begin identifying what impacts climate change could have on different functions within bodies before finding links between organisational priorities and adaptation. The starter pack also provides guidance on how to identify resources and relevant stakeholders.

The following checklist is based on the 'starting' level of the Adaptation Capability Framework. All public bodies should complete the actions outlined in this checklist.

Further information relating to each item is provided the sections below. Please refer to the Adaptation Scotland website for a comprehensive overview and for further guidance.

Adaptation starter checklist

Understanding the challenge - public bodies should:

- learn about Scotland's changing climate and impacts
- develop understanding of climate risk and vulnerability
- record and consider the impact of recent weather events on your organisation

Strategy, implementation and monitoring – public bodies should:

- consider how you contribute to Scotland's adaptation outcomes
- identify existing adaptation work within your organisation
- define strategic adaptation outcomes and or vision

Organisational culture and resources – public bodies should:

- consider how adaptation fits with their organisation and its objectives
- identify resources available for adaptation
- identify key internal stakeholders for adaptation

Working together – public bodies should:

- define your objectives and opportunities for joint working
- join and participate in relevant professional and adaptation networks
- identify relevant groups, partnerships and forums

6.3.3 Understanding the challenge

Under the 'understanding the challenge' capability, bodies should start by:

- learning about Scotland's changing climate and impacts.
- developing an understanding of climate risk and vulnerability.

- recording and considering the impact of recent weather events on your organisation.

Raising awareness of adaptation and understanding of why it is important within bodies is the first step to becoming an adaptative organisation.

The UK Climate Change Risk Assessments (CCRA) reports identify 61 risks and opportunities from climate change across the UK. Some key risks for Scotland include the:

- impact of a changing climate and extreme weather on terrestrial species and habitats
- cascading failures for infrastructure networks
- the risk of climate change impacts, especially more frequent flooding and coastal erosion, causing damage to our infrastructure services, including energy, transport, water and Information and Communication Technologies (ICT).
- impact of high temperatures on health and wellbeing
- impact of flooding on people, communities and buildings
- impact of flooding on business sites
- coastal businesses impacted by extreme weather, sea level rise, coastal erosion and flooding
- decreasing yields of food internationally affecting supply
- impact of vector borne diseases on health
- international interaction and cascades of named risks.

As a next step, public bodies should, as a minimum:

☐ Explore future projected changes in Scotland's climate, for example using the Met Office climate data portal.

☐ Read the latest Climate Change Risk Assessment (CCRA) national summary report for Scotland to explore the full list of risks and opportunities identified for the UK and Scotland.

☐ Identify weather events that have impacted their organisation in the past – the response and an understanding of the impacts of these events could help to inform the creation of an adaptation strategy. Consider how such weather events could be different in the future, e.g. more severe or more frequent.

☐ Create a briefing on what climate change is and why adaptation is important for their body including what the impacts of climate change (and the risks set out in the CCRA report) could mean for their organisation.

☐ Consider investing in training on climate change adaptation and resilience (or ensuring that any carbon or climate training currently available includes climate adaptation) to ensure that technical terms and fundamental concepts of adaptation are understood.

- ☐ Read the UK Health Security Agency (UKHSA) reports on the Health Effects of Climate Change in the UK to gain a deeper understanding of the risk to population health posed by climate change, where appropriate.

6.3.4 Strategy, Implementation and Monitoring

Under the 'strategy, implementation and monitoring' capability, bodies should start by:

- considering how they contribute to Scotland's adaptation outcomes
- identifying existing adaptation work within the body
- defining strategic adaptation outcomes and or a vision.

Planning and implementation are crucial elements to achieving the long term challenge of becoming a more adaptive organisation. Adaptation should be embedded within an organisation's function and purpose. An important first step is to identify actions already being taken within an organisation. It is very likely that bodies are already undertaking adaptation actions, related to flooding responses for example, even if they are not recognised as such.

The public sector has a pivotal role to play in building Scotland's overall climate resilience by helping to deliver the Scottish National Adaptation Plan (SNAP). Looking at the bigger picture can help to make the most of opportunities and to define a public body's strategic adaptation vision and outcomes. Bodies should consider how their adaptation actions can contribute to the SNAP outcomes and objectives.

As a next step, public bodies should, as a minimum:

- ☐ Identify actions that are already delivering adaptation – for each service or department relevant to the body, provide examples of how it may be affected by climate change and any existing action, plans or policies that support adaptation actions in that service or department, and how they could be strengthened.

- ☐ Read the Scottish National Adaptation Plan and its outcomes and objectives.

- ☐ Consider how each SNAP objective may be relevant to their body.

  For example, for SNAP3 outcomes:
  (C5) Culture and historic environment*:* Scotland's historic environment is preparing for a future climate, and the transformational power of culture, heritage and creativity supports Scotland's adaptation journey.

  Public bodies may have direct responsibilities for looking after the historic environment, either through buildings or monuments on their own estate or as part of their wider function; have relevant regulatory powers such as those related to Planning; or provide funding or other support to the cultural and creative sectors.

(PS4) Transport system*:* the transport system is prepared for current and future impacts of climate change and is safe for all users, reliable for everyday journeys and resilient to weather-related disruption.

Public bodies including local authorities, Transport Scotland and the Regional Transport Partnerships will have direct responsibilities in relation to this outcome. However other bodies may own or manage land, other assets or deliver services that could impact on transport systems. For example, a body may own land at risk of landslides that, should a landslide occur after a heavy rainfall event, would block a road. Or, a body may own land higher up a river catchment area where a change in land use could help prevent flooding and related road and rail closures downstream.

(B1) Increasing business understanding of climate risks and adaptation action*:* businesses understand the risks posed by climate change and are supported to embed climate risks into governance, investment, and operations, and are collaborating on effective adaptation action.

While the enterprise agencies could be seen as the bodies with the most direct responsibility, all public bodies will work with businesses in some way and can use their influence to contribute to this outcome. For example, bodies including local authorities may provide grants or other funding to businesses in their area and could include aspects related to climate risk and governance in the funding conditions. All public bodies will procure goods and services, and could use procurement exercises to further progress towards this outcome. Bodies can also work to influence members of adaptation partnerships they are part of, and to encourage businesses they work with, where appropriate, to join such partnerships.

Bodies should consider their contribution to the outcomes in a broad way.

6.3.5 Organisational culture and resources

Under the ‘organisational culture and resources’ capability, bodies should start by:

- considering how adaptation fits with their organisation and its objectives
- identifying resources available for adaptation
- identifying key internal stakeholders for adaptation.

Adaptation strategies and actions can be implemented in a way that benefits from and influences organisational culture. Adaptation action can be progressed by reviewing and identifying existing structures, legislative drivers and resources available. Understanding how adaptation can support the delivery of strategic objectives, and wider co-benefits for population health, wellbeing, equity and biodiversity, can help to communicate its relevance and importance. Another important step is to identify where adaptation is best placed within a body including what groups, departments or committees will develop and deliver adaptation plans internally.

As a next step, public bodies should, as a minimum:

- ☐ Consider what motivated their organisation to address climate adaptation. Some common triggers for taking action on adaptation are:
    - developing and reviewing your local climate risk assessment
    - providing support for service area reports and business case development
    - impacts of an extreme weather event (e.g. a flood or heatwave) on operations, services, finances, health or safety
    - increasing resilience to disruption to services from extreme weather
    - ethics and public expectations
    - statutory duties
    - investing money to save in the future
    - avoiding future liability
    - making decisions about the resilience of long-term assets (e.g. infrastructure or land use or land management practices).
- ☐ Consider what their organisation wants to achieve with their adaptation plan or strategy. For example:
    - a more climate resilient local area
    - robust reporting for service areas
    - an updated risk register
    - greater protection of properties against flooding or reduced vulnerability of care homes to extreme heat events
    - cost savings for responding to severe weather events
    - realise population health, wellbeing and equity benefits and contribute to multiple social outcomes including National Outcomes and the UN SDGs.
- ☐ Consider how climate change may impact their organisation's strategic priorities.
- ☐ Consider what the risk appetite of their organisation is. For example, does their organisational policy specify what acceptable and unacceptable risk is? How does this change for different assets or services (including critical assets and services)?
- ☐ Work with their risk manager or appropriate team or department to understand any existing approaches to managing weather and climate related risks.
- ☐ Consider if there are groups, committees or partnerships within their organisation who could be involved in adaptation work.

6.3.6 Working together

Under the 'working together' capability bodies should start by:

- defining their objectives and opportunities for joint working
- joining and participating in relevant professional and adaptation networks
- identifying relevant groups, partnerships and forums

Collaboration is a critical element of adaptation planning and implementation. No organisation can adapt alone. By joining networks bodies can share knowledge and learning from other groups. Delivering adaptation actions often requires partners working in a collaborative relationship. This includes within and outwith their own organisation, working with community groups or community planning partnerships for example. There are already networks and groups that bodies could consider joining.

As a next step, public bodies should, as a minimum:

- ☐ Identify existing groups, partnerships or forums that they could join or collaborate with. Consider their aims, existing adaptation links or on-going work and potential future adaptation links with their own organisation. Some groups to consider include:
  - Community Planning Partnerships
  - Community climate hubs and community action networks
  - Local plan district groups
  - Regional climate adaptation and resilience initiatives, such as those listed on the Adaptation Scotland website.
- ☐ Join relevant professional adaptation networks. Some examples include:
  - Sustainable Scotland Network
  - Public Sector Climate Adaptation Network

6.3.7 Overcoming adaptation challenges

Acknowledging any potential barriers or constraints from the outset is an important step in developing an adaptation plan. These can also then be incorporated into monitoring and review processes. How these barriers can be minimised should also be considered as well as how to maximise the relevant drivers to adaptation.

Some common drivers of adaptation include:

- increased awareness in an organisation after an extreme weather event such as a flood or heatwave event
- leadership
- societal pressure from local or national groups or campaigns
- need to comply with statutory guidance or legislation
- need to ensure delivery of services.

Some common barriers or constraints include:

- lack of buy-in or scepticism from senior leaders and or colleagues
- lack of awareness in organisations
- lack of skills and knowledge of adaptation
- coordinating resourcing (time pressures and competing priorities)
- a focus on short-termism
- a focus on mitigation – the importance of adaptation not being recognised
- siloed policy making – climate adaptation is a complex problem and there are challenges to taking a whole systems approach.

As a next step, public bodies should, as a minimum:

- ☐ Consider what their organisation's drivers and potential barriers or constraints are.
- ☐ Consider how their adaptation planning can minimise barriers and or maximise drivers. For example, training on climate change adaptation and mapping their organisation's priorities to climate change impacts could help colleagues and senior leaders to understand the need for adaptation action.
- ☐ Share the Leaders' Climate Emergency checklist with senior leaders which outlines the requirement for action on climate adaptation.

6.4 Going further: beyond the basics

This section aims to provide more technical guidance on adaptation planning and compliance with the core duty to contribute to the Scottish National Adaptation Plan and reporting on progress.

It covers a whole systems approach to understanding climate risk.

It is intended to support organisations that may have a greater role in adaptation or greater needs owing to:

- infrastructure
- land and natural resource management
- complex operations subject to multiple interdependencies
- multiple sites across Scotland
- critical functions such as health, social care, education, emergency services provision or defence.

It is important to note that public bodies may be starting their adaptation journey in some capabilities, but might be more mature in others. Therefore, this guidance is likely be useful wherever public bodies are on their journey.

Public bodies should take responsibility to ensure understanding of the challenges of climate change, their role in providing solutions, and in leading the way with action to support an adapting and resilient Scotland. Public bodies should be engaging,

collaborating and leading beyond their boundaries to reduce risks, protect the natural and built environments, communities and organisational staff.

All public bodies have a vital role in influencing, supporting, and taking adaptation action, internally and across whole systems, beyond their organisational boundaries, regardless of land ownership, scope or size.

6.4.1 A whole systems approach to understanding climate risk

The effects of climate change influence many complex relationships within organisations, places and ecosystems. Climate hazards affect population health, health, wellbeing and equity as a consequence of the impact on natural and human systems including physical infrastructure, emergency management, supply chains, economic vitality, and many social issues.

When trying to understand climate change risk and vulnerability, particularly when the scale of assessment is beyond project level, it can often be simpler to break the hazards and risks into smaller segments. It helps to take the colossal, complex problem of a changing climate, and simplify it into more manageable parts, providing an easier route to tangible actions for adaptation.

However, viewing climate risk in segments negates the bigger picture: public sector bodies cannot understand the full risk profile if they do not bring the segmented parts back together, view them as a whole, and consider how they behave in a wider context. Climate hazards are and will occur and interact simultaneously, increasing a likelihood of cascading risks – a chain reaction of events set off by an initial hazard. Understanding and preparing for diverse cascading events is crucial as these interconnected sequences can escalate the complexity and severity of subsequent risks, posing challenges to effective response and ongoing adaptation efforts.

Consequently, public bodies' vulnerability and responses will be shaped not only by changing socio-economic and demographic factors but also by increased probability of cascading risks. To decrease the risk and reduce the adverse effects of cascading hazards, public bodies should ensure they explore both a range of possible future climate scenarios and socio-economic context.

Cascading risks in the context of disaster and adaptation involve a chain reaction of events set off by an initial hazard. Examples include physical cascades, where one event leads to another (e.g. heavy rainfall leading to river overflow which in turn could trigger landslides, dam failures and local flooding) and social cascades where societal responses amplify risks (e.g. panic worsening evacuation efforts, overwhelming emergency services and hindering an effective response). These interconnected events highlight the need for comprehensive adaptation strategies that address both the primary hazard and its potential cascading impacts. In the context of adaptation understanding and preparing for these diverse cascading events, both natural and societal, is crucial for effective disaster management and recovery.

What is needed is a **systems approach** - an approach that requires organisations to think holistically, and beyond of their own organisation and sector, to the wider place and context they are situated in; how the actions they do or do not take may impact the whole system.

A systems approach helps to consider interactions between different parts of the system, related uncertainties, and how these can combine to affect an outcome. A clearer understanding of the entirety of the system will enable the identification of the multiple intervention points required to minimise risk, build resilience, and adapt to the future climate.

Of course, there will be actions and activities that public bodies can control and deliver independently, and they should act on these, but there will be areas of adaptation that require collaboration due to interlinking dependencies. Intervention in one part of the system will impact on other areas of the system, and could impact on multiple outcomes with potential unintended consequences because of the complexity and interdependencies.

Example: A local authority may be concerned over public water supply availability for their community during periods of drought. They may reach out to Scottish Water to get a better understanding of risk in their area, who in turn may offer to work in partnership to ensure decisions the local authority makes are not causing further future 'lock-in', increasing vulnerabilities to this risk. They may also engage with local landowners who have a part to play to ensure our natural landscape supports public water supply. The local authority may also look to engage and work in partnership with a wide range of community groups, and education establishments to ensure education about water usage is on the agenda in an accessible format for all.
Public bodies should seek to understand the whole system in which they operate and should proactively nurture opportunities to collaborate to deliver adaptation and wider multiple benefits in partnership, in addition to reducing risk.

Through working in partnership, public bodies will ensure they take a just and inclusive approach to adaptation. By ensuring adaptation plans are built on inclusivity, equity, resilience, and shared responsibility, this minimises disparities and the likelihood of maladaptation and unintended consequences. It also ensures that responses deliver multiple benefits through adaptation for nature, biodiversity, business, equality, and public health.

Whole systems thinking also supports place based approaches to climate change, inclusive of and beyond the scope of adaptation. Public bodies should, where appropriate, link in with relevant policy frameworks, for example the National Planning Framework, Local Development Plans and national sectors (e.g. water, energy, transport, health).

6.4.2 Climate change risk assessments: best practice

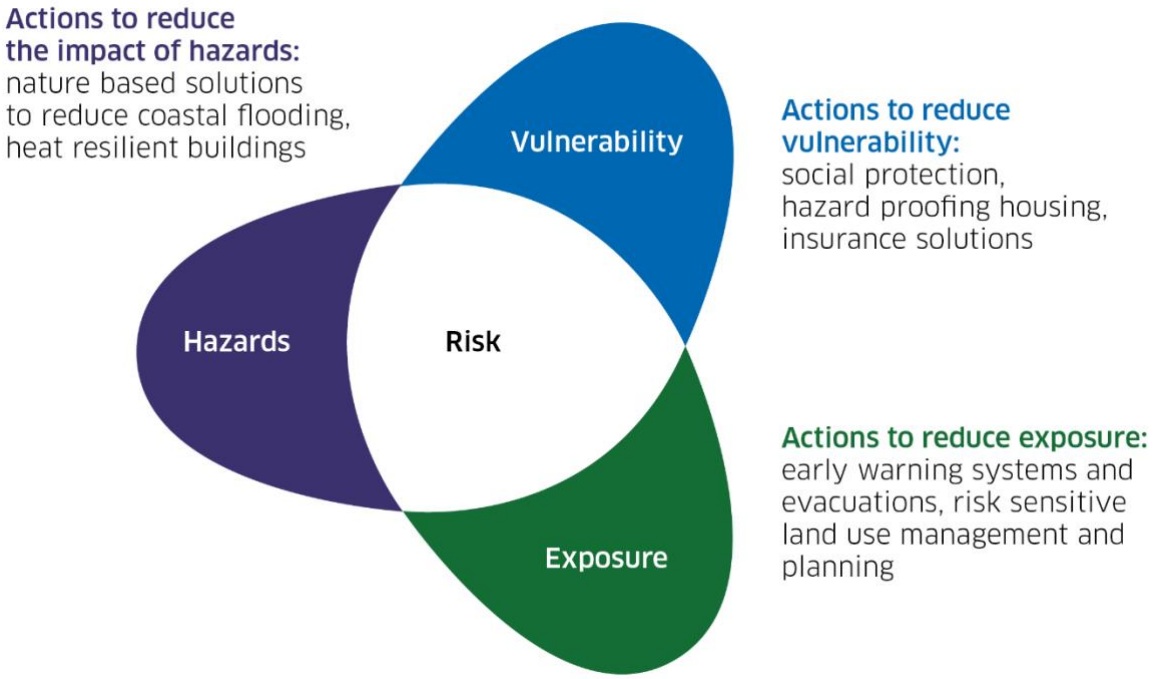
Risk is considered as the interaction between a hazard or weather event, exposure and vulnerability. It can be defined as the potential for adverse effects on human health, ecosystems, economies and societies resulting from the interactions between climate related hazards (such as extreme weather events, sea level rise and temperature changes) and the vulnerability and exposure of a specific region or system.

Hazard refers to a specific climate related event or phenomenon with the potential to cause harm or adverse impacts on the environment, human health, economies or societies. Hazards associated with climate change include extreme weather events (hurricanes, floods, droughts and heatwaves) sea level rise, changes in precipitation patterns and shifts in temperature.

Exposure refers to the degree to which a system (such as a human population or ecosystem) or asset is subjected to climate related hazards. Exposure is highly context specific and is influenced by various factors including geographic location, land use or land management practices, infrastructure and socio-economic conditions. It encompasses not only the physical hazard posed by the changing climate but also considers factors such as safety or mitigating measures that may be in place, societal vulnerabilities and governance.

Vulnerability is the extent to which a society, economy or ecosystem is at risk of adverse impacts from climate related hazards. This concept focuses not only on physical exposure to climate driven events but considers socio-economic factors like poverty, inequality and access to resources. It also considers the system's capacity to recover and adapt following climate related events.

Figure 16: Simplified risk framework showing risk as a function of hazards, exposure and vulnerability (adapted from IPCC [32])



6.4.3 Why assessing vulnerability is important

Due to existing societal inequalities, certain communities or groups experience climate change impacts disproportionately. Vulnerability can be the result of marginality and lack of access to resources that can be exacerbated by a hazard.

The concept of intersectionality – multiple and compounding inequalities – is highly relevant to the assessment of vulnerability to climate change. Climate change and social, economic and personal factors (such as gender, race, income, age and health status) can act together as risk multipliers, increasing the impacts on health, and health and other inequalities [33]. Taking an intersectional approach can identify and highlight the lived experiences of people with intersecting identities, and help to develop policies, plans and services that address structural inequalities [34].

For example, green spaces can provide shade during heatwaves and can help with rainfall run-off, and these tend to be found in higher-income areas. A study on Wales and England showed that new homes built in economically deprived areas between 2008 and 2018 are more likely to become exposed to high flooding risk as opposed to new housing situated in higher income areas [35]. This vulnerability often arises from challenges such as limited ability to secure property insurance and difficulties in evacuating during floods. In addition, elderly people and those with underlying health conditions can be disproportionately impacted by heatwaves, for example. The heat throughout summer 2022 has been estimated to have led to the death of approximately 60,000 people in Europe and around 3500 in the UK [36].

Any adaptation plan or policy should address inequalities in the first place and embed fairness by acknowledging that different groups and communities will be impacted by hazards and weather extremes differently. The Scottish Government's Equalities and Fairer Scotland Duty impact assessment may contain research to aid considerations. Further guidance on equalities is provided in chapter 3.

6.4.4 Climate change scenario analysis

Further changes in the climate by 2050 are inevitable as the world will take several decades, at the very least, to reach net zero emissions. But longer-term (post-2050), changes in the UK's climate will largely depend on how rapidly global emissions are reduced [37]. Climate scenario analysis can help address this future uncertainty.

Current policies in place around the world put the world on track for a central estimate of 1.8 to 3.5°C above preindustrial levels by 2100, with uncertainty due to the climate response to greenhouse gas emissions meaning that global average surface temperatures of in excess of 3.5°C by 2100 are still a possibility. Warming reaching 4ºC above preindustrial levels by 2100 remains at the upper end of possible outcomes [38].

In Scotland, temperature rises of up to 2°C would bring warmer temperatures in all seasons, drier summers and wetter winters, more extreme weather events and sea level rise. However, a more sluggish jet stream could periodically lead to prolonged cold winters as well as hot summers. These trends will be felt to a greater or lesser extent across different localities, and the change will not be steady, linear or gradual. These changes will have different impacts for different sectors and places, which means public bodies should understand, plan for and adapt to these changes urgently. By understanding the risks associated with climate change public bodies can integrate these into internal systems and procedures and make informed decisions based on actual or expected changes.

In addition to considering all of the parts of the system that could be impacted by climate change, it is also important to assess risk in varied possible future climate scenarios. Scottish Government has committed to developing a climate scenario decision tool to support the public sector. As an initial step, research has been commissioned via ClimateXChange (CXC) on 'Future climate in today's decision-making'. This research is due to be published by spring 2025.

While Scottish Government considers the CXC research and development of a decision tool, **this guidance recommends that public bodies should seek to understand what a 2°C and 4°C scenario will mean for organisational climate risk at multiple points in the future (e.g. 2050s and 2080s), apply these findings to adaptation plans, and where possible make publicly available what climate futures they are planning for.** Where applicable, they should also utilise projections for socio-demographics of the population, as this will influence who is impacted by the changing climate, and how.

Example: A land manager is planning the next iteration of a local land management plan, and they are looking to see how climate change will impact the landscape in addition to infrastructure in the area. They have a bridge in the area that is due for maintenance in 2027, and land that is due for commercial timber replanting now that will stand for the next 60 years and is a very important asset.

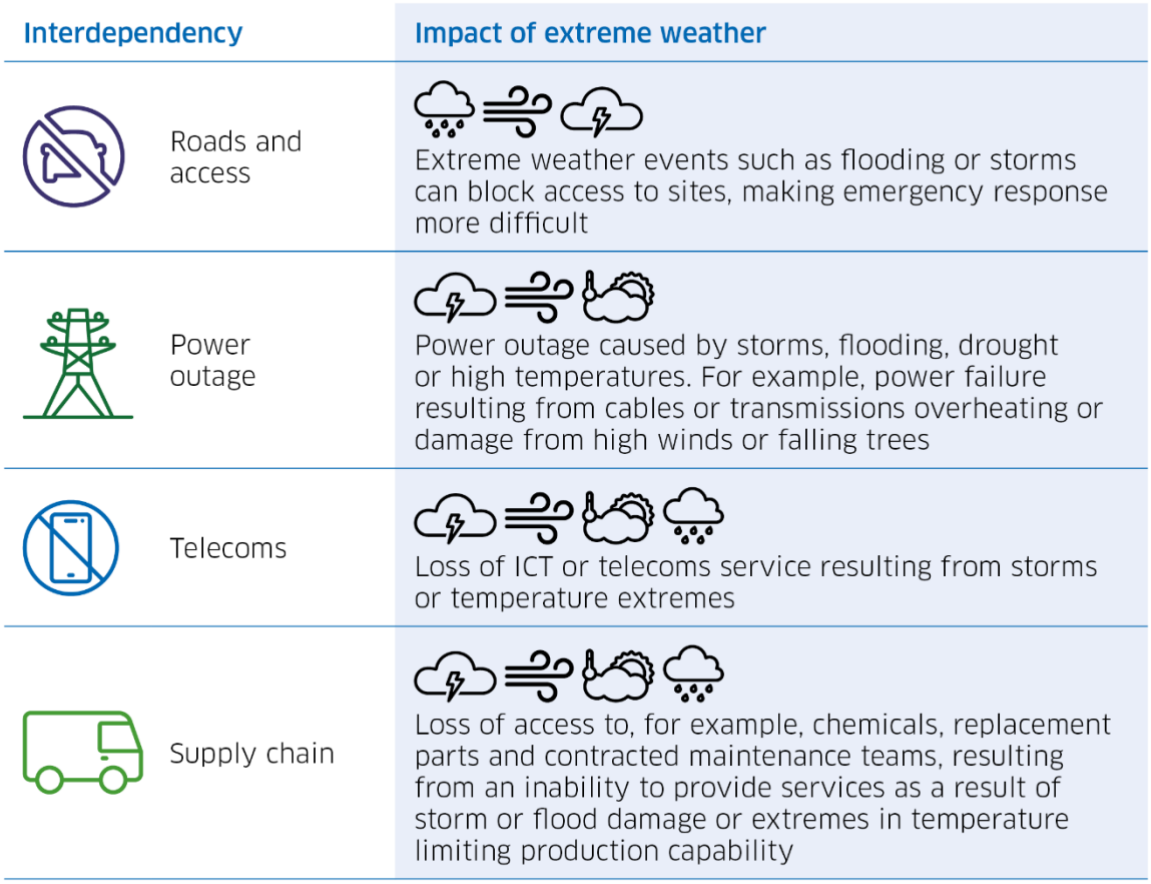
They choose to look at 2°C and 4°C climate scenarios for the years 2050, 2080 and 2100 to assess the climate risks and vulnerabilities. They decide to replant this area of forest in a way that is resilient under a 3 to 4°C warming scenario as the trees will be standing beyond 2080. This includes consideration of the changing growing conditions, water availability, the changing risks from pests and diseases and the species mix. They decide not to take immediate action on adapting the bridge as, short term, the climate scenarios suggest limited damage that can be tolerated. However, they plan to adapt the bridge at the next maintenance cycle to futureproof it and save on resources.

They plan out future decision review points in line with climate risk assessment review points and ad hoc reviews as new developments come forward from climate science and review bodies, like the Met Office, Climate Change Committee and IPCC. They also agree to review should experience suggest that they may not have gone far enough in their adaptation measures, for example if they see a more rapid change in flooding frequency or severity.

Public bodies should be clear on the climate change pathways and scenarios, and the risks and implications for their services that they have considered as part of their adaptation planning.

It is important to consider possible interdependencies when conducting a climate change risk assessment, to ensure possible impacts to the organisation are fully sighted, in addition to the impacts extending beyond the body's boundaries.

Figure 17: Interdependencies between climate impacts and key services



Public bodies should consider what the wider impacts to Scotland are from climate-related incidents occurring on their land or within their boundaries and should seek to work in partnership with other stakeholders to progress adaptation in these areas. Disruption to core infrastructure and services have a significant impact on health, wellbeing and equity, for example people being unable to access work, education, food, social support, health and social care.

If, for example, a public body manages assets, land or infrastructure that runs along a water course that is at risk of flooding, it is expected that consideration is given to the potential upstream and downstream impacts, and the consequences arising from decisions made within the organisation's management area. However, this is not to say that it is the responsibility of that organisation to mitigate upstream and downstream risk in isolation – partnership working is required.

Public bodies should consider the knock-on consequences of emission reduction strategies on adaptation efforts, e.g. considerations to decarbonise buildings or restore peatland should also include considerations around future climate scenarios, risk and vulnerabilities.

Public bodies should consider the wider (or interdependent) risks arising from climate change, for example vulnerabilities to power supplies, communications,

transport, or supply chains for critical materials and components, and how they might increase resilience where appropriate.

It is considered best practice for public bodies to make organisational climate risks publicly available, and where applicable for relevant public bodies, provide a link to where they can be found in their annual report under the mandatory reporting duty.

The Adaptation Scotland programme has developed guidance and tools to support organisations in undertaking climate change risk assessments. They have also developed guidance to help identify climate hazards in the workplace, which are essential to be sighted on in order to protect staff in a changing climate. Local Partnerships have also developed a climate adaptation toolkit and climate risk and opportunities matrix template.

Public bodies should review climate risks in line with relevant organisational and business planning cycles, SNAP cycles or where new climate risk data becomes available, where proportionate.

Additional tips for carrying out a climate change risk assessment can be found below.

6.4.5 Tips for carrying out a climate change risk assessment

Engagement and collaboration

- Even if there is a lead person or team conducting the risk assessment, be sure to involve stakeholders from across the business to test thinking, particularly for indirect risks and knock-on impacts
- Ensure early engagement with key stakeholders to ensure there is meaningful participation in the process.
- Where appropriate, involve external parties and communities in the risk assessment. This will help to get a clearer picture of how hazards play out across a system and what interdependencies exist. Think about how stakeholders are identified, whose interests they represent, and encourage diverse views and experiences.
- Within an information governance framework, share data between organisations as far as possible, particularly where there is cross-over or similarities in place, sector, etc. This greatly reduces duplication of resources, data, and effort and fosters collaboration.

Data

- Decide early on if the risk assessment will be data-informed or data-led based on the needs of the organisation. This will have an impact on certainty levels and the time required, amongst other factors.
- Don’t consider hazards in isolation: there will often be instances where multiple hazards coincide and exacerbate vulnerabilities, e.g. high wind gusts may coincide with flooding.
- Consider worst case scenarios, socio-economic factors, population health profiles and tipping points to create a full picture of potential risks and what impacts the organisation may face in these scenarios. This could work well as

a workshop with a variety of stakeholders to ensure interdependencies, differing viewpoints and expertise are considered.
- Ensure current risk is assessed and how recent weather events have impacted the organisation, people and systems.
- Ensure data is from credible sources, particularly narrative data. Make use of sector and subject experts and reports they may have issued to bolster numerical data and climate projections.
- Plan future re-evaluation points.

Useful data sources:
- Met Office Climate data Portal and Local Authority Climate Service
- Local Climate Adaptation Tool (LCAT)
- Met Office UKCP18 products
- National Trust's Hazard Mapping Tool
- National summaries (CCRA3-IA) - UK Climate Risk
- Datasets - British Geological Survey (bgs.ac.uk)
- Climate Risk Indicators (uk-cri.org)
- UK Climate Risk
- Sixth Assessment Report — IPCC
- ForestGALES - Forest Research
- Welcome to the Climate Change Hub - Forest Research
- Flood maps | Scottish Environment Protection Agency (SEPA)
- Adaptation Scotland :: Climate Trend tool
- Independent-Assessment-of-UK-Climate-Risk-Advice-to-Govt-for-CCRA3-CCC.pdf (theccc.org.uk)
- Population or community health profiles (see Home – ScotPHO)

Structure and presentation
- If the organisation exists across different parts of Scotland, the UK, or the world, consider carrying out a whole organisation climate risk assessment, in addition to more local or business area risk assessments. This allows for a clearer understanding of the differences in risk across the business and therefore the change in potential priorities for different areas of the business.
- Consider who will be using this data. What considerations would be helpful for them? How can results be displayed in a usable format to ensure the outcomes are included easily in future planning. For example, a land-based organisation who relies on maps and spatial data might try and display the results spatially or in a manner that can be integrated with current mechanisms for planning.

Communication and buy-in
- Ensure outputs are communicated in easy to understand and meaningful ways for stakeholders. The information gathered needs to be usable across the organisation and so should appeal to different audiences. Consider accessibility requirements, in particular for versions designed for the general public.
- Consider providing headline summaries for different areas of the organisation to ensure they can understand the key messages for their business area.

- Keep communications engaging – risk may not be the most exciting subject for everyone.
- Ensure senior leaders are well versed on the main risk areas so they can communicate these to their teams.
- Ensure there are relevant risk owners that are across the organisation. Ownership of climate risk should not only fall to climate change or environmental management professionals, as the whole business plays a part in adaptation.
- Ensure climate risks are included in or inform the organisational risk registers.

6.4.6 Adaptation strategy and planning

6.4.6.1 Developing a strategic approach to adaptation planning

Public bodies' risk assessment outcomes are part of the foundation to developing an adaptation strategy and action plan. Adaptation is a long term, movable challenge that requires strategic, flexible, implementation and planning to achieve outcomes.

Developing an adaptation strategy and plan is not an exercise for individual staff members to do in isolation. To ensure an adaptation strategy and plan are holistic and inclusive, there is a need for bottom-up approaches. Public bodies should assess which parts of the organisation might be impacted by climate hazards, who might feed into strategies and plans, and who might be key to delivering adaptation.

Adaptation strategies should set out what future scenario the public body is planning for and why. It should contain flexibility to allow movement between shifting scenarios and should lay out residual risks, i.e. acknowledgement of risks associated with tipping points and uncertainty.

Public bodies should consider how their adaptation strategy fits in within the wider policy and adaptation strategy framework. Linkages should be made with strategy areas such as the Climate Change Plan, Economic Strategy, National Flood Resilience Strategy, Biodiversity Strategy, and Scotland's National Adaptation Plan (SNAP). If public bodies are a named delivery partner in SNAP, these deliverables must be included in a public body's adaptation strategy.

The following is a guide to considerations public bodies should make while developing their adaptation strategy and plan:

Set the framework

- Consider scenario planning or an adaptation pathways approach. Considering incremental changes allows the organisation to take the appropriate action for the relevant timescale. If a tree is planted now that takes 60 years to mature, one should ensure that consideration is given to the future climate it will exist in, and factor these into current decisions. It is important to remain flexible with adaptation pathways to ensure the organisation can be reactive to changes in circumstances or science.
- Be explicit and transparent in your assumptions and basis for decision making.

- Consider the asset type and the maintenance or replacement cycles. Is it a one off or are there going to be opportunities to adapt further in the future? For example, if you know you are building a bridge now but will be replacing it in 2070, you perhaps don't need to ensure it is fully adapted to a 2070 future; however you may still want to build in some flexibility.
- What is the expected lifetime or timescale you expect the adaptation to be effective over?
- Build in future check points to interrogate how real-time events are playing out against scenarios and utilise adaptive approaches.
- Demonstrate the scale of the transition challenge.
- Establish thresholds for key risk areas that show when vulnerabilities increase and when adaptation action is required.
- Develop response plans for reacting to current and future climate hazards.
- Develop contingency plans for catastrophic events in your organisation.

Whole systems approach

- Explore stacked hazards and risks and consider worst case scenarios and extremes in climate hazards.
- Adaptation, mitigation, and nature restoration goals all need to speak to each other: be aware of potential conflicts in decision making and planning.
- Consider your organisational position in a wider context – what systems are you part of? Will your adaptation plans impact others? Consider testing plans with external stakeholders to ensure cohesive, place-based action is taken.
- Are you dependent on others internally or externally to take the required action?
- Identify elements or pressures in the system which are working against the overall strategy, plan, or goal. Consider these along with the points of greatest leverage where interventions will make most difference.
- Consider opportunities for additional benefits such as improved public health or biodiversity.
- Resilient systems build in diversity, complexity, connectivity, redundancy and flexibility. Ensure these are held at the foundations of your strategy.
- To avoid maladaptation, you need to explore bottom-up approaches to adaptation, and assess potential unintended consequences of interventions. Interventions may impact differently on different population sub-groups.
- Incorporation of bottom-up approaches into core documents is instrumental. It sets the tone for potential projects, emphasising inclusivity, equity and shared responsibility. When communities and stakeholders perceive adaptation projects as just and fair, it diminishes the likelihood of maladaptation and resistance.

Implementation

- Make use of maintenance windows to implement adaptation action. Ensure flexibility and modularity is built in and lock-in is avoided.
- Consider 'Theory of Change' in your approach to Implementation and or implement a change process that includes interim goals that you can more easily monitor.
- Ensure consideration is given to cultural, behavioural and social factors that may act as a lever or barrier to change.

- Ensure people from across the organisation are involved in the strategy and planning stages to ensure buy-in and ownership.
- Consider what information is required to inform important future decisions and make it available and understandable.
- Prioritise actions and align outcomes. Taking a whole systems approach should allow delivery of multiple outcomes and sharing resources.
- Ensure financial planning is carried out and supports your action plan. Explore mechanisms for financing your plan. Sniffer has developed guidance and case studies on financing adaptation through the Adaptation Scotland programme.
- Communicate good news stories and share best practice to increase organisational knowledge, buy-in and ownership.
- Integrate robust mechanisms to evaluate the potential consequences of adaptation initiatives. This approach decreases the risk of maladaptation and ensures that strategies are not only well intentioned but also effectively executed, benefitting both the environment and communities. Prioritising the needs of communities, rather than imposing projects upon them, will ensure more effective and equitable outcomes.

Monitoring and reporting

- Consider how you will assess whether adaptions efforts are matching the adaptation plan and the requirements.
- Build in future check points to interrogate how real-time events are playing out against scenarios and utilise adaptive approaches.
- Understand what data you need to show the link between service performance, how climate change impacts that, and how successful adaptation actions are in maintaining service levels.
- Develop a mechanism for keeping tabs on adaptation action across the organisation, and how these align with SNAP3 – this will make reporting easier.
- Where possible gather data on money spent in responding to climate related incidents (e.g., floods, landslip) to gather more intelligence for business cases on adaptation and financing them. This can be compared to the cost of implementing adaptation measures. Further guidance and case studies on business case development and economic models for adaptation interventions can be found on the Adaptation Scotland website.

A Monitoring and Evaluation framework was published alongside SNAP3. When assessing how best to monitor their adaptation action, bodies may find it helpful to look at the national monitoring indicators, and consider whether these could also be useful at local or organisational level, in an adapted form.

For example (these are intended to be illustrative only and are not exhaustive):

> (C5) Culture and historic environment*:* Scotland's historic environment is preparing for a future climate, and the transformational power of culture, heritage and creativity supports Scotland's adaptation journey.

Example organisational indicators for a public body that owns historic buildings as part of its estate (e.g. a body may own traditional listed buildings in a city centre):

- Proportion of historic buildings which have been climate risk assessed
- Proportion of historic buildings for which a site-specific adaptation plan has been developed.

(PS4) Transport system*:* the transport system is prepared for current and future impacts of climate change and is safe for all users, reliable for everyday journeys and resilient to weather-related disruption.

Example organisational indicators for a local authority responsible for maintaining the road network (excluding trunk roads and infrastructure under the responsibility of Transport Scotland):

- Proportion of A roads which require close monitoring
- Proportion of B roads which require close monitoring
- Proportion of A roads which may require maintenance
- Proportion of B roads which may require maintenance
- Proportion of road bridges which have been climate risk assessed
- Proportion of road bridges which may require maintenance.

(B1) Increasing business understanding of climate risks and adaptation action*:* businesses understand the risks posed by climate change and are supported to embed climate risks into governance, investment, and operations, and are collaborating on effective adaptation action.

Example organisational indicators for a public body that awards grant funding to businesses:

- Proportion of businesses in receipt of grant funding monitoring climate related risks
- Proportion of businesses in receipt of grant funding reporting taking action to adapt to the effects of climate change.

Options appraisal

Deciding what adaptation actions to take can be overwhelming, particularly with the uncertainties of future projections. However, it is important not to succumb to decision paralysis.

In order to make informed decisions about what adaptation actions will be included in adaptation plans, public bodies may consider carrying out an options appraisal. Below is some guidance on considerations to make during an options appraisal:

- Select assessment criteria relevant for your organisation: these will depend on your organisational context and situation. Potential factors to assess against include:

    - Resource availability – are there sufficient human, financial or physical resources for this option to be undertaken?
    - Organisational feasibility – how likely is it that the option would be supported and successfully implemented in your organisation? To what extent does it align with wider organisational priorities or objectives?
    - Efficiency – how effectively will the option address climate impacts
    - Costs – what are the up-front costs, upkeep and maintenance costs and are there are non-economic (i.e., social and/or environmental) costs?
    - Co-benefits – Are there wider, additional health and wellbeing, equity, social, economic, and environmental benefits or mitigation benefits?
    - Decision scale – can your organisation make or implement this option, or would it require buy in from other organisations or higher level of governance or decision making?
    - Level of risk– is it low regret, no regret or win-win?
    - Flexibility – can you alter the action in light of new information?
    - Timing or urgency – would the option be best implemented now or in the future?
    - Climate Justice – how does the option affect vulnerable groups or individuals?
    - Unintended Consequences – what knock on implication might this action have?
- This may require hosting a workshop or meeting to bring together relevant department heads or key decision makers to get their feedback.
- If appropriate, use decision support tools, such as:
    - Economic appraisals
    - Cost benefit analysis
    - Cost effectiveness analysis
    - Multi criteria decision analysis
    - Adaptation pathways assessment

More detailed guidance can be found in The Green Book: Central Government Guidance on Options and Appraisal and the supplementary business case guidance for projects and programmes.

It is important to remember that there is no final state to adaptation. Once strategies and plans are complete and action has been taken, this does not signify the end of the journey. Public bodies will need to periodically review strategies, plans, actions, and capabilities to ensure climate adaptation and resilience is maintained.

6.4.6.2 Financial planning for adaptation

In order to deliver value-for-money spending and reduce future losses resulting from climate change it is important that public bodies consider climate risks as part of long-term financial planning.

The cost of damages resulting from climate impacts are significant. Public bodies should firstly seek to understand potential costs associated with climate impacts on

their organisation. The Climate Change Committee's Monetary Valuation of Risks and Opportunities in CCRA3 offers details on the costs of climate change impacts. The Scottish Fiscal Commission's Fiscal Sustainability Perspectives: Climate Change report may also be of help.

With the impacts of climate change already felt, the cost to maintain current service levels are increasing. Public bodies delivering essential services should develop an understanding of their baseline service levels, the impacts climate change will have on these and the investment required to maintain current service levels in the changing climate. It is advised however, that all public bodies should consider this.

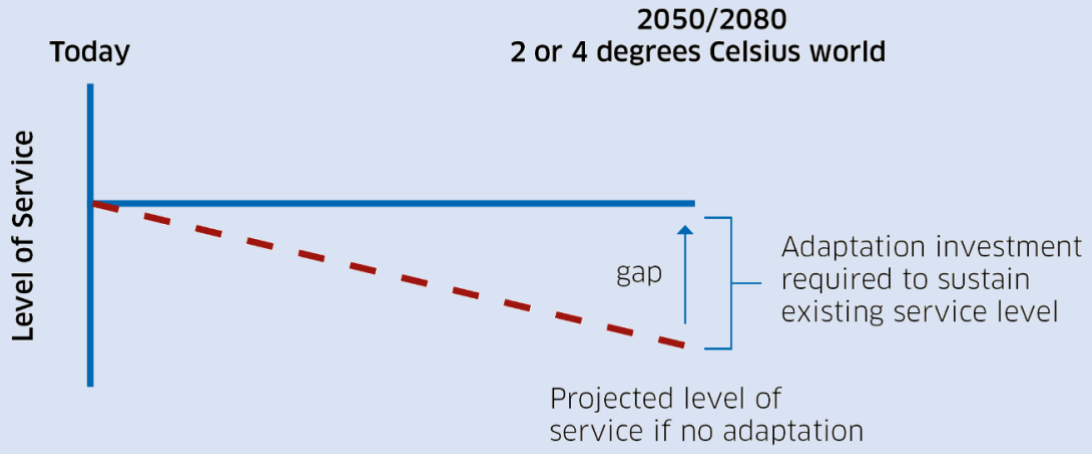
Public sector example:

Scottish Water - Sustaining services in a changing climate

Adapting infrastructure to cope with the challenges of climate change is a complex issue with infrastructure. Scottish Water is considering the implications of climate change in terms of the level of services provided by its infrastructure today, and the way in which this will be impacted by climate change over the next 25 years. This covers issues such as the hydraulic capacity of its networks, the balance between water resources and customer demand, and the increased risk to the integrity of its assets.

This enables Scottish Water to get a perspective on the adaptation requirements and costs to sustain today's level of service in a climate change future. This is important to enable the financial impact of climate change to be reflected in strategic investment planning. A simple model of this approach is shown below in figure 18.

Figure 18: Adaptation investment to sustain existing service levels



An example of this in practice is the service implications of more water pipe bursts. Scottish Water has identified a risk that there will be more bursts in the network in the future as soil moisture levels change, the ground moves and more bursts occur. If the rate of mains repair and rehabilitation is not increased there will be a deterioration in service and more customers may be at risk of service interruptions. It is possible using this approach to estimate how much Scottish Water may need to spend in the future to sustain today's service levels.

The Climate Change Committee have outlined an additional investment need (across public and private sources) of £10 billion per year this decade to help improve the UK's preparedness for climate change [39]. Increased investment will be needed to respond to climate impacts and public bodies should engage in preventative spend, whereby there is a recognition that early, preventative spend will save money in the longer term. Early, preventative spend in adaptation has been shown to save money in the longer term – with benefit-cost ratios ranging from 2:1 to 10:1, i.e., every £1 invested in adaptation could result in £2 to £10 in net economic benefits [40].

To support the mobilisation of additional resources, public sector organisations should develop an investment plan for climate adaptation, which develops a strong business case for their selected adaptation actions and the funding options.

Adaptation Scotland have developed a Guide to Climate Adaptation Finance, which identifies current barriers to adaptation finance, and aims to support development of the knowledge and skills needed to successfully finance adaptation projects in Scotland. This guide will be helpful to public bodies who are looking to assess financing options for climate adaptation related projects.

The Green Book: Central Government Guidance on Options and Appraisal and the supplementary business case guidance for projects and programmes can support in undertaking value for money appraisals which account for climate change. The CCC's Investment for a well-adapted UK report may aid in conversations around adaptation investment needs and support business cases.

6.4.7 Culture, governance and mainstreaming climate change adaptation

To ensure adaptation plans are implemented and the organisation is making progress with adaptation, it will need to align with organisational priorities, culture, and resources. Adaptation and climate considerations should be mainstreamed into procedures, investment decisions, plans, and policies. Adaptation considerations should become as standardised as operational or financial considerations. Adaptation should not be viewed as an add-on or a tick box exercise. Adaptation is about taking action now to future proof Scotland, and to respond to existing climate change challenges.

Successful climate adaptation needs:

- **strong leadership**: this is needed from senior leaders to help prioritise and accelerate adaptation, but it is also needed from key stakeholders across the

organisation, people who can act as “adaptation champions” in their business area
- **governance structures to support adaptation**: adaptation should fit into pre-existing organisational governance structures, but it is also helpful to set a clear structure for making decisions and providing assurance around adaptation
- **committed resources**: an organisation needs financial, human, physical and knowledge building resources committed to adaptation. These will likely be both internal and external
- **flexibility and reflection**: organisations should be continuously learning from previous experiences to help improve and adjust strategies, plans and actions and flexibility should be built into these to deal with changes and uncertainty.

Senior leadership in public bodies should prioritise and accelerate adaptation in their organisation, and should complete the Leaders’ Climate Emergency Checklist.

Public bodies should explore where adaptation considerations fit into existing governance structures (e.g., risk and assurance, investment planning, business case approvals, business planning, etc.) and establish governance arrangements for adaptation.

When adaptation is seen as an add on, or where the wider organisation is not supportive of adapting to climate change, it can be difficult to know where to begin to gain buy-in and to commit resources to adaptation.

The sections below offer points for consideration on how public bodies might seek to nurture their organisation’s culture to promote adaptation, identify and commit resources, gain buy-in and mainstream adaptation in business policies and processes.

Communicate climate adaptation and gain buy-in

- Take advantage of opportunities that arise from policy or legislation drivers, such as new regulations, mandates, or targets to incorporate adaptation.
- Use new publication of the Climate Change Committee’s Adaptation Progress Reports and Climate Change Risk Assessments to offer key windows of opportunity to argue for advance adaptation planning
- Use formal and informal meetings, events, and workshops to engage widely across your organisation and with external stakeholders including suppliers, community planning partners and the public on the topic of and importance of adaptation. This includes everything from informal one to one discussions through to more formal presentations and awareness raising workshops.
- Consider using alternative phrases to communicate adaptation in a way that is meaningful to different stakeholders: e.g., business continuity in a changing climate, flood risk management, futureproofing, sustainable development, risk minimisation, climate justice etc.
- Start by selecting one or two relevant policy areas and identify how existing adaptation policy hooks could be used to strengthen your organisations approach to adaptation. Look for hooks such as business continuity, flood risk management, sustainable procurement, risk prevention.

- Use the Adaptation Scotland programme and Climate Outreach's values based guide to communication to find out about communicating adaptation and research the best approach for your stakeholders. If you communicate with stakeholders in a way that is meaningful for them, they are more likely to make time for discussions around it.
- Include climate adaptation in induction materials.
- Align adaptation with job descriptions to encourage responsibility and action.
- Identify potential adaptation champions who are knowledgeable and enthusiastic advocates for adaptation. Ideally the number of adaptation champions will develop over time and will include people working across the organisation in a wide range of different roles.
- Identify specific roles and or 'asks' that adaptation champions could contribute to. This could range from supporting awareness raising, joining an adaptation steering group or influencing adaptation within specific projects/ departments. Look for and create opportunities for champions to present and speak publicly about climate change adaptation at internal and external events and conferences.
- Ensure climate adaptation and risk information is made digestible, relatable, and accessible.
- Get senior management to review the Adaptation Section of the public bodies climate change duties report and take accountability for the organisation's progress.
- Create a buzz around celebrating adaptation. Use internal and external communications to celebrate staff, departments or projects that have contributed to adaptation. This will also help raise awareness of what adaptation looks like in your business and provides opportunities for shared learning.
- Embed adaptation across the organisation through cross-departmental working groups, adaptation champion networks or allocating departmental, team or individual climate change responsibilities or objectives.

Commit resources

- Identify existing relevant resources within your organisation that may be available to support adaptation work.
    - **Human resources** - Identify job roles, teams, committees or individuals that may already be developing policies, plans or actions aligned with adaptation or who have knowledge of climate change issues and duties.
    - **Physical and material resources** - Understand the different types of assets and what their roles in adaptation might be. Identify any assets that your organisation owns or manages that support resilience and adaptation (for example flood prevention infrastructure or estates and greenspaces that provide ecosystem services).
    - **Financial resources** - Examine what funding is currently allocated to support work aligned with adaptation and what funding opportunities exist.
    - **Intellectual resources** – Catalogue the skills that your organisation has access to that could help with adaptation work (for example risk managers, engineers, GIS and data analysts, community engagement,

resilience practitioners, communication or environment specialists and those with facilitation skills).
    - **Information resources** - Determine what adaptation information (including records of climate impacts) your organisation currently promotes internally and or externally and identify who holds these resources.
    - **Monitoring resources** – Understand what resources (staff, processes, metrics and indicators) the organisation has for monitoring, evaluating, and reporting. Continue to review and update an internal resources list.
- Clearly define the short-term adaptation activities that require resourcing. Estimate the resources (for example staff time, funding, access to technical expertise) required to deliver the activity.
- Where there is a resource gap (i.e. there are not enough existing resources available to deliver the activity) identify a budget holder or funder who may be able to resource the activity and find out about the procedure for submitting a budget request. Alternatively build a business case to resource adaptation activity.
- Increase understanding of internal budget and investment cycles to see where you might approach people for budget considerations.
- Identify lead in times and business cases requirements for annual and multi-year budget allocations.
- Find out if partner organisations are planning to carry out similar adaptation activities and explore opportunities to share resources such as data, technical expertise or staff time.
- Identify opportunities to share resources, benefit from in-kind support and reduce duplication of effort.

Mainstream adaptation

Nurturing a positive culture to adaptation and mainstreaming it in the organisation may not be a quick process, however investing time and effort to integrate adaptation into ways of working will have long term benefits when adaptation is seen as business as usual. Be patient and flexible; allowing multiple iterations and time to embed.

- Consider how internal policies or legislation may further enable adaptation and take advantage of opportunities such as consultation on new or review of pre-existing policies and strategies to submit comments on how adaptation could be included or incorporated.
- Create a list of upcoming policy and strategy review opportunities and allocate time to providing consultation responses or feedback on those with greatest potential to influence adaptation.
- Speak with colleagues about incorporating adaptation into existing processes which can be used to screen new policies, plans, strategies and projects for climate-related threats and opportunities. Example processes and guidance which can incorporate adaptation include spatial planning, sustainable procurement guidance, business continuity arrangements and estate asset management guidance.
- Identify timescales and processes for factoring adaptation into all relevant policies, plans and projects.

- Provide evidence and communicate how and why adaptation should be included in strategic plans such as your organisations corporate strategy or asset management strategy.
- A requirement for climate resilience should be included in relevant supplier contracts.
- Carry out a Climate Change Impact Assessment using this guidance from the SSN.
- Link adaptation work to your organisational outcomes and demonstrate the importance of adaptation to the overall organisation by showing how existing adaptation work contributes to achieving organisational objectives or how planned adaptation work will support progress towards organisational outcomes; provide evidence of social, economic, and environmental benefits. Integrate climate change adaptation into pre-existing established programs, policies or strategies.
- Provide guidance to the organisation's leadership on optimal ways to incorporate climate change adaptation considerations into critical decision-making.
- Embed climate risks, adaptation actions or relevant climate resilient KPIs in your corporate strategy and performance framework.
- Climate impacts should be considered early on in business case development and adaptation actions should be designed and costed in at an early stage.
- Use your organisation's risk registers (at corporate or service level) as a way to heighten awareness, consideration and action on climate adaptation. Work with your organisation's Risk Manager to define and embed adaptation risk within your risk register.
- Ensure it is clear where accountability for climate change lies, and where individuals and groups have defined responsibilities. This can be done on the back of your climate change risk assessment to establish risk owners.
- Consider accreditation to, or working towards, ISO 14090:2019, Adaptation to climate change - Principles, requirements and guidelines.

6.4.8 Collaboration for adaptation

Adaptation is not possible without collaboration. No organisation can adapt in isolation; by working together public bodies can achieve positive, cooperative adaptation outcomes.

It is imperative that public bodies establish good relationships and connections with key partners across the space, place, community and system in which they operate. Collaborating allows for knowledge sharing, resource sharing, joined-up solutions and inclusive adaptation.

It is also crucial to the success of certain adaptation actions. All key partners need to work towards the same goal: often a break in this chain can lead to unsuccessful adaptation or greater resource spent on trying to fight against the outliers.

The Christie Commission Review of Public Services in Scotland (2011) presented a number of recommendations all of which were accepted by Scottish Government.

The four main themes were: prevention, partnership, people and performance. All remain relevant but the first two are especially relevant to the management of climate risks through adaptive approaches, requiring both preventative spend and working in partnership. This requires the right people and organisations to act at the right time, to the right degree and in the right place to maximise the combined impact of resources. This governance challenge, the timely alignment of priorities and resources across different public bodies and the private sector, remains a key Christie Commission challenge.

To build the organisation's capacity to collaborate, public bodies should seek to:

- join relevant networks for their sector or for climate adaptation – more can be achieved by learning from and sharing with others
- engage with a wide range of stakeholders on an on-going basis
- take participatory and bottom-up approaches
- work in partnership to achieve adaptation outcomes
- take joint action to adapt to climate change.

The sections below offer points for consideration on how public bodies might seek to nurture their organisation's ability to collaborate to adapt to climate change.

Collaborate for adaptation

- Identify and contact priority member organisations or individuals that can support your adaptation work.
- Arrange meetings with a small number of identified groups or individuals who may be relevant to your adaptation work. Have informal conversations, learn about what they are doing and where there may be overlaps with your organisation's current or planned activities. Consider potential areas for collaboration.
- Identify simple, quick actions that you can take forward with partner organisations to help develop collaborative working. This may include sharing data and information about climate impacts, methods for assessing climate risks and case studies of adaptation actions.
- Identify whether there is interest from partners in developing two or three longer term opportunities to collaborate on adaptation. Consider developing basic project outlines and scoping out potential funders and opportunities to influence progress and implementation. It is often easier to identify funding and take up new funding opportunities as they emerge if you have a basic project outline in place.
- Identify different options for formalising partnership working and assess the strengths and weaknesses of each. Considering the role and remit of partnership working and developing a business case will assist with this process.
- Create a joint vision amongst partners. Agree desired outcomes; consolidate partners' aims in a shared vision that you are collectively working towards; create a programme of work together to achieve the agreed vision, that supports each partner's aims.
- Consider the role and remit of partnership working:
    - What is the vision, aims and objectives that the partnership is seeking to achieve?

    - What will the partnership deliver? For example, will the partners deliver a joint strategy or plan? Will the remit of the partnership extend to implementing the plan and delivering joint action? Or do partners want to focus on delivering a specific project?
    - How will the partnership be structured? For example, will the partnership be made up of one partnership board, an open networking group or a combination?
    - What legal structure does the partnership require?
    - What is the lifespan of the partnership? Will it operate for a limited time? Or be open ended?
- Consider climate justice, health and equity – at an early stage reflect on how climate justice is considered as part of your engagement on adaptation. How can you enable vulnerable groups to influence the adaptation actions that affect them? The Climate Just Tool may help in this or reference to the Adaptation and social justice report from the Climate Change Committee.

Climate justice
Climate justice addresses the disproportionate impacts of climate change on vulnerable communities and systems. Prioritising equitable outcomes ensures that adaptation projects are inclusive and comprehensive, and supports a just transition. For instance, when developing flood resilience initiatives, climate justice entails actively seeking the input of marginalised communities who often bear the burden of such events. This approach can result in more resilient strategies that cater to and accommodate the often very context-specific needs of these communities and reduce the likelihood of future resistance.

- For place based projects working at a localities scale - identify other projects, partnerships and initiatives that are seeking to influence change within the location that you are targeting. At localities scale it is important to work with others to integrate adaptation as part of projects and initiatives that are addressing the outcomes and priorities that communities have identified.
- Monitor and evaluate the delivery and implementation of shared actions and assess their impact.
- Undertake long-term planning and look for projects or issues that would benefit from collaboration
- Design an engagement strategy and plan to continue to engage with partners. Refresh this periodically to ensure it maintains up to date.
- Contact Local Councils within your area to discuss joint action: Adaptation Scotland :: Local Authority Climate Contact Directory
- Identify existing partnerships you already have that could be used to progress adaptation.
- Identify existing groups, partnerships and forums that you could contribute to and learn from in the adaptation space. Groups to examine may include:
    - Climate Action Hubs
    - Community planning partnerships
    - Environment partnerships or forums
    - SSN Local Authorities Forum
    - Green network partnerships

    - Regional resilience partnerships
    - Flood Risk Management Local Plan District Groups
    - Regional climate adaptation initiatives such as:
        - Climate Ready Clyde
        - Climate Ready South East Scotland
        - Aberdeen Adapts
        - Highland Adapts
- Join networks to meet others working on adaptation to benefit from shared learning and opportunities to work together formally or informally. Relevant Networks may include:
    - Sustainable Scotland Network (SSN)
    - Adaptation Scotland's Public Sector Climate Adaptation Network
    - SSN's Local Authority Forum.

6.4.9 Additional sector specific resources

Coastal change
Information and guidance on coastal change is provided on the Dynamic Coast website. This includes guidance, aimed at local authorities, on developing a Coastal Change Adaptation Plan (CCAP). NatureScot have published guidance on Looking ahead: planning for coastal change.

Further and higher education
Risk register guidance, including a tool and template, for the further and higher education sector has been published by EAUC.

Land use and forestry
Climate change will have significant impacts on land, and implications for land use. How the land is managed and used in Scotland must change and adapt to address the climate and nature crises. This is a core part of Scotland's National Adaptation Plan (SNAP3).

Moreover, healthy ecosystems underpin healthy societies and economies: they can both help to mitigate climate change and help to protect communities and businesses against climate related hazards. There is a strong case for investing in nature-based solutions to build resilience to climate risks.

Below is a list of resources that may be useful:

- Land Use, Land Use Change and Forestry briefing (UK Climate Risk): summarises how land use, land-use change and forestry (LULUCF) has been assessed in the latest UK Climate Change Risk Assessment (CCRA) Technical Report, and what types of action to adapt to climate change risks and opportunities would be beneficial up to 2027.
- Land Use and Climate Change Adaptation in Scotland: Insights report (Adaptation Scotland, 2023): sets out current perceptions, the barriers to including adaptation in land-related decisions and identifies priorities to enhance climate change adaptation and resilience in the context of land use and ownership in Scotland.

- Forest Research Climate Change Hub provides a wealth of adaptation resources for the forestry sector in Scotland. This advice is also useful for those who manage land that is or will be a wooded area.
- Adaptation and the nature emergency report (Climate Change Committee, 2023).

Health, wellbeing and equity
Public Health Scotland, Adaptation Scotland and the Improvement Service have produced a briefing Working together to build climate-resilient, healthy and equitable places: A briefing for local government and partners.

The UK Health Security Agency recently published the first Health Effects of Climate Change (HECC) report drawing together the latest evidence on how our changing climate is already impacting on the UK's health and publishing future projections based on a plausible worst case scenario.

Scottish Public Health Observatory Online Profile tools **-** the profiles present a range of indicators to give an overview of health and its wider determinants at a local level. The profiles give a snapshot of health for each area and highlight variation through a variety of different visualisations.

7. Implementing the third duty: acting in the most sustainable way

The third of the climate change duties set out in section 44 of the Climate Change (Scotland) Act 2009 requires public bodies, in exercising their functions, to act in the way that they consider to be most sustainable.

The National Performance Framework (NPF) is the overarching framework within which the work of central and local government, and the wider public sector, takes place. The NPF National Outcomes are aligned with the United Nations Sustainable Development Goals (UN SDGs). Section 1 of the Community Empowerment (Scotland) Act 2015 requires public authorities, in carrying out their functions, to have regard to the National Outcomes.

Public bodies are, in addition, required to contribute to the achievement of sustainable development under various other pieces of Scottish legislation.

To help demonstrate compliance with the third duty, public bodies should:

- align their work to the NPF and delivery of the National Outcomes and, as best practice, to the just transition principles
- ensure that sustainable development is embedded in strategies, policies, plans and projects
- integrate a sustainable development impact assessment, or equivalent, process into decision-making processes, including financial decisions
- ensure that procurement activities are undertaken in line with relevant legislation and the Sustainable Procurement Duty
- monitor and evaluate policy implementation and outcomes against the five principles of the UK Shared Framework for Sustainable Development.

Key outcomes for public bodies will be that:

- potential policies and decisions are, before they are finalised, assessed for fairness, ecological impact, economic sustainability, whether they are based on good evidence, and whether those who are likely to be affected have had a chance to participate in the decision-making process
- activities remain within planetary boundaries, and focus on the fair distribution of both benefits and disbenefits
- good governance for sustainable development ensures participation, accountability and transparency
- the procurement process is used as an opportunity to maximise social and environmental, as well as economic, benefits; and to ensure that environmental and other harms are minimised
- they contribute, through their functions, to the National Outcomes and achievement of the UN SDGs.

7.1 Introduction to the third duty

The third of the duties set out in section 44(1) of the Climate Change (Scotland) Act 2009 is about acting in the most sustainable way. This duty may be the most important in ensuring a holistic and integrated approach to the future.

At present, there is no definition of 'sustainability' or 'sustainable development' in Scottish or UK legislation, and 'sustainable development' has often been misconstrued. Therefore, this chapter starts by providing a brief outline of what the Scottish Government considers sustainable development to mean and require before providing guidance on implementation.

The third duty is about mainstreaming sustainable development into the functioning of Scottish public bodies. Sustainability considerations should not be tagged onto business as usual activities; rather sustainability practices should be integral to the functions of the organisation. Work should be carried out in way that supports sustainable development. This is a requirement, not just of the 2009 Act, but of various other Acts of the Scottish Parliament [41].

7.2 Sustainable development: background and context

7.2.1 What is sustainable development?

The term 'sustainable development' is used to mean many different things, and to justify and bolster different perspectives and interests [42]. This section starts by taking a look at the UN definition, why it is important, the UK Shared Framework and how the principles can be implemented.

The UN defines sustainable development as development that meets the needs of the present without compromising the ability of future generations to meet their own needs [43].

> "Sustainable development is how we must live today if we want a better tomorrow, by meeting present needs without compromising the chances of future generations to meet their needs. The survival of our societies and our shared planet depends on a more sustainable world."
> - United Nations [1]

7.2.2 Why might we want to develop sustainably?

When considering why we might want to develop sustainably, it can be useful to first consider unsustainable development. Unsustainable development occurs when people act in a way that has immediate or short term benefits, often restricted to particular individuals or interest groups, at the expense of the environment or other people and the wider community. For example, dumping waste chemicals into a watercourse may benefit the owner of a manufacturing business by minimising waste treatment costs, and so allow them to expand their business rapidly with the aim of generating financial profit. This may produce wider short-term benefits, such as increased local employment opportunities. However, it is likely to negatively impact on the local environment and on communities downstream. The chemicals may

poison fish populations, resulting in negative impacts on the fishing industry on which other communities depend. Over time, chemicals may build up in the river sediment resulting in toxicity levels that are harmful to humans and mean that access to the area has to be restricted, or that clean-up costs are imposed on those who want to restore the waterway or utilise the area in the future.

Unsustainable development can contribute to and compound environmental degradation, pollution, social and economic inequalities and climate change. In turn, these can result in poor health outcomes, poverty, hunger and conflict over access to resources and opportunities.

Conversely, sustainable development takes a longer-term and holistic view and aims to balance economic growth, social inclusion and environmental protection [44]. Where sustainable development is achieved, everyone has access to education, health care and fair work; and use of natural resources stays within environmental limits.

7.2.3 Bringing about sustainable development – the challenges

Sustainable development is not a straightforward and easy state of affairs to bring about, in part because it requires fundamentally shifting the developmental pathway of our society as a whole. The current dominant model of societal development has taken us to a point where the ways in which we live pose a threat to our own wellbeing. In other words, the nature of many human societies that exist today cannot be sustained in their present form in the long term.

There are relatively few examples of contemporary ecologically and socially sustainable societies. There is no clear precedent for transitioning from a large scale consumption based society to one that works in harmony with the ecosystems of which we are a part, but there are many possible pathways that could be followed.

This means that there is no single or uniform ‘solution’ that everyone can apply. Rather we need to understand and apply sustainable development principles and thinking to our work and to developing interventions and initiatives to address human-induced ecological change and social inequity wherever we are. This will mean transformative changes to our systems, processes and way of life. Sharing information about what has been tried, what has worked, and what has not, will of course be critical, but no one size will fit all.

However, this chapter provides some information to help public bodies that are at an early stage on their sustainability maturity journey to implement the sustainable development duty. It briefly sets out reference information about the duty and about sustainable development, plus some ways in which organisations can begin to implement the duty, including how sustainable development can be put into practice, with an emphasis on avoiding conflicting policies and decision making.

Developing initiatives and interventions for sustainable development requires an understanding of the problem of unsustainable development, and a thoughtful and intelligent, evidence-based, approach that is context specific. There is no recipe or checklist that all public bodies can all follow, but rather a multiplicity of possible choices, based on the specific situation.

The two essential principles or conditions of sustainable development are set out in the UK Shared Framework for Sustainable Development, outlined in the sections below.

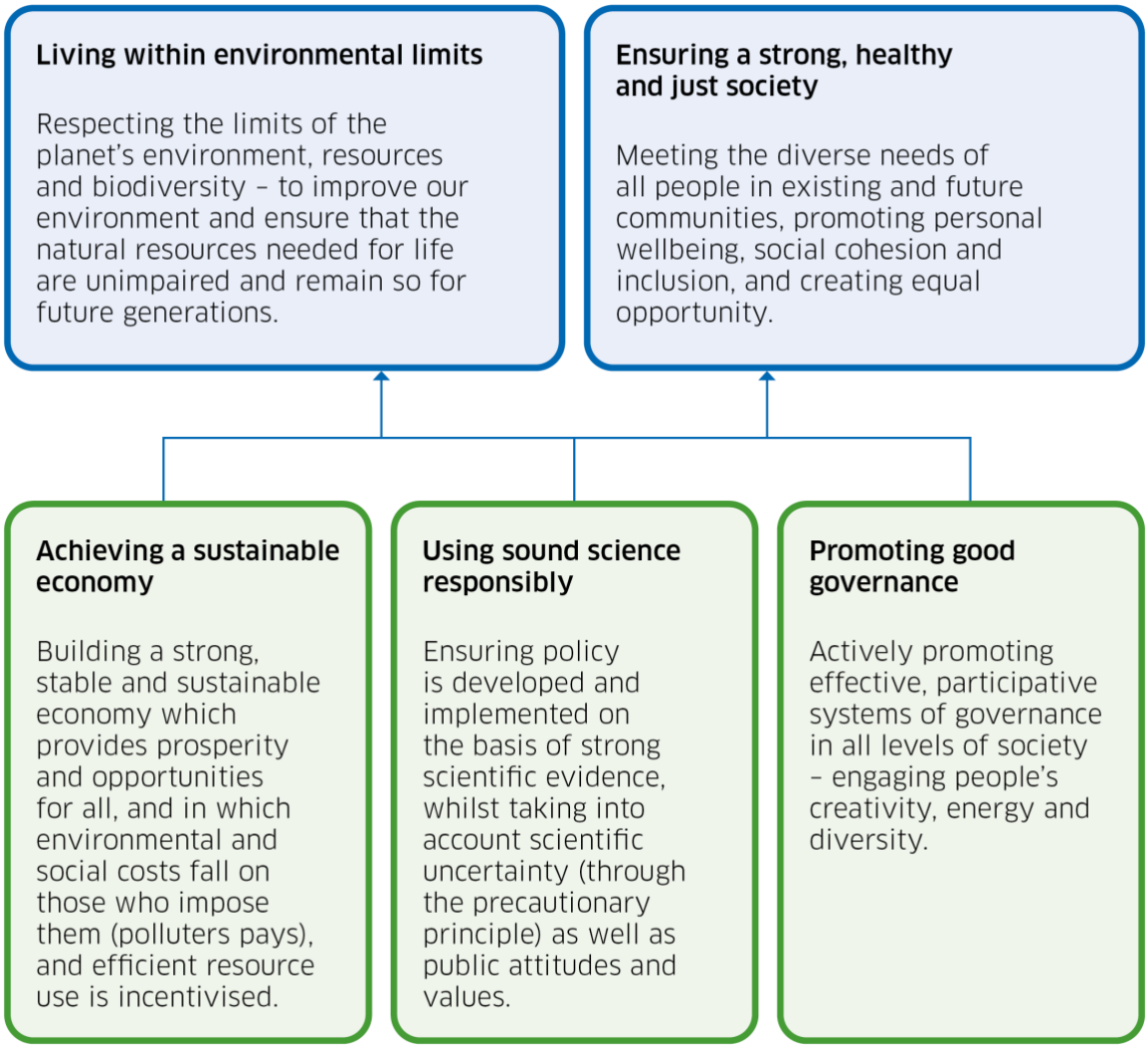
Further resources can be found on the SSN website.

7.3 The UK Shared Framework for Sustainable Development

The UK Shared Framework (see figure 19) shows two essential conditions for sustainable development on the top line – living within environmental limits and ensuring a strong, healthy and just society - plus three supporting conditions:

- a sustainable economy – one which does not breach environmental limits, and whose benefits and disbenefits are distributed fairly
- sound science – ensuring that policy is evidence based
- good governance – based on participatory decision making.

Figure 19: the UK Shared Framework for Sustainable Development (2005) [45]



This framework clearly shows that sustainable development has two key goals – environmental and social, and three important means (among others) to support their achievement– a pro-social and pro-ecological economy; evidence based decision making; and participatory governance. Together these are known as the five principles. It focusses on the original problems that the notion of sustainable development was created to address: social-ecological wellbeing.

The UK Shared Framework definition is the one which Scottish Government uses, and that public bodies are encouraged to adopt.

7.3.1 Implementing the five principles

As noted above there is no checklist or recipe for sustainable development.

However, good starting points are:

- thinking about how the five principles of the UK Shared Framework can be applied
- undertaking appropriate impact assessments as outlined in section 2.2. Bodies could consider using a specific sustainable development impact assessment (SDIA) tool, such as the tool developed by the Scottish Parliament, or, if more appropriate, the health impact assessment (HIA) tool developed by Public Health Scotland. Both are freely available online, along with guidance and contact information. Both impact assessment tools are based on key factors for wellbeing and sustainable development.

Working for sustainable development requires a thoughtful and intelligent approach. In addition to using impact assessment tools, public bodies may find the following problem-solving approach relating to attitude, methods and supporting activities helpful. As best practice, bodies should embed these principles into their approach and working practices.

Attitude

Three key attitudes to solving problems and making change are:

- **Curiosity:** always ask ‘what is going on here?’ Understanding and breaking down a problem situation is essential to developing effective solutions.
- **Criticality:** this does not mean criticising people, it means challenging one’s own assumptions and those of others. For example, ‘we’ve always done it this way’ is a common, but dangerous, assumption that a process that was instituted in a previous set of circumstances is still fit for the current set. This is not always true. For example, just because we started using lots of nitrogen fertiliser to increase crop yields as human populations expanded, does not mean that it is still a good idea: its production is energy-intensive and results in greenhouse gas emissions [1, 1].
- **Compassion:** to work effectively with people, it is important to interact with them in their space, and to understand their situation as best we can. Respecting and utilising their expertise, and working with them to make change in their areas is often much more effective than trying to force ideas onto them. Empowering others with knowledge, ideas and new ways of seeing the world, or a particular problem is key – when someone changes their thinking, they carry that new thinking with them, and can work out what needs to change in their domain, and perhaps more importantly, how.

Method

1. **Acquire expertise:** this can be done by finding and or building up in-house expertise and seeking external support, including through relevant networks. Knowledge is key to the next step.

2. **Understand the problem:** understanding a problem is the first step to solving it. The sections below set out the key problems that each of the five principles seeks to address, and some thoughts on implementation.

3. **Consider whether and how your organisation, or the public you serve, are contributing to, or are affected by, the problem:** it may be both – for example, the latest research on planetary boundaries (see figure 21, below), shows that novel entities – human-made or human-altered substances and organisms – in the environment present a very high risk. Nevertheless, we continue to put vast amounts of them into the air, water and soil, often without being aware of the fact that they might be helping to destabilise planetary systems, and our own body systems.

   For example, you might want to find out what human made chemicals are used in, or by, your organisation, or those you regulate or have an influence over, whether there is data available on how safe they are for humans and for ecosystems. What might be the consequences of not changing this state of affairs? Who might be being affected, including as part of supply chains or disposal processes? What about ecological effects?

4. **Identify what needs to be done:** it is useful to envision what the best outcome would be, e.g. no use of harmful human made chemicals, or no use of those whose safety has not been proven.

5. **Assess how your organisation can support, or participate in, working towards that outcome:** what further information might you need to gather? What levers are available to you? What are the decisions and actions required? Who holds the power to make decisions in this situation? Who is likely to support or be able to help you?

Alongside this process of defining and breaking down a problem and possible solutions, there are supporting activities that bodies can undertake, that could help and improve problem-solving:

- **Starting and maintaining conversations:** people – colleagues and stakeholders – are the holders of knowledge about current practices and possible future solutions. Invite and encourage them to get involved: complex problems with no clear solutions are much better addressed by a diverse group of people who bring different knowledge, experience, and expertise to the table.

- **Build coalitions:** trust-based relationships, both inside and external to your organisation, with those who share your interest in a particular problem can help you to access some of the different decision makers who will need to sanction or implement new processes, such as phasing out cleaning chemicals and using more eco- and human- friendly alternatives.

- **Develop and test initiatives and interventions:** as there may be no tried and tested solution to your sustainable development problem, use your allies to help you come up with, and trial, possible solutions. Reflect on what went well and what didn't, and refine your solutions accordingly.

Table 4 below shows how each supporting activity can help to understand and ameliorate the problem situation.

Table 4: Activities to support sustainable development thinking

<table>
<tr><th></th><th>Build expertise</th><th>Understand the problem</th><th>Assess the causes and effects of the problem</th><th>Identify the desired outcome</th><th>Consider how to work towards the desired outcome</th></tr>
<tr><td>Conversations</td><td>Can help you develop your expertise.</td><td colspan="2">Can help you to unpack the problem situation.</td><td rowspan="2">Can help you to envision what a desirable future might look like.</td><td rowspan="2">Can feed knowledge and ideas into your thinking about how to address the problem</td></tr>
<tr><td>Coalitions</td><td>Allows you to tap into the expertise of others and work together on the problem</td><td colspan="2">Bring different views to the table.</td></tr>
<tr><td>Testing solutions, reflecting and refining</td><td>Support the development of your know-how.</td><td colspan="4">What doesn't work tells you more about the problem.
What works well tells you where to put more emphasis.</td></tr>
</table>

The following sections provide more information on environmental limits, a just society, a sustainable economy, sound science and good governance. Each section outlines the key problem of unsustainable development that the relevant sustainable

development principle seeks to address. This is followed in each case by some comments on organisation-specific implementation.

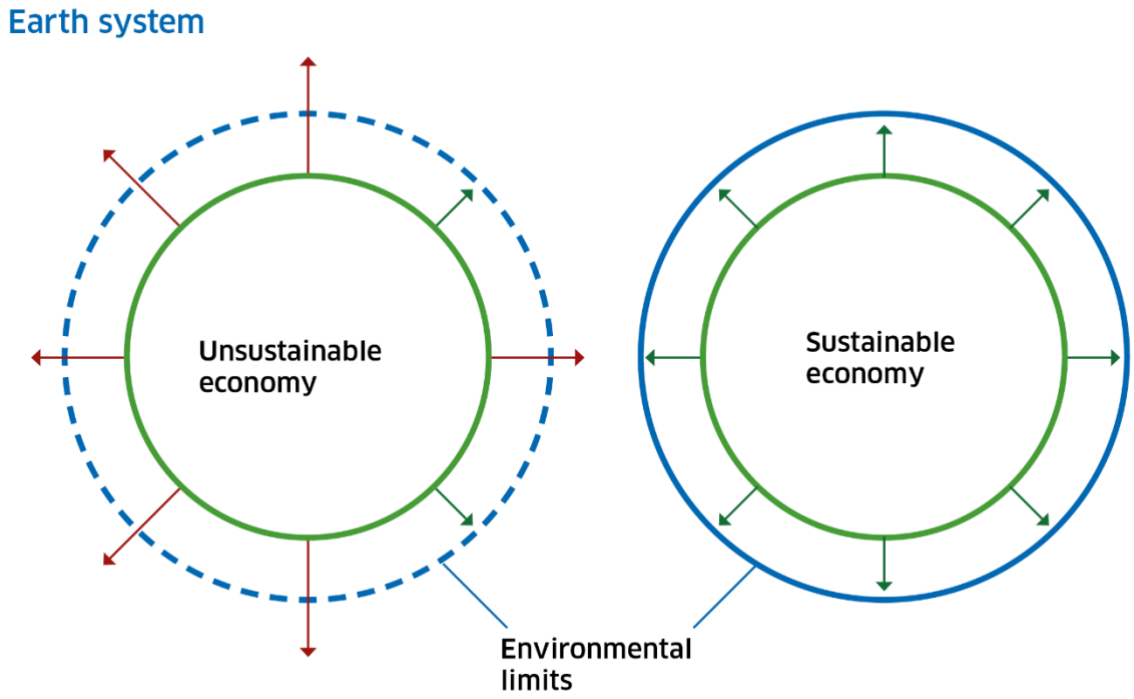
7.3.2 From environmental limits to planetary boundaries

Environmental limits

An environmental limit is an estimate of how much harmful impact a particular Earth system can tolerate before it changes in a way that is a risk to humanity. For example, warming of 1.5°C above pre-industrial levels is an environmental limit beyond which the climate is increasingly likely to become a threat to human societies [46].

Figure 20 below compares sustainable and unsustainable economies. It visualises how an unsustainable economy breaches environmental limits (the red arrows), causing the safe and stable space for humanity to deteriorate, whereas a sustainable economy remains mostly within environmental limits (the green arrows), thereby safeguarding the ecological stability that allows us to thrive within the Earth system.

Figure 20: Environmental limits (adapted from Michael Jacobs' original included in 'The Green Economy: environment, sustainable development, and the politics of the future' [47])

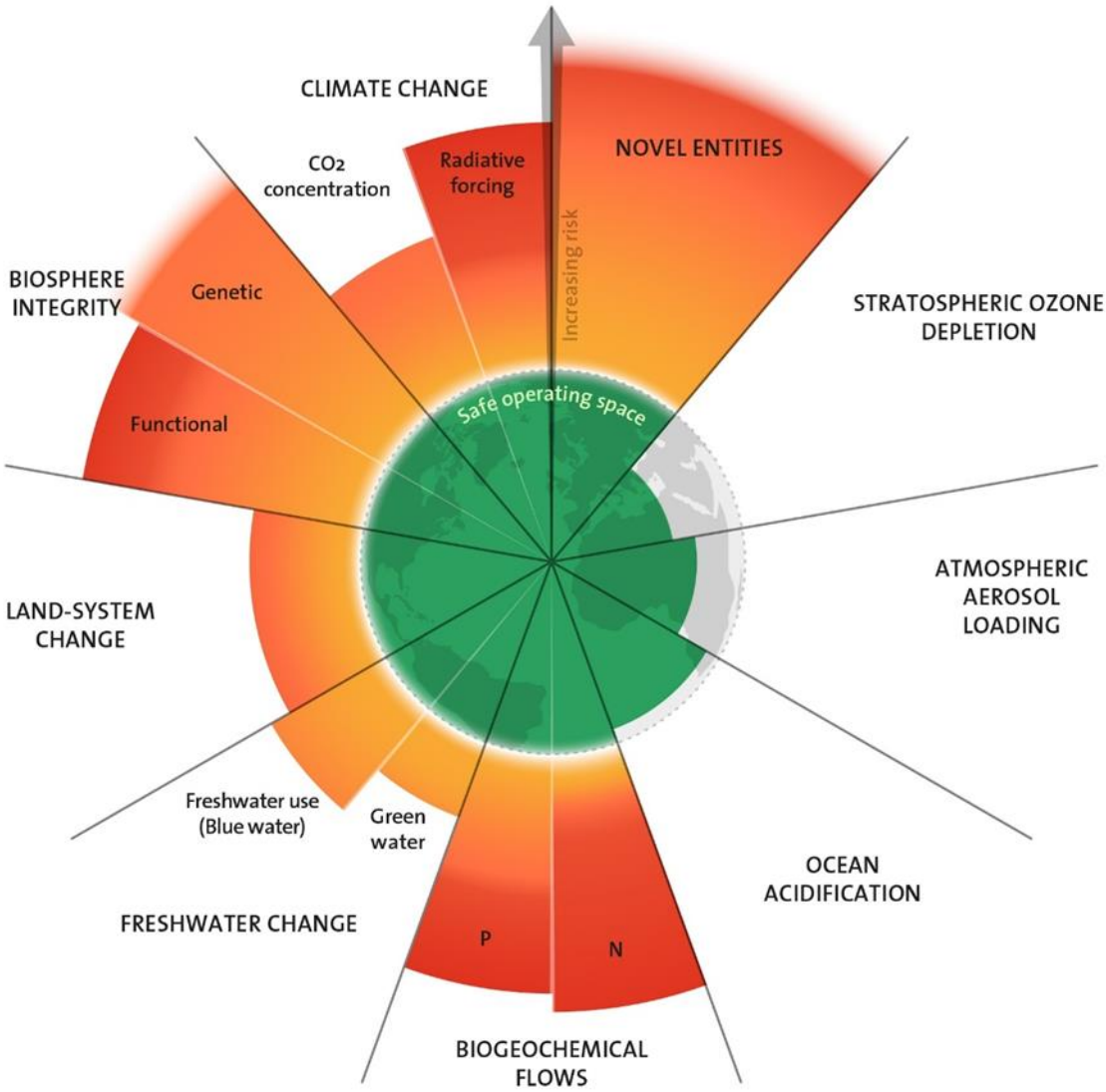


This model has been refined by Earth system scientists, and we now have a much clearer idea of which environmental limits, or 'planetary boundaries' are critical to the survival of human societies.

Planetary boundaries

There are nine major systems and processes whose functioning and stability are thought to be critical to human societies, see figure 21 below. Transgression of the planetary boundary of any of these thresholds could tip important sub-systems, such as the monsoon system "into a new state... with deleterious or potentially disastrous consequences for humans" [48].

Figure 21: the 2023 update to the planetary boundaries [49]



The planetary boundaries model depicts a 'safe operating space' – the green inner circle – which shows the extent to which human activities can probably safely disrupt Earth systems. Beyond the safe operating space is the zone of increasing risk, which becomes higher further away from the centre of the diagram. Those planetary systems which are represented by only a green wedge, such as the ozone layer, are thought to be functioning well enough not to present a risk to human societies. However, those wedges which are orange- or red-ended show systems that have

been severely disrupted, and whose altered functioning is a risk to us. It is important to note that Earth systems are interlinked, and the disruption of one of them is likely to affect others.

Further information: Planetary boundaries - Stockholm Resilience Centre

7.3.2.1 Working to minimise impacts on key planetary systems

This section illustrates how the key principles outlined in the approach above can be applied to minimise our impact on the planetary boundaries.

1. **Acquire expertise:** Since the publication of the first planetary boundaries model in 2009, we have learned much more about the state of the Earth system, and the extent of disruption of the nine planetary systems that are essential for the survival of human societies. More information about the global scale of the problem can be found from the Stockholm Resilience Centre.

   Work has also been done to look at more local contributions to ecological disruption, e.g. by the Good Life for All within Planetary Boundaries project.

   Other sources of expertise might include colleagues in the your own organisation, other public bodies, including academia, and consultants.

2. **Understand the problem:** One route to understanding a complex problem, such as that of planetary boundaries, is to work out what its most essential components are, e.g.
   - human societies depend on Earth systems, but are damaging and disrupting them
   - because of this, Earth systems are changing, which may cause societal collapses [1].

   Once you have understood this, and gained some knowledge about the details, you can begin to assess your context

3. **Consider whether and how your organisation, or the public you serve, are contributing to, or are affected by the problem:** Looking at the UK-level disruption of planetary boundaries on the A Good Life for All within Planetary Boundaries website, we can see that:
   - per capita carbon dioxide emissions are nearly eight times higher than the planetary boundary allows for
   - phosphorus use is nearly six times higher than it should be
   - nitrogen use is just over eight times higher than it should be
   - blue water (surface and ground water) use is less than half the threshold value

- the amount of energy we consume by using other organisms, e.g. for food, fuel, fibre, or by changing land from a state that can capture the sun's energy for food and support food chains (e.g. a forest), to a state that does this less or not at all (e.g. cropland, or a car park) , is just under the maximum level it should be
- in addition, our ecological and material footprints – measures of our consumption – are just under two and a half, and three and a half times the maximum they should be.

Consider questions such as:

- Which of these impacts are affecting the public or organisations you serve or regulate?
- Which of them is being created in your geographical or regulatory area?
- Which do you have influence over?
- Which of them do other public bodies have influence over?
- Which bodies could you work with to bring these impacts to within safe levels?

4. **Identify what needs to be done:** what is the outcome you want to see? For example, the amount of nitrogen that is industrially or intentionally converted from a gas in the air to, for example, fertiliser, is eight times higher than safe levels. Perhaps we might want to see an eightfold reduction in the use of nitrogen fertiliser? Or the cessation of industrial nitrogen fixation, or of its importation?

   What steps might we have to take to move towards our desired outcome? Who can help plan these steps?

5. **Make a plan:** which sets out how you and your organisation might support or participate in moving towards the desired outcome; which aspects of the solution are within your gift; what actions are required from others, and in what order; how you might make a space for collaboration, and bring actors together. For example, if you have responsibility for public land, such as parks or golf courses, you might want to start by checking the Scottish Government's Principles for Sustainable Land Use established through the Scottish Land Use Strategy. You may also want to explore specific site related land management practices, such as whether nitrogen fertiliser is being used on them. If it is, your next step might be to consider and discuss alternatives with experts and stakeholders, and agree on what actions can be taken. How will you monitor progress and outcomes?

6. **Reflect on, and adjust your plan as you progress:** as you and your collaborators move forward with the plan, keep reflecting on what has worked, and what hasn't. Adjust your plan based on your reflections. Reflecting together can be far more powerful than reflecting alone.

7.3.3 Social equity

As a social species, our brains are hard-wired to dislike unfairness. This helps us to cooperate, which we need to do because we are generally far less likely to survive as isolated individuals. In fact, there is significant evidence to show that more unfair societies are worse off on the whole.

For example, the Equality Trust which focusses on socio-economic inequality points to bodies of research[50] which show that:

- rates of violent crime are higher in more unequal societies[51], which would make societies less safe
- higher income inequality results in lower levels of trust, which we need for social cohesion and cooperation
- The main factor that determines both health and educational outcomes is socio-economic status[52]
- Obesity rates are significantly higher in more unequal societies. The US, for example, has one of highest rates of inequality and also obesity
- Income inequality is linked to higher prisoner rates and harsher punishments.

These issues of inequality affect societal functioning and collective and individual wellbeing. Research carried out by two of the founders of the Equality Trust shows that poor outcomes (in states with high monetary incomes), are more related to inequality than average income [53] . Societies where income is distributed more equally are more beneficial for their members, and score better on an index of health and social measures. Unequal societies, even those with higher average incomes, scored worse. There is no clear relationship between income levels and health and social problems. This evidence suggests that the pursuit of equality or equity might be more effective in improving social function and individual health than the pursuit of income growth.

In order to develop into societies that are not creating the conditions likely to lead to their own collapse, and which function well because individual members are well, as are their relationships with each other, **our activity should remain within planetary boundaries, and should focus on the fair distribution of both benefits and disbenefits**.

To achieve this, we need a sustainable economy, and participatory decision making based on sound science (see section 7.3.5, below).

7.3.3.1 Working to maximise social equity

You can follow or adapt the problem solving method outlined in section 7.3.1 above to focus on social equity, and any of the following three supporting principles for sustainable development. The key is to start by understanding the problem; to work through developing and trialling solutions or interventions; to reflect on results or findings; and refine methods.

In relation to social equity, or fairness, there are a few key things to consider in relation to understanding the problem:

1. A good way to think about equity or fairness is in relation to people's capability to meet their fundamental human needs (see figure 22 below). A fair society would be one which enables its members to acquire the capabilities they need in order to meet their needs. For example, one of our fundamental needs is nutrition, so perhaps there are actions we can take to ensure that the people who we serve:
    - have access to nourishing food
    - can acquire the knowledge and skills they need to obtain and prepare nourishing food
    - have access to the tools they might need to do this.

2. Addressing inequity or unfairness may therefore be focussed on assessing the capabilities of the public we serve to meet their fundamental human needs, and using our assessments to inform future policy and action. Amartya Sen's and Martha Nussbaum's 'capability approach' [1] was developed to do just this.

    Some examples of how this has been used include:
    - in evaluating public health interventions [1]
    - to understand multidimensional poverty [1]
    - to support housing policy [1]

3. Unfairness is often structural. What this means is that the structures we put in place can favour some, while disadvantaging others. For example, if we focus on building roads, we will be favouring those who have access to private transport. However, if we focus on developing public transport networks, far more people are likely to able to travel to where they need to be, they may be less exposed to air pollution, and more likely to be a bit more active.

    Structural inequity can be compounded by lock-in. For example, if we replace public transport networks with roads, people may have no alternative but to become car users. If they aren't able to do this, then they are less likely to be able to access opportunities that are further away than people who have access to a car.

One of the most important actions we can take for sustainable development is to assess potential policies and decisions before they are finalised for fairness, ecological impact, economic sustainability, whether they are based on good evidence, and whether those who are likely to be affected have had a chance to participate in the decision-making process. You can do this by using an appropriate impact assessment tool (see section 2.2).

7.3.4 Wellbeing and a sustainable economy

7.3.4.1 What is wellbeing?

Often wellbeing is assessed (and therefore understood) through self-reported life satisfaction or 'happiness'. This is referred to as 'subjective' or 'hedonic' wellbeing because it is reliant on the subject's perspective. While this type of data can be relatively easily gathered, it can be problematic for a number of reasons, including that:

- it is natural and healthy to sometimes feel less happy, for example grieving is an important psychological process
- individuals and cultures can vary in how they might choose to rate their mood
- in itself, it doesn't provide much information to support policy development.

A probably more informative approach to understanding wellbeing is 'objective' or 'eudaemonic' wellbeing, which is about the extent to which people are able to satisfy their fundamental human needs.

7.3.4.2 What are fundamental human needs?

It has long been understood that human activity is motivated by the urge to meet our needs. For example, if we need hydration, we feel thirsty, which drives us to look for something to drink. It is thought that there is a set of fundamental needs that is almost universal amongst humans. Although there are various ways in which these needs can be understood and categorised, perhaps the most straightforward is that humans have:

- biological needs, such as clean air to breathe, food, shelter and warmth
- social needs, such as belongingness, participation and love
- self-actualisation needs, such as expressing one's true nature [54] .

The objective wellbeing approach is therefore more policy-relevant because a well-functioning society would support the capability of its members to meet their needs. For example, to meet our need for clean breathable air, society must ensure that air pollution is properly controlled.

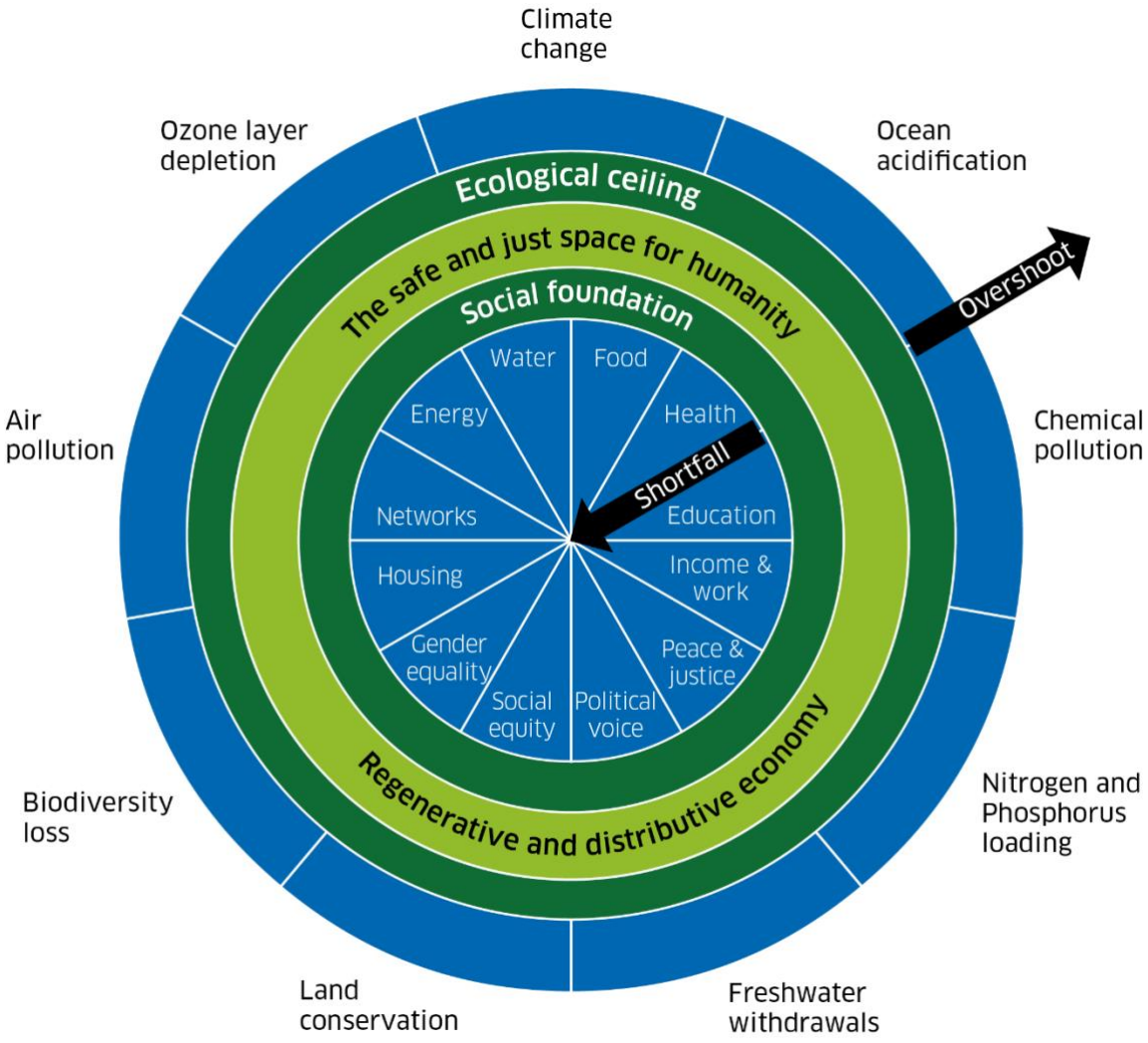
At a wider level, to meet our biological needs and enable us to meet our social needs, we require a well-functioning ecosphere (section 7.3.2). To meet our social needs, we require a well-functioning society which, as outlined above (section 7.3.3), would be one in which benefits and disbenefits are fairly distributed. A wellbeing economy could be described as one that operates to equitably meet our fundamental human needs within planetary boundaries.

Raworth's 'doughnut' model of a sustainable economy [55] (figure 22 below) illustrates this, depicting not just a safe operating space for humanity, but a safe and just one – the green doughnut-shaped ring in the diagram. The ring has a dark green ecological ceiling, representing the planetary boundaries that we must not breach if we aim to maintain contemporary societies. Below this is a dark green social foundation, which represents human needs and which we must not go below for an equitable and well-functioning society.

The doughnut model mirrors the UK Shared Framework for Sustainable Development (figure 19) in showing that human wellbeing depends on ecological integrity (environmental limits) and social equity (a strong, healthy and just society).

As the nature of our economies and governance systems dictate how we meet our needs, and the extent to which we disrupt planetary systems in seeking to do so, a transition to wellbeing economies, as depicted by the doughnut model, is necessary.

Figure 22: The doughnut model of a sustainable economy (based on Kate Raworth's doughnut model of social and planetary boundaries [56])



7.3.4.3 What is a wellbeing economy?

While definitions vary, a wellbeing economy can be described as an economic system operating within safe environmental limits, that serves the collective wellbeing of current and future generations first and foremost.

It is a system that empowers communities to take a greater stake in the economy, with more wealth generated, circulated and retained within local communities, while protecting and investing in the natural environment for generations to come.

It provides opportunities for everyone to access fair, meaningful work, and values and supports responsible, purposeful businesses to thrive and innovate. The approach recognises that reducing inequality and improving the lives of citizens through a human rights-based, social justice approach can also make the economy more resilient.

It supports the transformations in our economy and society needed to thrive within the planet's sustainable limits and capitalises on the opportunities this creates for improving people's mental and physical health and wellbeing, tackling inequalities and supporting green jobs and businesses.

Traditional economic metrics such as Gross Domestic Product (GDP), Gross Value Added (GVA), productivity and headline employment rates are regarded as important indicators of how an economy is functioning and contributing to economic objectives. However, it has been widely acknowledged that these metrics do not provide a full picture of the whole economy, as they do not recognise unpaid work, and do not distinguish between economic activity which contributes positively to the health and wellbeing of people and the natural environment, and that which has negative impacts on wellbeing outcomes. They also fail to reflect inequalities within the economy. The Scottish Government's Wellbeing Economy Monitor tracks broader economic outcomes beyond GDP on issues such as health, equality, fair work and the environment, and helps us assess Scotland's progress in building a fairer, greener and more prosperous economy.

7.3.4.4 Working towards a wellbeing economy

Models and frameworks for building a wellbeing economy vary, though they share some key aspects and goals. A broad range of environmental sustainability issues should be considered, including opportunities for protecting and restoring natural assets, reducing greenhouse gas emissions and transitioning to a circular economy – also recognising the range of wider benefits this can create for improving health and wellbeing, tackling inequalities and supporting green jobs and businesses.

The Scottish Government's goal is to help people live happier and healthier lives with higher living standards, to help businesses boost profitability, and build a more resilient Scottish economy that promotes the wellbeing of all Scotland's people. Our approach to building a fair, green, growing economy is informed by our Wellbeing Economy Expert Advisory Group and through our international engagement with the Wellbeing Economy Governments (WEGo) network. Key features of the approach include:

- taking an open, transparent, participatory approach to developing strategy and policy, involving those impacted by the policy, empowering citizens and diverse communities

- setting a clear purpose and vision for economic policy and activity, focused on collective wellbeing

- establishing clear outcomes and metrics for measuring if and how our economy is delivering wellbeing for people, place and planet

- taking an evidence-based (qualitative and quantitative), whole-systems view to understand the key drivers of wellbeing outcomes, how they interrelate, and which have the greatest impact

- adopting a preventative approach by focusing interventions on upstream parts of the system to avoid negative impacts on outcomes downstream and building long-term resilience

- embedding inclusion, equality and fairness into economic policy from the outset, working with and empowering communities and citizens to gain a greater stake in the economy and removing barriers to participation

- monitoring, evaluating and encouraging continuous learning, being open to innovative and experimental approaches.

The Scottish Government's Wellbeing Economy Toolkit provides a guide for local authorities and other public bodies to view the Wellbeing Economy as a system and to develop local strategies focused on wellbeing outcomes, based on Scotland's National Outcomes.

7.3.5 Sound science and good governance

These last two supporting conditions for sustainable development are interlinked.

Sound science is about ensuring that decisions are based on good evidence – the term 'science' is used in its literal sense, to mean 'knowledge', not limited to so-called 'natural' or 'hard' science. Good governance for sustainable development should be built on evidence-based decision making, which includes the evidence of lived experience, and the needs and opinions of those who might be affected. It should therefore ensure participation, accountability and transparency.

This also relates to community empowerment. Scottish Government is committed to supporting communities to do things for themselves, and to make sure their voices are heard in the planning and delivery of services.

7.3.5.1 Sound science and good governance for sustainable development

Together, the principles of sound science and good governance mean that decision-making processes (which include decisions about internal and public policy, as well as operational decisions, strategies and plans, etc.) should include:

- gathering and reviewing evidence, e.g. research, expert and public opinion, understanding relevant lived experience

- dialogue and deliberation – ensuring that people with a range of backgrounds, perspectives and experience can feed in to the process
- assessing potential impacts, and especially considering what unintended consequences could occur.

An evidence-based approach to implementation is also important, and should include:

- trialling, if possible, before full implementation, with a view to making adjustments to improve outcomes
- monitoring and evaluation, to understand what positive and negative outcomes are actually occurring; this can include ongoing engagement with those who are affected by the decision or policy
- adjusting and improving as new information becomes available – this might be from monitoring and evaluation, feedback, changing knowledge, observation of impacts, etc.

Most importantly, good governance should also seek to ensure that decision making is pro-social and pro-ecological, unlikely to contribute to the breaching of planetary boundaries, and likely to increase social equity. That is to say, that decision making across an organisation should be focussed on supporting sustainable development.

Assessing the likely impact of decisions, e.g. about buying something, in terms of how they could affect ecosystems, people, the ability of economies to meet people's needs, and whether they are based on good evidence and are likely to be well-governed, is key to this. Using existing or bespoke impact assessment tools can help with this (section 2.2 and section 4.5).

Guidance and resources on participatory budgeting can be found on the PB Scotland website. Guidance on assets transfers, for assets to pass into community ownership or management, is published by the Scottish Government.

7.4 Mainstreaming sustainable development

As noted above, the third duty set out in the 2009 Act requires relevant public bodies to carry out their functions in a way that they consider to be most sustainable, i.e. that supports sustainable development. They are also required, under the Community Empowerment (Scotland) Act 2015, to have regard to the National Outcomes, aligned with the UN SDGs, in carrying out their functions. This means that a more holistic and joined up approach needs to be adopted to integrate sustainable development thinking into all policy and decisions.

Integrating sustainable development doesn't mean 'business as usual but with more recycling and low emissions vehicles'. It means that the way in which public bodies carry out their functions supports sustainable development – rather than sustainable development being an add-on. Sustainable development principles should be embedded in the practices and functioning of the organisation.

As sustainable development concerns all aspects of societal development, it is a complex subject, and may require expert technical support. It also requires everyone to participate. A checklist approach, such as could be useful in seeking to reduce

greenhouse gas emissions by listing areas where reductions should be made, is not feasible for sustainable development. This is because **there are no blanket solutions that work for all situations**, and most importantly, **we need to make holistic decisions based on multiple ecological and societal factors**. Instead, **we need to change the way we think and solve problems**.

7.4.1 Contributing to the NPF national outcomes

The National Performance Framework (NPF) is the overarching framework within which the work of central and local government, and the wider public sector, takes place. The NPF supports a shared way of working and asks everyone to work together to improve the lives of the people of Scotland. It aims to create a more successful country, with increased health and wellbeing and reduced inequalities, and where social, environmental, and economic wellbeing are given equal importance.

As outlined in section 2.1.1, the national outcomes are aligned with the UN SDGs, illustrated in figure 23 below.

Figure 23: the UN Sustainable Development Goals [57]

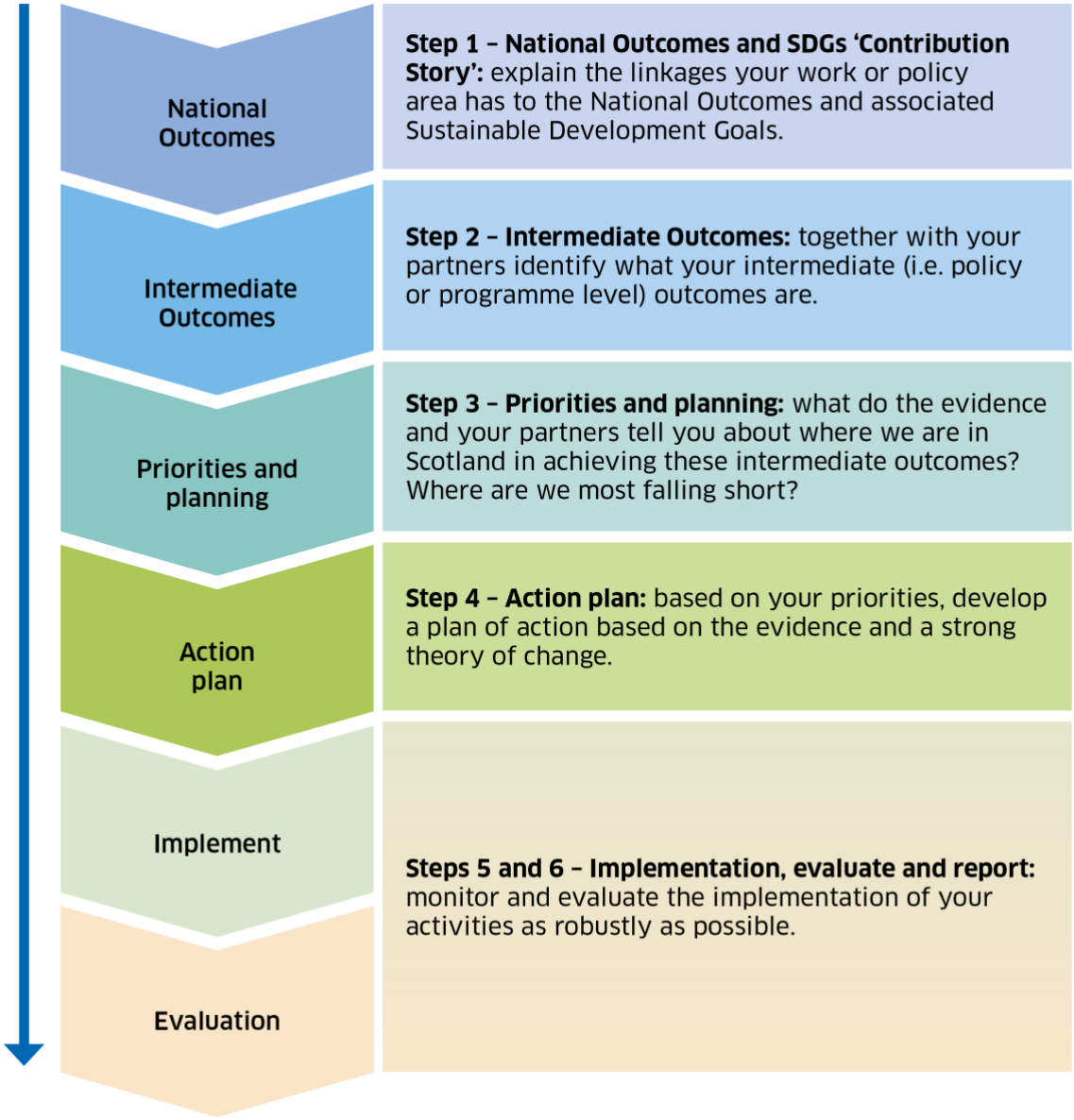
The Community Empowerment (Scotland) Act 2015 places a duty on public authorities to have regard to the national outcomes in carrying out their functions. Through their work, public bodies should contribute towards the achievement of the national outcomes, and in turn the UN SDGs.

Public bodies should, as best practice, ensure that decisions such as those around public finances and budgets, major expenditure, public service delivery (including the closure or cessation of existing services) and major development proposals, are assessed in relation to wellbeing, sustainable development, addressing inequalities and the needs of future generations.

7.4.2 Using the National Performance Framework

Public bodies should align their work with the national outcomes and the associated SDGs, as illustrated in figure 24.

Figure 24: Aligning with the National Outcomes



The NPF website provides resources and advice on outcomes working, including examples of how public bodies are using the NPF and aligning their work to it.

7.4.3 Sustainable development thinking

There are four main interlinked components to sustainable development thinking:

- **Knowledge** – an understanding of how ecological and social systems function, and how they are interlinked
- **Ontology** (world view) – that is systemic and understands that humans are one species among countless others, entirely dependent on them for our survival and wellbeing
- **Cognition** (thinking) – fostering ways of thinking that seek to understand and address the root causes of problems, that are long term, deep, and broad, as well as holistic and systemic
- **Practice** – practitioners of specific disciplines, such as Planning or public health, are best placed to use their expertise to develop solutions to problems in their domain, although collaboration with sustainable development experts may be necessary to ensure those solutions support sustainable development.

Knowledge

Sustainable development is a highly complex matter, and our current unsustainable development is a 'wicked problem'. Wicked problems [58] are multifaceted, can be contradictory and changeable, and often feature complex interdependencies. There are no clear or simple solutions, and very little in the way of precedents to draw on.

Sustainable development relates to all aspects of human life, and therefore requires a trans- (or post-) disciplinary approach – decisions should be made based on several factors, rather than just one such as monetary price or convenience, and considered from a number of angles. Although we are generally taught and trained to carry out our work in a certain way, depending on our profession, we can no longer afford to make decisions from one point of view, or take only one set of considerations into account, e.g. health and safety, without thinking about wider impacts.

For example, using personal protective equipment to protect workers from harmful chemicals may provide individuals with protection from direct exposure but:

- will toxic substances still end up in the environment?
- how will they affect ecological functioning?
- where will they end up – in water sources, in the air or in soils?
- how would this affect us in the long term?

Integrating sustainable development thinking so that people apply it routinely in their day to day work requires expert support and advice. Fortunately, there is considerable expertise that exists within the Scottish public sector, civil society organisations, academia, and among other practitioners, like consultants.

Worldview

A holistic big picture understanding of the world is essential, as well as the understanding of how one's own work fits into it. This can tell us which levers we need to use to support sustainable development, which of those are within our reach, and which we might need to collaborate with others to use. To foster a holistic

perspective, sustainable development knowledge is necessary, and support to think beyond the boundaries of one's own work, to understand how it connects to that of others, and what effects it might have.

Thinking
We are often trained to think in linear, mechanistic ways. Supporting staff members to think about the consequences of decisions, including whether we should carry on doing things the way we always have, and how that might affect society and ecosystems at various different levels, including spatial and temporal, can help lead to integrated solutions and policy coherence, which are necessary for development to shift to a sustainable pathway.

An integrated solution is one which depends not on trade-offs, but on win-win-win solutions, which can usually only be arrived at by resolving the root cause of a problem.

Practice
Sustainable development knowledge, worldview and thinking take time to internalise. Nevertheless, they can support the realisation of individual and collective agency [59] – the power one has to choose to act with purpose. Pro-sustainable development action across an organisation can result in real change, especially if colleagues are empowered, mandated and supported to decide how to integrate sustainable development considerations into their work.

7.4.4 Impact assessment

Addressing a wicked problem like unsustainable development is highly complex. One type of tool that can support more pro-social and pro-ecological decision-making is impact assessment that takes a holistic, integrated approach. The impact assessment process should provide much needed space and time for colleagues to think together, deliberate, and consider an issue from a wide range of angles, which should support better thought-out solutions.

Impact assessments are outlined in section 2.2.; and chapter 3 provides further examples around equality impact assessment. The topic supplements will, in due course, provide further information and examples, including Public Health Scotland's health impact assessment and the Scottish Parliament's sustainable development impact assessment. Both these examples require the participation of sustainable development or public health experts, ideally as facilitators.

7.4.5 An integrated approach to the three duties

The climate system and the biosphere are believed to be the two core, mutually dependent, systems essential to the stability of the Earth system as a whole. Indeed each ecological system, from a tiny local ecosystem – say a small woodland - to the planetary systems that circulate nutrients around the globe, or maintain our protective atmosphere, is inextricably intertwined with bigger, smaller and neighbouring systems [60].

While working to remedy a problem in one area, it is therefore important to consider and avoid or minimise harmful effects in others. For example, wind energy forms an important part of plans to decarbonise grid electricity. However, ill-considered development of windfarms on deep peat can cause widespread, long term damage and high greenhouses gas emissions, so that 'the payback time is calculated to be longer than the lifetime of the windfarm.' [61]

Not only can poorly thought out initiatives cause ecological damage, they can also harm other human societies. For example, 'green colonialism' has recently been brought to light, whereby the efforts of wealthy countries to acquire the minerals and metals they 'need' to reduce their harmful impacts is damaging societies which live in older ways, sometimes outside the global capitalist economy [62] .

Ensuring that broad holistic social-ecological thinking is brought to bear on problem solving, rather than basing action only on the comparison of calculated GHG emissions is more likely to help to minimise and avoid causing unintended harms.

7.5 Multiple duties and compliance

Public bodies are likely to have a number of statutory duties. In some cases, these may appear to be conflicting. However, the 2009 Act states that public bodies must carry out **their functions** in a way that supports mitigation of, and adaptation to, climate change, and act in way that supports sustainable development. Other duties, which confer other functions on public bodies, should be carried out in ways which support mitigation, adaptation and sustainable development.

For example, where there are duties on 'sustainable economic growth' this should be interpreted in a way that supports the mitigation of, and adaptation to, climate change.

7.5.1 Sustainable procurement duty

Public procurement in Scotland aims to use collective spending power to deliver sustainable and inclusive economic growth. The Public Procurement Strategy for Scotland 2023-2028, published on 27 April 2023, sets out that this spending power can be used to make Scotland a better place to live, work and do business. **How goods, works and services are procured should promote inclusive economic growth, create fair opportunities for all, and accelerate the just transition to a net zero economy.**

Legislation governs how Scottish public bodies buy goods, services and works. The sustainable procurement duty in the Procurement Reform (Scotland) Act 2014 requires that before a contracting authority buys anything, it must think about:

- how it can improve the social, environmental and economic wellbeing of the area in which it operates, with a particular focus on reducing inequality
- how its procurement processes can facilitate the involvement of SMEs, third sector bodies and supported business
- how public procurement can be used to promote innovation.

It requires a contracting authority to be aware of how its procurement activity can contribute to national and local priorities and to act in a way to secure this.

Procurement spend should be considered in this context, before the start of the formal procurement process, by all those involved, including: external stakeholders, budget holders, commissioners and policy leads.

A range of guidance and tools has been developed to assist public bodies in their sustainable procurement activity, including statutory guidance on the sustainable procurement duty, and the sustainable procurement tools.

Further guidance and resources will be provided in the relevant supplement in due course.

7.5.2 Sustainable land use

Scotland's Land Use Strategy sets out the long-term vision for sustainable land use in Scotland:

> "A Scotland where we fully recognise, understand and value the importance of our land resources, and where our plans and decisions about land use will deliver improved and enduring benefits, enhancing the wellbeing of our nation."

How land is owned and managed is fundamental to how we live in Scotland, and is a platform on which many of the national outcomes can be delivered. The climate and nature emergencies cannot be addressed without changes to the way that land is used and managed. Land offers opportunities to help meet net zero targets, to adapt to climate change and restore nature.

Public bodies with landholdings or an interest in land should look to form or join Regional Land Use Partnerships (RLUPs). RLUPs are intended to help local and central government, land owners, communities and other stakeholders to work together, to find ways to optimise land use in a sustainable, fair and inclusive way, with the aim of meeting local and national objectives, and helping achieve national climate change targets through changes to land use and good land management that supports a sustainable future.

The Land Rights and Responsibilities Statement takes a human rights approach and contains six principles that should underpin every decision made about land, including greater transparency, responsible exercise of land rights, and greater engagement and collaboration between those making decisions and those affected by such decisions. It lays out a vision where all land contributes to a sustainable and successful country, supports a just transition to net zero, and where rights and responsibilities in relation to land and natural capital are recognised and fulfilled.

Guidance on engaging communities in decisions relating to land has been published by the Scottish Land Commission.

7.6 Sector specific approaches

NHS Scotland

A policy for NHS Scotland on the climate emergency and sustainable development (DL (2021) 38 was issued by Scottish Government to Health Boards on 10 November 2021. It sets out the aims and associated targets relating to sustainable development and climate change for Health Boards to work towards. It takes account of relevant wider Scottish Government policies and existing statutory duties.

The NHS Scotland Climate Emergency Strategy 2022-2026 sets out actions directed at achieving the aims and targets in DL (2021) 38. It sets out actions which will either begin between 2022 and 2026, be completed during that period, or are already underway and will continue during that time.

The national NHS Scotland Sustainability Action Programme was established in 2022-23 to introduce a defined, structured and timebound approach to the delivery of Once for Scotland actions with the intention of supporting NHS Boards to implement the strategy locally. The programme is delivered by NHS Scotland bodies and the Scottish Government in collaboration with other organisations including NatureScot, Zero Waste Scotland and Scottish Water.

Education: Sustainable Learning Settings

Scotland's learning for sustainability action plan 2023 to 2030, Target 2030: A movement for people, planet and prosperity, aims to build an inspiring movement for change so every place of education for learners aged 3 to 18 years becomes a Sustainable Learning Setting by 2030. Local authorities and other public bodies involved in places of education should integrate the 2030 commitment into their improvement plans, strategic plans, curriculum frameworks, corporate plans and activities.

The concept of sustainable learning settings includes the curriculum, culture, community and campus and is about every aspect of the learning context. It is about what and how students learn, how the setting manages its physical environment and resources, how staff and learners relate to each other, how they work with their local community and how they reach out to the wider world. In a Sustainable Learning Setting staff will be supported to build their confidence, develop their practice and access training and support. Learning, teaching and assessment will provide rich learning opportunities for children and young people; opportunities that are rooted in real life, with access to interdisciplinary and work-based learning which prepares learners for the future. Improvements to buildings and grounds and links to the wider community will also flow from this whole-setting approach.

Further and Higher Education

The SFC’s Outcomes Framework and Assurance Model sets out the expectations of colleges and universities in return for the funding they receive, and the mechanism by which SFC will engage with colleges and universities to monitor delivery against outcomes. Net zero and sustainability is a cross-cutting outcome across nine themes

(seven for colleges), setting the expectation that institutions mainstream and embed net zero and sustainability into all aspects of their operations: Outcomes Framework and Assurance Model - Scottish Funding Council

EAUC Scotland's mission is to inspire, empower and support leadership and collaborative action for sustainability across the Scottish further and higher education (FHE) sector. Its 2024-25 programme (EAUC Scotland Programme 2024-2025 | EAUC) builds upon previous outcome agreement work with the SFC, and on behalf of Scottish further and higher education institutions.

The Quality Assurance Agency for Higher Education (QAA) has published guidance intended to help UK higher education institutions embed Education for Sustainable Development (ESD) within their curricula. ESD aims to support all learners to envision and work towards a world that recognises the interdependencies between the environment, social justice and economic wealth, acknowledging that resources are limited and that they provide the foundation for our societies and the economy.

Guidance and information on opportunities for collaborative working can be found on the QAA website (some information is restricted to QAA members).

Internationalisation and sustainability

Scotland welcomes international students, staff, and researchers, recognising the important and valuable contribution they make to the Scottish economy, our educational environment, our society, and our communities.

Our universities and colleges are globally respected. The National Strategy for Economic Transformation (NSET) highlights that Scotland has more top universities per head of population than any other country in the world and is in the top quartile of OECD countries for Higher Education Research & Development. As highlighted by the College Development Network's International Ambitions Report, Scottish colleges successfully export, engage, and excel overseas. They welcome students from over 130 countries, hold partnerships from Azerbaijan to Vietnam and attracted more Erasmus+ funding per capita for their staff and students than the rest of the UK. Colleges act as 'enablers' of internationalisation given their responsibility to reflect the needs of industry, government, and internationally competitive skills.

Our universities and colleges provide world class education, skills training, and overseas collaborations that bring education to developing countries. This allows Scotland to work towards the UN Sustainable Development Goals by providing education, research, and innovation in other countries. Such initiatives are an important part of our overall inclusive, welcoming, and diverse educational environment, which actively promotes knowledge transfer and shared experience between nations.

However, internationalisation strategies and operations can run outside of, and in tension with, institutional sustainability policies and commitments.

Universities and colleges should therefore review internationalisation strategies and operations and explore opportunities for improving the environmental sustainability of institutional practices.

8. Reporting

All public bodies subject to the climate change duties should include climate change and sustainability reporting as part of their annual corporate reporting process.

Over 180 public bodies deemed to be 'major players' have a statutory duty under The Climate Change (Duties of Public Bodies: Reporting Requirements) (Scotland) Order 2015, as amended, to report annually on their compliance with the climate change duties. These bodies are listed in schedule 1 of the Order.

8.1 Reporting: introduction

The Scottish public sector has been playing a crucial part in taking action on climate change for many years. Public bodies contribute to tackling climate change by supporting national and local climate policy, reducing emissions from public sector assets and supply chain, and ensuring public services are resilient. Recording greenhouse gas emissions, and the actions taken to contribute to adaptation and sustainability, allows public bodies to set targets and monitor progress towards achieving these targets. In order to reduce emissions and work towards net zero and other targets, bodies need to understand how their emissions arise, through a combination of environmental and carbon management processes and reporting.

To date, emissions reporting by public bodies has focused primarily on scope 1 and 2 emissions: from heating and power used in buildings, and on the emissions from fleet vehicles. Many bodies also include indirect emissions such as those from waste, business travel and staff commuting. **It is important, moving forwards, that while bodies continue to focus efforts on reducing their scope 1 and 2 emissions, they also start to measure, monitor and reduce scope 3 emissions from the wider value chain.**

For most public bodies, indirect emissions from the wider value chain will be where their greatest climate impact lies. It is estimated that typically over 90% of an organisation's emissions fall under scope 3 [63]; and that the emissions from purchased goods and services could make up over 70-80% of a local authority's overall carbon footprint [64]. It is therefore important that public bodies work towards fuller reporting of scope 3 emissions, to provide a more accurate and complete picture of their actual climate impact, and to enable them to take action accordingly.

8.2 Public bodies climate change duties reporting

All public bodies subject to the climate change duties are expected, as best practice, to include climate change reporting as part of their annual corporate reporting process, in terms of mitigation (carbon emissions reductions), adaptation and sustainability.

Mandatory reporting on compliance with the climate change duties was introduced for the 'major players' within the public sector by The Climate Change (Duties of Public Bodies: Reporting Requirements) (Scotland) Order 2015 ('the 2015 Order'),

as amended. Bodies subject to mandatory reporting are listed in schedule 1 of the Order.

Bodies not subject to mandatory climate change duties reporting are encouraged to adopt the principles outlined below as best practice.

Public bodies are likely to be subject to other reporting or disclosure duties which include climate impact reporting. Statutory examples include the UK Streamlined Energy and Carbon Reporting (SECR), the Taskforce on Climate-related Financial Disclosures (TCFD) and International Financial Reporting Standards Foundation (IFRS) recommendations. Voluntary examples include the Global Covenant of Mayors and the Carbon Disclosure Project (CDP). In all cases, public bodies should ensure that they are aware of their responsibilities and act accordingly.

8.3 The reporting duty

This section explains the mandatory public bodies climate change duties reporting duty ('the reporting duty'), which bodies are covered by it, and contains guidance to help public bodies understand and meet the duty. While the guidance is primarily addressed to the public bodies subject to the reporting duty, it is intended to be useful to all public bodies.

8.3.1 Background and legislation

Provision for reporting on climate change duties was introduced by section 46 of the Climate Change (Scotland) Act 2009. Subsection 46(1)(a) states that Scottish Ministers may, by order, require relevant public bodies to prepare reports on compliance with the climate change duties. The order may set out the information to be included in the reports, the form and manner of the reports, and the reporting period.

Mandatory reporting for relevant public bodies using the power under section 46 of the 2009 Act was introduced by The Climate Change (Duties of Public Bodies: Reporting Requirements) (Scotland) Order 2015, which came into force on 23 November 2015. It has required over 180 listed public bodies to report annually on compliance with their climate change duties since 2015.

- Schedule 1 of the 2015 Order lists all public bodies who have a mandatory requirement to report.
- Schedule 2 includes the questions public bodies are required to answer as part of their report, such as details of their carbon emissions, and questions on mitigation, adaptation and procurement**.**

Since becoming a statutory requirement in 2015, Scotland's reporting duty has been credited with driving climate action and delivering robust measurement of public bodies' scope 1 and scope 2 emissions. Reports provide valuable detail to share on emissions reductions efforts by public bodies and in more recent years reports provide increased detail on scope 3 emissions. There is a strong demand among the public sector for robust, consistent and comprehensive measurement and reporting of the entire carbon footprint of public bodies. Mandatory reporting also helps to

improve the transparency, consistency and quality of reporting, and increases collaborative working between public bodies.

Following public consultation in 2019, the Scottish Government strengthened the legislative framework for the reporting duty. The Climate Change (Duties of Public Bodies: Reporting Requirements) (Scotland) Amendment Order 2020 amended the 2015 Order and from November 2022, relevant public bodies have been required to provide in their annual climate change duties reports:

- where applicable, the body's target date for achieving zero direct emissions of greenhouse gases, or such other targets that demonstrate how the body is contributing to Scotland achieving its emissions reduction targets
- where applicable, targets for reducing indirect emissions of greenhouse gases
- how the body will align its spending plans and use of resources to contribute to reducing emissions and delivering its emissions reduction targets
- how the body will publish, or otherwise make available, its progress to achieving its emissions reduction targets
- where applicable, what contribution the body has made to helping deliver the National Adaptation Plan.

8.3.2 Reporting on scope 1, 2 and 3 emissions

All public bodies have a direct impact on emissions through the way they carry out their functions, including how they manage their estates and staff. Public bodies can reduce emissions through the way they manage their estate; this includes energy use, water use, waste management and staff travel. For most public bodies, indirect emissions from the wider value chain, i.e. scope 3 emissions, will be where their greatest climate impact lies. It is important that public bodies work towards fuller reporting of scope 3 emissions, to provide a more complete picture of their climate impact. In turn, this will enable bodies to focus resource to where they can achieve the greatest emissions reductions.

Reporting data on scope 1 and 2 emissions has improved and become more established since mandatory reporting began. The Greenhouse Gas (GHG) Protocol defines direct and indirect emissions as follows:

- direct GHG emissions (scope 1) are emissions from sources that are owned or controlled by the reporting entity, e.g. emissions from heating buildings with gas or oil, or from petrol or diesel fleet vehicles
- indirect GHG emissions are emissions that are a consequence of the activities of the reporting entity, but occur at sources owned or controlled by another entity. They include emissions from purchased electricity, heat, steam or cooling (scope 2) and all other indirect emissions from the wider value chain (scope 3) such as those associated with procurement, business travel and waste.

Public bodies should align their carbon accounting methodology with the GHG Protocol. As set out in the Corporate Accounting and Reporting Standard, GHG accounting and reporting should follow five key principles:

- **Relevance** – the inventory should appropriately reflect the emissions of the organisation
- **Completeness** – all emission sources and activities within the chosen inventory boundary should be accounted and reported on, with any specific exclusions disclosed and explained
- **Consistency** – use of consistent methodologies should allow meaningful analysis of emissions over time
- **Transparency** – assumptions made and methodologies and data sources used should be clearly stated, producing a clear audit trail
- **Accuracy** – estimation of emissions should be systematically neither under or over actual emissions, as far as can be judged, and uncertainties should be reduced as far as is practicable.

The reporting duty requires annual reports to be submitted using the standard Scottish Government reporting template. Detailed practical guidance on public bodies climate change reporting, completing the template and supporting resources are available on the Sustainable Scotland Network (SSN) website.

Boundary setting

A vital first step in carbon management and reporting is to define the organisation's boundaries. The inventory boundary determines which emissions are accounted for and reported by the organisation. Bodies should refer to the Corporate Accounting and Reporting Standard for guidance: they should first define their organisational boundary and approach; and then set the operational boundary. This will involve identifying the sources of emissions generated by their operations, categorising them as direct or indirect, and choosing the scope for indirect emissions.

As noted in the five key principles above, the inventory boundary should include all relevant assets, activities and emissions generated by the organisation. Further guidance is provided below regarding the activities and emission categories which public bodies are, as best practice, expected to include within their boundary. The body should, in defining the boundary, be transparent as to any sources of emissions which have been excluded from the inventory and provide an explanation for these.

Setting a defined boundary is important for clarity in reporting, and to avoid double counting within the organisation's inventory. For example, purchased electricity should be reported under scope 2. As this is a purchased service, it will appear on financial reports: bodies that report on purchased goods and services under scope 3 would therefore need to ensure that the electricity spend is extracted and excluded from any calculation in relation to scope 3 emissions, to avoid these being double counted.

Conversion factors

Calculation of carbon emissions typically involves applying a carbon equivalent conversion factor to a unit of consumption (kg or tonnes CO2e per unit of consumption, e.g. kg CO2e per kWh of electricity consumed or tonnes CO2e per m3 of natural gas consumed). For the purposes of the mandatory reporting, the UK Government greenhouse gas reporting conversion factors should typically be used.

Other conversion factors are available and may be used where appropriate. For example, Scottish Water have calculated a conversion factor for the supply of mains water within Scotland which provides a more accurate estimate of emissions than the UK factor. The public bodies climate change duties reporting template contains built-in conversion factors for the majority of emission sources, which are updated annually. Where bodies choose to use a different factor, or to calculate their own, this should be clearly stated and further details provided.

Environmental data management

Public bodies should ensure that their data collection, collation and processing methods are recorded, to ensure consistency year on year, and to support audits, business continuity and resilience. While it may be appropriate for bodies with larger or more complex datasets to have an environmental data management strategy or equivalent, a proportionate approach should be taken.

For bodies subject to the mandatory reporting duty, it is important that changes in staffing or staff responsibilities do not impact on their ability to comply with the duty. Ensuring that an operational environmental data management manual is maintained can assist with this.

Sector specific reporting guidance

Guidance for Scottish colleges and universities has been developed by EAUC Scotland to assist with the mandatory reporting from a higher and further education perspective.

8.3.3 Scope 1 reporting

All relevant scope 1 emissions must be reported and are likely to include energy and fuel use in buildings and vehicles. Fugitive gases, such as leaks of refrigerants from cooling systems and heat pumps, should also be included as good practice.

Some public bodies may have specific fugitive emissions, for example anaesthetic gases in the health sector, that should be scoped and reported as they typically have a higher Global Warming Potential (GWP) and so may make a significant contribution to the footprint. A small number of public bodies may generate process emissions and effort should also be made to include these, where material.

Public bodies should refer to the GHG Protocol for guidance on the calculation of scope 1 emissions.

Over time, as bodies work to decarbonise their fleet and estate, emissions from sources such as natural gas and diesel will decrease, and the relative contribution made by sources such as fugitive gases may increase. It is therefore important that bodies undertake regular reviews of their GHG inventory, to ensure that their reports continue to be relevant and complete.

8.3.4 Scope 2 reporting

Scope 2 emissions must be reported on and include those from acquired electricity, heat, steam and cooling. For most public bodies, scope 2 emissions are likely to come primarily from mains electricity, but may also include heat and steam purchased from district heating networks.

When reporting on scope 2 emissions from the purchase of electricity, bodies should follow the location-based method and use the emission factor for standard UK grid electricity. REGOs (Renewable Energy Guarantee of Origin certificates) are not considered to be truly additional in relation to UK grid electricity. Any REGO certified electricity purchased should be reported, in terms of emissions, as grid standard.

An exception to this may occur where a body purchases electricity via a Power Purchase Agreement (PPA). 100% renewably-generated electricity covered by the PPA can be reported as zero emissions, where appropriate.

Public bodies should refer to the GHG Protocol for guidance on the calculation of scope 2 emissions.

8.3.5 Scope 3 reporting

Scope 3 covers all indirect emissions (aside from those already accounted for under scope 2) from the value chain of an organisation and looks at both upstream and downstream activities. The GHG Protocol splits scope 3 emissions into fifteen categories, for example category 1 emissions from purchased goods and services, category 5 emissions from waste, and category 6 business travel.

Full information on scope 3 reporting can be found in the GHG Protocol Corporate Value Chain Accounting Standard. Further detailed guidance on how to calculate scope 3 emissions is provided by the GHG Protocol scope 3 technical guidance documents, and bodies can also refer to the SSN Net Zero Manual.

All public bodies subject to the climate change duties are expected, as part of best practice, to include certain scope 3 emissions in their reports. Public bodies are at different stages of maturity in relation to environmental data and reporting, and also have differing levels of capacity and resource. However, it is vital that bodies work towards expanding their reporting boundary to include relevant scope 3 emissions to better understand, monitor and reduce their overall climate impact.

Following an Environmental Standards Scotland (ESS) investigation (reference IESS.21.012), local authorities may in the future become subject to an additional mandatory reporting duty in relation to scope 3 emissions (refer to the ESS Improvement Report, Scottish Government's Improvement Plan, and the Net Zero and Transport Committee's report for further details). Any such changes would require public consultation and changes to the existing subordinate legislation. Local authorities should refer to section 8.4 below for further details.

8.3.5.1 Scope 3 reporting – baseline expectations

As a baseline, public bodies subject to the reporting duty are expected, as part of best practice, to include scope 3 emissions from:

- consumption of mains water (category 1)
- waste and waste water (category 5)
- business travel including, where appropriate, overnight stays (category 6)
- commuting and homeworking (category 7)
- fuel and energy-related emissions not included in scopes 1 and 2 (category 3).

Colleges and universities are, in addition, strongly encouraged to include student travel within their reporting boundary. This should include estimates of emissions from daily commuting to and from campus; and from relocation travel (travel from the place of permanent residence to the location of study at the start and end of each term or academic year).

The rationale for including waste, water, business travel, commuting and student travel is that these are areas where public bodies have more influence, and they offer opportunities to engage staff, visitors and customers. Emissions from these areas can be more easily influenced and managed through policy and operational processes. They are also areas where data should be more readily available to the organisation, or can be more easily and accurately estimated (see section 8.3.5.3).

Reporting on fuel and energy-related emissions (category 3) provides a fuller picture of the carbon impact of using, say, natural gas as it includes the upstream emissions associated with extracting, refining and transporting the fuel. As such, it can assist in the development of robust business cases and impact assessments that support the transition to low or zero carbon alternatives.

If all bodies include these categories of emissions, it will provide a consistent baseline across the public sector, allow more accurate analysis, and facilitate sectoral comparisons and benchmarking.

8.3.5.2 Scope 3 reporting – expanding on the baseline

Over time those subject to the reporting duties, in particular bodies with larger spend and influence, are expected, as best practice, to expand reporting of scope 3 emissions to include all relevant categories. Such bodies include local authorities, NHS Health Boards, universities, central government bodies and executive agencies.

Expansion of the reporting boundary can progress in a phased approach, focusing first on the scope 3 categories which contribute the most to the organisation's overall footprint. Such priority categories will differ according to the body's functions, budget and operations. As best practice, bodies should undertake an initial high level scoping exercise, first to identify the priority categories; and then to identify the emission 'hotspots' within those categories, to allow resources to be focused where they will have the most impact.

For most bodies, priority categories may typically include purchased goods and services (category 1) and capital goods (category 2), in particular the embodied carbon related to construction and large retrofit projects. Some bodies may find that investments including pension funds (category 15) are also a hotspot.

Where bodies choose to take a phased approach to expanding their boundary, they are encouraged to develop a clear plan and timeline for this, as part of their overall carbon management plan or equivalent. This should identify key stakeholders from across the organisation, as tackling scope 3 emissions is likely to require cross-departmental working, and involve staff who may never have been involved in environmental reporting before. It will be important that the plan recognises the need to provide training for such staff, to ensure they have the necessary climate knowledge and skills.

8.3.5.3 Scope 3 reporting - data sources

When public bodies start reporting on scope 3 emissions, or expand their reporting to include previously un-reported sources, data maturity may be low. For example, data may be incomplete or contain a high level of uncertainty. However, bodies should not let this be a barrier to reporting on that source at all. It is recognised that each organisation is on a maturity journey, and it is essential that public bodies start to take the first steps into reporting scope 3. As part of this process, bodies should be transparent as to the source of their data, its limitations, and so the accuracy of the associated estimated emissions. Over time data quality, accuracy and completeness can be improved as data management processes mature.

The sections below outline some of the common sources of data for the scope 3 emission categories public bodies are expected to include in their reporting as a best practice baseline.

Purchased mains water (category 1)

There are emissions associated with the supply of mains water. The majority of sites will have water meters – whether analogue meters or digital meters with remote monitoring – and water consumption can therefore usually be measured fairly easily. At a basic level, meter readings could be taken on an annual basis. More advanced meters, typically digital meters with remote monitoring capabilities, take readings at regular intervals such as daily, hourly or half-hourly, and can also be used to monitor consumption patterns and identify maintenance issues.

Most utility bills include an estimate of consumption. Bodies should be cautious about using unverified bills as a source of consumption data, as they can be inaccurate. Bodies are advised to using billing or invoice data only where this has been verified using meter readings, where possible.

Where water meters are not installed, or where one meter covers an area shared with another organisation, estimated data can be used. For the former, the bill or invoice will include an estimate of consumption. For the latter, a proportionate share could be estimated based on, for example, overall share of floorspace or numbers of staff on site. Any assumptions and estimates should be clearly stated.

Waste and waste water (category 5)

All public bodies will generate waste through their day to day operations. Types and volumes of waste generated will however vary widely, from simple food waste and packaging, through to specialist streams of clinical, scientific and chemical waste. Waste data should be readily available to most public bodies. Waste is a heavily regulated sector, and clear records at each stage between site collection and final disposal are required. Where public bodies are responsible for their own waste contracts, the waste contractor should be able to supply detailed data including types of waste, volume or weight of waste collected, and treatment or disposal route. This information can be used, with the UK Government conversion factors, to estimate the emissions associated with the waste collection, treatment and end destination of the treatment output or residue.

Waste data is typically based on estimates, based on size of bin and how full the average bin is at the time of collection. This data can be improved by undertaking waste surveys. Bodies generating particularly large volumes of waste could consider installing scales on site to allow for accurate measurement.

Where public bodies do not arrange their own waste contracts, for example where a landlord arranges such services, bodies can request this data. Bodies on shared sites could estimate their share of the emissions using an appropriate proportional approach based on, for example, overall share of floorspace or numbers of staff on site. Any assumptions or estimates should be clearly stated.

UK Government plans to introduce mandatory digital waste tracking across the UK from April 2025. While waste policy is a devolved matter, SG, the other devolved administrations and UK Government have agreed to work together to introduce a single UK system. Further information and guidance on this system will be available from SEPA in due course.

Waste water is typically estimated to be 95% of mains water consumption. Bodies responsible for producing large volumes of effluent may have waste water metering in place and be able to take more accurate measurements. However, this is uncommon for most public bodies and taking the 95% approach for reporting is acceptable. This assumption should be clearly stated, in line with the principle of transparency.

Business Travel, including overnight stays (category 6)

Emissions in this category should include emissions associated with business travel taken by staff, using vehicles or modes of transport that are not owned by the public body, in the course of their work. Such emissions are likely to include journeys on public transport, in hire cars, and by air. ‘Grey fleet’ journeys – those taken in personal vehicles and for which staff claim a mileage rate – should also be included. Business travel emissions should, as good practice, also include overnight stays.

Emissions from trips taken in vehicles owned by the organisation, such as pool cars, fall under scope 1 and are excluded from this category.

When reporting on business travel, bodies should take a proportionate approach and focus effort on reporting sources material to their footprint. For example, a body may on occasion use taxis, but the use of these may be minimal such that the emissions form only a very small proportion of their overall footprint, and obtaining the data may be resource intensive. In such a case, the body may choose to exclude taxi travel, and should note this along with an explanation. However, there may be other reasons to report on specific travel modes. For example, if a body's use of public transport is currently low, but they want to encourage a modal shift from grey fleet to public transport, they may want to monitor and report on this.

There are likely to be multiple sources of business travel data within a public body.

- **Travel agent:** many public bodies hold a contract with a travel agent for the booking of business travel and overnight stays. Travel agents are likely to be able to provide detailed management information (MI) including the mode of travel, class of ticket, distance travelled, starting point and destination, price paid, country, and other relevant details for estimating emissions. Bodies may be able to work with their supplier to tailor MI reports to their environmental reporting needs; or could use the point of retendering the contract to introduce such a requirement.

- **Other travel suppliers:** bodies may have other travel-related suppliers such as hire car contractors, who will also be a source of MI from which emissions can be estimated. Hire car contractors, for example, may be able to provide data including distance travelled, fuel type used, size of car, and sometimes even amount of fuel consumed.

- **Corporate expenses system:** expenses claims are likely to include mileages, and travel tickets and accommodation paid for by the individual. This data is likely to be less detailed than that provided by a travel agent, but can still be used to estimate emissions. For example, if only the price of a train ticket is recorded, rather than any details about the journey and distance travelled, an appropriate spend-based factor can be used. Improvements to data quality should be sought over time, for example by introducing additional mandatory fields for claimants to complete.

- **Corporate expenses cards or credit cards:** some organisations may hold a number of expenses cards or credit cards, to allow the purchase of travel, consumables and other items at short notice. The statements from these cards are another valuable source of data – this may require more manual processing but should not be overlooked.

- **Travel surveys:** staff travel surveys can be used to gather data such as how often individuals travel to attend meetings, the mode of transport used, and the reasons for choosing that mode. This more qualitative information can help inform the development of travel plans and policies.

Commuting and home working (category 7)

Public bodies should report on both commuting and homeworking emissions. This is important for a number of reasons. If a body only reports on homeworking emissions, an increase in the number of employees working from the office will create a false impression of emissions going down, as the decrease in homeworking emissions is not counterbalanced by a corresponding increase in commuting emissions (or vice versa). Being able to compare commuting emissions with homeworking emissions will be important as bodies develop evidence-based policies around hybrid working, noting that emissions are only one of many factors to be taken into account.

While a standard conversion factor is provided for estimating homeworking emissions, there is no standard 'Scottish commuter' conversion factor and bodies will require to estimate commuting emissions themselves.

Public bodies should consider how they can effectively engage with their employees to understand how staff commute to and from work, how often staff commute and to which sites, and how often staff are working from home; and put in place measures to collect or estimate this data.

- **Staff travel surveys:** carrying out a regular travel survey across the workforce is a good way to collect data on employee commuting behaviour, produce a clearer picture of the types of transport staff use to travel to the workplace and the distance they travel in an average week. This data can then be used to estimate commuting emissions. Surveys can also be used to identify barriers to sustainable and active travel, and the measures which would encourage people to travel more sustainably. Such information can be used to help justify and target investment, for example in improved cycling facilities at particular sites or introducing cycle to work or electric vehicle salary sacrifice schemes.

  A Commuter Emission Calculator tool has been developed by Zero Waste Scotland. The tool includes a staff survey and an emissions calculator.

- **Homeworking or hybrid working survey:** hybrid working is now widespread across the public sector. Homeworking emissions can be simply estimated using a standard homeworking conversion factor, based on the number of full time equivalent (FTEs) employees working from home. However, bodies may wish to include questions on working from home in a staff survey, for example in a hybrid working survey. This could seek to elicit more detailed information around energy use at home and heating behaviour. This could allow more accurate homeworking emissions to be calculated. In addition, the information could also inform employee engagement and communications plans, for example providing signposting to home energy advice services.

- **Site occupancy data:** buildings with a security system that registers staff as they enter and leave the building may be able to estimate typical building occupancy. Where more detailed data is not held, this could be used to estimate homeworking and commuting rates, e.g. average 20% of staff coming to the office, and so 20% of staff commuting and 80% working from home. The details of this calculation would depend upon the nature of

the body and its staff, and could be supplemented with related data held in the HR system.

Student travel: reporting student relocation travel emissions

Student relocation travel emissions are those generated by students travelling from their place of permanent residence to the place of study at the start and end of each term or academic year. Domestic and international student relocation emissions form a significant proportion of university scope 3 emissions: for example, within the 2021-22 public bodies duties reporting, these emissions accounted for between 11 and 21% of total reported emissions for the institutions that included them. In line with the GHG Protocol, universities should measure and report emissions arising from this source.

The sector can use the Domestic and International Student Travel Emissions Calculator Tool developed by the University of Aberdeen and made available through EAUC Scotland to measure and report these emissions. The tool requires student registry data (number of students per nation) and the distance from London to the university (in kilometers) to start measuring and reporting these emissions. Universities can improve the granularity of the tool in future based on available student travel survey data. The tool also includes historical UK GHG conversion factors to allow universities to backdate emission source data to 2015-16. EAUC will update the tool annually with the latest conversion factors.

EAUC have also developed a Commuting Survey Guide and Tool. This resource package intends to provide a standardised approach for the further and higher education sectors to report on staff and student commuting emissions.

Fuel and energy-related emissions not included in scopes 1 and 2 (category 3)

This category includes emissions related to the production of fuels and energy purchased and consumed in the reporting year, that are not already included in scopes 1 or 2. It includes the upstream emissions of purchased fuels (e.g. emissions generated by the extraction, production and transportation of fuels, also referred to as ‘well to tank’ (WTT) emissions), upstream emissions from purchased electricity, and transmission and distribution losses. Transmission and distribution losses are the amounts of energy in a system that are not consumed by end users or customers, for example losses through leakage or energy dissipation, or the energy needed to power the equipment that runs the distribution system.

To estimate the emissions associated with this category, bodies are recommended to use an average data method, and utilise the conversion factors provided by the UK Government. If this approach is taken, bodies can use the fuel and energy consumption information already gathered for scope 1 and 2 reporting, and apply the relevant conversion factors.

Bodies should refer to the practical reporting guidance for further details.

Capital assets – embodied carbon from construction and retrofit projects (category 2)

Bodies are encouraged, as best practice, to calculate the whole life carbon of projects in line the Net Zero Public Sector Building Standard, RICS whole life carbon assessment, the UK Net Zero Carbon Buildings Standard, PAS 2080 (2023) or equivalent, as appropriate. Public bodies should keep records of whole life carbon emissions (in tonnes CO_2e), including embodied carbon, predicted to result from their major built environment projects. Such information on built environment carbon emissions impact should be made available upon request from Scottish Government by all public bodies.

Public bodies subject to the reporting duty should, as best practice, include the embodied carbon emissions from construction and retrofit projects in their annual report.

If a public body's construction or retrofit project is completed within a single reporting year, the total embodied carbon emitted from its construction should be reported in tonnes CO_2e. Typically, building projects will span several years. In this case, an estimate of the embodied carbon emitted during the reporting period should be included, e.g. a proportion of the total estimated embodied carbon based on construction spend in the period. This would result in the same project being reported over a number of years, with the annual emissions adding up to the total embodied carbon resulting from the project.

8.3.6 Reporting land-based emissions and removals

Land-based emissions should be accounted for and reported on in line with the principles of the GHG Protocol Land Sector and Removals Guidance. In doing so, public bodies should follow the GHG Protocol principles of relevance, transparency, accuracy, completeness, consistency, conservativeness and permanence when compiling an inventory that includes land use activities and or nature-based removals.

Before adding land-based emissions to their inventory, it is important that bodies set a boundary in relation to their land and land use activities. The boundary should reflect the nature of the public body, its estate and functions, noting the GHG Protocol principles of relevance and completeness, etc. For example, a public body with large landholdings or land management functions is likely to find including land-based emissions is appropriate, whereas a small body with an administrative function and landholdings restricted to areas around office buildings would not. The Land Sector and Removals Guidance provides further details.

Key to reporting insetting activities is the need to have an organisational inventory of land-based emissions and carbon capture. **If carbon reductions are to be reported and the benefit claimed, such as through woodland creation, then other land-based emissions must also be included, such as losses from change of land use or from degraded peatland.** Carrying out an inventory assessment of the condition of existing carbon stores will enable restoration activities to be prioritised to the most degraded or vulnerable areas. Such an inventory should be regularly refreshed to take account of changing environmental conditions, the impact of nature-based projects and land use changes.

The scope and level of detail included in such a land and emissions inventory should be appropriate to the scale and nature of the organisation's landholdings. It is acceptable for an organisation to take a phased approach to their land-based emissions reporting, such that specific land parcels are added year-on-year as data become available. If a phased approach is taken, there should be a clearly defined timescale for the inclusion of all relevant land and land-based emissions. If a land parcel is added to the reporting, both emissions and reductions from that land should be reported, and should be included thereafter. When introducing a piece of land, and the related emissions, to the annual PBCCD report for the first time, bodies should ensure that a note is included in the relevant table or tables to explain the increase or decrease in emissions.

Carbon reductions from nature-based insetting projects should be verified using an MRV (measurement, reporting and verification) equivalent to a government supported carbon code. Bodies may choose to verify insetting projects externally through one of the Scottish Government supported carbon codes, however, there is no requirement to do so, assuming that any carbon reductions are intended for internal use. Carbon credits intended for sale or transfer to another body should be verified and issued externally through one of the codes. The methodologies used to calculate any carbon emissions reductions or carbon stored should be robust, transparent and independently audited, whether these are for internal use or external sale or transfer.

Emissions that arise within Scotland's territorial boundary should be inset or offset within Scotland. Scope 1, scope 2 and certain scope 3 emissions (e.g. from water supply and wastewater treatment, waste, staff commuting and homeworking, domestic business travel, and upstream and downstream leased assets) are likely to occur within Scotland's territorial boundary.

Any purchased or "gifted" offsets should be high-integrity and from projects verified under Scottish Government supported carbon codes such as the Woodland Carbon Code, Peatland Code or other such government-supported codes which may be developed in the future. Offsets must be retired when the carbon benefit is claimed.

Verified nature-based carbon offsets or insets from projects within Scotland can be expected to contribute to national statutory emissions reduction targets, by increasing the size of carbon sinks. Such offsets and carbon removal (e.g. woodland) insets can therefore be included in the carbon accounting section (Part 3) of the PBCCD report, to counterbalance organisational emissions that arise within Scotland's territorial boundary.
[i.e. Such offsets and carbon removal insets are acceptable to credit against a public body's relevant scope 1, 2 and 3 emissions as reported annually in Part 3 of the PBCCDR. Emission reduction insetting projects such as peatland restoration should be reported under land-based scope 1 emissions, and should result in lower direct emissions from the source than before the restoration work took place].

Occasionally an unplanned, destructive event may cause damage on a public body's landholdings such that carbon is released, for example a wildfire destroying an area

of woodland. The GHG emissions from such events should be estimated and included in the annual report under land-based scope 1 emissions.

Public bodies may sell or otherwise allocate (e.g. “gift”) carbon from projects on their landholdings, surplus to their own operational requirements to reach net zero, to other organisations, either other public bodies, private investors or other end-users of the credits. Such carbon reductions or credits must not be included in the originating body’s own corporate carbon account, as this would constitute double-counting. Reference to carbon allocated or credits sold to others should be included in the PBCCD reports as supporting information only (further guidance and reporting requirements around carbon credits are to be developed and will be included in the Land and Nature supplement in due course). Carbon credits issued for sale under Scottish Government supported carbon codes must also be able to demonstrate additionality in line with the codes.

International offsets do not contribute to progress to Scotland’s national statutory emissions reduction targets. Therefore, these must not be included in the annual PBCCD reports as credits against organisational scope 1, 2 and 3 emissions that arise within Scotland. Reference to such international credits should only be included as supporting information.

Direct air capture with carbon storage (DACCS) and other negative emissions technologies (NETs) are not currently accounted for in the national GHG inventory, i.e. they are not classed as “Scottish removals” as defined in the Climate Change (Scotland) Act 2009 [65], and do not count towards national emissions reduction targets. There is provision within the 2009 Act for this to be changed in the future, if appropriate. Until such a change is made, engineered emissions removals from NETs should not be included in the annual PBCCD reports as credits against organisational scope 1, 2 and 3 emissions that arise within Scotland. Reference to such removals should only be included as supporting information.

8.3.7 Reporting on alignment of resources with net zero targets

Bodies subject to the mandatory reporting duty are required to include, in their annual reports, how they will align their spending plans and use of resources to contribute to reducing emissions and delivering their emission reduction targets. Bodies are encouraged to take a broad approach to reporting on this aspect of their activities and to consider staff resources and time, as well as financial resources. For example, by:

- reporting on how their capital investments contribute to reduction of their scope 1 and 2 emissions, for example by investing in low emission replacement fleet vehicles, or by replacing polluting heating systems with clean heating systems in their buildings
- considering wider spending plans and budgets: spending on procurement and service design and delivery, for example, can be used to drive emission reductions
- demonstrating the use of appropriate tools and methodologies that have been used in policy and project appraisal, for example whole life carbon

assessment, and incorporating the cost of carbon into the cost benefit analysis of business cases
- investing in systems that will support delivery of emissions reductions
- having staff members, roles or teams with a dedicated remit around climate action could help demonstrate alignment of resources with emission reduction targets, as could embedding climate action into annual staff objectives particularly for senior managers
- expanding staff resource allocated to climate action
- ensuring that staff are given the time to undertake climate-related and sustainability training, and for other climate-related activities and processes such as climate change impact assessments.

8.3.8 Reporting on adaptation action

A key goal of climate adaptation is to increase preparedness to extreme weather events now and in the future and to reduce vulnerability to climate change impacts. Evidence shows investment in adaptation action represents good value for money, with the costs of preparing for the impact of climate change outweighing those associated with response and recovery.

Effective and inclusive adaptation action requires collaboration and flexibility within and between organisations. This also requires adaptation action to be embedded into an organisation's strategies with links made to other relevant policy areas.

The mandatory climate change duties report includes a set of questions focused on adaptation, the majority applying at corporate level, with one specific question on the contribution to national adaptation objectives.

Public bodies subject to the reporting duty should report on:
- understanding of current and future climate-related risks
- arrangements in place to manage climate-related risks
- action taken to adapt
- arrangements in place to review risk and monitor and evaluate the impact of actions
- adaptation priorities for the year ahead.

Public bodies subject to the reporting duty are, where applicable, also expected to report on:
- progress in delivering the Scottish National Adaptation Plan (SNAP3).

All public bodies should consider how the exercise of their functions can support the national adaptation objectives and, where applicable, report on contributions to national adaptation objectives, as outlined in section 6.3.4 and section 6.4.6.1. Public bodies identified as owners of one or more policies (or proposals) in the Scottish National Adaptation Plan, should report on policy delivery.

To support statutory duties on adaptation action and reporting, public bodies are encouraged to use the Capability Framework developed by Adaptation Scotland for the Scottish public sector. As outlined in section 6.3.2 , the Capability Framework

outlines four capabilities needed for an organisation's adaptation journey and describes a number of tasks to develop these capabilities over four stages from 'starting' to 'mature'.

8.3.9 Sustainability reporting

General reporting

Where bodies prepare annual corporate reports, these should incorporate sustainability. Bodies should, as best practice, report on alignment with, and contribution to, the NPF national outcomes through the delivery of their plans and programmes. By integrating sustainability into their existing reporting suite, bodies can avoid creating a separate, siloed sustainable development report, and help ensure that sustainability is embedded across all business areas.

Mandatory public bodies climate change duties reporting

At time of publication, the mandatory reporting duty does not include a question explicitly around compliance with the third duty, to act in the most sustainable way. In the future, consideration may be given to introducing a question specifically around this duty; and relevant bodies would be required to comply with any additional reporting requirements.

Part 5 of the annual mandatory report focuses on procurement. Any procurement activity undertaken by Scottish public bodies should be in line with the Sustainable Procurement Duty (see section 7.5.1), and this part of the report should reflect that approach.

Bodies are encouraged to report on their compliance with the third duty using other sections of the reporting template, for example using the free text fields provided for additional and supporting information, and the recommended voluntary questions for reporting on wider influence. Mainstreaming sustainability into decision making through the use of sustainable development impact assessments, for example, would help demonstrate compliance with the third duty, and would produce a clear audit trail.

8.3.10 Reporting on wider influence emissions

Through the climate change duties, the 2009 Act requires all public bodies, in exercising their functions, to contribute to addressing climate change. Collectively, public bodies have a wide range of functions that can influence emissions including spatial and transport planning, place-making, investment, infrastructure development, economic development, funding, regulation, communications, education, community development, and partnership development and facilitation.

Bodies are unlikely to be able to report in quantitative terms on the emissions impact of these activities, but should make efforts to report these voluntarily in qualitative terms under the recommended wider influence questions in the mandatory reporting template.

8.4 Local authorities – additional reporting duties

8.4.1 Scope 3 reporting for local authorities

At the time of this consultation, Scottish Government is taking forward the actions outlined in the Improvement Plan developed in response to an Improvement Report issued by Environmental Standards Scotland (ESS) concluding investigation IESS.21.012. The investigation looked into the effectiveness of the systems in place to support local authorities in their duty to contribute to the delivery of climate change targets. The Improvement Plan focuses on the recommendation made by ESS that the reporting of scope 3 emissions should be made mandatory for local authorities.

This section of the guidance will be updated in due course as the actions outlined in the Improvement Plan are taken forward. Introducing mandatory reporting of scope 3 emissions will require amending The Climate Change (Duties of Public Bodies: Reporting Requirements) (Scotland) Order 2015.

8.4.2 Area based reporting for local authorities

As part of the informal resolution process to the ESS investigation noted above, Scottish Government agreed that local authorities will move towards the reporting of area based emissions. This section will be updated in due course as the monitoring and reporting of area based emissions is developed by local authorities and the Scottish Climate Intelligence Service (SCIS).

Annex A: Baseline Carbon Management Plan template

The purpose of this template and guidance

Who is this document for?

This carbon management plan template and guidance is to help smaller and less complex public bodies that may have limited capacity to measure, monitor and report on their carbon emissions, and that have relatively simple corporate emissions inventories and influence over these emissions. It is designed to ensure all public bodies tackle the essential emissions relating to their operations, and to highlight the importance of focusing on the use of public body functions to influence change more widely.

Why have a Carbon Management Plan?

A Carbon Management Plan (CMP) serves as a strategic and action-oriented document to help public bodies understand, measure, manage and reduce their corporate carbon emissions.

What are the key parts of a Carbon Management Plan?

As outlined in this guidance and template, the key parts of a Carbon Management Plan are:

- A brief **overview of the organisation**: it's size, key activities and functions.
- An explanation and or illustration of CMP **governance and management** arrangements, including how the CMP fits into corporate management and governance structures and processes. This section should also include a signed declaration verifying that the CMP information is accurate and formally signed off by an appropriate senior manager.
- Brief overview of the **key drivers and objectives** of the CMP, often including reference to key policy and organisational priorities.
- Setting a **baseline year** for the CMP, from which emissions will be monitored.
- Setting clear **boundaries** of which emission sources (relating to organisational functions) will be included in the CMP.
- Collating an **emissions inventory** based on the emission sources within the agreed boundary.
- Setting out clear emissions reduction **targets,** overall and activity specific.
- Developing a register of emission reduction **projects.**
- **Monitoring and reporting** the impact of the emissions reduction projects and setting out the expected impact of projects in the years ahead.
- Publishing **annual reports** on progress including, where applicable, via the mandatory public bodies climate change duties annual reporting process.

Mandatory public bodies climate change duties reporting

Many sections of this Carbon Management Plan correspond to the public bodies climate change duties reporting (PBCCDR) master template available on SSN's Reporting Resources page. This guidance indicates where the Carbon Management Plan relates to the mandatory reporting template, using the relevant Part and table or question numbers.

The PBCCDR template is publicly available to all public bodies, not just those subject to the mandatory reporting duty. All bodies are free to use it as a tool.

Please refer also to the public bodies climate change duties reporting guidance on how to fill out the annual report which can be found at SSN Reporting Resources, where applicable.

Baseline Carbon Management Plan Template

1. **Public Body Overview**

Provide a general description of the organisation stating key information such as when established, size or scale, current practices and key functions. Provide a brief description of your offices or physical estate, number and type of buildings used, number of staff, if you operate any fleet vehicles etc.

Please enter this information in Part 1 (a-g) of the public bodies climate change duties report.

2. Governance and management

Explain the arrangements in place to provide a robust system of governance and management of the Carbon Management Plan, covering decision making and leadership. Include the review period for the CMP, e.g. to be reviewed annually.

- Governance refers to arrangements at Board (Non-Executive) level.
- Management refers to senior executive functions such Chief Executives, Finance Directors and the likes of Corporate Management Teams.

Please enter the information in Part 2 (a and b) of the public bodies climate change duties report.

3. Drivers and motivation for change

Set out a brief overview of the key drivers and objectives of the Carbon Management Plan. This could contain reference to:

- Key strategy and policy commitments of the body
- An overview of how the Carbon Management Plan supports other organisational objectives
- Key drivers within the public sector and motivations of leaders and managers
- Reference to the financial and operational benefits of the Carbon Management Plan.

Reference should also be made to the legislative drivers within the Climate Change (Scotland) Act, where Section 44 of the Climate Change (Scotland) Act 2009 sets out Public Bodies Climate Change Duties on:

Mitigation - greenhouse gas emissions reduction.
When carrying out their operations, public bodies must act in the way best calculated to contribute to delivery of the Act's greenhouse gas emissions reduction targets. The Climate Change (Duties of Public Bodies: Reporting Requirements) (Scotland) Order 2015, secondary legislation under the Climate Change (Scotland) Act 2009, mandates annual reporting for listed bodies. The 2020 Amendment Order adds requirements including, where relevant, target dates for zero emissions, alignment of spending with emission reduction, and contributions to Scotland's Climate Change Adaptation Programme.

Adaptation - adapting to the impacts of a changing climate
The Securing a Green Recovery on a Path to Net Zero: Climate Change Plan 2018–2032 Update outlines ambitious emission reduction targets, following advice from the Committee on Climate Change and the 2019 Climate Change Act requiring net-zero emissions by 2045. For adaptation, public bodies must act resiliently, aligning with the statutory adaptation programme. The Scottish National Adaptation Plan 2024-2029 addresses climate impacts, guided by the third UK Climate Change Risk Assessment (CCRA3). CCRA3 was based on the Independent Assessment of UK Climate Risk and national summaries, including the National Summary for Scotland that assesses 61 climate change risks and opportunities for Scotland.

Acting Sustainably - sustainable development as a core value.
Acting Sustainably mandates public bodies to align with wider sustainable development goals, such as the United Nations Sustainable Development Goals (SDGs). Scotland's National Performance Framework aligns with SDGs, tracking progress through 81 indicators, including carbon footprint, greenhouse gas emissions, natural capital, renewable energy, waste, biodiversity, active travel, public services, and local influence.

4. Baseline period

The baseline year for this Carbon Management Plan is financial year [--------]

The date included here should be the period chosen as the first estimation of your emissions.

Information on establishing a baseline can be found in the SSN Reporting Guidance available from the Reporting Resources page.

5. Organisational boundary

The Carbon Management Plan should clearly set out the organisational boundary used for monitoring and managing emissions. A basic Carbon Management Plan should, where applicable, have the following organisational boundary of emission sources, grouped by standard carbon accounting protocol scopes. These could be included in a table, as illustrated below:

Operational area or activity	Source of emissions*	Scope designation
Buildings**	Gas use, primarily from heating	1
	Other heating fuels, e.g. oil, biomass	1
	Mains electricity	2
	Fugitive gases, where applicable. Most likely to be refrigerant gases from cooling equipment or heat pumps	1

	Upstream energy and fuel-related emissions, i.e. those associated with the extraction, refining and transport of fuels, and transmission and distribution losses	3
Fleet vehicles owned or operated by the public body	Fuel used (e.g. petrol, diesel) in fleet vehicles	1
	Electricity used by EVs (electricity used to charge vehicles may be included within the overall building consumption if not separately metered)	2
	Upstream energy and fuel-related emissions, i.e. those associated with the extraction, refining and transport of fuels, and transmission and distribution losses	3
Business travel	Personal vehicles used for business (i.e. 'grey fleet')	3
	Public transport used for business	3
	Flights taken for business	3
	Overnight stays taken for business	3
Staff commuting	Staff vehicle fuel used in commuting Public transport used in commuting	3
Staff working from home	Number of staff working from home or actual energy and fuel use reported by staff while working at home	3
Waste	Waste generated by the public body	3
Water	Water supply or consumption; and related waste water treatment	3

*Section 8.3.5.3 provides information on common data sources for some of the emissions listed. Refer also to the GHG Protocol for further guidance.

**Note: certain public bodies may not have direct control over their buildings and services if they lease space. In such cases taking a proportionate approach will suffice. Depending on the occupancy level and lease arrangements a pro-rata approach may be most appropriate. Where relative occupancy rates are low and part of the estate of another public body, it may make more sense to either note this or attribute estimates as scope 3 emissions, as the body has no direct control. When co-located with other public bodies, all parties should agree on respective reporting boundaries to avoid double counting, but more importantly, focus on actions to reduce energy use, waste and water consumption in partnership with co-occupants and building owners.

Bodies may choose to report on other sources of emissions, and these should be included as appropriate. The table is intended to illustrate a starting point only.

6. Setting a baseline carbon emissions inventory

Baseline Carbon Emissions Footprint

Methodology: We have classified our greenhouse gas (GHG) emissions in line with the Greenhouse Gas Protocol (revised edition). All emissions have been converted to carbon dioxide equivalent (CO2e) and calculated using UK government emission factors, unless otherwise stated.

The table below outlines our overall carbon footprint for the baseline year of [--------]

Baseline Emissions – Scopes 1 and 2: [--------] tonnes CO_2e
Baseline Emissions – Scope 3: [--------] tonnes CO_2e

Total Baseline Emissions – [--------] tonnes CO_2e

Matches table 3a in PBCCDR and table 3a can be extracted and used in the Carbon Management Plan.

Baseline year emissions

Emission Scopes	**Total Emissions (tCO_2e) by activity**	**Total emissions (tCO2e)**
Scope 1	Buildings:	
	Fleet vehicles:	
Scope 2	Buildings:	
	Fleet electric vehicles:	
Scope 3	Buildings - Upstream fuel and energy related emissions:	
	Fleet - Upstream fuel and energy related emissions:	
	Business Travel:	
	Staff commuting:	
	Staff working from home:	
	Waste:	
	Water and waste water:	
Total Baseline Emissions		

Based on the agreed boundary, a baseline inventory of emissions should be calculated. The table above illustrates a simplified way of presenting this. This can be done using the emissions reporting tables in Part 3 of the public bodies climate change duties report template, tables 3a and 3b. These tables require information on the consumption of gas, electricity and fuels, as well as information on business travel modes and distances, and data on waste generated and water consumed.

Once these tables have been completed, a Carbon Management Plan summary table, as illustrated above, can be published.

To calculate the emissions relating to each scope and area of activity, please use table 3b in Part 3 of the public bodies climate change duties report template. This template is publicly available and can be used as a tool by all public bodies, not just those subject to the mandatory reporting duty.

The PBCCDR template will calculate emissions and allocate scopes based on consumption data entered against each type of activity. Table 3b can be extracted and used within the Carbon Management Plan to provide a more detailed overview of emissions by activity.

7. Emissions reduction targets

The body's overarching CO2e emissions reduction target is [absolute target, percentage reduction target or net zero target] of [----------] by year [--------].

The public body should establish an overarching net zero carbon target, in line with the Scottish Government target of net zero by 2045 where feasible, ideally earlier, covering emissions from scopes 1 and 2.

They should also set appropriate scope 3 targets including a target for reducing car kilometres travelled and targets related to waste and recycling. Targets should be set for each source of emissions, relating to the various activities, as illustrated in the table below. Targets should include a date and, generally, a baseline year - refer to section 5.4.4 in the guidance above for further information on target setting.

The targets included in the table below are intended to be illustrative examples only. Bodies should set evidence-based targets appropriate to their own body, assets, location and operational activities.

Operational area or activity	Source of emissions by activity	Scope	Target*
Buildings	All	-	All owned buildings to be energy efficiency rating band C or better by 2038.

	Gas	1	80% reduction in emissions by 2035, from [the baseline year]. Zero emissions by 2038.
	Other heating fuels	1	Zero emissions by 2038.
	Electricity	2	20% reduction in total electricity consumption by 2040. By 2040, 25% of total electricity consumed is to be self-generated using on-site renewables.
Vehicles owned by the body	All	-	20% reduction in car km travelled by 2030.
	Fuel used (petrol, diesel)	1	No new fossil fuelled cars to be added to the fleet from 2025. 80% of the cars in the fleet to be EVs by 2025. Fleet to be fully electric by 2030.
Business Travel	All	3	25% reduction in total business travel emissions by 2030.
	Personal vehicles (‘grey fleet’)	3	20% reduction in car km travelled by 2030.
	Public transport	3	10% increase in the number of journeys taken using public transport by 2030.

	Flights	3	Zero domestic flights to be taken by 2028 (within mainland UK). 25% reduction in emissions from non-domestic flights by 2028.
Staff commute**	All	3	25% reduction in total staff commuting emissions by 2030.
	Active travel to work	3	25% of journeys to made by active travel by 2030.
	Public transport travel to work	3	15% of journeys to be made using public transport by 2030.
	Private vehicle travel to work	3	20% reduction in car km travelled by 2030. All owned sites with car parking to provide at least 2 EV charging points accessible to staff by 2030 (where feasible).
Working at home**	Energy efficiency actions at home	3	Home energy efficiency training to be added to staff induction process by 2026; and delivered to all staff by 2028.
Waste	Weight or volume of waste generated	3	25% reduction in the [weight or volume] of waste generated by 2030.
	% of waste recycled	3	80% of waste to be recycled by 2030.
	% of waste to landfill	3	Zero waste to landfill by 2028.

Water	Volume of water used	3	20% reduction in the consumption of water by 2030.

* Targets can take various forms. For scopes 1 and 2, these should focus on carbon reductions, e.g. a 75% reduction in the scope 2 emissions from electricity by 2030. Scope 3 targets may focus on carbon emissions, or may relate to the activity, e.g. 70% of waste to be recycled by 2030; 50% of business travel journeys to be taken using active travel or public transport by 2035. Refer to section 5.4.4 in the guidance above for further information.

** Note: the number of staff commuting and the number of staff working at home are related. Targets should encourage both low carbon commuting (walking, cycling, public transport) and, only where appropriate, working from home (which is typically lower carbon than commuting). Public bodies should encourage staff to adopt good practice energy efficiency and low carbon behaviours while working at home in order to minimise emissions generated while working at home.

Targets should be set for overall emissions reductions, as well as sub-targets on reducing demand (energy efficiency, etc.) and greening supply (shifting to low carbon alternatives) in each of the activities that are sources of emissions.

Targets should be set in line with policy objectives set by the Scottish Government or agreed collectively by public bodies by sector.

Targets should be set out and reported annually in table 3d. in Part 3 of the public bodies climate change duties report template.

8. Policies and projects

To meet targets public bodies should develop and implement policies and projects that support emission reductions. Each policy and project should be carbon impact assessed to calculate the likely carbon reduction impact. Public bodies need to use these reduction estimates to assess the range of policies and projects needed to meet agreed targets.

Within this section, outline why you have chosen these specific policies and projects. Outline those which are directly related to meet your reduction targets, describe how you are planning on implementing and identify any barriers which could prevent their implementation. Not all projects have to be directly related to emissions reduction, they could be around behavioural change or education (i.e. enabling measures).

Policies and projects register

The policies and projects included in the example register below are intended to be illustrative examples only. Bodies should plan and implement approaches and measures appropriate to their own body, assets, location and operational activities.

Project name	Description	Direct emissions reduction or enabling measure	Emissions Scope addressed	Predicted carbon reduction (tCO_2e)	Target completion date
Example: EV charging infrastructure	Installation of EV charging points for fleet vehicles at all sites	Enabling measure	1	Not applicable	2025-26
Example: EV charging infrastructure	Install at least 2 EV charging points for staff vehicles at all owned sites (where feasible)	Enabling measure	3	Not applicable	2029-30
Example: Renewable electricity	Install solar PV panels at HQ building	Direct measure	2	5	2027-28
Example: Clean heating in buildings – phase 1	Replace gas heating in HQ building with air source heat pump	Direct measure	1	150	2029-30
Example: Clean heating in buildings – phase 2	Replace oil heating in main laboratory building and 2x regional offices with air source heat pumps	Direct measure	1	75	2032-33

Annual reporting of policies and projects

Carbon reduction policies and projects should be reported annually in mandatory public bodies climate change duties reports.

- Estimated total annual carbon savings from all policies and projects implemented by the body in the reporting year. Use PBCCDR table 3e.
- Detail the top carbon reduction projects carried out in the reporting year: provide details of the projects which are estimated to achieve the highest carbon saving during the reporting year. Use PBCCDR table 3f.
- Carbon reduction projects for the year ahead: anticipated annual carbon savings from all projects to be implemented by the body in the year ahead. Use PBCCDR table 3h.
- Estimated decrease or increase in emissions from other sources in the year ahead. If the body's corporate emissions are likely to increase or decrease for any other reason in the year ahead, provide an estimate of the amount and direction. PBCCDR table 3i.
- Total carbon reduction project savings since the start of the year the body used as a baseline for its carbon footprint. PBCCDR Table 3j.

9. Other factors influencing emissions

The other factors that have influenced the body's emissions in the past or are expected to in the future are:

Sometimes emissions will increase or decrease due to other factors influencing the operations of the organisation. This could include such things as significant changes in the scale of staffing, operations and budgets, changes in office locations or number of buildings, or ways of working. These contextual influences on emissions should be reported within the Carbon Management Plan; and also reported in mandatory public bodies climate change duties reports (PBCCDR table 3g).

If significant change takes place, organisations may need to recalculate their baseline emission and overhaul their Carbon Management Plan.

10. Monitoring and reporting

Governance and management of the Carbon Management Plan:

Reporting arrangements for the Carbon Management Plan:
Internal:
External:

An outline of how the Carbon Management Plan is monitored and reported on should be provided. This can be done as narrative text as a minimum, but can also include diagrams or tables to help explain structures and processes to a range of stakeholders.

Within this section bodies should make it clear how the Carbon Management Plan will be reported on internally and externally.

Example text:

> "We collect data from multiple internal and external sources to calculate our operational emissions. This includes our building facilities management contractors, travel agent, and our finance and operational departments. Staff commuting is captured via annual employee surveys…. Data to measure the progress of our CMP is collected quarterly, with updates provided to relevant working groups and the organisation's Board, as well as communicated externally via the organisation's website, and in the annual report and accounts."

As referenced throughout this guide the body, where relevant, should also use its mandatory public bodies climate change duties report as a key data reporting and publication mechanism. The public bodies climate change duties report requires reporting of Governance, Management and Strategy in Part 2, as well as detailed annual reporting of emission, targets, policies and projects. The Carbon Management Plan should feature clearly within the body's annual mandatory reports.

11. Verification and senior leadership declaration

Verification of the Carbon Management Plan and related reports has been done using the following:

Verification of Carbon Management Plan data and reporting is good practice. For Carbon Management Plans, this verification could be done internally, by working with internal auditors, by working collaboratively with peers in the public sector to undertake peer-to-peer review, or by engaging a third party to provide a verification or external audit service. For most smaller public bodies, internal auditing of data should be sufficient and cost-effective. Peer-to-peer review offers benefits in terms of knowledge sharing and capacity building.

If verification is undertaken, make reference to this in a statement in your Carbon Management Plan and in any progress reports.

Carbon Management Plans should also contain a formal senior level declaration from the organisation's Chair or Chief Executive endorsing the Carbon Management Plan and confirming that all information in the CMP is accurate and agreed.

Leadership Declaration

I confirm that the information in this report is accurate and provides a fair representation of the body's performance in relation to carbon management.

Name:…...……..

Position:……

Organisation:..……

Date:..……..……..

Next review due date:…….

Annex B: Climate Change Plan template for local authorities

The purpose of this template and guidance

Who is this template for?

This template is for use by Scottish local authorities (LAs) only. It is intended to help LAs demonstrate their compliance with the three climate change duties, across their corporate and area wide boundaries.

What is the purpose of the Climate Change Plan template?

This document provides a template of how local authorities should present the action being taken in respect of their climate change duties in the form of Climate Change Plans (CCPs). The content of the template is not exhaustive, however it does contain the areas LAs CCPs should cover in order to demonstrate that they are meeting their climate change duties.

LAs are free to develop and structure their CCP, or equivalent, as best suits their own organisation, for example as a single overarching plan or a series of linked plans covering different areas. This document is intended to provide an overview of what LAs' plan or plans should include, as a minimum, to demonstrate how they are acting in the way best calculated to contribute to the national mitigation targets and to help deliver the national adaptation programme, and in the most sustainable way, i.e. how they are meeting the public bodies climate change duties.

What should a Climate Change Plan include?

In developing their CCP, LAs should consider corporate and area wide activities in terms of **mitigation** (reducing emissions), **adaptation** and **acting in the most sustainable way**, **i.e. they should cover the full scope of the climate change duties.**

LA Climate Change Plans (CCPs) should cover:

- **corporate (organisational)** assets and activities and the emissions generated by these, including relevant scope 3 emissions
- **area wide** activities and emissions, many of which will lie outside the control of the LA but within their sphere of influence.

The climate change duties require to be met as the body 'exercises its functions' – for LAs, these functions should be taken to include:

- corporate operational functions
- delivery of public services within the authority area
- policy making functions or influence
- discharging of other mandatory duties
- exercise of regulatory powers.

The CCP therefore needs to be a much more comprehensive plan that one which, say, considers building and fleet decarbonisation alone. LAs may find, in operational terms, that the CCP is supported and implemented by a series of targeted policies, route maps and action plans which lay out the more granular detail for relevant assets, functions and activities.

Given the interlinked nature of the climate and biodiversity crises, LAs may wish to develop strategies or plans that tackle these together. The content of this template focuses on climate action and sustainability. LAs should follow the available guidance in relation to biodiversity and nature recovery. Further relevant guidance may be developed in the future in relation to the proposed Natural Environment Bill and the proposed statutory targets for nature restoration.

Climate Change Plan template for local authorities

1. Introductory information about the LA

i. Background information about the LA area (high level)

Including, for example: location, geography, population, socio-economic status and influencing factors, key industries and land use, nationally or regionally important assets or infrastructure, e.g. regional NHS sites, large Scottish Water assets, HE/FE institutions, key transport infrastructure. Key climate vulnerabilities and impacts, such as coastal erosion, drought risk or flooding, specific to the LA area.

ii. Background information about the council (high level)

Overview of the council, including numbers of staff; overview of assets such as buildings, fleet and social housing; services and delivery (e.g. waste, social care – procured as contracts or delivered inhouse); other mandatory duties; and regulatory powers, e.g. planning. Key delivery partners and stakeholders.

iii. Climate policy and implementation (high level)

Brief statement around the climate emergency, action taken to date, key policies and related strategies (including links to where these can be found). This could include identifying key relevant national targets, strategies and policies, and outlining how the council has delivered or plans to deliver on those, with gaps and exemplar action noted.

Brief statement about mainstreaming or embedding climate action into the council's activities and decisions; note key responsible roles (governance to be covered in more detail in further sections).

2. Developing the Climate Change Plan

i. Assessment of the current situation – where we are now

The LA's and the LA area's impact on climate change; and how climate change is, and will, affect the organisation and region (refer to chapters 5 and 6 of the guidance).

Emissions:
Refer to section 5.5 of the guidance and the table below.

Table: Relationships of scopes across the organisational (corporate) and area-wide protocols (adapted from the GHG Protocol)

Scope	Definition in relation to organisational emissions	Definition in relation to area-wide emissions
1	Direct GHG emissions from sources that are owned or controlled by the organisation	GHG emissions from sources located within the local authority boundary
2	Indirect GHG emissions from acquired electricity, heat, steam or colling consumed by the organisation	GHG emissions occurring as a consequence of using grid-supplied electricity, heat, steam and or cooling within the local authority boundary
3	All other indirect emissions that are a consequence of the activities of the organisation	All other GHG emissions that occur outside the local authority boundary as a result of activities taking place within the local authority boundary

- **Corporate (organisational) emissions** – main sources of emissions both direct and indirect (i.e. including relevant scope 3 and, where applicable, land based emissions) and explanatory narrative
- **Area wide emissions** – main sectoral sources of emissions (e.g. heating, energy, transport, industry, land use) and explanatory narrative. **Further guidance will be developed by the Scottish Climate Intelligence Service (SCIS) in the coming months to assist LAs with this.**
- Where the LA and LA area is now, and the gap to net zero, i.e. areas where action needs to be focused.

Adaptation:
Refer to chapter 6 of the guidance.

- **Corporate adaptation** – main hazards, vulnerabilities and exposure; key risks and opportunities in relation to assets, service delivery and fulfilment of LA functions; key partners and stakeholders. Where relevant, how corporate adaptation relates to and links with the regional adaptation approach and plan.
- **Area-wide adaptation** – main hazards, vulnerabilities and exposure; key risks and opportunities for the LA area (or wider region if appropriate) and wider priorities (e.g. economic development); key partners and stakeholders. Regional approaches that are already in place or in development.
- Where the LA and LA area is now; the gap to being a well-adapted and resilient organisation or region; and the gap in relation to SNAP3 outcomes.

Acting in the most sustainable way:
Refer to chapter 7 of the guidance.

- **Corporate sustainability** – consideration of wider environmental, social and economic issues, beyond GHGs and net zero, e.g. waste, pollution, use of plastics, the circular economy, equalities and just transition in service delivery and procurement. Contribution to and alignment with the National Performance Framework and UN SDGs.
- **Area wide sustainability** - wider environmental, social and economic issues; LA area or regional issues such as air and water pollution, contaminated or abandoned land or property, health, areas of deprivation, inequalities. Any specific issues, challenges and opportunities. How the LA fits into the national picture, contribution to and alignment with the National Performance Framework and UN SDGs. Where the LA or LA area is now, and the gap to being a sustainable and equitable organisation or region.

ii. Drivers, goals and objectives – where we want to get to

This section is about recognising a problem and the causes, and the costs and benefit of inaction versus cost and benefit of action. This section needs to enable understanding of why change is needed, and can include a vision for the future and the local benefits and costs that accrue from this. It should include consideration of co-benefits and show how climate action can be used to further wider outcomes and objectives including improved biodiversity, access to green space, reduced inequalities and improved health and wellbeing, etc.

- Drivers for developing the plan (corporate and area-wide aspects)
- Goals and objectives (corporate and area-wide, high level, outlining what success looks like), covering:
    - mitigation – key goals and objectives, including wider linked objectives, e.g. improved air quality, improved health and wellbeing, etc.
    - adaptation – key goals and objectives, contribution to delivering the Scottish National Adaptation Plan (SNAP), wider linked objectives
    - acting sustainably – key goals, objectives and outcomes, links to national priorities, National Performance Framework outcomes and UN SDGs.

iii. Impact assessments

Note the impact assessments, such as EQIA and FSDA, that have been carried out in relation to the this plan or plans, and explain how feedback from the assessments was taken into account as the plans developed. Where copies of the impact assessments or related information are available publicly, provide links.

iv. Planned reviews and updates

Briefly note how often this plan will be reviewed and by whom, and note the frequency of any official update cycle. The review and update frequency is likely to vary depending on how the LA structures its plan or plans. For example, if the overarching CCP contains a net zero target of 2045 this is unlikely to require regular review, however the supporting route maps and action plans on how to achieve this target will need to be reviewed on at least an annual basis, potentially more frequently.

Note where the CCP will be published or made available. It is recommended that, as best practice, LAs should make their high level plans publicly available. The supporting detailed action plans and risk assessments, etc., may contain more sensitive information, and it is for individual LAs to decide whether and how they wish to share these. LAs are encouraged, in the interests of transparency, to make information publicly available where it is appropriate to do so.

3. Boundaries

In this section, LAs should describe which assets and activities are included in their CCP in a transparent way. Any exclusions should be noted, along with a reason for this. Refer to section 8.3.2 in the guidance.

This section of the template will be updated as the Improvement Plan related to the Environmental Standards Scotland investigation progresses through the Parliamentary process. The template will be updated to align with the agreed actions, specifically in relation to the reporting of scope 3 emissions.

- **Corporate boundaries** – the LA should describe how their boundary has been set, the approach taken and why; list which assets, infrastructure and activities have been included; and note and explain any exclusions. The boundary (assets, land and activities) is reasonably expected to include the built estate including street lighting, landholdings, fleet and business travel, corporate waste, staff commuting and homeworking, and procurement. Section 8.3.5.1 of the guidance outlines the 'baseline' emission categories LAs are, as best practice, expected to include in their boundary and reporting on mitigation.

- **Area wide boundaries** – the geographical boundary (land and sea), and within that the sectors, sources and activities that are included. **Content should follow the guidance that will be developed by SCIS.** Over the coming 12-18 months, a standard approach to area-wide boundary and target setting, planning and reporting for mitigation will be developed in partnership with SCIS. Boundaries for adaptation may be different from those for mitigation and may be at a regional level.

  LAs typically own other assets, such as social housing, and provide services such as municipal waste treatment. Given that these are not under the direct control of the council (for example in terms of how much energy a household uses, or how much waste it produces) it is suggested that these be included within the boundary for the area-wide plan rather than the corporate plan – noting that **the approach to these wider assets and services is to be developed in partnership with the SCIS, to ensure a consistent approach is taken by all LAs.**

4. Targets

In this section, LAs should detail out their climate change targets and how these align with and support other strategic priorities. While such targets should include those related to emissions reduction, adaptation and acting sustainably, they could also include broader targets related to, for example, skills and capacity building. Refer to section 5.4.4 and section 6.4.6 of the guidance.

i. Corporate targets

Corporate emission reduction targets

There are various national policy targets and ambitions in place, for example around heat in buildings, fleet decarbonisation and the circular economy. When setting their corporate targets LAs should, as best practice, align to these; and could show greater ambition where this is felt to be achievable.

Corporate emission reduction targets should include, as best practice and where relevant:

- an overall net zero target for scopes 1 and 2 (or separate targets covering both scopes) of no later than 2045, earlier where possible. Where a target lies far off (such as 2045), bodies are encouraged to consider ways to help ensure they stay on track such as setting milestones
- individual targets covering zero direct emissions from cooking and heating, zero direct emissions from road fleet vehicles (LAs may find it appropriate to have separate targets for cars, LCVs, HGVs, etc.) and zero direct emissions from the ferry fleet
- targets related to land use and land use change, in particular where land based emissions, such as those from degraded peatland, are a source of direct scope 1 emissions
- targets covering other direct emissions, e.g. from use of machinery
- targets covering waste, e.g. waste to landfill, recycling rates, circular economy
- targets related to procurement
- targets related to other sources of indirect emissions, such as business travel, car kilometres travelled, etc.

Further guidance can be found in section 5.4.4.

Corporate adaptation targets

LAs have a statutory duty to help deliver the Scottish National Adaptation Plan. SNAP3 has five long-term outcomes and 23 objectives. SNAP3 objectives relating directly to LAs' corporate adaptation include:

- Objective PS1: "Providers of public services have the governance, culture, skills and resources for and are collaborating in effective and inclusive adaptation action."
- Objective PS2: "People can access the public services they need; and critical assets, systems and networks are resilient to the impacts of the changing climate."

LAs may consider it appropriate to report on progress against a mix of outcomes and quantitative targets. These could relate to both hard measures or softer measures such as community resilience building. Further guidance and resources are provided by Adaptation Scotland.

Corporate sustainability targets
To act in the most sustainable way, LAs should ensure that sustainable development principles are built into their decision-making process (refer to section 7.4 of the guidance). LAs may consider it appropriate to report on progress towards sustainability outcomes, similar to the approach to adaptation outlined above.

ii. Area wide targets

Area wide emission reduction targets
Content should follow the guidance that will be developed by SCIS and shared over the coming months.

As best practice, LAs are encouraged to aim for net zero on an area wide basis by 2045, in line with the Scottish national target. LAs are encouraged to consider milestones, where the overall date lies far off, to help ensure that they stay on track.

Area wide adaptation targets
LAs need to consider carefully what adaptation outcomes, targets and metrics are appropriate to their region, communities and the climate-related risks and opportunities that they face.

LAs have a statutory duty to act in the way best calculated to help deliver the Scottish National Adaptation Plan. SNAP3 has five long-term outcomes and 23 objectives. Depending on context, all of the SNAP3 objectives could relate directly to area wide adaptation. LAs must consider the SNAP3 objectives

they can help to deliver, including though place-based action and participation in regional collaborations.

LAs may consider it appropriate to report on progress against a mix of outcomes and quantitative targets.

Area wide sustainability targets
LAs need to consider carefully what sustainability outcomes, targets and metrics are appropriate to their region and communities. They may consider it appropriate to report on progress against a mix of outcomes and quantitative targets.

5. Leadership and Governance

i. Roles and responsibilities

In this section, LAs should clearly lay out the roles and responsibilities in relation to delivering their CCP. This should include detailing the responsibilities assigned to individual roles and teams, and include an overview of the governance structure and risk management, including relevant Boards. LAs may find it helpful to illustrate this section with an organogram. Refer to section 4.3 of the guidance.

ii. Mainstreaming

It is essential that climate change and sustainability is embedded throughout the work of the LA. This section should include consideration of the climate change duties when exercising functions; integration of climate change and sustainability into development, planning and decision-making processes; and reporting on progress. LAs should outline the processes and structures which ensure climate and sustainability are embedded across all business areas.

The LA could also describe organisational culture, and related aspects such as leadership, training, performance management and objectives, and staff engagement and communications.

Refer to section 4.4 in the guidance above.

iii. Climate considerations in decision making

In this section, LAs should provide more detail around how climate and sustainability are taken into account in the decision-making process. They should note specific tools, impact assessments and or methodologies that are used, and for what types of decisions.

In particular in relation to major financial and policy decisions, LAs should outline the methodology they employ, for example SEA, other impact assessments, carbon budgets, assessment of whole life carbon and carbon costs in business cases or options appraisal, and so on. Refer to section 2.2 and section 4.5 of the guidance.

6. Functions and wider influence

Through their varied functions and influence, LAs can have a wide and significant influence on emissions and climate action far beyond their organisational boundaries. This section should identify these functions and influence, and briefly describe how the LA is, and will, help drive climate and sustainability action more broadly.

Such functions and influence for LAs will typically include: spatial and transport planning, service delivery, place-making, investment, infrastructure development, economic development, funding, regulation, communications, education, community development, and partnership development and facilitation.

Refer to section 4.6 and section 5.5 of the guidance.

7. Quality assurance and audit

It is important that LAs' climate action is subject to the same robust scrutiny as, for example, their financial management. LAs should briefly describe their quality assurance processes and internal audit mechanisms. They could also consider external verification or audit in relation to their climate action. It is likely that different processes will be required in relation to corporate and area-wide climate actions. Refer to section 4.7 of the guidance.

8. Monitoring and reporting

In line with the necessity to mainstream climate and sustainability action within the organisation, reporting on these should be embedded in the standard corporate reporting structure (noting that reporting on corporate and area wide climate actions should be kept separate).

This section should briefly describe how performance towards agreed mitigation, adaptation and sustainability targets and outcomes is reviewed and assessed, for example via regular Board meetings and use of KPIs, interim targets and short-term indicators. It should include the processes or actions that will be taken forward if progress falls off track and detail where the information can be found, e.g. in corporate reports, and include links to the webpages.

Any related statutory reporting, including the public bodies climate change duties reporting, biodiversity duty reporting and social housing reporting (EESSH or its successor), should be briefly described and links provided.
Refer to chapter 8 of the guidance.

Reducing emissions (mitigation)

9. Corporate emission reductions

In sections 3 and 4.1 above, LAs will have defined their corporate boundary and laid out their emission reductions targets. Here, further detail should be provided around how the targets will be achieved. LAs should develop route maps and action plans as laid out in chapter 5 of the guidance. The route maps and plans should demonstrate, clearly and quantifiably, how actions and measures have been assessed in terms of their contribution to meeting targets. The action plans in particular are likely to be separate documents, and should detail out interim steps, costs, timescales and dependencies.

Where the route maps and action plans are separate to this document and are publicly available, links should be provided.

Where the information is contained within another strategy or plan, such as LHEES or heat network plans, LAs should summarise the information briefly here, and provide links to these separate documents or webpages.

More detailed guidance on the measures that LAs can take, for example to decarbonise the heating in buildings or to develop a sustainable travel plan, is provided in the topic supplements which will accompany this guidance. These supplements, listed in section 1.4 of the guidance, will be available to view and download from the Scottish Government website.

10. Area wide emission reductions

In sections 3 and 4.2 above, LAs will have defined their area wide boundary and laid out their area wide emission reductions targets. Here, they should outline as a high level summary only, how these targets will be achieved. The route maps and plans should demonstrate, clearly and quantifiably, how actions and measures have been assessed in terms of their contribution to meeting targets. Refer to section 5.4.3 and section 5.5 of the guidance.

Where route maps and action plans are separate documents and are publicly available, links should be provided.

LAs should note where detail is provided in other strategies and plans, such as LHEES, heat networks and local housing plans, and provide links to these separate documents or webpages.

Content should follow the guidance that will be developed by SCIS.

It is the intention that, through the SCIS, area wide emissions information will be publicly available via the data platform, ClimateView. The ClimateView platform provides public-facing dashboards that illustrate policies, planned actions and expected emission reductions, and will in effect become 'live' area wide net zero plans.

Adaptation

11. Corporate adaptation

In sections 3 and 4.1 above, LAs will have defined their corporate boundary and laid out their adaptation targets and or outcomes. Here, further detail should be provided around how those targets and or outcomes will be achieved. It is expected that LAs will undertake climate risk assessments and develop and implement an adaptation plan in line with the SNAP, as outlined in chapter 6. of the guidance. These plans should show a clear pathway towards meeting organisational outcomes and targets.

Where these are separate to this document and are publicly available, links should be provided.

More detailed guidance on the measures that LAs can take, for example to develop nature-based solutions or adapt buildings to the changing climate, is provided in the topic supplements which will accompany this guidance. These supplements, listed in section 1.4 of the guidance, will be available to view and download from the Scottish Government website in due course

Resources and support in relation to adaptation planning and action are provided by Adaptation Scotland.

12. Area wide adaptation

In sections 3 and 4.2 above, LAs will have defined their area wide or regional boundary and laid out their adaptation targets and or outcomes. Here, they should lay out in more detail how those targets and outcomes will be achieved. These plans should show a clear pathway towards meeting area wide outcomes and targets.

SNAP3 objective C1 is that: "Regional collaborations are driving inclusive, effective and place-based adaptation action across all of Scotland". SNAP3 proposes that action at a regional scale includes collaborating on regional risk and opportunity assessment, adaptation priority setting, and long-term planning and investment; taking a place-based approach and including diverse communities as part of action to reduce inequalities.

Resources and support in relation to adaptation planning and action are provided by Adaptation Scotland.

The SCIS will focus on emission reductions. While it is possible that, in the long term, the remit of the SCIS may extend to include adaptation, there are currently no plans for it to do so. LAs should not delay area wide adaptation planning and action based on this expectation.

Acting in the most sustainable way

13. Corporate sustainability

In sections 3 and 4.1 above, LAs will have defined their corporate boundary and laid out their corporate sustainability targets and or outcomes. Here, they should lay out in more detail how those targets and or outcomes will be achieved. These plans should show a clear pathway towards meeting organisational outcomes and targets.

LAs are likely to have some sustainability plans already in place, for example in relation to food, procurement and learning settings. There is no need to duplicate details here: such plans can be briefly referenced in this section, and links to the individual documents or webpages provided.

More detailed guidance on the measures that LAs can take is provided in the topic supplements which will accompany this guidance. These supplements, listed in section 1.4, will be available to view and download from the Scottish Government website in due course.

14. Area wide sustainability

In sections 3 and 4.2 above, LAs will have defined their area-wide boundary and laid out their area-wide sustainability targets and or outcomes. Here, they should lay out in more detail how those targets and or outcomes will be achieved. These plans should show a clear pathway towards meeting area wide outcomes and targets.

Annex C: Resources

This annex collates the resources and sources of additional guidance identified within this document, plus additional resources which public bodies may find useful. These are provided for information only. The resources are grouped by topic. Further resources will be provided in each of the supplements in due course.

Legislation, statutory duties and impact assessment are highlighted in the section below for ease of reference.

Legislation, statutory duties and impact assessment

Climate change legislation, duties and statutory guidance

- Climate Change (Scotland) Act 2009
- Climate Change (Emission Reduction Targets) (Scotland) Act 2024
- Climate Change (Emission Reduction Targets) (Scotland) Act 2019
- Public bodies climate change duties (section 44 of the Climate Change (Scotland Act 2009)
- Definition of 'public body' within the Climate Change (Scotland) Act 2009 (section 3(1)(a) of the Freedom of Information (Scotland) Act 2002 asp 13)
- The Climate Change (Duties of Public Bodies: Reporting Requirements) (Scotland) Order 2015 – public bodies subject to the duties are listed in Schedule 1
- The Climate Change (Duties of Public Bodies: Reporting Requirements) (Scotland) Amendment Order 2020
- Statutory guidance for public bodies in relation to the climate change duties (2011), Scottish Government
- UK Climate Change Act 2008

Wider legislation, duties and statutory guidance

Best Value

- Best Value in Public Services duty – Scottish Public Finance Manual
- Best value in public services: guidance for accountable officers (2011), Scottish Government
- Local authorities' duty to secure best value (section 1 of the Local Government in Scotland Act 2003)
- Best Value Guidance, statutory guidance for local authorities in relation to the Local Government in Scotland Act 2003 (2004), Scottish Government

Biodiversity

- Biodiversity duty (Part 1 of the Nature Conservation (Scotland) Act 2004)
- Biodiversity duty reporting (section 36 of the Wildlife and Natural Environment (Scotland) Act 2011)

Consumer duty

- Consumer Duty (section 21 of the Consumer Scotland Act 2020)
- Consumer Duty – list of relevant public authorities (Schedule to The Consumer Scotland Act 2020 (Relevant Public Authorities) Regulations 2024)
- Consumer Scotland

Environment

- Guiding principles on the environment (section 13 of the UK Withdrawal from the European Union (Continuity) (Scotland) Act 2021)
- Statutory guidance on the guiding principles on the environment (2023), Scottish Government

- The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017
- Environmental Assessment (Scotland) Act 2005
- The Conservation (Natural Habitats, &c.) Regulations 1994

Equalities

- Public Sector Equality Duty (section 149 of the Equality Act 2010)
- Equality Act 2010 (Specific Duties) (Scotland) Regulations 2012 – includes equality impact assessment
- Public sector duty on socio-economic inequality (Part 1 of the Equality Act 2010) – introduced in Scotland in 2018 as the Fairer Scotland Duty
- Fairer Scotland Duty: statutory guidance for public bodies (2022), Scottish Government
- Duties in relation to island communities (Part 3 of The Islands (Scotland) Act 2018)

Human and Child Rights

- Children and Young People (Scotland) Act 2014
- Human Rights Act 1998
- Health and Safety at Work etc. Act 1974
- Scotland Act 1998
- United Nations Convention on the Rights of the Child (Incorporation) (Scotland) Act 2024

Impact assessment

- Scottish Government Environmental assessment policy (EIA, HRA and SEA)
- Business and Regulatory Impact Assessment (BRIA) toolkit – intended for use by Scottish Government officials but may be of wider interest
- Child Rights and Wellbeing Impact Assessment (CRWIA) – impact assessment guidance and templates, Scottish Government
- Child Rights and Wellbeing Impact Assessment (CRWIA) – Taking a children's human rights approach: guidance (2024), Scottish Government
- Climate Change Impact Assessment (CCIA) - Developing a Climate Change Impact Assessment Framework – Guidance for local authorities and public sector bodies, Sustainable Scotland Network
- Consumer Duty impact assessment, Consumer Scotland
- Environmental Impact Assessment (EIA) - Planning Advice Note 1/2013
- Environmental Impact Assessment (EIA) regulations - Planning Circular 1/2017
- Equality Impact Assessment (EQIA) guidance, Assessing impact and the Public Sector Equality Duty: Scotland (2016), Equality and Human Rights Commission
- Habitats Regulations Appraisal (HRA) guidance, NatureScot
- Health Impact Assessment (HIA) guidance and tools, Public Health Scotland
- Human Rights Based Approach guidance and resources, Scottish Human

- Island Communities Impact Assessment (ICIA) guidance and toolkit, Scottish Government
- Strategic Environmental Assessment (SEA) – guidance and templates, Scottish Government
- Strategic Environmental Assessment (SEA) – planning and development guidance, NatureScot
- Strategic Environmental Assessment (SEA) – planning guidance, SEPA
- Strategic Environmental Assessment (SEA) - Our roles in Strategic Environmental Assessment, Historic Environment Scotland

Procurement

- Sustainable procurement duty (section 9 of the Procurement Reform (Scotland) Act 2014)
- Statutory Guidance on the Procurement Reform (Scotland) Act 2014 including the sustainable procurement duty

Adaptation

- Scottish Government's adaptation policy
- Scottish National Adaptation Plan 2024-2029 (SNAP3, 2024), Scottish Government
- Scottish National Adaptation Plan 2024-2029: monitoring and evaluation framework (2024), Scottish Government
- Adaptation Scotland
- Adaptation Capability Framework, Adaptation Scotland
- Adaptation and the nature emergency report (2023), Climate Change Committee
- Climate Adapt: Sharing Adaptation Knowledge for a Climate-resilient Europe
- Climate risk - Independent Assessment of UK Climate Risk: advice to Government for the UK's third Climate Change Risk Assessment (CCRA3, 2021), Climate Change Committee
- Climate risk - UK Climate Risk
- Climate risk - UK Climate Change Risk Assessment 2022 – Policy paper (CCRA3), UK Government
- Climate risk - Climate Adaptation Toolkit and Risk and Opportunities Matrix, Local Partnerships
- Climate risk - Climate Risk Register Guide and Tool for universities and colleges, EAUC
- Climate risk - Guidance on Scenario Analysis for Non-Financial Companies, Task Force on Climate-related Financial Disclosures
- Coastal change - Coastal Change Adaptation Plan Guidance (2023), Dynamic Coast
- Coastal change - Dynamic Coast
- Coastal change - Planning and development: coastal change, NatureScot
- Communicating Climate Change Adaptation: A practical guide to values based communication (2024), Adaptation Scotland and Climate Outreach
- Flood Risk Management Plans, SEPA

- ISO 14909: 2019 Adaptation to climate change – principles, requirements and guidelines, International Organization for Standardization (ISO)
- Land use - Land Use, Land Use Change and Forestry briefing (2021), UK Climate Risk
- Land use - Land Use and Climate Change Adaptation in Scotland: Insights report (2024), Adaptation Scotland
- Leaders Climate Emergency Checklist, Sustainable Scotland Network
- Local Authority Climate Contact Directory, Adaptation Scotland
- Local Climate Adaptation Tool (LCAT)
- Met Office – UKCP18 Guidance: Representative Concentration Pathways (RCPs)
- Met Office – UKCP e-Learning modules (access by request)
- Met Office – UK Storm Centre
- A Pathways approach to adaptation planning (2017), Coast Adapt
- Public Sector Climate Adaptation Network (PSCAN), Adaptation Scotland
- Ready Scotland
- Regional Resilience Partnerships, Ready Scotland
- Re-thinking Cultural Heritage and Climate Change Adaptation, Open Educational Resources, The University of Edinburgh
- SME Adaptation tool – available on the Find Business Support website

Adaptation partnerships

- Aberdeen Adapts
- Climate Ready Aberdeenshire
- Climate Ready Clyde
- Climate Ready South East Scotland
- Highland Adapts
- Outer Hebrides
- Public Sector Climate Adaptation Network (PSCAN), Adaptation Scotland
- Tayside Adaptation Partnership

Audit

- Accounts Commission for Scotland
- Auditor General for Scotland
- Audit Scotland
- Auditing Climate Change Our Strategy (2022), Audit Scotland
- Christie Commission Review of Public Services in Scotland (2011), Scottish Government
- Decarbonising heat in homes report (2024), Auditor General
- Environmental and climate audits on the rise, 10th INTOSAI WGEA survey on environmental auditing (2021), INTOSAI WGEA
- Financial Reporting Manual (FReM), UK Government
- How the Scttish Government is set up to deliver climate change goals report (2023), Auditor General
- International Framework: good governance in the public sector, CIPFA
- International Organisation of Supreme Auditing Institutions (INTOSAI)
- Leader's Climate Emergency Checklist, Sustainable Scotland Network
- Public audit in Scotland 2023-28 (2023), Audit Scotland

- Public Sector Internal Audit Standards, UK Government
- Scotland's councils' approach to addressing climate change report (2022), Accounts Commission
- Successful Collaborations in the Public Services: the role of internal audit (2021), CIPFA
- Technical guidance for external auditors, Audit Scotland

Behaviour change and public engagement

- Scottish Government's community led climate action policy
- Scottish Government's community empowerment policy
- Community climate action hubs: contact details, Scottish Government
- Guidance on asset transfers (community empowerment), Scottish Government
- Influencing behaviours: ISM technical guide (2013), Scottish Government
- Net Zero Nation: public engagement strategy (2021), Scottish Government
- Participatory Budgeting in Scotland - PB Scotland
- Scottish Communities Climate Action Network (SCCAN) and Transition Network Hub for Scotland

Carbon management

- ETS - Guidance on the ETS, SEPA
- ETS - Participating in the UK ETS guidance (2024), UK Government
- ETS - UK Emissions Trading Scheme
- ISO Net Zero Guidelines
- Net Zero Public Sector Building Standard
- PAS 2080 Carbon Management in Infrastructure and Built Environment, BSI
- Public Sector Leadership on the Global Climate Emergency (2021), Scottish Government and Sustainable Scotland Network
- RICS whole life carbon assessment, RICS
- Route to Net Zero Standard, Carbon Trust
- Science Based Targets Initiative (SBTi)
- Scottish City Region and Growth Deals: carbon management guidance for projects and programmes (2022), Scottish Government
- UK Net Zero Carbon Buildings Standard

Circular economy

- Scottish Government's policy on circular economy
- Making Things Last: a circular economy strategy for Scotland (2016), Scottish Government
- Zero Waste Scotland

Climate change policy

- Scottish Government's climate change policy
- Green Industrial Strategy (2024), Scottish Government
- Securing a Green Recovery on a Path to Net Zero: Climate Change Plan 2018–2032 Update (2020), Scottish Government
- Climate Change Committee

- The Climate Change Committee's Local Government and the Sixth Carbon Budget Report (2020)
- Climate X Change – Scotland's centre of expertise connecting climate change research and policy
- Intergovernmental Panel on Climate Change (IPCC)
- AR6 Synthesis Report: Climate Change 2023, IPCC
- The Carbon Scenario Tool report, Edinburgh Climate Change Institute (2022)
- The Paris Agreement, United Nations Climate Change

Climate data: sources

- Adaptation Scotland – Climate change trends and projections
- British Geological Survey - Datasets
- Dynamic Coast
- Forest Research - Climate Change Hub: Home of UK forestry climate change adaptation guidance
- Forest Research - ForestGALES
- IPCC - Sixth Assessment Report — IPCC
- Local Climate Adaptation Tool (LCAT)
- Met Office - Local Authority Climate Service
- Met Office - Met Office UKCP18 products
- National Trust - Hazard Mapping Tool
- Scottish Public Health Observatory (Scot PHO) - Population or community health profiles
- SEPA (Scottish Environment Protection Agency) – Flood maps
- UK Climate Risk
- UK Climate Risk - National summaries
- UK Climate Risk Indicators (uk-cri.org)
- UK Government – open data
- UK Government - Flood Risk Management (FRM) Local Plan Districts

Climate plans and sectoral approaches: examples from the public sector

- Aberdeenshire Council – Climate Change and Sustainability webpage, includes links to download key documents including the Route map to 2030 and beyond, and supporting Action Plan; and climate risks.
- Creative Scotland – A Climate Emergency and Sustainability Plan for Creative Scotland (2022)
- Dundee and Angus College – Climate Emergency Action Plan 2021-2026 Our path to net-zero (2021)
- Dundee City Council – Dundee Climate Action Plan (2019)
- Dumfries and Galloway College – Climate Change Action Plan 2020-2025
- Forestry and Land Scotland – Climate Change Plan (2021)
- Glasgow City Council – Glasgow's Climate Plan Our response to the Climate and Ecological Emergency
- Historic Environment Scotland – Climate Action Plan 2020-2025
- NatureScot – NatureScot Adapts Framework (2024)
- NatureScot – Net Zero Plan (2021)
- NHS Scotland - A policy for NHS Scotland on the climate emergency and sustainable development (DL (2021) 38)

- NHS Scotland - The NHS Scotland Climate Emergency Strategy 2022-2026
- Scottish Funding Council, HE/FE sector, Net Zero and Sustainability Framework for Action (2022)
- Scottish Water – Climate Change Adaptation Plan 2024 (2024)
- Scottish Water – Net Zero Emissions Routemap
- Shetland Islands Council – Climate Change Strategy 2023-2027 and Action Plan (2023)
- Transport Scotland – Transport Scotland's Approach to Climate Change Adaptation and Resilience
- University of Edinburgh – Zero by 2040 Climate Strategy 2016-2026 (2016)
- University of St Andrews – Environmental Sustainability Strategy Net Zero by 2035 (2021)

Environment and biodiversity

- Scottish Government's biodiversity policy
- Scottish Government's environmental assessment policy
- The Environment Strategy for Scotland (2020), Scottish Government
- Scottish Biodiversity Strategy to 2045 (2024), Scottish Government
- Scottish Biodiversity Delivery Plan 2024-2030 (2024), Scottish Government
- CREW Centre of Expertise for Waters – connecting water policy and science
- Environmental Standards Scotland
- Historic Environment Scotland
- NatureScot – Scotland's nature agency

Finance

- Scottish Government's economic policy
- Accounting for Sustainability
- Best value in public services: guidance for accountable officers (2011), Scottish Government
- Business case guidance for projects and programmes, HM Treasury
- Carbon valuation, UK Government
- Financial Reporting Manual (FReM), UK Government
- Fiscal Sustainability Perspectives: Climate Change report (2024), Scottish Fiscal Commission
- Green Book: Central Government Guidance on Options and Appraisal, HM Treasury
- Green Book supplementary guidance: climate change and environmental valuation, HM Treasury, UK Government
- Green book supplementary guidance: Valuation of energy use and greenhouse gas emissions for appraisal, HM Treasury, UK Government
- Guide to Adaptation Finance and developing adaptation finance business cases, Adaptation Scotland
- International Financial Reporting Standards (IFRS) Foundation
- IFRS S1 General Requirements for Disclosure of Sustainability-related Financial Information
- IFRS S2 Climate-related Disclosures
- Investment for a well-adapted UK report (2023), Climate Change Committee

- Monetary Valuation of Risks and Opportunities in CCRA3, Report to the Climate Change Committee as part of the UK Climate Change Risk Assessment 3 (2021). Paul Wakiss Associates, UK Climate Risk.
- National Strategy for Economic Transformation (NSET), Scottish Government
- Net Zero Practical Guide for Finance Teams, Accounting for Sustainability
- The role of local government and its cross-sectoral partners in financing and delivering a net-zero Scotland report (2023), Net Zero, Energy and Transport Committee, the Scottish Parliament
- Scottish Fiscal Commission
- Scottish National Investment Bank
- Scottish Public Finance Manual, Scottish Government
- Task Force on Climate-related Financial Disclosures (TCFD)

Health

- Scottish Government's health and social care policies
- Climate change: health effects in the UK (HECC), UK Health Security Agency, UK Government
- Global Green and Healthy Hospitals
- Health Care Without Harm
- Health impact assessment (HIA) guidance and tool, developed by Public Health Scotland
- NHS Scotland - A policy for NHS Scotland on the climate emergency and sustainable development (DL (2021) 38, Scottish Government
- NHS Scotland - The NHS Scotland Climate Emergency Strategy 2022-2026
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