



Approaches to achieving net zero across the UK





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Ordered by the House of Commons
to be printed on 14 September 2023

UK

This report has been prepared under Section 6 of the National Audit Act 1983 for presentation to the House of Commons in accordance with Section 9 of the Act

Northern Ireland

This report has been prepared under Article 8 of the Audit (Northern Ireland) Order 1987 for presentation to the Northern Ireland Assembly in accordance with Article 11 of the Order

Wales

This report has been prepared under Section 9 of the Public Audit (Wales) Act 2013



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FOREWORD BY THE FOUR AUDITORS GENERAL OF THE UK

Foreword

The United Nations describes climate change as the defining issue of our time. We are already seeing the impacts worldwide, and on our environment, people and infrastructure here in the UK. Left unchecked, these impacts will only increase.

The UK government and devolved governments have passed legislation committing to achieving 'net zero' greenhouse gas (GHG) emissions by 2050 at the latest. In its recent progress report to the UK Parliament (June 2023), the Climate Change Committee (CCC) said its "confidence in the UK meeting its medium-term targets has decreased in the past year". Current pressures on public finances and the rising cost of living present challenges to making progress towards the 2050 target, but failing to slow down climate change and prepare for changes in our climate is likely to impose a heavy cost on future generations. Meanwhile, the risks of waste, escalating costs, and projects failing to deliver significant environmental benefits are high. However, if planned and delivered effectively, investment in tackling climate change can also help governments realise wider policy goals.

The scale and complexity of the challenge is colossal, and the consequences of climate change do not respect boundaries. The UK government and devolved governments will increase the likelihood of achieving their climate policy goals if they learn from each other and collaborate where their objectives align. This is also why external scrutiny is critical. The four audit offices across the UK will work individually and together to scrutinise progress towards net zero, drawing links across organisational boundaries, interrogating financial data, and considering how efficiently and effectively public money is spent to achieve these goals.

Through our regular engagement, and drawing on the lessons from previous audit work, we can speak with authority to our legislatures and public services on progress, what is working, and where the risks lie. Our access rights and independence mean we can shine a light on how net zero delivery works in practice, reporting without 'fear or favour'. Auditors are also well placed to consider how finance teams in the bodies we audit navigate climate risk and respond to developments in financial reporting standards.

Building on our work to date, we have come together to produce this joint report for all those with an interest in this topic and to inform public debate. The report summarises the current emissions profile and the powers, responsibilities, commitments and delivery arrangements for the net zero agenda across the UK.

Our audit offices are each making their own net zero commitments and we will continue to share knowledge and experience and explore opportunities for further joint working on this crucial topic that we expect will feature strongly in our work programmes over the coming years.



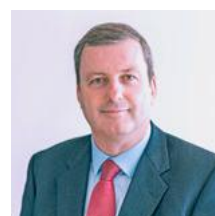
Stephen Boyle,
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ABOUT THE REPORT


About the report

1 This report is a joint piece of work between the public audit offices of the four UK nations – Audit Scotland, Audit Wales, National Audit Office and Northern Ireland Audit Office – and has been produced with engagement from each respective government or administration. It sets out the UK and devolved governments' legislation, policy, strategy, governance and monitoring arrangements, relevant to achieving net zero GHG emissions.

2 This work has several aims:

- To set out how the responsibilities and powers for achieving the net zero target are split between the UK government and each of the devolved governments.
- To provide insight and stimulate public discussion on each UK nation's overall approach to achieving net zero.
- To support the scrutiny of governments' arrangements to achieve net zero.
- To lay the foundations for potential further work on climate change by the UK's public audit offices.

KEY THEMES

Key themes

3 Climate change is one of the defining challenges of our generation.

The UK government and the devolved governments must act collectively to meet their objective of reducing GHG emissions across the UK to 'net zero' by 2050.

The powers needed to do this sit with the UK government (reserved powers) and the governments of Northern Ireland, Scotland and Wales (devolved powers).

In looking across the UK, we have identified four key themes.

4 The four nations have different emissions profiles and varied approaches to achieving net zero, but the choices they make must ultimately deliver net zero at the UK level:

The challenges to reduce emissions differ slightly in each UK nation. For example, while transport accounts for the largest share of emissions in both England and Scotland, agriculture and energy supply are the leading emissions sources in Northern Ireland and Wales respectively. This has led to different approaches in each nation, which will likely continue as the UK makes progress towards its net zero target. This means that each nation will contribute in different ways to reducing UK-wide emissions. It is important to ensure that the choices made by each nation, when considered collectively, provide an efficient path to achieving the UK net zero target, while at the same time achieving relevant targets for Northern Ireland, Scotland and Wales.

5 Given the different net zero targets, carbon budgets and policies across the nations, there will be opportunities for the governments to learn from each other:

UK nations have set different targets for tackling climate change; the UK, Northern Ireland and Wales have set a target to achieve 'net zero' GHG emissions by 2050, whereas Scotland has a target to achieve this by 2045. Each nation has established a slightly different approach, including differing combinations of budgets, targets and policies. In addition, each nation has different sector-specific arrangements underpinning its overall climate change goals. As each nation pursues its net zero ambitions in slightly different ways and to different timescales, there will be opportunities to learn lessons from each other and identify the potential for improved coordination and joined-up working to achieve shared goals.

KEY THEMES

6 Achieving net zero in any one nation depends on UK-level action,

and vice versa: The balance of reserved and devolved powers varies across the different sectors covered in the emission reduction targets. For example, UK-wide policy decisions will be critical in defining pathways towards decarbonising heating in buildings, such as on whether to pursue hydrogen or electrification (or both) as a fuel source, but this will need to be supplemented by action at a devolved level on issues such as planning and improving energy efficiency. Interdependencies also arise through financial decisions by the UK government affecting budgets of the devolved governments.

7 Effective working relationships and close engagement between the UK and devolved governments will be vital to achieving the overall aim of net zero:

Delivering the UK net zero target efficiently will require a coordinated approach to reducing UK-wide emissions, while helping secure value for money. This includes collectively prioritising the actions that will achieve the biggest emissions reductions across the UK, as well as ensuring structures and processes do not put unnecessary barriers in the way of joined-up working and shared learning. The Interministerial Group for Net Zero, Energy and Climate Change was established in 2020 to support effective engagement and collaboration between ministers leading on these issues across the UK.

FOUR NATIONS – NET ZERO TARGETS AND PERFORMANCE

77%

A UK interim target of a 77% reduction in emissions by 2037

46.7%

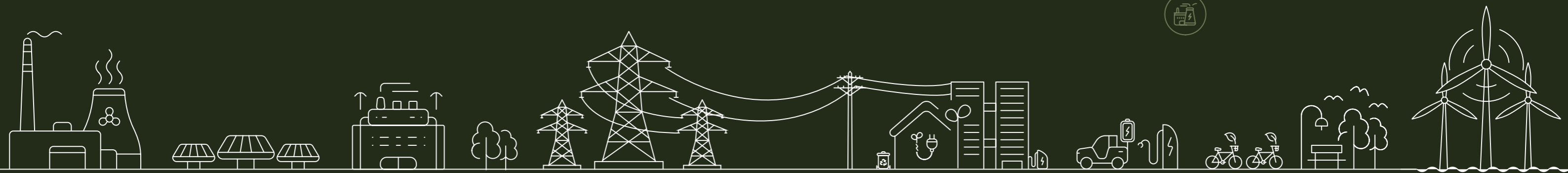
UK emissions have fallen by 46.7% against a 1990 baseline

446.0 MtCO₂e

Total emissions for the UK for 2021

109.5 MtCO₂e

Highest emitter – Transport



Four nations – Net zero targets and performance

8 This section of the report sets out the current targets for reducing GHG emissions (commonly shortened to ‘carbon emissions’) and describes progress towards meeting these targets.

9 Legislation for the UK, Northern Ireland, Scotland and Wales requires emissions to be reduced over the coming decades. Included in the range of legislation are various targets including an overall target to achieve net zero by 2050 (in the case of Scotland by 2045). Further information relating to the targets and timeframes is set out in the UK- and nation-specific sections of this report (pages 12 to 44).

10 In the case of the UK, Northern Ireland and Wales, legislation requires the setting of carbon budgets, which define limits on the total emissions over set five-year periods. Wales has set different carbon budget periods to the UK and Northern Ireland. Further information is set out in the UK- and nation-specific sections of this report







(pages 12 to 44). Legislation in Scotland does not require carbon budgets to be set. However, there is a requirement in Scotland to meet annual carbon reduction targets.¹

11 To know whether the UK, Northern Ireland, Scotland and Wales are on course to achieve their targets, they need to monitor and report on their carbon emissions. These emissions are expressed in million tonnes of CO₂ equivalent (MtCO₂e). The National Atmospheric Emissions Inventory reports annually on the carbon emissions for the UK, England, Northern Ireland, Scotland and Wales.

12 The data, as set out in **Figure 1** on pages 9 to 11, shows that emissions are reducing both UK-wide and for the individual nations. However, the CCC in its recent 2023 progress report to the UK Parliament, has commented that its “confidence in the UK meeting its medium-term targets has decreased in the past year” suggesting more remains to be done.²

FIGURE 1

Key highlights relating to net zero targets, emissions and progress for the UK as a whole and the individual nations

UK net zero emissions target	UK public sector net zero target	UK highest-emitting sectors 2021 ¹	UK progress	Emissions reduction against 1990 baseline	
 <p>2050, with an interim target which limits greenhouse gas (GHG) emissions over 2033-37, representing a 77% reduction on 1990 levels.</p>	<p>Target to reduce direct emissions from public sector buildings by 75% by 2037, compared with a 2017 baseline.</p> <p>No specific net zero target for the public sector. Bodies are working towards the legislative interim and net zero target dates.</p>				
		Total UK emissions 2021²	446.0	UK emissions have fallen by 46.7% against a 1990 baseline. The UK is on track to outperform its target of the Third Carbon Budget (2018 to 2022). However, emissions are not decreasing at the pace required to meet future budgets.	46.7%
		 Transport (24.6%)	109.5		
		 Energy supply (19.5%)	86.9		
		 Business (16.9%)	75.3		
		 Residential (15.6%)	69.4		
 Agriculture (10.7%)	47.9				

¹ The term ‘carbon’ is often used as a shorthand for referring to all greenhouse gases. Carbon dioxide is the main greenhouse gas, others include methane and nitrous oxide.

























² The Climate Change Committee (CCC) is an independent, statutory body established under the Climate Change Act 2008. Its purpose is to advise the UK and devolved governments on emissions targets and to report to the UK Parliament on progress made in reducing GHG emissions and preparing for and adapting to the impacts of climate change.

FOUR NATIONS – NET ZERO TARGETS AND PERFORMANCE

FOUR NATIONS – NET ZERO TARGETS AND PERFORMANCE

FIGURE 1 Continued

Key highlights relating to net zero targets, emissions and progress for the UK as a whole and the individual nations

	Net zero emissions target	Public sector net zero target	Total emissions for 2021	Highest-emitting sectors 2021 ¹	Progress	Emissions reduction against 1990 baseline
				MtCO ₂ e		
 England	See above – There are no distinguishable interim targets for England, as its progress is considered through UK-wide interim targets.	See above – There are no distinguishable interim targets for England, as its progress is considered through UK-wide interim targets.	333.6 MtCO ₂ e	 Transport (26.7%)  Energy supply (17.3%)  Residential (17.0%)  Business (16.7%)  Agriculture (8.4%)	England's emissions have fallen by 48.8% against a 1990 baseline. There are no distinguishable interim targets for England, as its progress is considered through UK-wide interim targets.	48.8% ↓
 Northern Ireland	2050, with an interim target of at least a 48% reduction by 2030. An interim target for 2040 is to be established. These are against baselines of 1990 or 1995 (depending on the greenhouse gas) as set out in the Climate Change Act (Northern Ireland) 2022 .	No specific target for the public sector. Bodies are working towards the legislative interim and net zero target dates.	22.5 MtCO ₂ e	 Agriculture (27.6%)  Transport (16.7%)  Business (14.0%)  Energy supply (13.7%)  Residential (12.4%)	Northern Ireland's emissions have fallen by 23.2% against a 1990 baseline. However, emissions increased slightly between 2020 and 2021. The carbon budgets for Northern Ireland have not yet been set.	23.2% ↓
 Scotland	2045, with interim targets of a 75% reduction by 2030 and 90% by 2040. These are against a 1990 baseline and set out in the Climate Change (Emissions Reduction Targets) (Scotland) Act 2019 .	No specific target for the public sector. Bodies are working towards the legislative interim and net zero target dates.	41.6 MtCO ₂ e	 Transport (26.3%)  Agriculture (18.8%)  Business (18.6%)  Residential (15.1%)  Energy supply (11.7%)	Scotland's emissions fell by 49.9% between a 1990 baseline and 2021. This fell just short of the interim target of a 51.1% reduction over the same period. ³	49.9% ↓
 Wales	2050, with interim targets for a 63% carbon reduction by 2030, 89% by 2040 as set out in The Climate Change (Interim Emissions Targets) (Wales) (Amendment) Regulations 2021 . These are against baselines in 1990 and 1995 (depending on the greenhouse gas) as set out in the Environment (Wales) Act 2016 .	A collective ambition by the Welsh Government for the public sector to be carbon neutral by 2030 (July 2017). ⁱ This is in addition to the 2050 net zero emissions target.	36.3 MtCO ₂ e	 Energy supply (25.5%)  Business (24.2%)  Agriculture (15.7%)  Transport (14.8%)  Residential (10.2%)	At the end of its first carbon budget period 2016 to 2020, Wales's emissions have fallen by 27.8% against a 1990 baseline (as reported in the Final Statement for the First Carbon Budget and the 2020 interim target). ⁱⁱ This exceeded the 23% target reduction set out in The Climate Change (Interim Emissions Targets) (Wales) Regulations 2018 .	27.8% ↓

Notes

¹ National Atmospheric Emissions Inventory (NAEI), [Greenhouse Gas Inventories for England, Scotland, Wales & Northern Ireland: 1990–2021](#), June 2023. Accessed July 2023.

² The total emissions from each individual nation do not add up to the total emissions at a UK level. This is due to 12 MtCO₂e of unallocated emissions, which are mostly from offshore activities.

³ Data are from [Scottish Greenhouse Gas Statistics 2021](#) (June 2023) and are based on the CCC's recommended method of reporting GHG emissions, known as the GHG Account (see section C).

ARRANGEMENTS ACROSS THE UK

Arrangements across the

UK

The section that follows was drafted by the National Audit Office.

The study team comprised: Liam Blanc, Katy Losse and Hassan Muhamed under the direction of Simon Bittlestone.

The National Audit Office has recently published the following outputs, among others, which relate to net zero:

- [Support for innovation to deliver net zero \(May 2023\)](#)ⁱⁱⁱ
- [Decarbonising the power sector \(March 2023\)](#)^{iv}
- [Measuring and reporting public sector greenhouse gas emissions \(June 2022\)](#)^v
- [Local government and net zero in England \(July 2021\)](#)^{vi}
- [Reducing carbon emissions from cars \(February 2021\)](#)^{vii}
- [Achieving net zero \(December 2020\)](#)^{viii}

ARRANGEMENTS ACROSS THE UK

Overarching commitments and legislation

13 In 2019, the UK government amended the *Climate Change Act 2008* to commit to reach net zero emissions by 2050.³ This includes reducing emissions from Northern Ireland, Scotland and Wales, which accounted for 23% of national emissions in 2021.

14 The *Climate Change Act* requires the UK government to set ‘carbon budgets’, which are legally binding targets for UK emissions over five-year periods. The first five carbon budgets, running up to 2032, were set to achieve progress towards the previously set 80% reduction target by 2050. The Sixth Carbon Budget, set in June 2021, covers the period 2033 to 2037, and aims to deliver a 77% reduction in national emissions (including international aviation and shipping) compared with 1990 levels, reflecting the UK government’s new target to achieve net zero by 2050.

15 **Figure 2** overleaf sets out the highest-emitting sectors across the UK in 2021.

16 The *Climate Change Act* also requires the UK government to produce detailed plans on how it will meet carbon budgets. In 2021, the UK government published its *Net Zero Strategy*, setting out policies for reducing emissions from each sector of the UK economy and a pathway to reaching net zero GHG emissions by 2050.^{ix} Policies are partly reserved to the UK government and partly devolved. Therefore, the strategy presents both England-specific and UK-wide policies and plans, which highlight government’s work to collaborate with devolved administrations to deliver coordinated policy action.

17 In January 2023, Chris Skidmore MP’s *Independent Review of Net Zero* reported several recommendations for the UK government’s approach to net zero and its associated delivery pathways.^x In March 2023, the UK government published its response to the recommendations of the independent review.^{xi}

18 In March 2023, the UK government published *Powering Up Britain: The Net Zero Growth Plan*, setting out how it plans to achieve net zero in a “pro-growth, pro-business way”.^{xii} It also published its *Carbon Budget Delivery Plan*, to inform the UK Parliament and the public on the UK government’s proposals and policies to enable carbon budgets to be met.^{xiii}

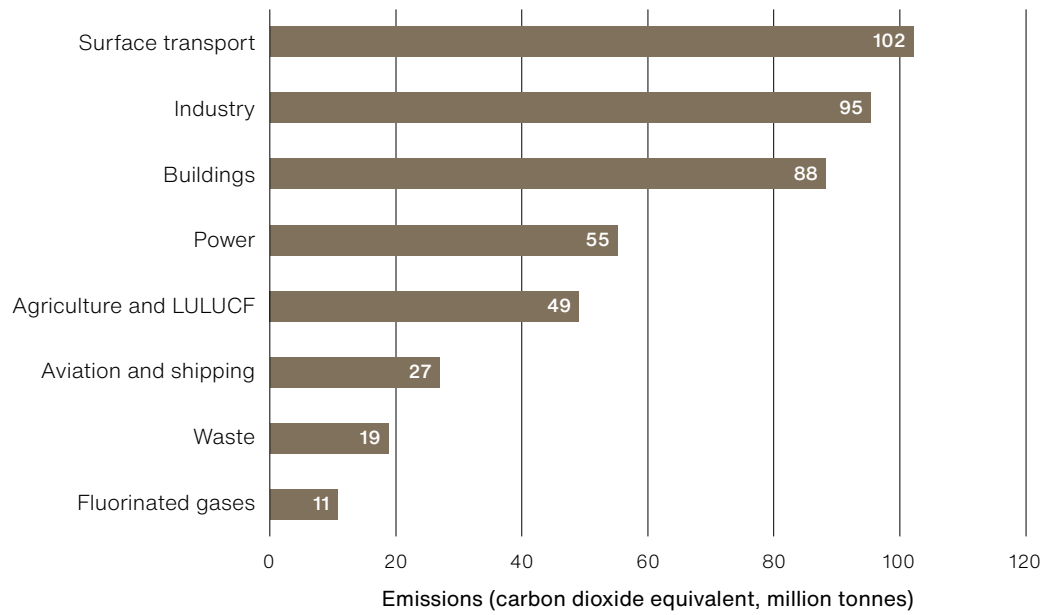
³ GHG emissions in 2050 being equal to or less than what is removed from the atmosphere by either the natural environment or carbon capture technologies. This applies to territorial emissions (those generated in the UK or not, in the production of imports).

ARRANGEMENTS ACROSS THE UK

FIGURE 2

The UK's greenhouse gas (GHG) emissions, by sector, in 2021

The UK emitted 446 million tonnes of carbon dioxide equivalent across eight sectors



Notes

- 1 Categorisation of GHG emissions sources follows that of the Climate Change Committee. These numbers include the UK's contribution to international aviation and shipping, although these are not included in the UK's 'carbon budget' targets.
- 2 Carbon dioxide equivalent is a unified measure of GHG emissions combining all greenhouse gases.
- 3 LULUCF = Land Use, Land-Use Change and Forestry.

Source: National Audit Office analysis of Department for Energy Security & Net Zero (2021) data

ARRANGEMENTS ACROSS THE UK

Key strategies by sector

19 Set out below are key strategies across a number of the highest-emitting sectors in the UK.

Transport

20 The *Transport Decarbonisation Plan* (July 2021) sets out the UK government's strategy to decarbonise the entire transport system in the UK.^{xiv} Some aspects of the plan, such as the commitment to end the sale of new petrol and diesel vehicles by 2030, apply to the UK as a whole. For other areas of transport policy which are devolved, the strategy sets out proposals for England only, for example the *National Bus Strategy* (March 2021).^{xv}

Industry

21 The *Industrial Decarbonisation Strategy* (March 2021) sets out the UK government's plan to reduce emissions across UK industry by around two-thirds by 2035.^{xvi} The policy's focus is to capitalise on clean growth opportunities by addressing barriers to decarbonisation, target interventions to minimise carbon leakage, and deliver large infrastructure projects for key technologies (for example, hydrogen networks) where there is a shared benefit and the risk or cost is too great for the private sector.

Buildings

22 The *Heat and Buildings Strategy* (October 2021) sets out how the UK will decarbonise homes, commercial, industrial and public sector buildings.^{xvii} It outlines plans to improve the energy efficiency of buildings and to develop the markets required to transition to low-carbon heat technologies. UK-wide ambitions include phasing out new natural gas boilers from 2035 to ensure that almost all heating systems used in 2050 are low-carbon. Some policies outlined in the strategy are England-specific, and the devolved administrations are producing their own policy frameworks to decarbonise building stocks.

ARRANGEMENTS ACROSS THE UK

Power

23 The UK government has committed to decarbonise the power sector by 2035, subject to security of supply. It aims to do this by transforming the energy sector and replacing fossil fuels with clean energy technologies. The *British Energy Security Strategy* (April 2022) and *Powering Up Britain: Energy Security Plan* (March 2023) explain how the UK government intends to achieve this, setting out objectives and key measures required to transition to new clean energy infrastructure.^{xviii}

Aviation and shipping:

24 The UK's Sixth Carbon Budget incorporates the UK's share of international aviation and shipping emissions for the first time. The *Clean Maritime Plan* (July 2019) sets out the UK government's plans to achieve zero-emission ships in UK waters by 2050 through new regulation to help industry realise the value of research and investment.^{xix} The *Jet Zero Strategy* (July 2022) sets out plans for net zero flying by 2050 with a focus on whole sector collaboration to develop, test and implement net zero solutions.^{xx} The UK government aims to publish an updated *Clean Maritime Plan* in 2023.

Agriculture and land use, land-use change and forestry

25 The Department for Environment, Food & Rural Affairs (Defra) aims for 75% of farmers in England to be engaged in low-carbon practices in 2030, rising to 85% by 2035. As part of its *Agricultural Transition Plan* (November 2020), Defra has also committed to changing the way land is managed to reduce agricultural GHG emissions through new environmental land management policies.^{xxi} The department also aims to protect and increase carbon stores through tree planting, peatland restoration and nature recovery programmes.

ARRANGEMENTS ACROSS THE UK

Other

26 In addition to strategies that correspond to specific sectors, the UK government has key strategies for:

- **fuel supply and hydrogen**, including an ambition to deliver up to 10GW of low-carbon hydrogen production capacity by 2030. Hydrogen has a potentially key role in being a replacement for fossil fuels that provides flexible energy for power, heat and transport, as well as a solution for decarbonising heavy industry; and
- **greenhouse gas removals (GGRs)**, with an ambition to develop markets and incentives to enable deployment of at least 5 MtCO₂e engineered removals by 2030, with potential to scale up to around 80 MtCO₂e by 2050.

UK roles, responsibilities and governance arrangements

27 The all-encompassing nature of achieving net zero means that all government bodies, including departments, arm's-length bodies and executive agencies, have a role to play.

28 Some departments have key roles:

- The Department for Energy Security & Net Zero (DESNZ) has overall responsibility in government for achieving net zero and ensuring the whole of government works effectively to achieve it. It is also responsible for some of the highest-emitting sectors of the economy including buildings (alongside the Department for Levelling Up, Housing and Communities (DLUHC)), industrial decarbonisation and power.
- HM Treasury is responsible for allocating budgets to government departments and for fiscal policy.
- The Department for Transport (DfT) has responsibility for the decarbonisation plan of the UK's highest-emitting sector of greenhouse gases (transport).
- Defra and DLUHC also have policy responsibility for different sectors of the economy with high emissions. DLUHC is also the government's steward of the local government system and should ensure that local authorities can function effectively. Local authorities themselves have a key role in supporting emissions reduction at a local level.
- The Foreign, Commonwealth & Development Office (FCDO) works with other departments, and through its overseas network, to support and deliver the UK's international climate and environment strategy.

29 Figure 3 overleaf sets out the role of key government departments across the highest-emitting sectors of the GHG emissions and those with responsibility for wider cross-cutting 'enablers' to achieving net zero.

FIGURE 3

Policy responsibility for net zero by government department

The Department for Energy Security & Net Zero (DESNZ) holds overall policy responsibility for net zero; many other government departments lead or co-lead in specific sectors or on cross-cutting 'enablers' to achieving net zero, out of twenty-three ministerial departments overall

	CO	HMT	DBT	Defra	DESNZ	DfE	DfT	DHSC	DLUHC	DSIT	DWP	FCDO	OGD
Sectors													
Transport	●		●	●	●		Lead	●					
Business/Industry	●		●	●	Lead	●		●					
Buildings	●		●		Lead	●		●	Lead				
Power and greenhouse gas removals	●		●	●	Lead	●		●					
Agriculture, Land use, land-use change and forestry, and Waste	●		●	Lead	●								
Cross-cutting themes													
Green finance		Lead	●	●	Lead	●			●			●	
Greening Government	●	●	●	Lead	●	●	●	●	●	●	●	●	●
Innovation		●	●	●	●					Lead			
Skills		●	●	●	●	Lead	●		●		●		
Trade policy		●	Lead	●	●							●	
Public procurement	Lead	●	●	●	●	●	●	●	●	●	●	●	●
Global influence	●	●	●		●							Lead	

Notes

- 1 This figure serves as an update to Figure 5 of the NAO's *Achieving Net Zero* (December 2020) report.
- 2 CO = Cabinet Office; HMT = HM Treasury; DBT = Department for Business & Trade; Defra = Department for Environment, Food & Rural Affairs; DfE = Department for Education; DfT = Department for Transport; DHSC = Department of Health & Social Care; DLUHC = Department for Levelling Up, Housing & Communities; DSIT = Department for Science, Innovation & Technology; DWP = Department for Work & Pensions; FCDO = Foreign, Commonwealth & Development Office; OGD = Other Government Departments.

Source: National Audit Office analysis of Department for Energy Security & Net Zero documents

ARRANGEMENTS ACROSS THE UK

30 The UK government has established arrangements for coordinating the main departments involved in achieving net zero:

- The Domestic and Economic Affairs (Energy, Climate and Net Zero) Committee is a Cabinet committee chaired by the Deputy Prime Minister and is responsible for considering matters relating to energy, and to the delivery of the UK's domestic and international climate strategy.
- The Climate Change Integrated Review Implementation Group (CC IRIG) is a group of senior officials from the main departments across the UK government with responsibility for: establishing and implementing a cross-government climate action strategy; and covering domestic and international aspects of mitigation, resilience and nature.⁴
- Supporting the CC IRIG are four cross-government subgroups, including the Net Zero Sub-Integrated Review Implementation Group (Sub-IRIG) which comprises directors from across the UK government with responsibility for establishing and implementing a cross-government net zero delivery strategy.
- The Interministerial Group for Net Zero, Energy and Climate Change is a group led by ministers from across the UK nations with the purpose of supporting effective engagement and collaboration on the delivery of the UK's domestic and international climate commitments.

Monitoring outcomes

31 The key monitoring arrangements for tracking progress with respect to GHG emissions were set out in the Climate Change Act 2008, and further amended in 2019 to reflect the UK government's net zero ambitions. This commits the UK government to achieving net zero GHG emissions by 2050 and sets out the path to reach it through carbon budgets. These legally binding targets, which are set 12 years ahead of time and based on the independent advice of the CCC, restrict emissions in the UK over five-year budgetary periods until 2050.

⁴ Prior to January 2022 the IRIG was called the National Strategy Implementation Group (NSIG).

ARRANGEMENTS ACROSS THE UK

32 The UK's progress against these carbon budgets is monitored by two sets of statements that the UK government lays before the UK Parliament:

- Annual statement of UK emissions – setting out, among other things, the UK's GHG emissions, the movement of carbon units and the position of the net UK carbon account that year.
- Final statement for budgetary period – a similar report published after the end of each carbon budget period, that sets out the final position of emissions, carbon units and the net UK carbon account. This is accompanied by an assessment of whether the budget was met and explanations for if it had not.

33 The CCC, which is also required by the Climate Change Act to present annual reports to the UK Parliament on progress towards meeting the carbon budgets, has commented that the first two budgets have outperformed emissions-reduction targets and the third (2018–2022) is on track to do the same.

34 The Climate Change Act also requires the UK government to bring forward policies to achieve the carbon budget targets and the long-term net zero target. In October 2021 the UK government published the *Net Zero Strategy*, which mapped out the UK government's pathway to net zero. In it, the UK government committed to update on progress against the pathway to net zero delivery set out in the strategy, as part of its annual response to the CCC's annual report. This includes an update against the 24 indicators of progress towards net zero set out in the report, a summary of key areas of progress and comments on contextual changes which may affect the pathway to delivery. The UK government published its first update in March 2023.

35 Looking ahead to the remaining three budgets that have been set, the CCC reports "emissions are not decreasing at the pace required to meet future budgets". The most recently set Sixth Carbon Budget (2033-2037) was the first to embed the net-zero target by 2050 into its estimates and the CCC has commented on current plans to achieve this budget as being lacking, with "significant risks or a policy gap for over a third of the emissions reduction required to meet the Sixth Carbon Budget". Furthermore, in its recent report (June 2023) on progress in reducing emissions, the CCC has raised further concerns about the pace of progress.

ARRANGEMENTS ACROSS THE UK

36 The UK government's *Carbon Budget Delivery Plan* (March 2023) sets out the package of proposals and policies that the UK government expects will lead to its carbon targets (Carbon Budgets 4, 5 and 6) to be met, with assessment of delivery risk and mitigation across sectors.

37 With respect to international commitments, the UK government prepares Nationally Determined Contributions (NDCs), as part of the Paris Agreement (an international treaty with a goal to restrict the increasing global average temperature). This requires it to elaborate how it intends to reduce national emissions required to achieve the overarching goals of the Paris Agreement.

ARRANGEMENTS IN SCOTLAND

Arrangements in

Scotland

The section that follows was drafted by
Audit Scotland.

The study team comprised:
James Goodfellow and Rebecca Seidel
under the direction of **Cornilius Chikwama.**

Audit Scotland has recently published the following outputs, among others, which relate to net zero:

- [How the Scottish Government is set up to deliver climate change goals \(April 2023\)](#)^{xxii}
- [Auditing climate change: our strategy \(December 2022\)](#)^{xxiii}
- [Scotland's councils' approach to addressing climate change \(September 2022\)](#)^{xxiv}
- [Addressing climate change in Scotland \(March 2022\)](#)^{xxv}
- [Auditing climate change \(October 2021\)](#)^{xxvi}

ARRANGEMENTS IN SCOTLAND

Overarching commitments and legislation

38 Figure 4 and **Figure 5** provide an overview of the key statutory and policy frameworks for Scotland in the devolved context.

FIGURE 4

Summary of the statutory framework for decarbonisation in Scotland

Climate Change (Scotland) Act 2009

Through the Climate Change (Scotland) Act 2009, and secondary legislation, requirements were placed on Scottish ministers to both set and report on annual emissions targets. Provisions were made to tackle climate change mitigation and adaptation, and powers were afforded to ministers to impose climate change duties on public bodies.

A target was set to reduce GHG emissions by 80% by 2050 (from a 1990 baseline) with an interim target of a 42% reduction by 2020. These targets were later amended (see below).

Climate Change (Emissions Reduction Targets) (Scotland) Act 2019

In 2019, the Scottish Government declared a climate emergency and the Climate Change (Scotland) Act 2009 was amended by the Climate Change (Emissions Reduction Targets) (Scotland) Act 2019. This amendment increased the ambition of Scotland's emissions reduction targets by setting a target to achieve net zero emissions by 2045 (from a 1990 baseline) and revising interim and annual emissions reduction targets.

Source: Audit Scotland

FIGURE 5

Timeline of devolved strategies and policies underpinning decarbonisation in Scotland

The Scottish Government has committed to reach net zero emissions by 2045 – five years earlier than the rest of the UK. The delivery of associated plans and strategies is both complex and continuously evolving. A timeline of the main plans and strategies aimed at achieving net zero published by the Scottish Government can be found below.

Key strategy/plan	Date published	Summary
Low-Carbon Scotland: Meeting the Emissions Reduction Targets 2010–2022^{xxvii}	March 2011	This report sets out how Scotland can deliver annual targets for reductions in emissions to 2022.
Low-Carbon Scotland: Meeting the Emissions Reduction Targets 2013–2027^{xxviii}	June 2013	The Scottish Government's second report on proposals and policies for meeting its climate change targets. It sets out how Scotland can deliver its statutory annual targets for reductions in GHG emissions for the period 2013–2027.
Climate Change Plan: The Third Report on Proposals and Policies 2018–2032^{xxix}	February 2018	The Scottish Government's third report on proposals and policies which sets out decarbonisation plans to 2032.
Update to the Climate Change Plan 2018–2032: Securing a Green Recovery on a Path to Net Zero^{xxx}	December 2020	An update on the 2018 – 2032 Climate Change Plan, that reflects on the impacts of the COVID-19 pandemic and reviews the progress made against the relevant sectoral plans and targets set out in the previous Climate Change Plan.

Source: Scottish Government

ARRANGEMENTS IN SCOTLAND

Key strategies by sector

Transport

39 The Scottish Government's National Transport Strategy Delivery Plan (2022–2023) (June 2022) aims to decarbonise Scotland's transport system by 2045.^{xxxii} Several interim targets are included in the plan, including:

- reducing car kilometres by 20% by 2030;
- decarbonising passenger rail services by 2035; and
- fully decarbonising scheduled flights in Scotland by 2040.

40 The Scottish Government is due to publish a final version of the 'route map' to reducing car kilometres by 20% by 2030, during 2023.

Industry

41 In January 2023, the Scottish Government published its Draft Energy Strategy and Just Transition Plan setting out key ambitions for the future of Scotland's energy.^{xxxiii} This includes supporting industry towards a 43% reduction in industrial emissions by 2032 (against a 2018 baseline). The Scottish Government aims to support decarbonisation of the energy sector by:

- providing financial support to help decarbonise energy-intensive industries through the Scottish Industrial Energy Transformational Fund and the Low Carbon Manufacturing Challenge Fund;
- scaling up renewable energy production and maximising community benefits from energy projects;
- ensuring Scotland's workforce and employers have the skills to support the transition to net zero; and
- supporting industry through the Scottish Industrial Energy Transformation Fund, the Energy Transition Fund and the Emissions Trading Scheme to reduce demand and decarbonise energy use.

ARRANGEMENTS IN SCOTLAND

Buildings

42 The steps the Scottish Government will take to reduce GHG emissions from Scotland's homes, workplaces and community buildings are outlined in its Heat in Buildings Strategy (October 2021), with the aim of zero emission buildings by 2045.^{xxxiii} Several interim markers are set out in the strategy, including:

- the conversion of 50,000 non-domestic buildings and one million homes to zero emission heating systems by 2030;
- the need to scale up zero emission heat installations with a peak annual installation rate of more than 200,000 systems per year (current approximate installation rate of 3,000 a year per the strategy); and
- a commitment to ensuring that all new homes delivered by Registered Social Landlords and local authorities will be zero emissions by 2026.

Power

43 The whole-system target of the Scottish Draft Energy Strategy and Just Transition Plan (January 2023) is for net zero emissions by 2045, and for the equivalent of 50% of the energy for Scotland's heat, transport and electricity consumption to be supplied from renewable sources by 2030.^{xxxiv}

Aviation and shipping

44 A commitment to decarbonise 30% of government-owned ferries by 2032 and all scheduled flights within Scotland by 2040 is included in the Scottish Government's Update to the Climate Change Plan 2018–2032 (December 2020). A study commissioned by Transport Scotland on Decarbonising the Scottish Transport Sector (September 2021) highlights the challenges of achieving the outcomes required to decarbonise the aviation and shipping sectors.^{xxxv} A subsequent consultation was launched in October 2021 to inform the development of Scotland's first aviation strategy, which was expected in early 2023.

Agriculture and land use, land-use change and forestry

45 A 9% reduction in agricultural emissions and the restoration of 250,000 hectares of degraded peatlands is proposed in Scotland's Climate Change Plan 2018–2032 (February 2018), as well as a commitment to increase woodland cover from 18% to 21% by 2032. The Plan also highlights the importance of working with farmers to encourage and promote low-carbon practices. Transformation of the agriculture sector will be led through the current Agriculture Transformation Programme and the proposed Agriculture Bill.

ARRANGEMENTS IN SCOTLAND

Waste

46 The overarching aim for waste in Scotland's Climate Change Plan (February 2018) is for Scotland to achieve a fully circular economy. Associated objectives include:

- 70% of all waste to be recycled by 2025;
- reductions in food waste of one third by 2025 (against a 2013 baseline);
- a reduction of overall waste going to landfill to 5%; and
- a shift to more sustainable consumption and practices.

47 The Scottish Government introduced the draft Circular Economy (Scotland) Bill to the Scottish Parliament in June 2023. This includes provisions to publish a circular economy strategy at least every five years and develop statutory targets.

Fluorinated gases

48 As part of the Scottish Government's ambition of net zero emissions for Scotland by 2045, a ban that will prohibit certain types of fluorinated greenhouse gases ('F-gases') with a global warming potential greater than 2,500 being used to service or refill refrigeration systems was introduced in 2020.

Public sector emissions

49 Reporting was introduced by the Scottish Government in 2015 through which over 180 major public bodies must report to Scottish ministers on their compliance with climate change duties on an annual basis.

50 Public bodies are required to submit compliance reports to the Sustainable Scotland Network (SSN), which is Scotland's public sector network on sustainability and climate change.

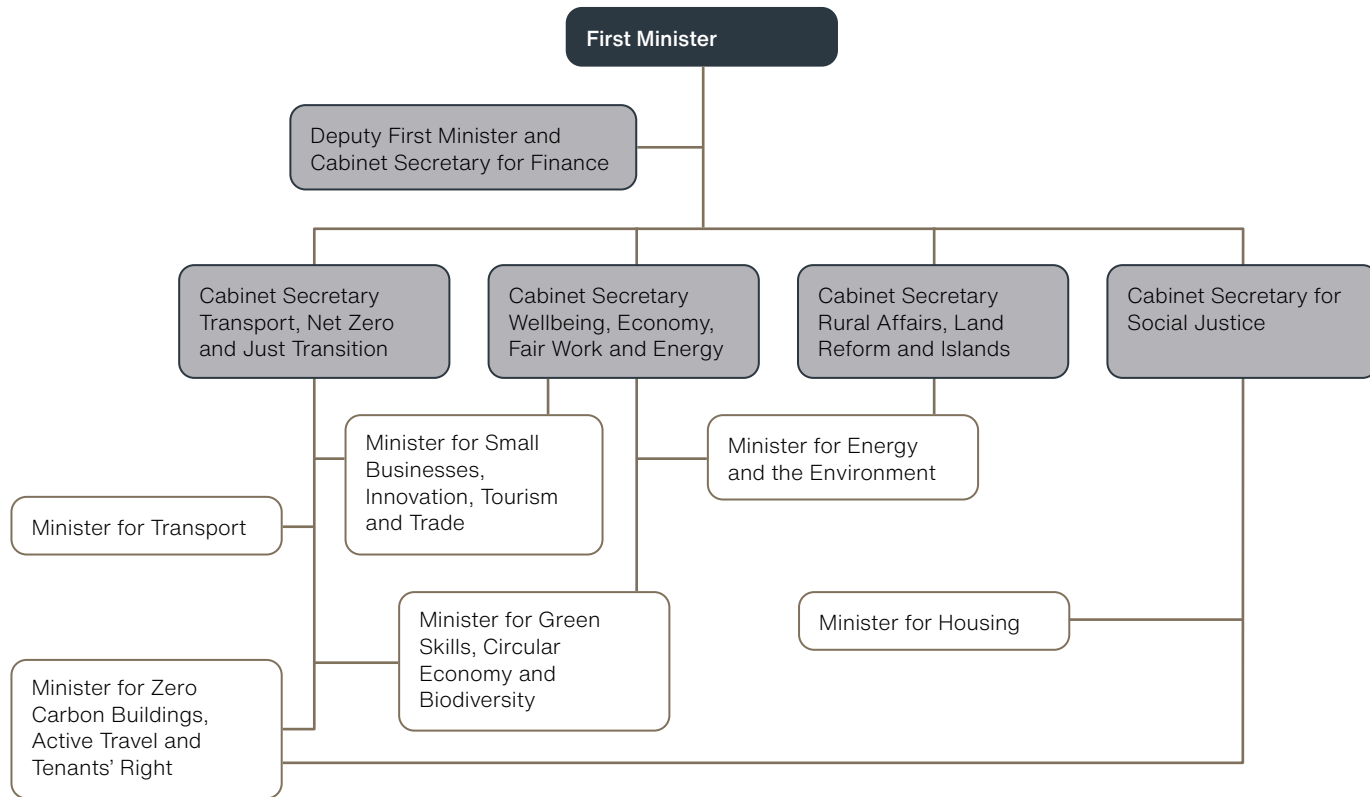
51 Compliance reports include information on emissions reduction targets, how bodies will align spending and the use of resources, and adaptation action. The SSN provides annual analysis of public sector reports in Scotland.

Scottish roles, responsibilities and governance arrangements

52 Responsibility for driving the delivery of climate change ambitions spans several Scottish Government cabinet secretaries and ministerial departments.

Figure 6 shows the ministerial governance structures in place. Lines of accountability for climate change are complex due to its cross-cutting nature.

FIGURE 6
Ministerial responsibilities for climate change in Scotland



Source: Audit Scotland

ARRANGEMENTS IN SCOTLAND

53 Following the climate emergency declaration and the setting of the 2045 net zero target in 2019, the Scottish Government implemented changes to its corporate governance structure to further embed decarbonisation into its functions.

54 By the end of 2021, new positions were introduced including a Cabinet Secretary for Net Zero, Energy and Transport and a Director General for Net Zero. A Cabinet Sub-Committee for the Climate Emergency was also set up to provide cross-government leadership and coordination of efforts to tackle climate change.

55 The Sub-Committee is supported by the Global Climate Emergency Programme Board, which the Scottish Government established to provide oversight and assurance for climate change action at corporate level and encourage a cross government approach, with membership from across government.

56 Audit Scotland published a report in April 2023 on How the Scottish Government is set up to deliver climate change goals.^{xxxvi} This highlighted that the Scottish Government has improved how it organises itself to support delivery of its climate change goals since the former First Minister declared a climate emergency in 2019. However, the report identified the need for further improvements to governance and risk management arrangements.

Monitoring outcomes

57 Annual reporting on emission reduction targets is required by Scottish ministers under the statutory reporting requirements set out in the Climate Change (Emissions Reduction Targets) (Scotland) Act 2019.

58 Emissions reporting in Scotland is underpinned by the monitoring framework in the Scottish Government's latest Update to the Climate Change Plan (December 2020) and is structured across three levels:

- An overall measure of sectoral and economy-wide progress is gauged by GHG emissions statistics.
- The success of policies in achieving the changes needed are measured by policy outcome indicators.
- The implementation of specific policies and proposals is assessed through policy trackers.

ARRANGEMENTS IN SCOTLAND

59 Progress towards a just transition is also assessed through the framework. This involves cross-sectoral monitoring of social and economic indicators that focus on workforce, employers and communities.

60 Monitoring reports are published annually and provided to the Scottish Parliament. These reports provide a progress update against the policies and objectives set out in the Scottish Government's Climate Change Plan. The Scottish Government published its most recent Climate Change Plan Monitoring Report in May 2023.^{xxxviii}

61 The latest Scottish Greenhouse Gas Statistics were published in June 2023, covering emissions to 2021.^{xxxix} Using the CCC's recommended method of reporting emissions (known as the GHG Account), the statistics showed that Scotland's emissions fell by 49.9% between the 1990 baseline and 2021. This was just short of the interim target of a 51.1% reduction in emissions over the same period.

ARRANGEMENTS IN WALES

Arrangements in

Wales

The section that follows was drafted by Audit Wales.

The study team comprised: Sian Davies, Stephen Lisle and Chris Pugh under the direction of Matthew Mortlock.

Audit Wales has recently published the following outputs, among others, which relate to net zero:

- Work in various Welsh councils on carbon reduction, including [Carmarthenshire County Council – Assurance and Risk Assessment Progress Update – Carbon Reduction \(December 2022\)](#)^{xi}
- [Public sector readiness for net zero carbon by 2030: Evidence report \(August 2022\)](#)^{xii}
- [Public sector readiness for net zero carbon by 2030 \(July 2022\)](#)^{xiii}
- Work in fire and rescue authorities on carbon reduction, including [South Wales Fire and Rescue Authority – Carbon Emissions Reduction \(April 2022\)](#)^{xiii}

ARRANGEMENTS IN WALES

Overarching commitments and legislation

62 Figure 7 and **Figure 8** overleaf provide an overview of the key statutory and policy frameworks for Wales in the devolved context.

FIGURE 7

Summary of the statutory framework for decarbonisation in Wales

Environment (Wales) Act 2016

Sets out an approach for sustainable management of natural resources. It includes a 2050 target for emissions reduction and places a duty on Welsh ministers to set and report against interim targets and carbon budgets.

The Climate Change (Interim Emissions Targets) (Wales) Regulations 2018

The regulations made provision for interim emissions targets under Part 2 of the Environment (Wales) Act 2016. The interim targets were for 'net Welsh emissions' of specific greenhouse gases in 2050 to be at least 80% lower than in the relevant baseline year for each gas (as set out in section 38 of the Act). These targets were later amended (see below).

The Climate Change (Interim Emissions Targets) (Wales) (Amendment) Regulations 2021

Came into force following advice from the CCC. The amendment sets targets for a 63% carbon reduction in Wales by 2030, 89% by 2040, and 100% by 2050 (net zero target). It also sets associated carbon budgets, which cap the amount of GHG emissions emitted over five-year periods to 2050.

Well-being of Future Generations (Wales) Act 2015

The Act came into force in April 2016. The five ways of working set out in the Act aim to help bodies work together better, avoid repeating past mistakes and tackle long-term challenges. Application of the sustainable development principle in key areas such as procurement, workforce planning and finance will also help delivery of the decarbonisation agenda.

Source: Audit Wales summary

ARRANGEMENTS IN WALES

FIGURE 8

Timeline of devolved strategies and policies underpinning decarbonisation in Wales

July 2017	The Welsh Government set an <u>ambition</u> of achieving a carbon-neutral public sector by 2030. ^{xliv}
March 2019	The Welsh Government published the first statutory Low-Carbon Delivery Plan, <u>Prosperity for All: A Low-Carbon Wales</u> . ^{xlv}
April 2019	The Welsh Government made a <u>Climate Emergency Declaration</u> . ^{xlvi}
November 2019	<u>Prosperity for All: A Climate Conscious Wales</u> set out the Welsh Government's actions on risks categorised as 'more urgent' in the UK Climate Change Risk Assessment summary for Wales. ^{xlvii}
March 2021	Senedd Cymru (the Welsh Parliament) set new <u>legal targets</u> for a 63% carbon reduction by 2030, 89% by 2040, and 100% by 2050 (net zero target). ^{xlviii}
March 2021	The Welsh Government published the <u>NHS Wales Decarbonisation Strategic Delivery Plan 2021–2030</u> . ^{xlix} It was developed by <u>The Carbon Trust</u> and the <u>NHS Wales Shared Services Partnership</u> , and set specific targets for carbon reduction in the NHS in Wales.
May 2021	The Welsh Government published the <u>Welsh public sector net zero reporting guide</u> and the <u>net zero carbon reporting spreadsheet</u> to enable the public sector to capture/report emissions consistently. ⁱ
June 2021	The Welsh Government's <u>Programme for Government 2021–2026</u> made a series of commitments to embed the climate emergency in everything it does. ⁱⁱ
July 2021	The Welsh Government reaffirmed its commitment and published <u>Net zero carbon status by 2030: A route map for decarbonisation across the Welsh public sector</u> . ⁱⁱⁱ
October 2021	The Welsh Government published <u>Net Zero Wales Carbon Budget 2 (2021 to 2025)</u> , setting out the overall strategy for net zero in Wales. It covers eight emission sectors (see Figure 9). It focuses on the Second Carbon Budget, but also builds foundations for the Third Carbon Budget (2026–2030). ^{liii} The Welsh Government also published the <u>All Wales Plan 2021–2025 Working Together to Reach Net Zero</u> . This sets out a 'Team Wales' approach, where the Welsh Government, public bodies, businesses and communities work together in response to the climate emergency.
April 2022	The Welsh Government published an update to the <u>All Wales Plan 2021–25 Working Together to Reach Net Zero</u> . ^{liiv}
June 2022	The Welsh Government published <u>Climate Change Welsh Government Engagement Approach 2022–26</u> , setting out how it will engage stakeholders and further develop the 'Team Wales' approach. ^{liv}

Source: Audit Wales summary

ARRANGEMENTS IN WALES

Key strategies by sector

63 Figure 9 on pages 33 and 34 summarises the sector-specific ambition statements in Net Zero Wales Carbon Budget 2 (2021 to 2025).^{lv} However, the Welsh Government highlights that successful delivery in Wales depends on the UK government's actions in key areas.

FIGURE 9

Summary of sector-specific ambition statements from Net Zero Wales Carbon Budget 2

Electricity and heat generation



By 2025, 1GW of additional renewable energy capacity will be installed, and from 2021 there will be no new build unabated fossil fuel generation in Wales.¹

All current unabated gas generation will be removed from the system by 2035 and any additional supply will be met from decarbonised power plants from 2035 at the latest.

Transport



To reduce emissions from passenger transport by 22% in 2025 and 98% in 2050, through demand reduction, modal shift and uptake of low-carbon technologies.

To reduce the number of car miles travelled per person by 10% by 2030 and to increase the proportion of trips by sustainable travel mode to 35% by 2025 and 39% by 2030.

By 2025, 10% of passenger car travel will be by zero emission car and 48% of new car sales will be zero emission.

Residential buildings



By 2025, expectation that around 148,000 houses across Wales will receive retrofit measures to reduce heat loss, and aim to move away from fossil fuels, through increasing the proportion of heat that is electrified by 3%.

By 2025, all new affordable homes in Wales will be net zero carbon. Also, the ambition is that developers of all new homes adopt the Welsh Government's net zero standards in Development quality requirements for housing associations and local authorities: 2021.^{lvii}

Industry and business



By 2025, an expectation to see a decrease in industry energy usage of 4% through energy efficiencies, an increase in electrification of industrial processes by an average of 3%, and growth in the use of hydrogen as a fuel by an average of 3%.

Expectation that the UK government's net zero Industrial Decarbonisation Strategy will enable increased electrification, fuel switching and carbon capture and storage from the 2030s.^{lviii}

Agriculture



Prepare the sector to transition into a new way of working, reducing overall business carbon footprint taking account of the Agriculture (Wales) Act 2023, which establishes Sustainable Land Management as the legislative framework for future agricultural policy.

Development of the Sustainable Farming Scheme will support low-carbon farming practices and land use change. This aims to reduce farm emissions through improved livestock, land and manure management. Ten percent of agricultural land will support tree planting by 2050.

ARRANGEMENTS IN WALES

FIGURE 9 *continued*

Summary of sector-specific ambition statements from Net Zero Wales Carbon Budget 2

Land use, land-use change and forestry

Increase woodland creation rates, supporting a total of 43,000 hectares of new woodland by 2030 and 180,000 hectares by 2050.

More than 3,000 hectares of peatland will be on a recovery pathway by 2025.

Waste management

Continue to build towards becoming a zero-waste nation by 2050 so that virtually no materials are buried or burned, achieving 100% re-use or recycling.

Continue to reduce the amount of waste in landfill sites, prioritising the reduction of non-biodegradable waste to as close to zero as possible by 2025. By 2025, GHG emissions from landfill sites will reduce by 19% compared with 2019.

Public sector

The ambition is for the public sector to be collectively net zero by 2030, supported by the [route map for decarbonisation across the Welsh public sector](#).^{ix}

Note

1 'Unabated' refers to the use of fossil fuels to generate power without any measures to reduce emissions, such as carbon capture technologies.

Source: Audit Wales summary

ARRANGEMENTS IN WALES

Welsh roles, responsibilities and governance arrangements

64 The Welsh Government has emphasised that climate change is everyone's responsibility and that achieving net zero requires a collaborative approach. Within the Welsh Government's organisational structure, each directorate is responsible for its own decarbonisation actions through a federated approach.

65 In May 2021, the Welsh Government introduced new roles of a minister, and deputy minister for climate change. In addition, an organisational restructure from April 2022 brought together the small central climate change team with teams responsible for many of the key emission sectors under a Director General for Climate Change and Rural Affairs. The central team provides broader leadership and policy advice. It is also responsible for certain specific policies and programmes, the Welsh Government Energy Service, and contributing to the UK Emissions Trading Scheme policy framework.

66 A Climate Change Portfolio Board oversees the strategic approach to climate change-related activity across the Welsh Government. The Director General for Climate Change and Rural Affairs chairs the board and it includes senior staff from key areas that contribute to tackling, or are impacted by, climate change. The board aims to ensure those with relevant policy or operational responsibilities across eight sectors (mandate holders) are accountable for their actions. It receives reports on progress relating to climate change activity and makes recommendations to ministers for future actions.

67 Other structures to help deliver net zero across health and social care, and local government, are described below:

- The Welsh Government has established a Health and Social Care Climate Emergency National Programme Board to support delivery of the NHS Wales Decarbonisation Strategic Delivery Plan 2021–2030. The programme board is also responsible for the strategic direction and leadership of the grant funding under the Health and Social Care Climate Emergency National Programme.
- Officers from the Welsh Local Government Association and the Welsh Government jointly chair the Local Government Climate Strategy Panel. The panel aims to lead, support and provide strategic direction to local government on its path to net zero. It reports formally to the Partnership Council for Wales which encourages joint working between the Welsh Government and local government.

ARRANGEMENTS IN WALES

Monitoring outcomes

68 Under the Environment (Wales) Act 2016, Welsh ministers must publish a final statement after each carbon budget period, outlining if they have met the budget/target. This will need to be done within two years after the budgetary period or interim target year. The Welsh Government published its Final Statement for the First Carbon Budget and 2020 Interim Target in December 2022.^{ix} The interim target for 2020 was set at a 27% reduction. This interim target was surpassed as a 39.2% reduction was achieved.⁵

69 The First Carbon Budget was set at an average reduction of 23% (which equates to a total budget of 212,933 kilotonnes of CO₂ equivalent (ktCO₂e)). The final Net Welsh Emissions Account for the carbon budget saw a 27.8% reduction (a total budget of 199,718 ktCO₂e). Therefore, the first carbon budget for Wales has also been met.

70 Wales is now into its second carbon budget period. Net Zero Wales Carbon Budget 2 (2021–2025) sets out the Welsh Government's arrangements for monitoring and reporting.^{ixi}

71 The reporting arrangements outlined above relate to the overall reporting for Wales as required under the Environment (Wales) Act 2016. The Welsh Government has also set specific reporting requirements for the public sector, as described in the Auditor General for Wales's report Public Sector Readiness for Net Zero Carbon by 2030.^{ixii}

5 This interim target for carbon reduction was set in The Climate Change (Interim Emissions Targets) (Wales) Regulations 2018.

ARRANGEMENTS IN NORTHERN IRELAND

Arrangements in

Northern Ireland

The section that follows was drafted by the Northern Ireland Audit Office.

The study team comprised:
Karen Costley and Adam Jarman
under the direction of Patrick Barr.

Following the introduction of the Climate Change (NI) Act in March 2022, the Northern Ireland Audit Office is currently developing its forward work programme, and the Northern Ireland departments' plans and progress towards net zero delivery will feature.

ARRANGEMENTS IN NORTHERN IRELAND

Overarching commitments and legislation

72 Figure 10 and **Figure 11** provide an overview of the key statutory and policy frameworks for Northern Ireland in the devolved context.

FIGURE 10

Summary of the statutory framework for decarbonisation in Northern Ireland

Climate Change Act (Northern Ireland)

The headline target within the Act is net zero by 2050 (with methane not required to be reduced by more than 46%), and interim targets set for 2030 and 2040. There is also a target that at least 80% of electricity consumption is from renewable sources by 2030.

Source: Northern Ireland Audit Office summary

FIGURE 11

Timeline of strategies and policies underpinning decarbonisation in Northern Ireland

January 2020	New Decade, New Approach included commitments for an incoming NI Executive to introduce legislation and targets for reducing carbon emissions, and to develop a strategy to address the immediate and longer-term impacts of climate change. ^{lxiii}
October 2021	The Department of Agriculture, Environment and Rural Affairs (DAERA), on behalf of the NI Executive, launches a consultation on its Draft Green Growth Strategy. ^{lxiv} The draft strategy targeted a net emissions reduction of at least 82% by 2050.
December 2021	The Department for the Economy (DfE), on behalf of the NI Executive, launches The Path to Net Zero Energy setting out a long-term vision of net zero carbon and affordable energy by 2050. ^{lxv} In the interim, the strategy aims for a 56% reduction in energy-related carbon emissions by 2030.
March 2023	DAERA launches a consultation to help inform the development of new regulations that will place climate change reporting duties on specified public bodies, as required under the Climate Change Act (Northern Ireland) 2022. ^{lxvi}
June 2023	DAERA launches a consultation on the proposed 2030 and 2040 emissions targets for Northern Ireland and proposed carbon budgets for the periods 2023–2027, 2028–2032 and 2033–2037. ^{lxvii}

Source: Northern Ireland Audit Office summary

ARRANGEMENTS IN NORTHERN IRELAND

73 The Northern Ireland Assembly passed the Climate Change Act (Northern Ireland) 2022 ('NI Climate Change Act'), Northern Ireland's first piece of bespoke climate change legislation, in March 2022 and received Royal Assent in June 2022. The NI Climate Change Act's headline target requires the Northern Ireland departments to ensure Northern Ireland reaches net zero emissions by 2050.

74 This legislation also sets out interim emissions targets, with emissions requirements in 2030 to be at least 48% lower than the 1990 baseline and emissions in 2040 required to be "in line" to meet the 2050 target.

75 While an aggregate net zero target for emissions has been set, under the legislation this target does not require methane emissions to be reduced by more than 46% of the 1990 baseline. Among other requirements, a target that at least 80% of electricity consumption is from renewable sources by 2030 was also set.

76 The Act also requires DAERA to set 'carbon budgets'; a maximum total amount for net Northern Ireland emissions. The carbon budgets are split into carbon budgetary periods, the first being for 2023–2027, with each subsequent budgetary period lasting five years. The carbon budgets set for each budgetary period must be consistent with meeting the longer-term net zero by 2050 target (and where relevant the interim 2030 and 2040 targets). Under the NI Climate Change Act, DAERA is required to take account of a wide range of factors when setting the carbon budgets, including economic, fiscal and social circumstances as well as environmental considerations (including biodiversity).

77 Other requirements of the Act include:

- that DAERA, on behalf of the Northern Ireland government departments, publishes a climate action plan setting out how the departments will meet that period's carbon budget;
- that specified Northern Ireland government departments publish sectoral plans setting out how the emissions targets will be achieved by various sectors of the economy;⁶
- that a Northern Ireland Climate Commissioner (to be created in regulations) be appointed to oversee and report on the operations of the NI Climate Change Act;
- that a Just Transition Commission (to be created in regulations) is appointed, to oversee and advise on just transition elements of the legislation;⁷ and
- that DAERA prepares regulations that impose climate change reporting duties on prescribed public bodies in Northern Ireland.

⁶ Sectoral plans are required for energy, infrastructure, industrial processes, waste management, agriculture, fisheries and transport. The Act does not set a timeframe for publication of these sectoral plans.

⁷ The just transition principle is detailed in the Act and, in summary, is the requirement to take action to reduce Northern Ireland's emissions in a manner which, so far as possible, supports green jobs, the economy (particularly the agriculture sector) and future generations, and takes steps to address poverty, and inequality and social deprivation (among other objectives).

ARRANGEMENTS IN NORTHERN IRELAND

78 Responding to the NI Climate Change Act, in March 2023 the CCC advised that it still estimated there would be a 7% gap to the net zero by 2050 target, even if radical actions were taken under an ambitious, stretching pathway to reduce emissions by 93%.⁸ The CCC then advised that, to bridge the gap to achieve net zero emissions in 2050, Direct Air Carbon Capture and further significant reductions in livestock numbers would potentially be speculative options that could be pursued. The CCC also reiterated that achieving at least an 82% reduction (later updated to 83% in its March advisory report), in line with its original recommended balanced pathway for Northern Ireland, is already very ambitious.

Overarching decarbonisation strategies and policies

79 The principal decarbonisation strategy endorsed by the NI Executive was the Draft Green Growth Strategy for Northern Ireland.^{lxviii} The strategy made 10 commitments concerning green growth and climate change. The emissions target within the strategy was set at a net reduction of at least 82% by 2050, in line with the CCC's recommendation under the Balanced Net Zero Pathway for what it considered would be a fair contribution by NI to the UK's net zero by 2050 target.⁹

80 The strategy noted, however, that there were two climate change bills progressing through the Northern Ireland Assembly at the time and therefore the emissions target in the strategy may be subject to revision. Under the NI Climate Change Act, a net zero by 2050 target was set that went beyond the 82% reduction in emissions proposed by the Draft Green Growth Strategy for Northern Ireland. The strategy has been updated to reflect the legislative position but not finalised in the absence of an NI Executive.

81 DAERA is leading the development of Northern Ireland's first climate action plan for 2023–2027, in collaboration with all departments. This first climate action plan must be published by the end of 2023.

8 Climate Change Committee, *Advice report: The path to a Net Zero Northern Ireland*, March 2023 (viewed on 25 August 2023).

9 Climate Change Committee, *Letter: Lord Deben, Climate Change Committee to Edwin Poots MLA*, December 2020 (viewed on 25 August 2023).

ARRANGEMENTS IN NORTHERN IRELAND

Key strategies by sector

Economy

A 10X Economy – Northern Ireland’s Decade of Innovation^{lxi}

- The strategy sets out a vision for a transformation of Northern Ireland economy, by focusing on more innovative, inclusive and sustainable economic growth.

Draft Circular Economy Strategy for Northern Ireland^{lxx}

- Under the strategy, the target proposed is that by 2050 the annual material footprint in Northern Ireland will have been reduced to eight tonnes per person (with current consumption estimated at 16.6 tonnes annually per person).

Energy

The Path to Net Zero Energy^{lxxi}

- The strategy establishes a long-term vision of net zero carbon and affordable energy by 2050. In the interim, the strategy aims for a 56% reduction in energy-related carbon emissions by 2030 (relative to 1990 levels).
- The low-carbon and renewable energy economy was also targeted to be doubled in size to a turnover of at least £2 billion by 2030.

Public sector

Energy Management Strategy and Action Plan for NI Central Government^{lxxii}

- Under the strategy, central government in NI was required to reduce its net energy consumption by 30% by 2030 (against a baseline of 2016-17), and to also establish effective management processes that unlocks value.
- Progress against the energy consumption target is monitored and annually reported on.

ARRANGEMENTS IN NORTHERN IRELAND

Land use, land-use change & forestry (LULUCF)

Northern Ireland Peatland Strategy (2022–2040)^{lxxiii}

- The draft Peatland Strategy set a goal that by 2040 NI's peatland habitats are conserved and restored to optimise their natural capital value. Success against this goal will be measured by bringing 150,000 hectares of peatland under restoration or sustainable management by 2050.
- A plan for delivery of the strategy, the delivery phases, scale and sources of funding and reporting metrics will be prepared for an incoming NI Executive.

Forests for our Future^{lxxiv}

- The Forests for our Future programme was established in March 2020 to support the planting of 18 million trees on 9,000 hectares of new woodland by 2030. This programme will help to deliver a sustainable, healthy environment, economic growth and will enable more people to benefit from increased wellbeing that woodland can provide.

Agriculture

Future Farm Support Development Programme^{lxxv}

- DAERA's Future Farm Support and Development programme is focused on the delivery of four outcomes: increased productivity; environmental sustainability, improved resilience, and an effective, functioning supply chain. The schemes and measures to be introduced through this programme will provide levers to contribute to statutory obligations under the Climate Change Act (NI) 2022, with a firm focus on just transition.

Residential buildings

Draft Housing Supply Strategy 2022–2037^{lxxvi}

- This strategy sets out a vision for meeting housing need across Northern Ireland over the next 15 years. Decarbonisation is a key component of the strategy, which outlines how the construction of new housing and the retrofitting of existing homes will play a key role in meeting our carbon reduction targets. The strategy also sets out how the Department for Communities (DfC) will support people in delivering these ambitions and ensure a just transition for everyone.

ARRANGEMENTS IN NORTHERN IRELAND

Northern Ireland roles, responsibilities and governance arrangements

82 The Executive Committee (NI Executive) exercises executive authority on behalf of the Northern Ireland Assembly. The Executive Committee consists of the First Minister, the deputy First Minister and the Northern Ireland ministers. Unlike other jurisdictions, ministers in Northern Ireland do not take collective responsibility for the decisions of other departments or the NI Executive. Instead, ministers have full executive authority in their areas of responsibility, within the parameters of any broad cross-cutting programme as agreed by the NI Executive and endorsed by the Northern Ireland Assembly, and subject to the requirements of the Ministerial Code.

83 Government departments in Northern Ireland are bodies corporate, with their role and number set out in legislation. Responsibility for achieving the emissions targets set within the NI Climate Change Act lies with the collective departments of the Northern Ireland government.

84 While all Northern Ireland departments have responsibilities under the NI Climate Change Act, DAERA is responsible for leading on many of the specific elements also contained within the legislation, such as setting the carbon budgets, reporting on progress against those budgets and preparing climate action plans. Sectoral plans were also required for certain areas of the economy, and responsibility for these has been allocated between:

- DAERA: agriculture sector, fisheries sector and waste management sector;
- DfE: energy sector and industrial processes sector; and
- the Department for Infrastructure: infrastructure sector and transport sector.

85 Policies and proposals included within the climate action plans must ensure relevant carbon budgets are achieved in a slightly different set of specified sectors than those above, including residential buildings (led by DfC), public buildings (led by DfE), and land use, land-use change and forestry (led by DAERA).

ARRANGEMENTS IN NORTHERN IRELAND

Monitoring outcomes

86 The NI Climate Change Act places a duty on DAERA, with the input of other Northern Ireland departments, to prepare and publish a series of reports setting out what progress has been made in implementing the proposals and policies set out in the climate action plans. DAERA, with the input of other Northern Ireland departments, is also required to report on the progress made in achieving carbon budgets and emissions reduction targets.

87 The NI Climate Change Act also requires the CCC to monitor and report on the progress made in respect of the carbon budgets and the emissions reduction targets. This reporting must include an assessment of whether those targets and budgets are likely to be met, and any further measures that are needed to meet those targets and budgets. The first progress report from the CCC is due before the end of 2027 and will consider the emissions targets and carbon budgets set by DAERA. DAERA, with the input of other Northern Ireland departments, is required to respond to each of these CCC reports within six months.

88 The first carbon budgets are due to be set by the end of 2023, with a review and potential amendments of the 2030 and 2040 emissions targets required by June 2024. DAERA has recently launched a joint consultation on proposals relating to both requirements, and has committed to publishing a summary of responses following completion of the consultation process.

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