Scottish Fiscal Commission

Fiscal Sustainability Perspectives: Climate Change Mitigation

September 2025

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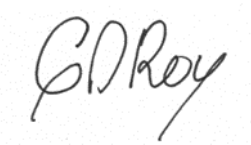
Foreword

The Scottish Fiscal Commission is the independent fiscal institution for Scotland. Our statutory duty is to provide independent and official forecasts of the economy, tax revenues, and social security spending to inform the Scottish Budget.

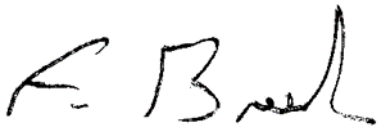
The focus of this report is an exploration of the effects on Scottish public finances from the costs of mitigating climate change and meeting Scotland's Carbon Budgets. We also discuss the data and information we would need from the Scottish Government's Climate Change Plan to be able to accurately assess the fiscal risks of climate change mitigation.

The analysis and conclusions in this report represent the collective view of the independent Commissioners. We take full responsibility for the judgements that underpin the analysis, and for the conclusions we have reached. We have been supported in this by the staff of the Scottish Fiscal Commission, to whom we are as usual enormously grateful.

We have benefited from discussions with experts from a wide range of organisations who have taken the time to speak to us about this report and our work on climate change. In particular, we would like to thank the Climate Change Committee, the Office for Budget Responsibility, and the Scottish Parliament Information Centre. We are very grateful for their insights. We would also emphasise that, despite the valuable assistance received, all judgements and interpretation underpinning the analysis and conclusions in this report are ours alone.



Professor Graeme Roy



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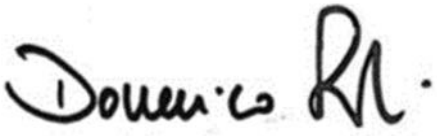
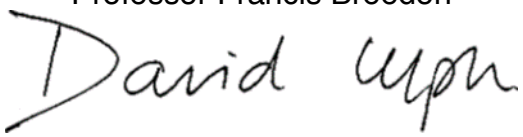


Professor Domenico Lombardi



Professor David Ulph

16 September 2025

Contents

Summary

Introduction

1 This report focuses on the fiscal implications of mitigating climate change: that is, the actions taken to reduce the greenhouse gas (GHG) emissions to limit further global warming. This updates our mitigation costs from our Fiscal Sustainability Perspectives: Climate Change report published in March 2024, which also discusses both the adaptation costs and damages of climate change.[1]

2 We present our latest estimates of the mitigation costs for the Scottish Government, describe the uncertainty of mitigation costs, and outline what the Scottish Government needs to include in its Climate Change Plan to allow evaluation of the fiscal sustainability of the Government's plans.

Responding to climate change

3 The global climate is warming. Global temperatures are estimated to have risen because of human activities by 1.3°C in 2023 above pre-industrial levels.[2] The effect of rising temperatures can be seen across Scotland and the world, with increased storms and record temperatures.

4 There are three ways in which climate change can affect the public finances:

- **Damage costs** from climate change, through needing to invest in response to the harm caused by more intense and frequent severe weather events and potential loss of economic activity because of changes in the climate.
- **Adaptation costs** to climate change, such as through infrastructure investment to reduce the likelihood or impact of climate change damage.
- **Mitigation costs,** which are actions taken to reduce global GHG emissions to limit further global warming.

5 Though this report focuses on the costs of climate change mitigation in Scotland, the amount of damage and cost of adaptation is linked to the extent of mitigation that takes place worldwide and the limits on the rise in global temperatures.

6 The OBR, in its latest Fiscal risks and sustainability report, says that keeping temperature rises to only 2°C above pre-industrial levels is increasingly unlikely and that the temperatures will only be kept under 3°C in its central scenario. The under-3°C scenario would result in significant fiscal pressure, because of temperature rises, increased extreme weather events, and loss of productivity, with climate damages leading to a real-terms 8 per cent drop in UK GDP by the early 2070s.[3]

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[1] Scottish Fiscal Commission (2024) Fiscal Sustainability Perspectives: Climate Change.

[2] Climate Change Committee (2025) Scotland's Carbon Budgets.

[3] OBR (2025) Fiscal risks and sustainability – July 2025.

Scottish fiscal context

7 The UK's and Scotland's climate goals are interdependent and the effects on devolved public finances are complicated.

8 For Scotland to achieve its emission targets, the UK Government must take action in reserved areas. In addition, Scotland's emissions in 2023 accounted for 9 per cent of the UK's total, so Scotland must reduce its emissions if the UK is to meet its net zero targets.[4]

9 UK Government spending decisions in devolved areas will affect the funding available to the Scottish Government via the Block Grant. This is a factor the Scottish Government needs to consider when deciding how to take action to reduce emissions in devolved areas.

10 To assess the fiscal risks for the Scottish Government of reaching net zero in Scotland we have to consider its spending on mitigation, the rate of emission reduction in reserved and devolved areas, and the expected funding resulting from UK Government spending in devolved areas in the rest of the UK.

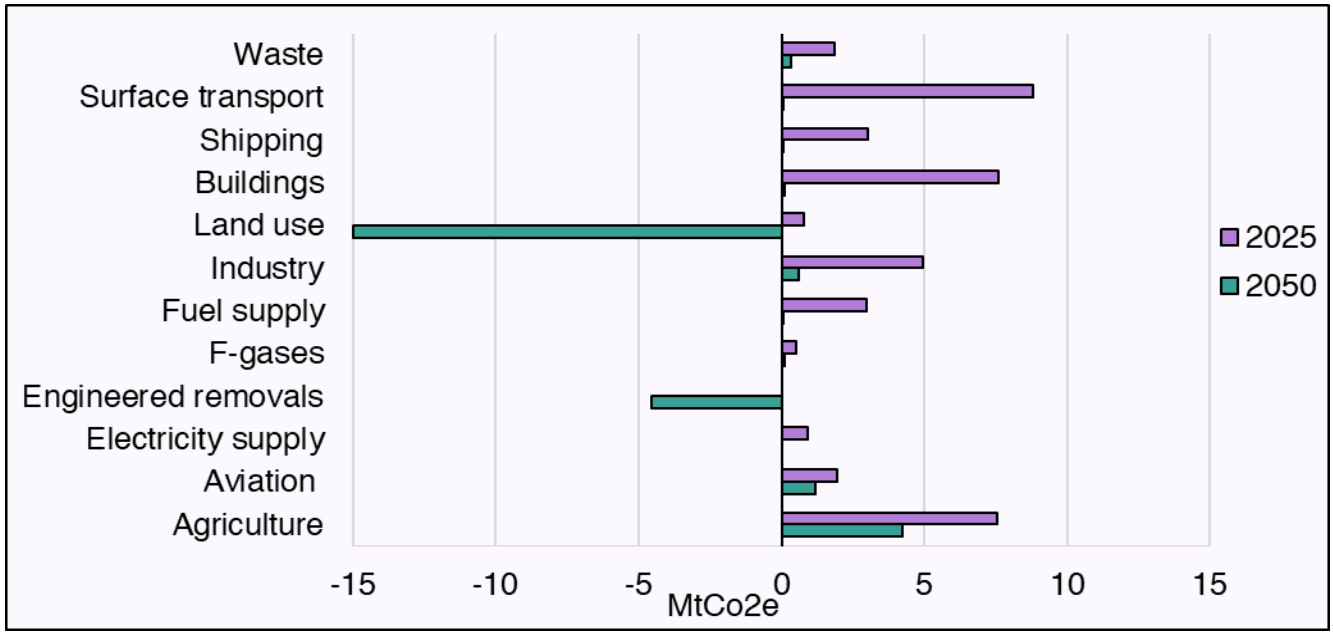
Expected mitigation

11 In its latest analysis, the Climate Change Committee (CCC) has set out a balanced pathway to reach the Scottish Government's target of achieving net zero by 2045 and removing more emissions than it produces by 2050. Figure 1 shows the CCC's assumed reductions in emissions across all sectors. The remaining emissions in 2050 will be removed either through natural removals due to land use changes or by engineered removals.

[4] Scottish Government (2025) Scottish Greenhouse Gas Statistics 2023.

Figure 1: Balanced pathway emissions by sector, in 2025 and 2050, Scotland

Emissions need to fall substantially across all sectors by 2050, with remaining emissions offset by land use and engineered removals



Description of Figure 1: Horizontal bar chart of Climate Change Committee (CCC) data showing emissions of each sector in 2025 and 2050. Emissions vary across sectors; in 2025 all sectors are emitting sectors. By 2050, land use and engineered removals are carbon sinks and offset remaining emission from all other sectors.

Source: Climate Change Committee (2025) Scotland's Carbon Budgets.

Mitigation costs

12 Box 1 compares the results of our 2024 report with the findings presented in this report.

13 We have updated our costings of mitigation from our 2024 report to reflect:

- **Updated Climate Change Committee (CCC) data:** In February 2025, the CCC released its Seventh Carbon Budget for the UK Government, followed by Scotland's Carbon Budgets in May 2025.[5,6] In these documents the CCC laid out the updated expected additional costs required to reach net zero. Our previous climate change report used the Sixth Carbon Budget.

- **Setting of carbon budgets:** The Climate Change (Scotland) Act 2009 was amended in 2024 to move from emissions reduction targets in given years to carbon budgets. Scotland now has four carbon budgets covering five-year periods up to 2045. In June 2025 the Scottish Government announced new climate change targets. The proposed carbon budgets include statutory limits on emissions between 2026 and 2045 and are in line with the advice laid out by the CCC.[7]

[5] Climate Change Committee (2025) The Seventh Carbon Budget.

[6] Climate Change Committee (2025) Scotland's Carbon Budgets.

[7] Scottish Government (2025) New climate targets set.

- **CCC estimates of public costs for the UK:** In our previous report we estimated the public cost of Scotland and the UK reaching net zero. The CCC has now produced its own public costs. In this report, we use these estimates to calculate Scotland's share of UK public spending. The CCC says that the "additional costs [it] present[s] are relative to a baseline which assumes no further climate policy action compared to today".[8]

14 We estimate the devolved public spending for the Scottish Government by taking a central estimate of the CCC's upper and lower estimates of public investment for the UK from its Seventh Carbon Budget.[8] We divide these costs for Scotland and the rest of the UK by looking at expected spending on a sectoral basis. These costs represent the net additional public costs, meaning the figures account for both the direct spending and the savings generated through public investment above the assumed baseline. We set out detailed methodology in Annex A.

15 This accounts for the expected carbon budgets that have been laid in the Scottish Parliament, and the balanced pathway investments set out by the CCC in Scotland's Carbon Budgets. These figures represent indicative estimates of the potential fiscal impacts associated with the CCC's carbon budgets.

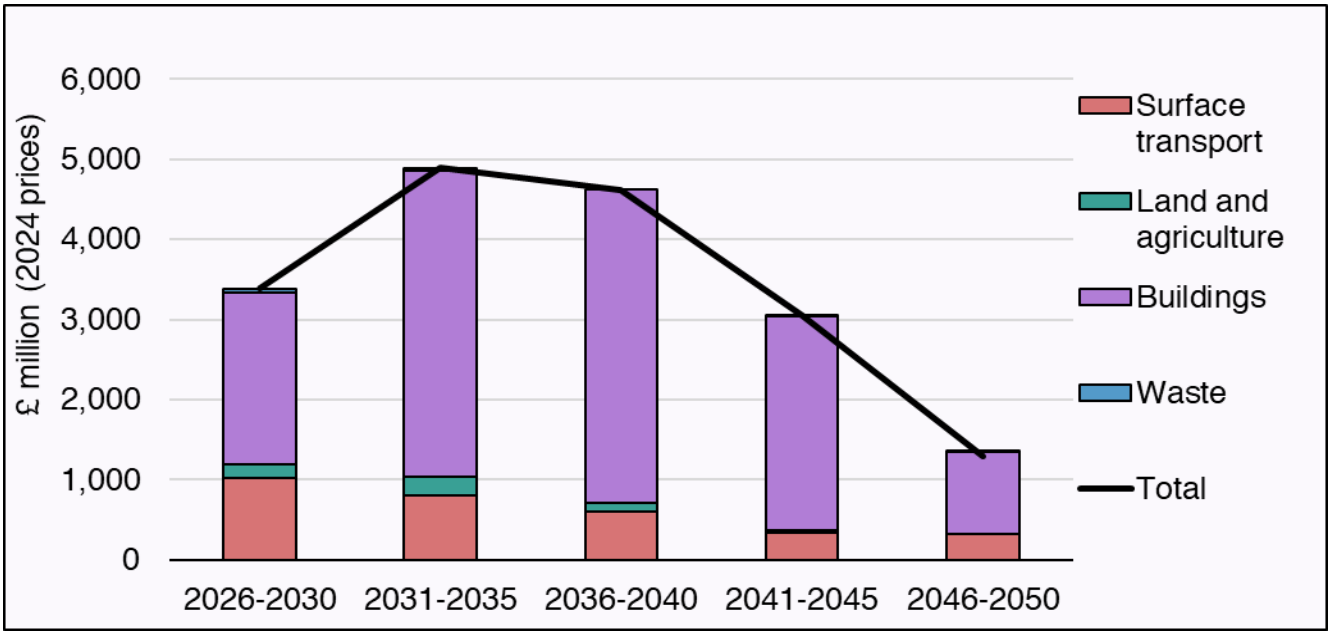
Devolved public investment in mitigation

16 Public investment is needed over the next 25 years to mitigate emissions. Devolved spending makes up 81 per cent of expected public spending to 2050. Figure 2 shows the breakdown of devolved public spending by sector. We present the costs in this report as totals of net costs over the five-year periods matching the carbon budgets, and over the last five years to 2050.

[8] Climate Change Committee (2025) The Seventh Carbon Budget.

Figure 2: Devolved additional public investment, by sector, Scotland

Buildings are expected to be the largest area of public investment among devolved sectors



Description of Figure 2: Combination chart with stacked bars showing the additional devolved public investment needed, split by sectors across the four carbon budgets and 2046-2050. There is a black line showing the total devolved additional investment between 2026 and 2050. Buildings is the largest area of investment, followed by Surface Transport. Additional public investment peaks in 2031-2035 and then steadily declines.

Source: Scottish Fiscal Commission.

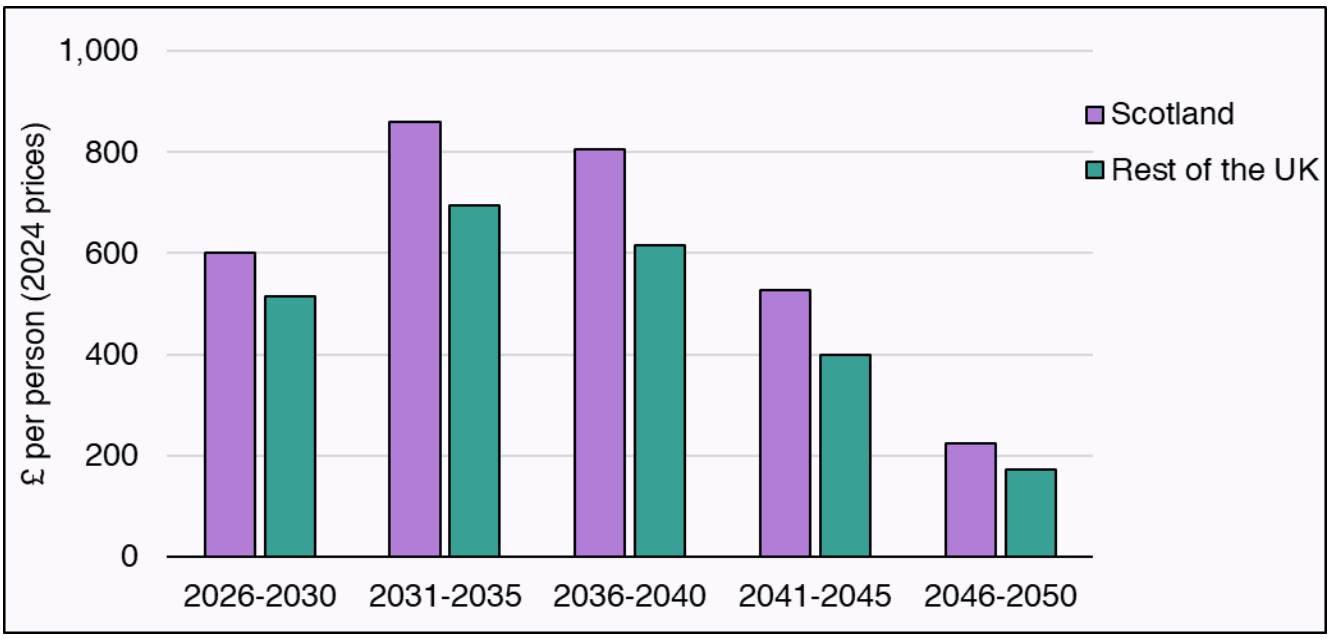
This chart shows the total for each five-year period displayed.

17 Devolved additional public investment required could average £0.7 billion a year, in 2024 prices, from 2026 to 2050. The largest area of additional public investment is expected in buildings. These costs will include areas such as heat pump installation, heat networks, and energy efficiency. Surface transport is expected to be the second-largest area of public devolved spending covering areas such as public transport and electric vehicle infrastructure.

18 We have compared expected public spending in Scotland with the equivalent investment in devolved areas in the rest of the UK. This illustrates where there are asymmetries in the need for investment, which could put pressure on the Scottish budget.

Figure 3: Devolved additional public investment, per person, Scotland and rest of the UK

Scotland is expected to have higher public investment per person in devolved areas than the rest of the UK



Description of Figure 3: Clustered column chart showing the total additional public investment needed in devolved sectors in Scotland and the rest of the UK. In all periods, the additional public investment per person is higher in Scotland than the rest of the UK. For both Scotland and the rest of the UK expected public investment per person peaks in 2031-2035 and then steadily declines.

Source: Scottish Fiscal Commission.

This chart shows the total for each five-year period displayed.

19 Figure 3 shows that the amount of additional public investment in Scotland per person in devolved areas is expected to be higher across all carbon budgets. The main factor driving this is the difference in the expected investment in buildings between Scotland and the rest of the UK.

20 This higher additional spending could put pressure on the Scottish budget. Public spending required in devolved areas is expected to be 26 per cent more per person in Scotland than in the rest of the UK between 2026 and 2050. The funding received from the UK Government would not be sufficient to cover the total costs of mitigation and additional funding would have to be found from elsewhere in the budget.

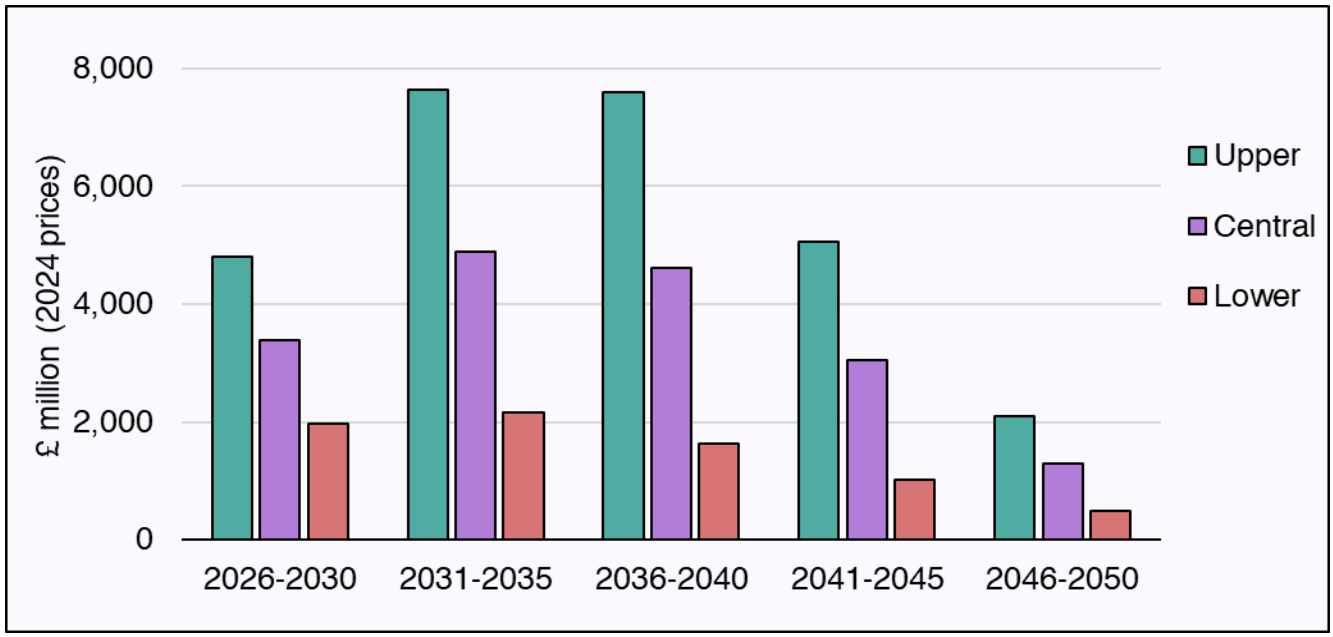
Areas of uncertainty

21 The public costs of climate change mitigation are uncertain. Our understanding of the impact of climate change and the technologies available to mitigate it is improving. Changes to UK and Scottish climate change policies will also affect the level of investment required. This creates fiscal risks as the Scottish budget will need to adjust to meet the changing circumstances.

22 The Scottish Government has a range of public investment options available to fund some of the costs of achieving net zero. Figure 4 shows our estimates of upper and lower public investment shares of devolved public spending based on the CCC's balanced pathway.

Figure 4: Devolved additional public investment, upper, central, and lower investment levels, Scotland

There is a wide range of devolved public investment options



Description of Figure 4: Clustered column chart showing additional public investment in devolved sectors for the upper, central, and lower investment scenarios. For all investment scenarios, additional public investment peaks in 2031-2035 and then steadily declines.

Source: Scottish Fiscal Commission.

This chart shows the total for each five-year period displayed.

23 Governments must decide how costs will be shared between the public sector, businesses, and individuals.

24 The Scottish Government has signalled that, although it intends to adopt carbon budgets in line with advice from the CCC, it will not follow all the CCC's recommendations. In particular, the Government has expressed its intention to take a different approach to agriculture and land use.[9]

25 In our latest estimates, the scale of public investment in land use and agriculture is less than in our previous estimates in 2024. As we discuss in Box 1, this reflects the CCC's assumption of comparatively lower public investment in land use and agriculture, because it assumes that there will be savings from existing agricultural subsidies when land is moved away from agriculture.

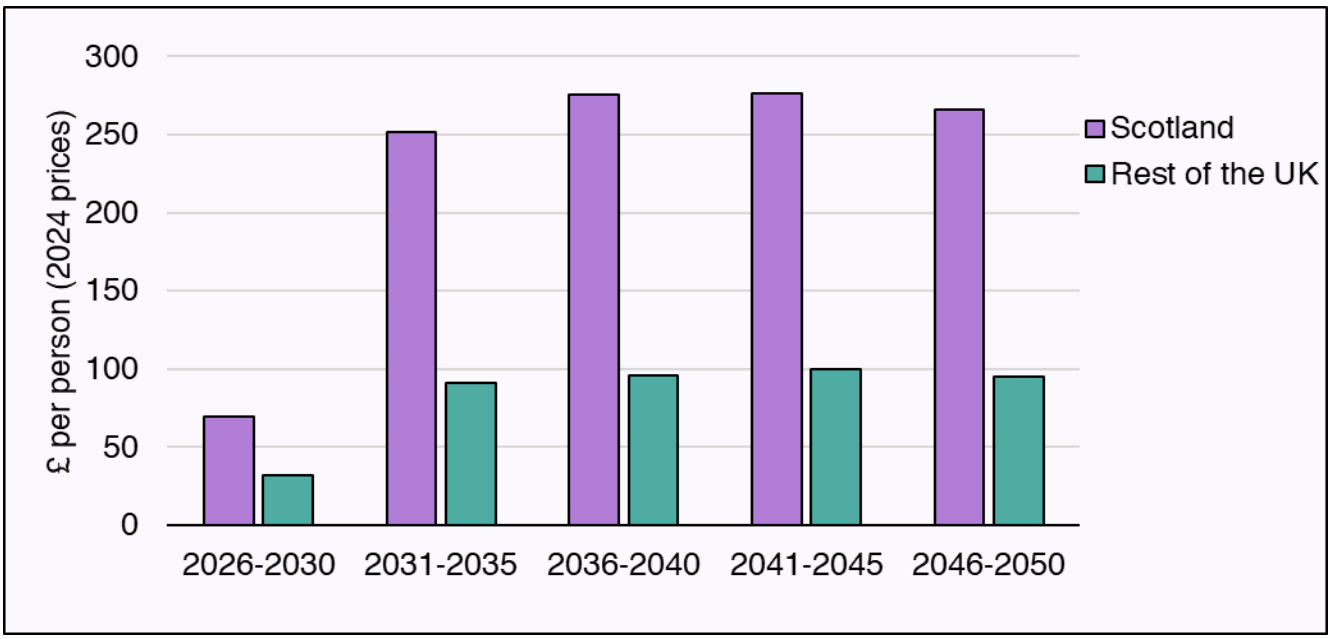
[9] Scottish Government (2025) New climate targets set.

26 As Scotland has the majority of the UK's peatland and approximately half of its trees and Scotland covers 32 per cent of the UK's land mass, land use and agriculture is a substantial area of investment that differs from the rest of the UK.[10]

27 Public and private additional net capital investment in land use and agriculture through to 2050 is expected to total £7 billion in Scotland for mitigation. Whether the Scottish Government chooses to closely follow the public investment assumed by the CCC or to deviate from it, Figure 5 shows that land use will remain a substantial area for investment in Scotland.

Figure 5: Land use and agriculture combined public and private additional capital investment, per person, Scotland and rest of the UK

Scottish land use and agriculture combined public and private investment is expected to be substantially higher per person than in the rest of the UK



Description of Figure 5: Clustered column chart showing additional capital investment per person for land use and agriculture in Scotland and the rest of the UK. In all years, the needed investment is higher in Scotland. Per-person investment peaks in Scotland in 2041-2045 at £276. Per-person investment peaks in the rest of the UK in 2041-2045 at £100.

Source: Scottish Fiscal Commission.

This chart shows the total for each five-year period displayed.

[10] ONS (2023) Scotland natural capital accounts: 2023.

Box 1: Resource borrowing in practice

This box explains the changes in our results between our 2024 report and the findings in this report.

The latest CCC data shows a substantial reduction in the additional capital investment needed to reach net zero across the UK. The CCC has also published public investment costs for the UK and we have adapted our methodology to use these estimates. This aligns our costs with those published by the OBR and CCC.

We explain the uncertainties of climate mitigation costs in Chapter 3 and give a more detailed explanation of methodology and changes to methodology in Annex A.

Figure 6 sets out the changes between the estimates in 2024 and our updated estimates.

Figure 6: Difference in mitigation costings, 2024 and 2025, Scotland

£ million (2024 prices)	2026-2030	2031-2035	2036-2040	2041-2045	2046-2050
Economy wide capital investment					
2024 Report	24,662	29,429	29,442	25,539	26,037
2025 Report	16,621	19,707	17,883	10,050	3,477
Change	-8,041	-9,722	-11,558	-15,489	-22,560
Devolved public investment					
2024 Report	5,674	6,369	7,106	6,478	6,570
2025 Report	3,383	4,896	4,621	3,044	1,291
Change	-2,291	-1,474	-2,485	-3,434	-5,279
Devolved per-person public investment change (£ per person)					
2024 Report	1,024	1,152	1,291	1,185	1,212
2025 Report	600	859	805	528	223
Change	-425	-292	-486	-657	-989

Source: Scottish Fiscal Commission (2024) Fiscal Sustainability Perspectives: Climate Change.

Figures may not sum because of rounding.

Figure 6 shows the total net cost of additional public and private capital investment expected from 2026 to 2050 in Scotland has fallen in 2024 prices from £135 billion to £68 billion.

The main drivers of the fall in economy-wide investment changes are a result of world-wide developments, methodological changes, and refined assumptions by the CCC.

The CCC highlights three key differences between its costing estimates in its Sixth Carbon Budget and those in its Seventh Carbon Budget. The time periods covered by the two publications are different, meaning that the costs from 2020-2024 are not included in the Seventh Carbon Budget. There have been methodological changes. The CCC assumed that

low-carbon technologies already in the baseline might be replaced with a higher-carbon alternative at the end of its lifetime. As low-carbon technologies become more commonplace, the CCC has assumed that low-carbon technologies remain in its baseline.

Finally, the CCC has also refined its assumptions, which have in some cases influenced the cost profile. For example, the CCC now expects that the convergence of prices between electric vehicles and petrol and diesel cars will happen sooner, whereas it has lowered its expectations on the efficiency improvements of heat pumps.

In addition, public investment is distributed across sectors differently from what we previously assumed, with a lower share of the total public investment dedicated to land use and a higher share of the total public investment for buildings. Previously we estimated the public investment in Scotland based on the OBR's public shares from its 2021 Fiscal risks report.[11] We have now aligned with the CCC's and OBR's latest publications and use the CCC's UK-wide public investment assumptions. We have then estimated the amount of that public investment expected in Scotland.

The CCC's methodology publication details its assumptions on what drives its upper and lower public investment.[12] These show two possible approaches to investment that governments across the UK may choose, but they may opt to use more or less public funds to invest, and this will cause different levels of financial pressure for the Scottish Government.

One area of difference is the assumptions around land use. Previously, in our 2024 report, we had assumed that 100 per cent of land use sector capital costs would be covered by public spending. However, the CCC assumes that there will be lower investment by governments in land use and agriculture, because it assumes that there will be savings from existing agricultural subsidies when land is moved away from agriculture.

It is up to the Scottish Government if it follows this advice. It has signalled a departure from some elements of the CCC's advice on peatlands and agriculture. The economy-wide expected capital investment in land use and agriculture still remains substantial for Scotland. The expected capital investment in land use and agriculture in Scotland is 20 per cent of the UK's overall land and agriculture investment.

The changes in estimates highlight the uncertainty that we discuss in Chapter 3.

[11] OBR (2021) Fiscal risks report – July 2021.

[12] Climate Change Committee (2025) Methodology report – UK, Northern Ireland, Wales, and Scotland carbon budget advice.

Climate change plan

28 The Scottish Government has committed to publishing its Climate Change Plan (CCP) by the end of this Parliament.[13] The plan is expected to outline policies and proposals which will set out how Scotland can meet its carbon budgets from 2026 to 2040. The Climate Act 2019 requires the CCP to include estimates of the cost and benefits of the proposals and polices.[14]

29 This information would help us better assess the fiscal implications of the Scottish Government's planned approach to climate change mitigation. In this report we set out the level of detail that should be included in the CCP. We also recommend that the CCP clearly explain the methodology used and outline how progress towards its objectives will be monitored.

[13] Scottish Government (2025) Programme for Government 2025 to 2026.

[14] The National Archives (2019) Climate Change (Emissions Reduction Targets) (Scotland) Act 2019.

Chapter 1
Introduction

Overview

1.1 This report focuses on the fiscal implications of mitigating climate change: that is, the actions taken to reduce the greenhouse gas (GHG) emissions to limit further global warming. This updates our mitigation costs from our Fiscal Sustainability Perspectives: Climate Change report published in March 2024, which also discusses both the adaptation costs and damages of climate change.[15]

1.2 We present our latest estimates of the costs for the Scottish Government of reaching net zero emissions in Scotland. Net zero refers to a state in which emissions from greenhouse gases (GHGs) entering the atmosphere are balanced by removals of GHGs from the atmosphere.[16] Alongside this, we outline what the Scottish Government needs to include in its Climate Change Plan to allow evaluation of the fiscal sustainability of the Government's plans.

Climate mitigation

1.3 The global climate is warming. Global temperatures are estimated to have risen because of human activities by 1.3°C in 2023 above pre-industrial levels.[16] The effect of rising temperatures can be seen across Scotland and the world, with increased storms and record temperatures. This is largely because of the burning of fossil fuels, which produces GHGs such as carbon dioxide.[17]

1.4 Mitigation of climate change refers to actions taken to reduce global GHG emissions to limit further global warming. It covers a wide range of activities such as decarbonising housing, as well as carbon capture and storage, and tree planting with the aim of removing carbon from the atmosphere.

1.5 At the UN Climate Change Conference 21 (COP 21) in 2015, the UK, alongside 193 other countries and the EU, signed up to the Paris Agreement. This committed countries to a goal of limiting global warming to "well below 2°C above pre-industrial levels" and to "pursu[e] efforts to limit the temperature increase to 1.5°C above pre-industrial levels".[18] The UK also signed up to submit nationally determined contributions (NDCs) with targets for the reduction in emissions in line with these goals.

[15] Scottish Fiscal Commission (2024) Fiscal Sustainability Perspectives: Climate Change.

[16] Climate Change Committee (2025) Scotland's Carbon Budgets.

[17] Intergovernmental Panel on Climate Change (2023) AR6 Synthesis Report: Climate Change 2023.

[18] United Nations (2015) Paris Agreement.

Scottish context

1.6 In 2019, the UK Government set a target of net zero by 2050.[19] Although Scotland reports emission reductions to the UN as part of the UK-wide NDCs, the Scottish Parliament set a target of net zero by 2045, also in 2019.[20] The UK's and Scotland's targets and budgets are set on a territorial basis, so they cover the emissions produced and offset within Scotland and the UK.

1.7 Progress towards both the UK's and Scotland's targets are now measured against carbon budgets. Carbon budgets set an amount of emissions that can be released in Scotland over a given period. The Climate Change (Scotland) Act 2009 was amended in 2024 to move from emissions reduction targets in given years to carbon budgets. Scotland now has four carbon budgets covering five-year periods up to 2045.

1.8 The Climate Change Committee (CCC) advised on the size of carbon budgets in May 2025. The Scottish Government developed budgets aligned with the CCC advice and laid these in the Scottish Parliament in June 2025. The Parliament is in the process of voting on these.

Fiscal sustainability and climate mitigation

1.9 In this report, we consider the fiscal effects of climate mitigation. With the Scottish Government committed to net zero by 2045, emission reduction is a long-term challenge and will have long-term fiscal implications for the Scottish budget.

1.10 To reach net zero, in Scotland and the rest of the world, actions are required including investment in new technologies, retrofitting old technologies, and offsetting remaining emissions. The fiscal implications depend on the extent to which governments choose to bear the costs of these investments.

1.11 Governments will have to spend to lower their direct emissions. They can also choose to support and influence the reduction of emissions from businesses and households through taxation, subsidies, regulations, or public investment. Different approaches will result in a different cost to the public and private sectors. Assessing the fiscal impact of a policy therefore requires information on how the objective of reducing emissions will be achieved, and the degree to which the cost will be borne by the public sector.

1.12 Similarly, there can be savings due to investment in certain technologies and techniques that use less emissions. The extent to which these savings will affect governments' budgets also depends on policy choices.

Devolved context

1.13 The UK and Scotland's climate goals are interdependent and the effects on devolved public finances are complicated.

1.14 For Scotland to achieve its emission targets, the UK Government must take action in reserved areas. In addition, Scotland's emissions in 2023 accounted for 9 per cent of

[19] The National Archives (2008) Climate Change Act 2008.

[20] The National Archives (2009) Climate Change (Scotland) Act 2009.

the UK's total, so Scotland must reduce its emissions if the UK is to meet its net zero targets.[21]

1.15 UK Government spending decisions in devolved areas will affect the funding available to the Scottish Government via the Block Grant. This is a factor the Scottish Government needs to consider when deciding how to take action to reduce emissions in devolved areas.

1.16 To assess the fiscal risks for the Scottish Government of reaching net zero in Scotland we have to consider its spending on mitigation, the rate of emission reduction in reserved and devolved areas, and the expected funding resulting from UK Government spending in devolved areas in the rest of the UK.

Policy responsibility

1.17 To consider the potential effects on the Scottish budget of climate mitigation it is important to first understand how policy responsibility is split between the UK Government (reserved areas) and the Scottish Government (devolved areas).

1.18 Some areas are easily categorised: for example, health is fully devolved, and defence is fully reserved. However, as climate change impacts all departments and sectors, it does not as easily fall under the responsibility of one government.

1.19 Similarly, the split between regulation and spending within sectors can also make responsibility cross-governmental. For example, in surface transport, the Scottish Government controls most public spending on transport, but certain powers such as banning polluting vehicles are reserved.

Fiscal framework

1.20 Alongside the split in responsibilities, the Scottish Government's funding arrangements are also an important factor. The fiscal framework sets out the Scottish Government's funding arrangements.

1.21 The UK Government sets the overall fiscal position for the UK and funds spending across the UK through tax revenues and borrowing. The Scottish Government has some tax-raising powers, but it remains the case that the Block Grant is still the largest source of funding. The Scottish Government has limited powers to borrow further under the fiscal framework, so it cannot accumulate substantial debt or reserves and is required to have a largely balanced budget.

1.22 The Barnett formula determines changes to the Block Grant. When the UK Government changes its planned spending in devolved areas, the Scottish Government receives a population share of that change. Therefore, when the UK Government's response to climate change results in an increase or decrease in spending in devolved departments, this will increase or decrease respectively the funding available to the Scottish Government.

1.23 If public investment related to climate change is different in Scotland than in the rest of the UK because of geographic, economic, or demographic differences, or because of

[21] Scottish Government (2025) Scottish Greenhouse Gas Statistics 2023.

different policy choices, this could create either fiscal pressure or extra funding for the Scottish Government.

1.24 We examine the differences in expected spending for net zero between Scotland and the rest of the UK, and what fiscal risks and pressures these may cause, in Chapter 2.

Other climate costs

1.25 Though this report focuses on the costs of climate mitigation in Scotland, there are other substantial fiscal costs associated with climate change.

- **Damage costs** from climate change, through needing to invest in response to the harm caused by more intense and frequent severe weather events and potential loss of economic activity because of changes in the climate.
- **Adaptation costs** to climate change, such as through infrastructure investment to reduce the likelihood or impact of climate change damage.

1.26 The amount of damage and cost of adaptation is linked to the extent of mitigation that takes place worldwide and the limits on the rise in the level of global temperatures. The cost of no action would substantially exceed the cost of mitigation as it would increase temperatures as well as risk Scotland being left behind in the adoption of new technological advances.

1.27 Despite the global pledge at COP 21 to hold the average global temperature change to below 2°C above pre-industrial levels, the OBR says in its latest Fiscal risks and sustainability report that keeping temperature rises to only 2°C above pre-industrial levels is increasingly unlikely, and that temperatures will only be kept below 3°C in its central scenario. The under-3°C scenario would result in significant fiscal pressure, because of temperature rises, increased extreme weather events and loss of productivity, with climate damages leading to a real-terms 8 per cent drop in UK GDP by the early 2070s.[22] However, we do not cost a no mitigation scenario in this report.

1.28 We discussed fiscal pressures of climate adaptation and damage in further detail in our 2024 report, Fiscal Sustainability Perspectives: Climate Change, and will further explore these in future reports.[23]

[22] OBR (2025) Fiscal risks and sustainability – July 2025.

[23] Scottish Fiscal Commission (2024) Fiscal Sustainability Perspectives: Climate Change.

Chapter 2
Cost of mitigation

Overview

2.1 In this chapter, we explore the fiscal implications for the Scottish Government from its proposed carbon budgets and its legislated net zero target of 2045, and expected costs through to 2050. We look at the expected emissions reductions by sector and we consider how devolved public costs compare for Scotland and the rest of the UK.

2.2 This analysis is an update to the initial costings of climate mitigation that we produced in the 2024 Fiscal Sustainability Perspectives report.[24]

2.3 We have updated our costings of mitigation from our 2024 report to reflect:

- **Updated Climate Change Committee (CCC) data:** In February 2025 the CCC released its Seventh Carbon Budget for the UK Government followed by Scotland's Carbon Budgets in May 2025.[25,26] In these documents the CCC laid out the updated expected additional costs required to reach net zero. Our previous climate change report used the Sixth Carbon Budget.

- **Setting of carbon budgets:** The Climate Change (Scotland) Act 2009 was amended in 2024 to move from emissions reduction targets in given years to carbon budgets. Scotland now has four carbon budgets covering five-year periods up to 2045. In June 2025 the Scottish Government announced new climate change targets. The proposed carbon budgets include statutory limits on emissions between 2026 and 2045 and are in line with the advice laid out by the CCC.[27]

- **CCC estimates of public costs for the UK:** In our previous report we estimated the public cost of Scotland and the UK reaching net zero. The CCC has now produced its own public costs. In this report, we use these estimates to calculate Scotland's share of UK public spending.

2.4 By incorporating updated data and estimating a Scottish share of UK public costs, these estimates are more up-to-date and align with the Scottish Government's proposed carbon budgets.

Emission reduction

2.5 In its latest analysis, the CCC has set out a balanced pathway to reach the Scottish Government's target of achieving net zero by 2045 and removing more emissions than it produces by 2050. Figure 2.1 shows the CCC's assumed reductions in emissions

[24] Scottish Fiscal Commission (2024) Fiscal Sustainability Perspectives: Climate Change.

[25] Climate Change Committee (2025) The Seventh Carbon Budget.

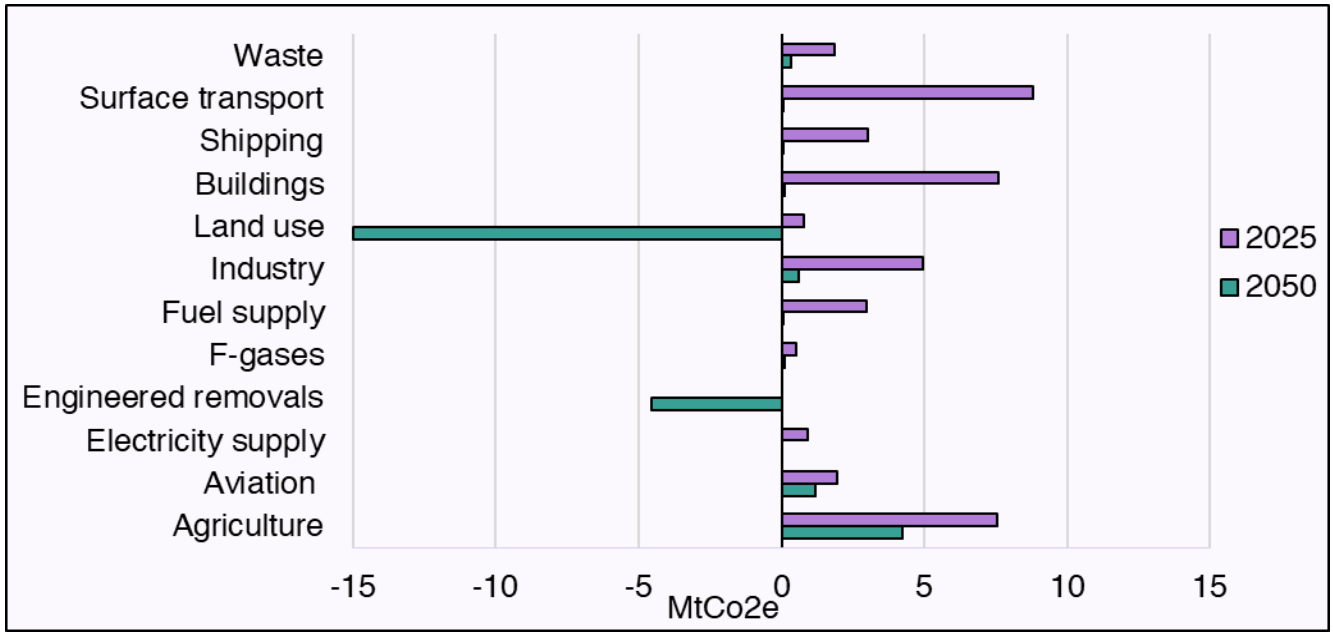
[26] Climate Change Committee (2025) Scotland's Carbon Budgets.

[27] Scottish Government (2025) New climate targets set.

across all sectors. The remaining emissions in 2050 will be removed either through natural removals due to land use changes or by engineered removals.

Figure 2.1: Balanced pathway emissions by sector, in 2025 and 2050, Scotland

Emissions need to fall substantially across all sectors by 2050, with remaining emissions offset by land use and engineered removals



Description of Figure 2.1: Horizontal bar chart of CCC data showing emissions of each sector in 2025 and 2050. Emissions vary across sectors; in 2025 all sectors are emitting sectors. By 2050, land use and engineered removals are carbon sinks and offset remaining emission from all other sectors.

Source: Climate Change Committee (2025) Scotland's Carbon Budgets.

2.6 Figure 2.1 shows that the largest net change in emissions is expected from land use, which shifts from contributing to emissions in 2025 to being the main way of removing emissions from the atmosphere by 2050. This relates to policies such as peatland restoration and increased reforestation.

2.7 Surface transport and buildings are expected to see the second-largest reductions. Agriculture is expected to be the largest-emitting sector by 2050.

2.8 Scotland is expected to reach net zero in 2045, with all remaining emissions offset by land use and removals. By 2050 Scotland is expected to be removing more carbon than it produces, helping contribute to the UK's net zero 2050 target.

2.9 Based on the existing fiscal framework, we assume agriculture, buildings, land use, surface transport, and waste are devolved areas of spending. We discuss our assumptions and methodology in Annex A.

Cost of emission reduction

2.10 Based on the emission reductions above, we have estimated the share of public costs that is expected in Scotland and the pressures this may exert on the Scottish budget.

2.11 We estimate the devolved public spending for the Scottish Government by taking a central estimate of the CCC's upper and lower estimates of public investment for the UK from its Seventh Carbon Budget.[28] We divide these costs for Scotland and the rest of the UK by looking at expected spending on a sectoral basis. These represent the net public costs, accounting for savings as well as spending. We set out detailed methodology in Annex A.

2.12 This accounts for the expected carbon budgets that have been laid in the Scottish Parliament, and the balanced pathway investments set out by the CCC in Scotland's Carbon Budgets. These figures represent indicative estimates of the potential fiscal impacts associated with the carbon budgets set out by the CCC.

2.13 The Scottish Government has signalled that, although it intends to adopt carbon budgets in line with advice from the CCC, it will not adopt all the CCC's recommendations. In particular, the Government has expressed its intention to take a different approach to areas of agriculture and land use.[29]

2.14 In this report, we have continued to use the CCC balanced pathway, as this is the best information available to date on how Scotland could reach net zero. This report highlights the cost of the balanced CCC pathway and is illustrative of the potential costs the Scottish Government will face. Should the Scottish Government take a different approach to reaching net zero, either through the sectors and policies where emissions reductions occur or through the share of the cost covered by the public sector, then this would result in different levels of spending from the results we present here.

Public investment in Scotland

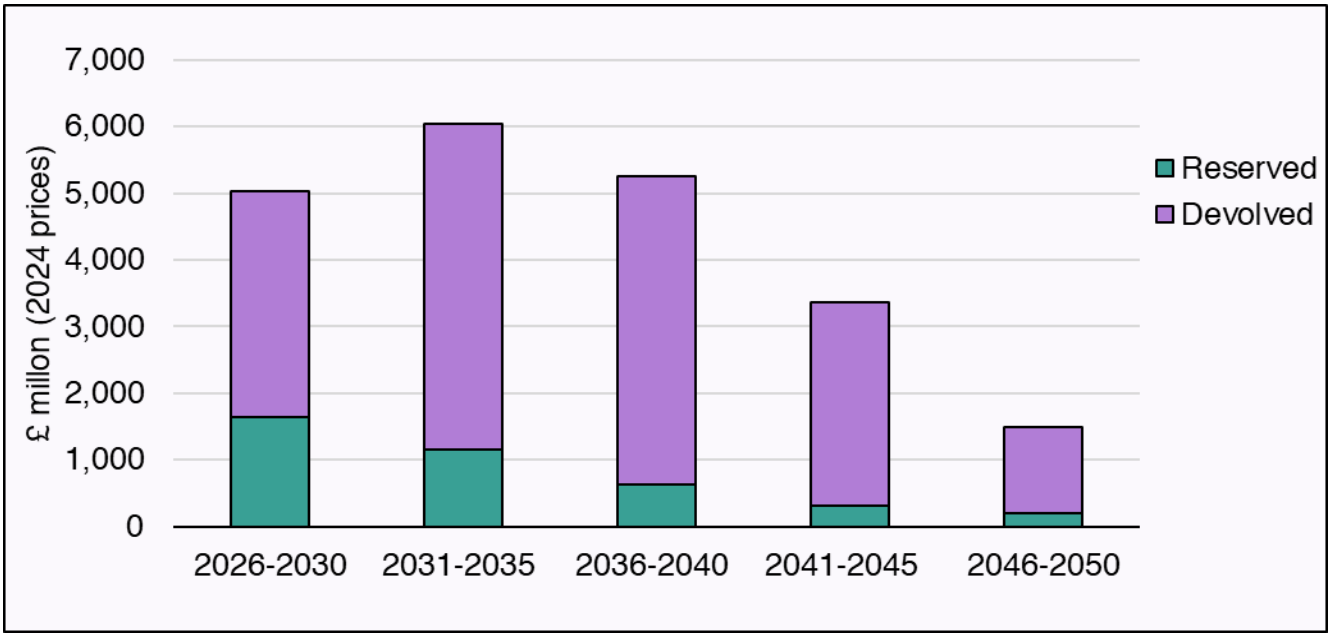
2.15 Public mitigation investment in Scotland is expected to total £21 billion over the next 25 years. Figure 2.2 shows how this is distributed between carbon budgets and reserved and devolved sectors. As we observed in our 2024 report, much of the additional public cost is expected in devolved sectors. We present the costs in this report as totals of net costs over the five-year periods matching the carbon budgets, and over the last five years to 2050.

[28] Climate Change Committee (2025) The Seventh Carbon Budget.

[29] Scottish Government (2025) New climate targets set.

Figure 2.2: Additional public investment, reserved and devolved sectors, Scotland

The majority of public investment will be in devolved sectors



Description of Figure 2.2: Stacked column chart showing total additional public investment in Scotland and the split between reserved and devolved sectors. In all periods devolved investment is the largest share. The additional investment peaks in 2031-2035 at £6 billion, then declines through to 2046-2050.

Source: Scottish Fiscal Commission.

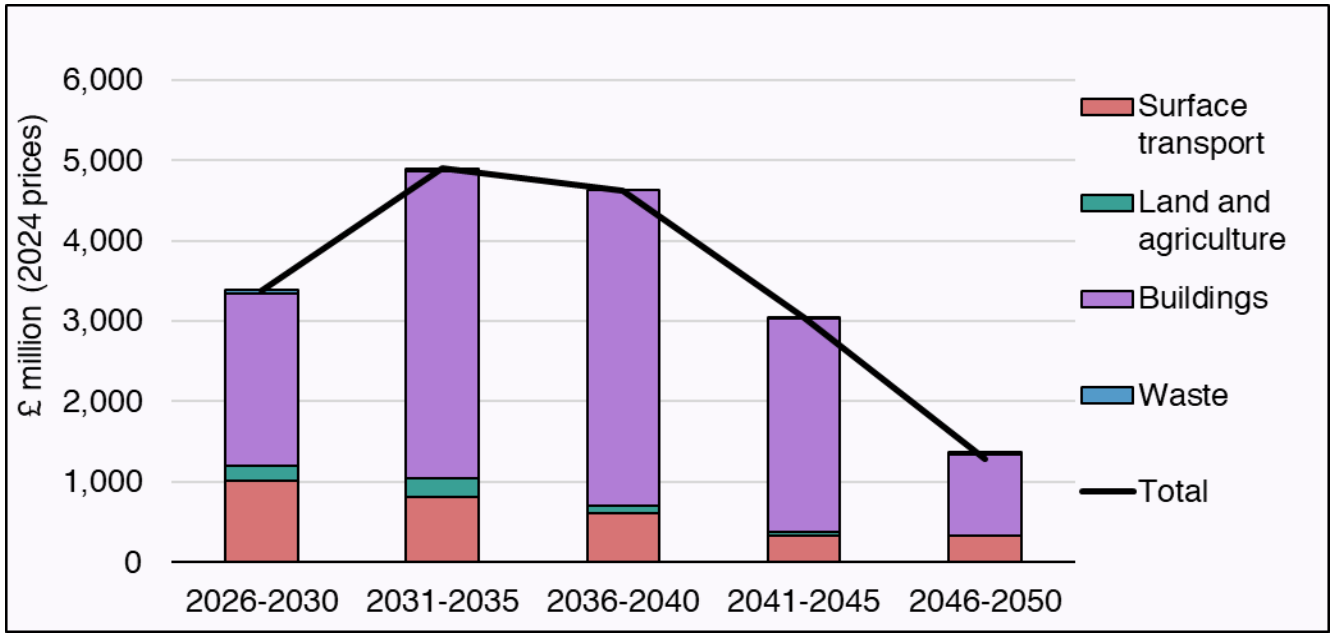
This chart shows the total for each five-year period displayed.

2.16 Devolved spending makes up 81 per cent of expected public spending to 2050. Figure 2.2 shows that the expected amount of public spending on mitigation is to peak in the second carbon budget (2031-2035).

2.17 Public investment is needed across the carbon budgets to reach net zero in 2045 and beyond. Figure 2.3 shows the breakdown of devolved public spending by sector.

Figure 2.3: Devolved additional public investment, by sector, Scotland

Buildings are expected to be the largest area of public investment among devolved sectors



Description of Figure 2.3: Combination chart with stacked bars showing the additional devolved public investment needed, split by sectors across the four carbon budgets and 2046-2050. There is a black line showing the total devolved additional investment between 2026 and 2050. Buildings is the largest area of investment, followed by Surface Transport. Devolved additional public investment peaks in 2031-2035 and then steadily declines.

Source: Scottish Fiscal Commission.

This chart shows the total for each five-year period displayed.

2.18 The largest area of additional public investment is expected in buildings. These costs will include areas such as heat pump installation, heat networks, and energy efficiency. Surface transport is expected to be the second largest area of public devolved spending, covering areas such as public transport and electric vehicle infrastructure.

2.19 An important change from our previous report is the lower expected additional public investment required for land use. This reflects the CCC's assumption that a substantial amount of the land use costs will not be further public investment, because it assumes that there will be savings from existing agricultural subsidies when land is moved away from agriculture. As this is an area the Scottish Government have signalled it may not align we have highlighted the potential land use costs in our sector analysis.

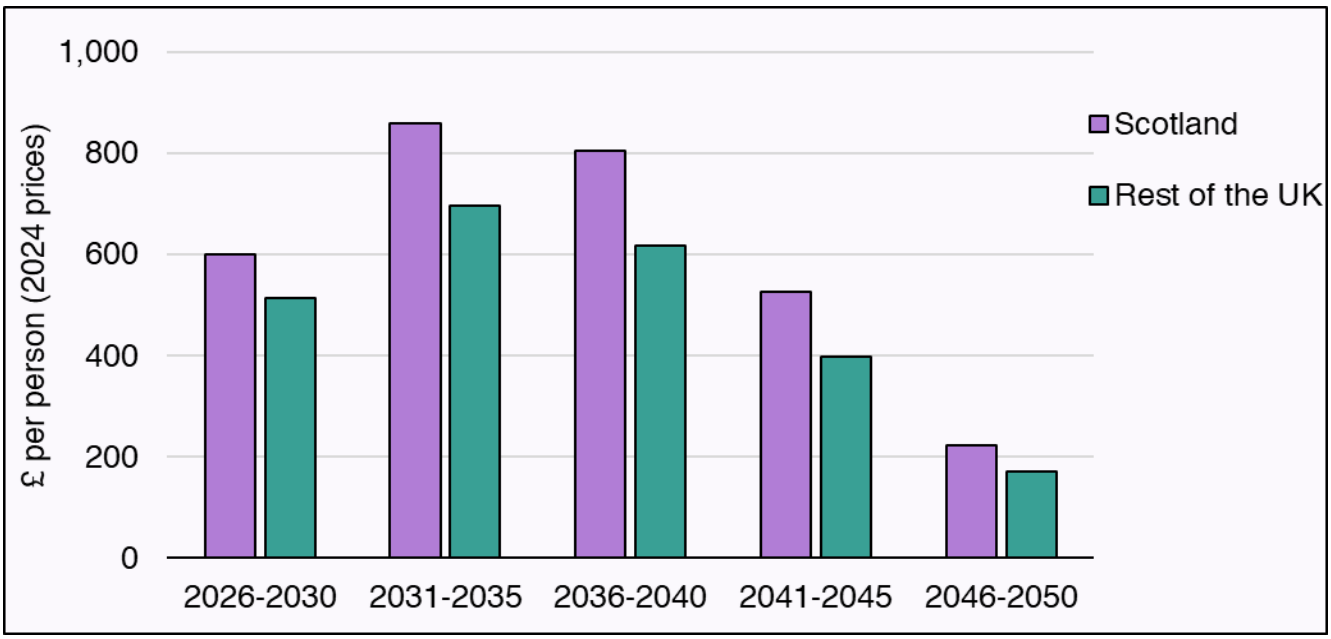
Possible pressures for the Scottish budget

2.20 As we outline in Chapter 1, when the UK Government incurs spending to mitigate climate change in devolved areas, Scottish Government funding changes via the Block Grant.

2.21 We have compared expected public spending in Scotland with the equivalent investment in devolved areas in the rest of the UK, to illustrate where there are asymmetries in the need for investment which could put pressure on the Scottish budget.

Figure 2.4: Devolved additional public investment, per person, Scotland and rest of the UK

Scotland is expected to have higher public investment per person in devolved areas than the rest of the UK



Description of Figure 2.4: Clustered column chart showing the total additional public investment needed in devolved sectors in Scotland and the rest of the UK. In all periods, the additional public investment per person is higher in Scotland than in the rest of the UK. For both Scotland and the rest of the UK expected public investment per person peaks in 2031-2035 and then steadily declines.

Source: Scottish Fiscal Commission.

This chart shows the total for each five-year period displayed.

2.22 Figure 2.4 shows that the amount of additional public investment in Scotland per person in devolved areas is expected to be higher across all carbon budgets. The main factor driving this is the difference in the expected investment in buildings between Scotland and the rest of the UK.

2.23 This higher additional spending could put pressure on the Scottish budget. Public spending required in devolved areas is expected to be 26 per cent more per person in Scotland than in the rest of the UK between 2026 and 2050. The funding received from the UK Government would not be sufficient to cover the total costs of mitigation and additional funding would have to be found from elsewhere in the budget.

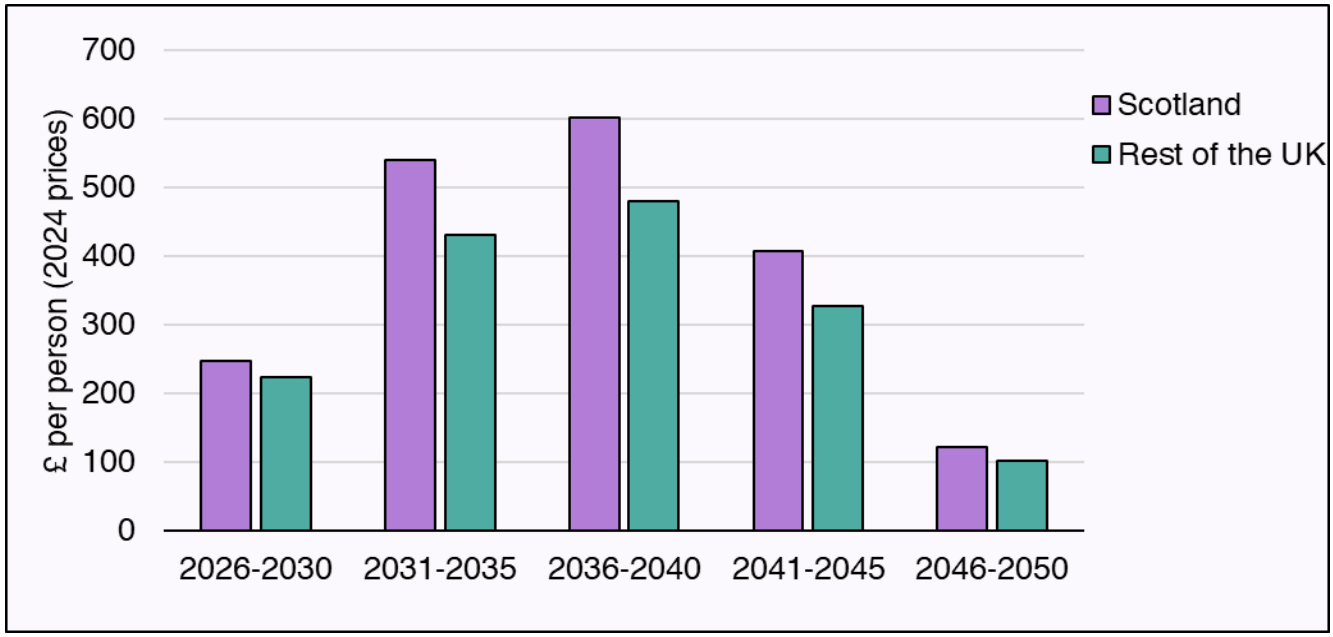
Devolved sector analysis

Buildings

2.24 Differing costs of investing in buildings between Scotland and the rest of the UK explains 83 per cent of the difference in expected public spending per person. This is mostly driven by the difference for residential buildings. Figure 2.5 shows the expected difference in spending between Scotland and the rest of the UK in residential buildings.

Figure 2.5: Residential buildings additional public investment, per person, Scotland and rest of the UK

Scotland has higher public investment costs per person in residential buildings



Description of Figure 2.5: Clustered column chart showing additional public investment, per person, in the residential buildings sector for Scotland and the rest of the UK. In all periods the additional public investment is higher in Scotland, peaking in 2036-2040 at £601 per person. The rest of the UK also peaks in 2036-2040 at £478. Additional public investment steadily declines after 2040.

Source: Scottish Fiscal Commission.

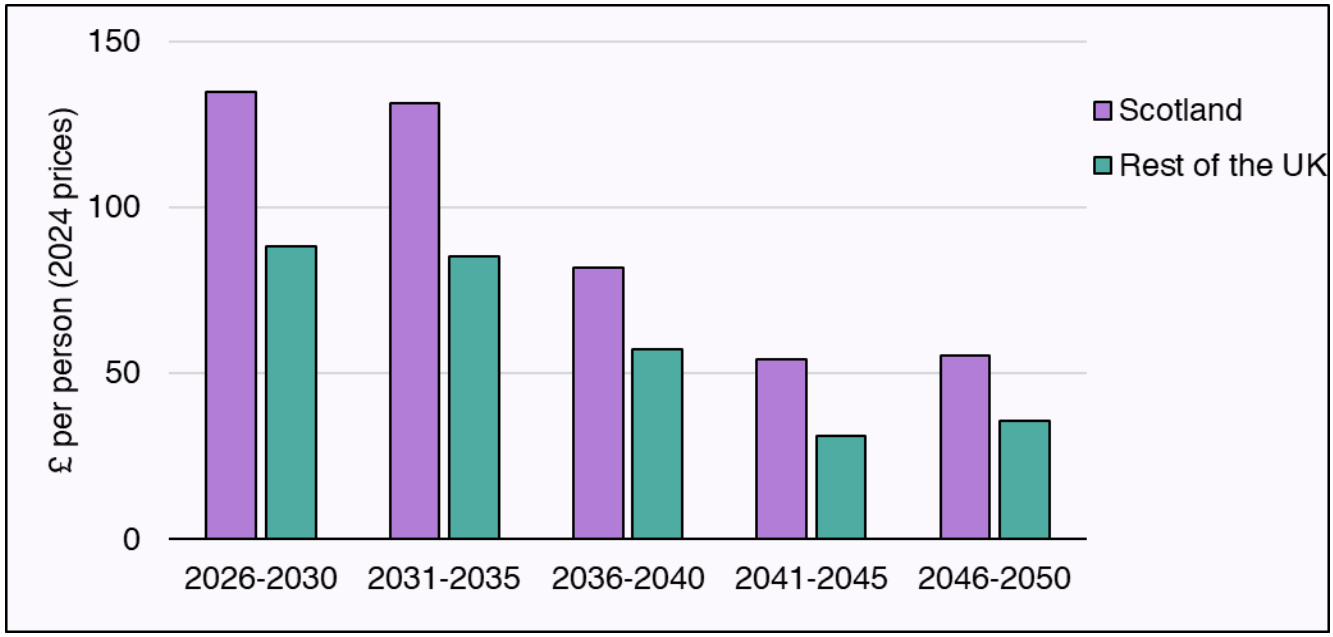
This chart shows the total for each five-year period displayed.

2.25 This is expected to be greater per person than the rest of the UK for several reasons. Scotland is colder than the rest of UK and therefore residential buildings may require greater investment. Scotland also has a greater share of social housing than the rest of the UK, and the CCC assumes that more of the cost of energy efficiency measures and heating systems will be publicly funded for social housing. For example, even in the lower estimate of public spending, the CCC assumes that, for households installing large energy efficiency measures, 25 per cent of the cost is covered by public funding unless they socially rent, in which case 100 per cent of the costs are covered.[30]

[30] Climate Change Committee (2025) Methodology report – UK, Northern Ireland, Wales, and Scotland carbon budget advice.

Figure 2.6: Non-residential buildings additional public investment, per person, Scotland and rest of the UK

Scotland has higher public investment costs per person in non-residential buildings



Description of Figure 2.6: Clustered column chart showing additional public investment, per person, in the non-residential buildings sector for Scotland and the rest of the UK. In all periods the additional public investment is higher in Scotland, peaking in 2026-2030 at £135 per person. The rest of the UK peaks in 2026-2030 at £88 per person. Additional public investment steadily declines until 2046, where it rises slightly for both Scotland and the rest of the UK.

Source: Scottish Fiscal Commission.

This chart shows the total for each five-year period displayed.

2.26 The assumed public investment in non-residential buildings includes both public and commercial buildings, incorporating key policies such as low-carbon heating, energy efficiency, and the electrification of catering and other non-heat fossil fuel uses.

2.27 This is expected to be greater per person than in the rest of the UK due to Scotland's likely having a higher number of non-residential buildings per person. Scotland has approximately 230,000 non-domestic buildings, and the UK has an estimated 2 million.[31,32] When compared with population estimates, this suggests a higher number of buildings per person in Scotland than in the UK.

Surface transport

2.28 The assumed public investment in surface transport is driven by policies including electric vehicle infrastructure, public transport, and electric modes of transport. This is expected to be roughly the same per person in Scotland and in the rest of the UK, although there is variance across the expected timings of public investment.

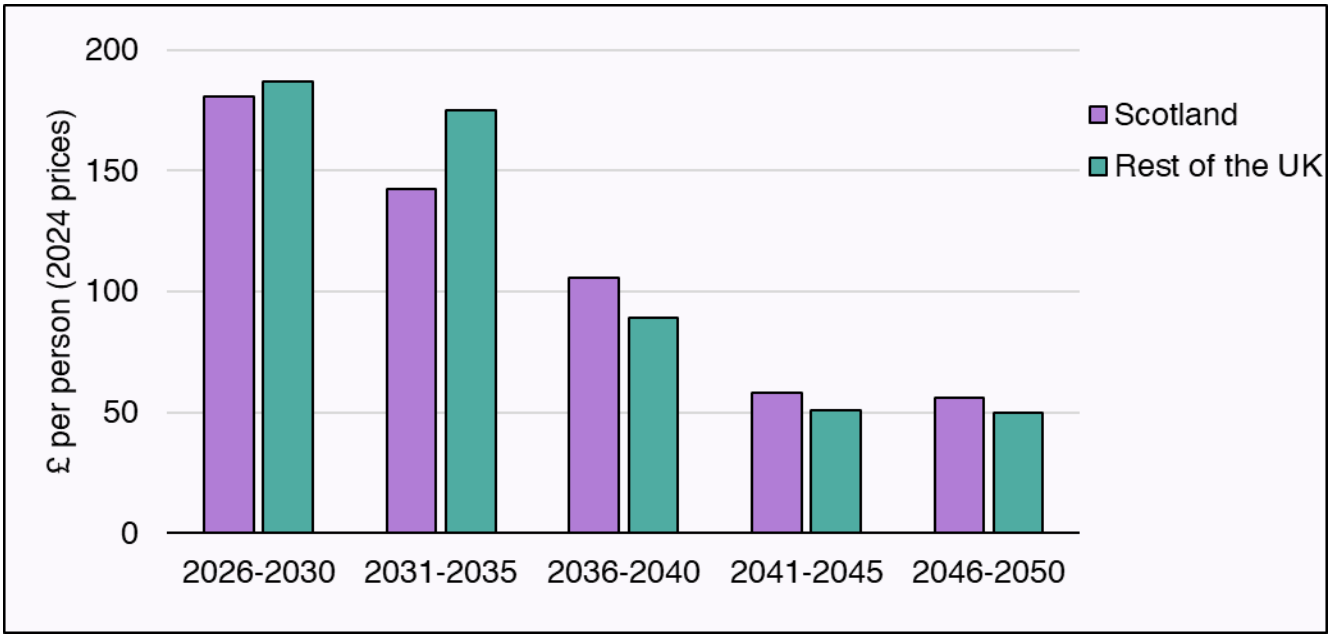
[31] Centre for Research into Energy Demand Solutions (2019) Shifting the focus: 2 Reducing energy demand from buildings.

[32] Scottish Government (2023) Green Heat Finance Taskforce: report part 1 – November 2023.

2.29 Scotland has 7 per cent more public electric vehicle (EV) charge points per person. However, the average journey length is longer in Scotland and locations are more remote meaning more investment is needed than in the rest of the UK to achieve public provision of EV charging and low-carbon public transport.[33]

Figure 2.7: Surface transport additional public investment, per person, Scotland and rest of the UK

The timing of public investment in surface transport is not aligned between Scotland and the rest of the UK



Description of Figure 2.7: Clustered column chart showing additional public investment, per person, in the surface transport sector, for Scotland and the rest of the UK. In the first two carbon budgets the additional investment per person is expected to be higher in the rest of the UK, whereas from 2036 investment is higher in Scotland. The expected investment peaks in 2026-2030, with £181 per person in Scotland and £187 per person in the rest of the UK.

Source: Scottish Fiscal Commission.

This chart shows the total for each five-year period displayed.

2.30 Figure 2.7 shows that the expected timing of public investment is not aligned across the carbon budgets between Scotland and the rest of the UK. Because the Scottish budget needs to be broadly balanced in any given year, unaligned funding could cause pressure when spending on surface transport is needed more in Scotland. It is also the case that, when spending is needed in the rest of the UK more than in Scotland, this could lead to extra funding for the Scottish budget.

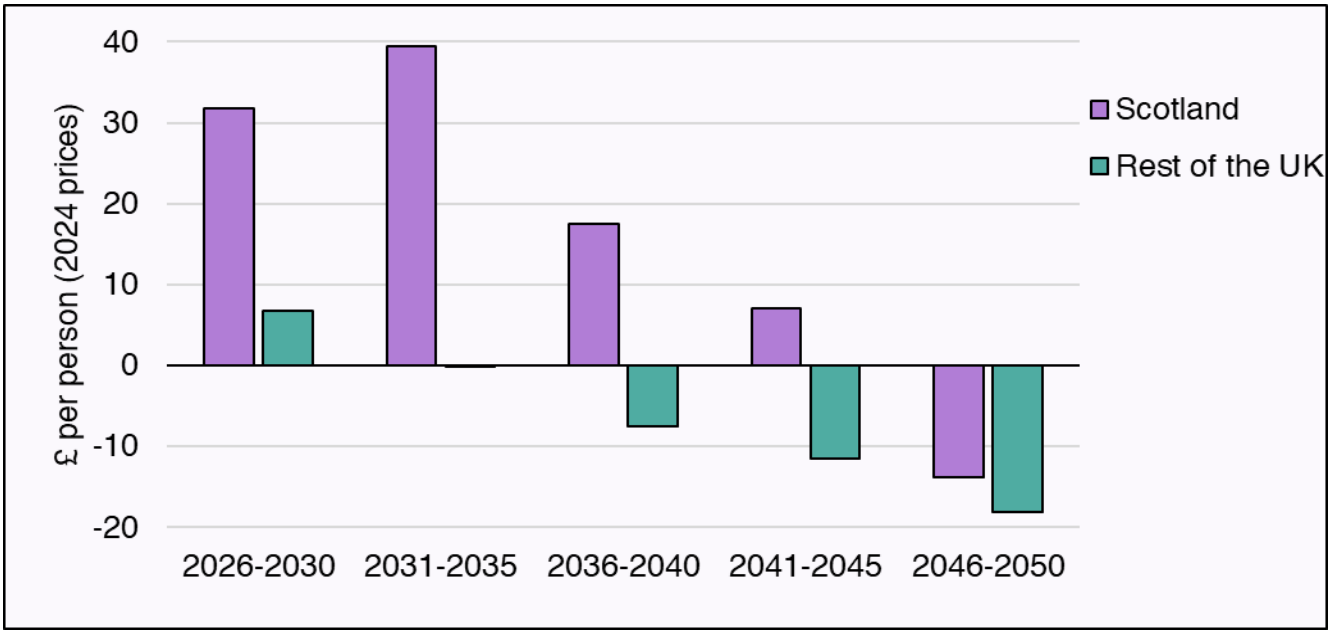
Land use and agriculture

2.31 Public investment in land use and agriculture is driven by polices including changes to land use, such as peatland restoration and forestry, and supporting the shift to low-carbon farming practices. The per-person cost is expected to be substantially greater in Scotland than in the rest of the UK.

[33] Climate Change Committee (2025) Scotland's Carbon Budgets.

Figure 2.8: Land use and agriculture additional public investment, per person, Scotland and rest of the UK

Scotland has higher public investment costs per person in land use and agriculture



Description of Figure 2.8: Clustered column chart showing additional public investment, per person, in the land use and agriculture sector, for Scotland and the rest of the UK. Additional investment is expected to be higher in Scotland. In Scotland the additional capital investment peaks during 2031-2035 at £40 per person. In comparison, the rest of the UK peaks in 2026-2030 at £7 per person.

Source: Scottish Fiscal Commission.

This chart shows the total for each five-year period displayed.

2.32 Figure 2.8 shows the estimates of public investment per person based on the CCC's public investment. The negative values represent savings compared with the baseline scenario. The difference between the rest of the UK and Scotland is mostly because peatland restoration is expected to be substantially publicly funded. As Scotland has two-thirds of the UK's peatlands, this leads to higher spending per person on land use and agriculture. [34]

2.33 Though still substantially different between the rest of the UK and Scotland, the estimated scale of investment is less than in our previous estimates in 2024. As we discuss in Box 1, this is driven by the scale of public investment in land use and agriculture assumed by the CCC being lower, because it assumes that there will be savings from existing agricultural subsidies when land is moved away from agriculture.

2.34 As Scotland has the majority of peatland and approximately half of its trees, and Scotland covers 32 per cent of the UK land mass, land use and agriculture is a still a substantial area of investment that differs from the rest of the UK. Previously we had assumed a 100 per cent public investment in land use.

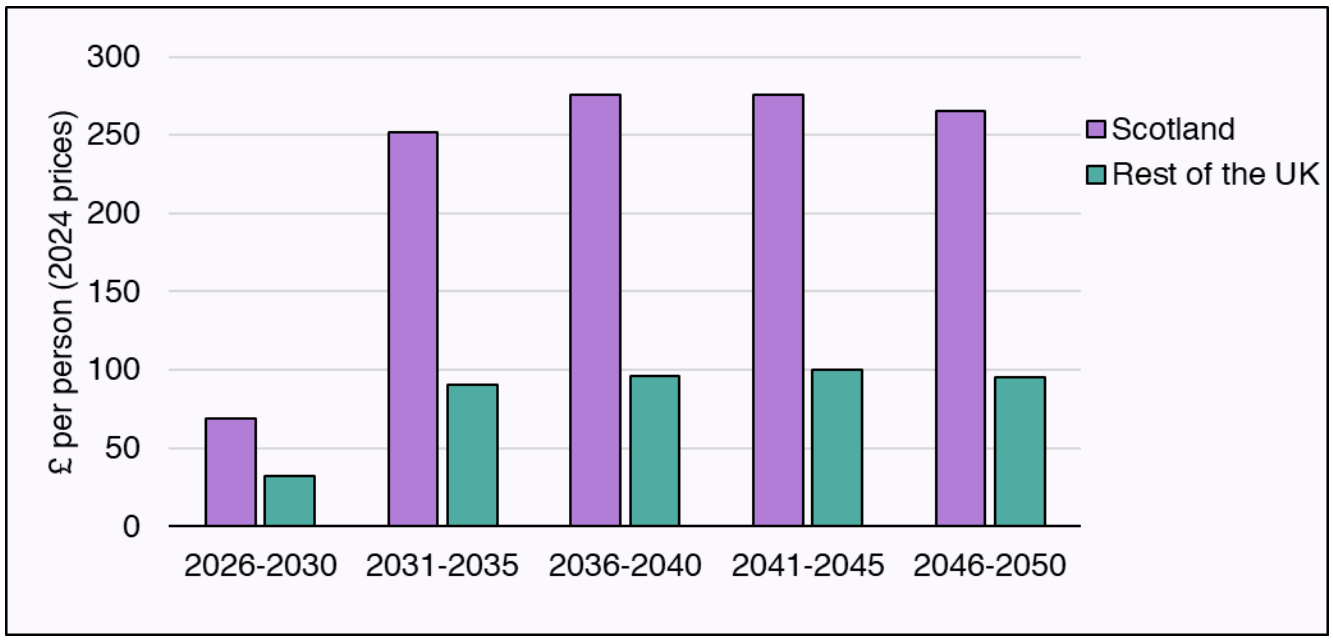
[34] ONS (2023) Scotland natural capital accounts: 2023.

2.35 To illustrate the comparative scale of investment needed in Scotland and the rest of the UK, Figure 2.9 shows the public and private additional capital investment needed in land use.

2.36 Public and private additional net capital investment in land use and agriculture through to 2050 is expected to total £7 billion in Scotland for mitigation. Whether the Scottish Government chooses to closely follow the public investment assumed by the CCC or to deviate from it, Figure 2.9 shows that land use will remain a substantial area for investment in Scotland.

Figure 2.9: Land use and agriculture combined public and private additional capital investment, per person, Scotland and rest of the UK

Scottish land use and agriculture combined public and private investment is expected to be substantially higher per person than the rest of the UK



Description of Figure 2.9: Clustered column chart showing additional capital investment per person for land use and agriculture in Scotland and the rest of the UK. In all years, the needed investment is higher in Scotland. Per-person investment peaks in Scotland in 2041-2045 at £276. Per-person investment peaks in the rest of the UK in 2041-2045 at £100.

Source: Scottish Fiscal Commission.

This chart shows the total for each five-year period displayed.

Waste

2.37 The assumed public investment comes from policies such as recycling schemes. The total per-person costs in Scotland and the rest of the UK are expected to be similar, and between 2031 and 2050 this makes up 1 per cent of the difference in per-person additional public capital investment.

Chapter 3
Mitigation spending uncertainty

Overview

3.1 The public costs of climate change mitigation are uncertain. Our understanding of the impact of climate change and the technologies available to mitigate it is improving. Changes to UK and Scottish climate change policies will also affect the level of investment required. This creates fiscal risks as the Scottish budget will need to adjust to meet the changing circumstances.

3.2 In this chapter we set out the uncertainty due to changing data and changes to government policy, and the implications for the Scottish budget.

Uncertainty of mitigation costs

3.3 There are a range of reasons that cause the estimates of climate change mitigation costs to change. Some of the main drivers of this are:

- **Improving data:** Data around global warming, carbon emissions, and the effects of mitigation is constantly improving. These advances allow us to make better estimates of the costs of climate change mitigation. However, this means the estimates are subject to change.
- **Data lags:** The emissions in any given period are hard to predict and there is a substantial reporting lag before outturn data is available. The latest outturn for emission levels in Scotland is for 2023. This makes it hard to adjust government policy for recent trends.
- **Effect of global temperatures on emission levels:** The amount of emissions in Scotland is also related to global temperatures. Feedback loops make it difficult to estimate the precise effect of nature based removals and to estimate the required level of emitting activities. This creates uncertainty as there may have to be greater mitigation than expected, and this could put pressure on the Scottish budget.
- **Technological advances:** The technological advancements required for reaching net zero, such as carbon removals and electric vehicles, are a key element of mitigating climate change. If the technologies that enable the transition do not advance fast enough, this could hinder plans for Scotland's decarbonisation. This would mean that the Scottish Government would have to invest in more expensive existing technologies or other approaches. However, it is also possible that technological advancements are faster than expected and deployment is cheaper than the CCC currently expects, and this could ease the cost of reaching net zero.

Seventh Carbon Budget

3.4 The changing data can be seen in the CCC's updated carbon budget for the UK. In our previous report we used the Sixth Carbon Budget, whereas we have now updated this to use the Seventh Carbon Budget. These publications set out the total economy

emission reductions and costs for the UK and devolved nations to meet net zero emissions by 2050.

3.5 In the latest carbon budget, the CCC's estimates of climate mitigation costs in Scotland have fallen. The total net cost of additional capital investment expected from 2026 to 2050 across both public and private investment has fallen in 2024 prices from £135 billion to £68 billion in Scotland.

3.6 The CCC highlights three key differences between its costing estimates in its Sixth Carbon Budget and those in its Seventh Carbon Budget. The time periods covered by the publications are different, meaning that the costs from 2020-2024 are not included in the Sixth Carbon Budget. There have been methodological changes. The CCC assumed that low-carbon technologies already in the baseline might be replaced with a higher-carbon alternative at the end of its lifetime. As low-carbon technologies become more commonplace it has assumed that low-carbon technologies remain in its baseline.

3.7 Finally, the CCC has also refined its assumptions, which has in some cases influenced the cost profile. For example, the CCC now expects that the convergence of prices between electric vehicles and petrol and diesel cars and will happen sooner, whereas it has lowered its expectations on the efficiency improvements of heat pumps.

3.8 Box 1 explores the differences in our projections between our two reports and explains the drivers of these differences.

Uncertainty of public investment plans

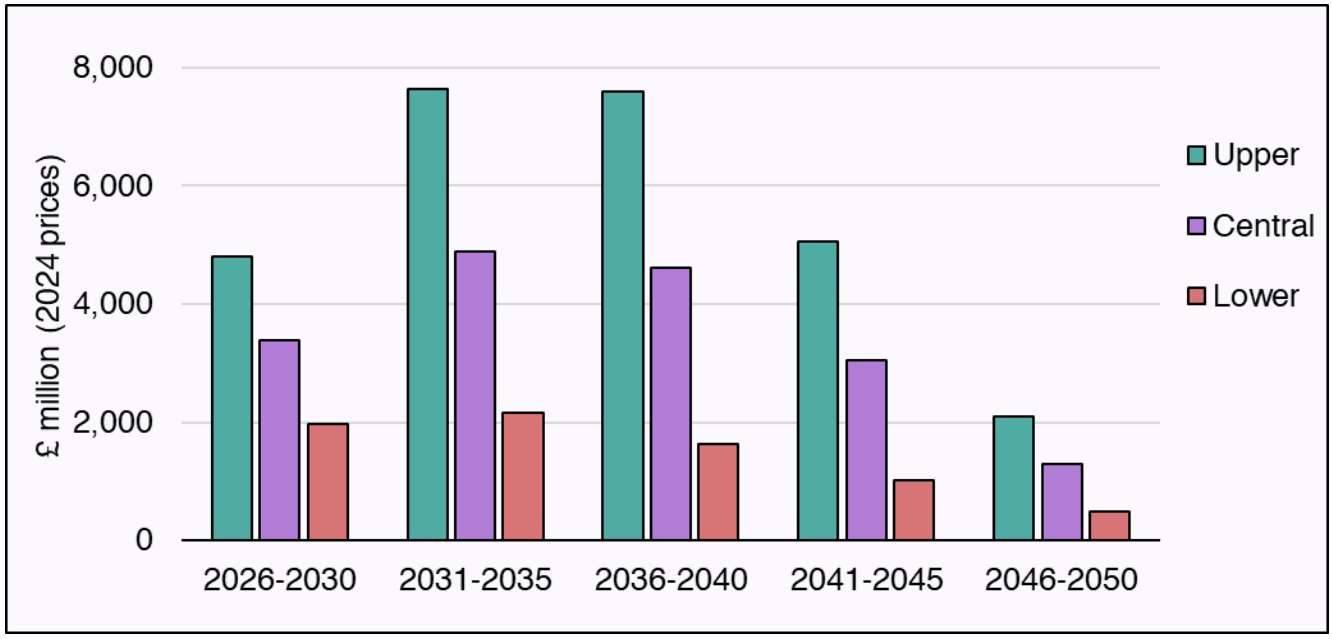
Estimates of public investment

3.9 The Scottish Government has a range of public investment options available to fund some of the costs of achieving net zero. These options will result in different levels of public spending, as a result of the Scottish Government choosing polices which have differing levels of public and private investment.

3.10 In Chapter 2 we present a central estimation of devolved public spending in Scotland based on the CCC's lower and higher estimates of public investment. Figure 3.1 shows the upper and lower estimates of the public investment shares of devolved spending.

Figure 3.1: Devolved additional public investment, upper, central, and lower investment levels, Scotland

There is a substantial range of devolved public investment options



Description of Figure 3.1: Clustered column chart showing additional public investment in devolved sectors for the upper, central, and lower investment scenarios. For all investment scenarios, additional public investment peaks in 2031-2035 and then steadily declines.

Source: Scottish Fiscal Commission.

This chart shows the total for each five-year period displayed.

3.11 Figure 3.1 shows that there is a substantial range of devolved public investment options for climate mitigation. There is a 58 per cent difference between the central scenario and the upper and lower levels. This highlights the wide range of options the governments have in how they invest to meet net zero.

3.12 When comparing the results on a per-person basis in Chapter 2, we show the UK and Scotland in the central scenario. If governments choose to take different approaches in devolved policy areas, this could result in either additional funding or additional spending requirements for the Scottish Government.

3.13 The decisions made by the UK Government in devolved areas will affect the amount of funding available to the Scottish Government, which could result in the resources coming from elsewhere in the Scottish budget. The specific impact would depend on the approach taken, and could potentially put further pressure on the Scottish budget.

3.14 Governments must decide how costs will be shared between the public sector, businesses and individuals.

Scottish Government policy

3.15 As highlighted above, we have based our analysis on the CCC's estimates of public expenditure. If the Scottish Government chooses to adopt a different approach there will be implications for the cost of reaching net zero. As Scotland has legislated for a just

transition, this may mean more public investment if the Scottish Government chooses to meet this through increased spending.[35]

3.16 The cost estimates in this report are based on the Balanced Pathway set out by the CCC in its May 2025 advice to the Scottish Government. The Scottish Government has since stated that it intends to adopt the CCC's recommended Carbon Budgets but plans to deviate to some extent from the CCC's advice for actions to meet net zero.[36] This means that the costs presented in this report may differ from those under the emissions reduction pathway the Scottish Government presents in its Climate Change Plan.

3.17 As we discuss in Box 1, an example of this is in the land use and agriculture sector. If the Scottish Government decides to take a significantly different approach from that advised by the CCC, then this could lead to fiscal pressure for the Scottish Government in bearing more of the cost.

3.18 We discuss the details we would require in the Scottish Government's Climate Change Plan in order to factor this into our analysis in Chapter 4.

UK Government reserved policy

3.19 As we discuss in Chapter 1, the UK and Scottish targets are interdependent. The amount of emission reduction that happens in Scotland influences the amount of emission reduction needed UK-wide to reach net zero. Similarly, emission reductions in reserved areas affect the amount of emission reductions that take place in Scotland.

3.20 If the UK Government diverges significantly from CCC advice and does not attempt to reduce the expected emissions in reserved areas, the Scottish Government may need to make additional investments in devolved areas to achieve net zero.

3.21 For example, engineered removals are expected to remove the equivalent of 42 per cent of remaining emissions in 2045, with land use removing the remaining 58 per cent, getting Scotland to net zero. For the UK Government targets it does not matter where these removals take place within the UK. For Scotland, if a greater share of the removals happen elsewhere in the UK then there could be additional fiscal pressure on the Scottish Government if it is to continue on the trajectory set within the carbon budgets.

3.22 This creates uncertainty about what the exact pathway and cost of mitigation will be for the Scottish Government.

[35] The National Archives (2019) Climate Change (Emissions Reduction Targets) (Scotland) Act 2019.

[36] Scottish Government (2025) New climate targets set.

Chapter 4
Climate Change Plan

Overview

4.1 The Scottish Government has committed to publishing its Climate Change Plan (CCP) by the end of this Parliament.[37] The plan is expected to outline policies and proposals which will set out how Scotland can meet the carbon budgets from 2026 to 2040. The Climate Change (Emissions Reduction Targets) (Scotland) Act 2019 requires the CCP to also include estimates of the cost and benefits of the proposals and polices.[38]

4.2 This information would help us better assess the fiscal implications of the Scottish Government's planned approach to climate change mitigation. This chapter reiterates the advice we gave in our response to the Net Zero, Energy and Transport Committee consultation on what would make a 'good' Climate Change Plan, and the recommendations published in our Statement of Data Needs.[39,40]

The Climate Change Plan and fiscal sustainability

4.3 The ability to factor climate-related costs into our forecasts and projections will allow us to better explain the long-term effects of spending in these areas. It is our aim to assess the CCP and other forms of climate related costs for the fiscal risks they present.

4.4 To date, we have been unable to include future spending on climate change mitigation in our fifty-year projections of Scottish Government spending and funding in our fiscal sustainability reports. This is because the plans of both the Scottish and UK Governments have lacked detailed policy and costings.

4.5 If the plan meets the requirements set out below, we would be able to track and review the fiscal sustainability of the Scottish Government's mitigation plans in the short, medium, and long term. The plan would also provide greater transparency around climate change mitigation to support the Budget process.

Requirements for the Climate Change Plan

Level of detail

4.6 To be able to assess the fiscal risks of climate change, the CCP should clearly set out costed policies to deliver the Scottish Government's five-year carbon budgets. Though the CCP is only required to cover the first three carbon budgets up to 2040, to assess

[37] Scottish Government (2025) Programme for Government 2025 to 2026.

[38] The National Archives (2019) Climate Change (Emissions Reduction Targets) (Scotland) Act 2019.

[39] Scottish Fiscal Commission (25 March 2025) Letter from Professor Graeme Roy to Net Zero Energy and Transport Committee on Scottish Government Climate Change Plan – 25 March 2025.

[40] Scottish Fiscal Commission (2024) Statement of Data Needs – August 2024.

the costs of net zero it would need to cover to 2045. For each policy the CCP should show:

- How it fits with the pathway to reach net zero emissions by 2045.
- The timescales for implementation.
- The estimated reduction in emissions by each policy, in each sector, in each year over the period to 2045.
- The cost for each financial year, how the cost is split between the public and private sectors, and (where relevant) how the cost is split between different levels of government.
- The interdependencies with other policies and actions by the UK Government that are needed to comply with the carbon budgets.

4.7 The CCP should identify the methods and procedures that the Scottish Government will use for emission surpluses and deficits between five-year carbon budgets. This will help us assess the risks to the Scottish budget of delayed emission reduction.

4.8 The CCP should set out how it aligns with current spending commitments, and with the upcoming spending review and infrastructure investment pipeline and plan, all expected to be published in December.

Methods

4.9 The CCP should be transparent about the methods used to estimate emission reductions and the costs associated with each policy and proposal. It should:

- Explain the methodology used to produce the estimates for both non-technical and technical audiences.
- Explain the assumptions made alongside the risks which would affect the estimates. It may be appropriate for a range around a central estimate to be provided.
- Include explanations for the basis of how the estimates are presented, and how these differ from the CCC's and costings presented by the SFC. These differences could, for example, be because of differences in policies, definitions of costs, or methodologies to estimate costs.
- Publish the data used to produce these estimates, where possible. The underlying data, charts, and tables should be published in accompanying spreadsheets.

Monitoring

4.10 The Scottish Government should evaluate its progress against the plans and the estimates produced in the past. In future plans the Scottish Government should consider the extent to which previous planned reductions in emissions were achieved and how the costs compared to what had been estimated. This should inform future plans and estimates of costs.

4.11 The CCP should allow spending on key policies and programmes to be explicitly identified within the Scottish Budget and tracked consistently over time. The presentation, classification and format of any financial data, including on costings, in the CCP must be consistent with how the same information is presented in Budget documents.

4.12 Each Budget and outturn report should identify spending on policies and programmes so that spending plans can be linked to outturn spending. This would ensure it is possible to monitor spending, improving transparency and accountability.

Annex A Methodology

A.1 In this annex we describe the methodology used to produce the estimated costs of mitigation activities for this report. We describe the data used, the assumptions made, and the calculation.

Data sources and assumptions

Climate Change Committee's public investment estimates

A.2 In its Seventh Carbon Budget, the Climate Change Committee (CCC) provided UK-wide estimates of public investment. It has estimated an upper and lower public investment level for the UK. This is based on sector-level assumptions of expected public spending that can be found in its methodology report.[41] These in turn are based on net spending, and therefore account for both the costs and savings.

A.3 We present our analysis using the central public spending scenario, which is the midpoint of the lower and upper public investment costs.

A.4 We present our analysis based on total additional investment costs whereby costs are presented net of any estimated cost savings. The Scottish Government in its Climate Change Plan is required to set out "an estimate of the costs and benefits associated with the policies set out in the plan" and so may wish to present its analysis differently.[42]

Scottish sector assumptions

A.5 We took a sectoral approach to estimate the Scottish share of public spending. We used data from the CCC's methodology on public investment, data from the Seventh Carbon Budget, and data from Scotland's Carbon Budget to inform our methodology.[43,44]

A.6 Our main approach is calculating the share of Scottish additional capital expenditure relative to UK additional capital expenditure, by dividing Scotland's additional capital expenditure by UK additional capital expenditure. We deviate from this approach for land and agriculture, non-residential buildings, and domestic electricity policy costs. Figure A.1 gives an overview of the approach we take for these sectors.

[41] Climate Change Committee (2025) Methodology report – UK, Northern Ireland, Wales, and Scotland carbon budget advice.

[42] The National Archives (2019) Climate Change (Emissions Reduction Targets) (Scotland) Act 2019.

[43] Climate Change Committee (2025) The Seventh Carbon Budget.

[44] Climate Change Committee (2025) Scotland's Carbon Budgets.

Figure A.1: Sector-level split assumptions

Sector	Assumption
Devolved sectors	
Land and agriculture	We use detailed policy-level investment assumptions by the CCC to adjust the share. We assume 100 per cent of wetlands (which covers peatland restoration) in Scotland is publicly funded. For all other policies we follow the additional capital expenditure approach.
Non-residential buildings	We follow the CCC public spending assumptions and calculate Scotland's public additional capital expenditure. In the upper and lower scenario, 100 per cent of public buildings additional capital expenditure is publicly funded. In the upper scenario, between 2025 and 2030, 20 per cent of commercial buildings is publication funded and 10 per cent for 2031 onwards. In the lower scenario, 0 per cent of investment in commercial buildings is publicly funded.
Reserved sectors	
Domestic electricity policy costs	We take a population share of UK additional capital expenditure.

Source: Scottish Fiscal Commission.

Devolved assumptions

A.7 When assessing whether a sector is devolved or reserved for this analysis we made a binary choice, which Figure A.2 shows. Where the CCC has defined its sectors as mostly or partially devolved we have assumed 100 per cent of the public additional costs fall on the Scottish Government. Where it has considered a sector to be mostly reserved we have assumed 0 per cent of costs fall on the Scottish Government.

A.8 This approach removes all sectors considered mostly reserved from the calculation of devolved public sector costs. We show which sectors are devolved and which are reserved in Figure A.2.

Figure A.2: Devolution assumptions

Devolved	Reserved
Agriculture, Buildings, Land use, Change and forestry, Surface transport, Waste	Aviation, Electricity supply, Fuel supply, Manufacturing and construction, Removals, Shipping, Fluorinated gases, Domestic electricity policy costs

Source: Scottish Fiscal Commission.

A.9 Though we know that mostly or partially devolved sectors are not wholly reserved or devolved, we considered it reasonable that a significant share of the public investment in these sectors would be from the devolved government, because generally the Scottish Government has public spending responsibility for these areas while key regulatory levers are reserved.

Calculation

A.10 We calculate the Scottish devolved public spending expected for mitigation activities from 2025 to 2050.

A.11 The starting point of our analysis is the CCC's public investment estimates for the UK. We estimate the share of the UK-wide public investment that we expect to happen in Scotland. We do this by taking the UK public sector investment from the CCC and multiplying this by the Scottish share of sector costs, which we calculate using the assumptions stated in the Scottish sector assumptions section. We do this calculation for all sectors, whether devolved or reserved. Figure A.3 sets out the calculation.

Figure A.3: Calculation of Scottish public spending

Scotland's public costs by sector are based on multiplying CCC's UK public sector investment estimates by a Scottish share of sector costs

Description of Figure A.3: Infographic showing how Scotland's sector public spend for mitigation is calculated. The UK public sector investment from the Climate Change Committee is multiplied by our assumed share of sector costs for Scotland.

Source: Scottish Fiscal Commission.

A.12 We then apply our devolution assumptions to split costs into devolved and reserved sectors.

A.13 For the comparisons to the rest of the UK, we subtract our additional public investment sector estimates for Scotland from the CCC's UK sector estimates of additional public investment. We also use this calculation when we compare per-person costs in Scotland and the rest of the UK, which we do by dividing spending by the relevant population size. We have used the population estimates from our latest projections.

A.14 The costs are scaled to 2024 prices. These costs are presented in calendar years to align with the carbon budgets.

Additional information

Abbreviations

AR6	Sixth Assessment Report of the IPCC
CCC	Climate Change Committee
CCP	Climate Change Plan
COP 21	21st Conference of the Parties (UN Climate Change Conference 2015)
EU	European Union
EV	Electric vehicle
F-gases	Fluorinated gases
GDP	Gross Domestic Product
GHG	Greenhouse gas
IPCC	Intergovernmental Panel on Climate Change
NDCs	Nationally determined contributions
OBR	Office for Budget Responsibility
OECD	Organisation for Economic Co-operation and Development
ONS	Office for National Statistics
SFC	Scottish Fiscal Commission
UK	United Kingdom
UN	United Nations

A full glossary of terms is available on our website: Glossary | Scottish Fiscal Commission.

Professional standards

The SFC is committed to fulfilling our role as an Independent Fiscal Institution, in line with the principles set out by the Organisation for Economic Co-operation and Development (OECD).[45]

The SFC also seeks to adhere to the highest possible standards for analysis. While we do not produce official statistics, we voluntarily comply as far as possible with the UK Statistics

[45] OECD (2014) Recommendation of the Council on Principles for Independent Fiscal Institutions.

Authority's Code of Practice for Statistics. Further details and our statement of voluntary compliance can be found on our website.[46]

Correspondence and enquiries

We welcome comments from users about the content and format of our publications. If you have any feedback or general enquiries about this publication or the SFC, please contact info@FiscalCommission.scot. Press enquiries should be sent to press@FiscalCommission.scot.

All charts and tables in this publication have also been made available in spreadsheet form on our website. For technical enquiries about the analysis and data presented in this paper please contact the responsible analyst:

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[46] Scottish Fiscal Commission (2022) Statement of Voluntary Compliance with the Code of Practice for Statistics and Error Policy.

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