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# **Fiscal Sustainability Perspectives: Climate Change – Summary**

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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 initial exploration of the effects on Scottish public finances from damage created by climate change, the costs of adapting to a changing environment and taking action to meet Scotland's statutory emissions targets to reach net zero by 2045. We also discuss the data and information we'd need from the Scottish and UK Governments to produce projections of climate change funding and spending.

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.

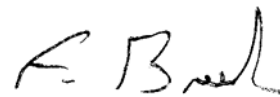
We have benefited from discussions with experts from a wide range of organisations who have taken the time to speak to us about this report and our work on climate change.

In particular, we would like to thank the Climate Change Committee, the Office for Budget Responsibility, Northern Ireland Fiscal Council, officials in the Scottish Government, HM Treasury, Audit Scotland, Adaptation Scotland, the Climate Emergency Response Group, the Institute for Fiscal Studies, Professor Dave Reay at Edinburgh University and co-Chair of the Just Transition Commission, Dr Ian Cochran at Edinburgh University, Dr Sarah Govan at the Edinburgh Climate Change Institute, Stop Climate Chaos Scotland, the Sustainable Scotland Network, the Fraser of Allander Institute, the Scottish Parliament Information Centre and the Scottish National Investment Bank.

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



Professor Francis Breedon



Professor Domenico Lombardi



Professor David Ulph

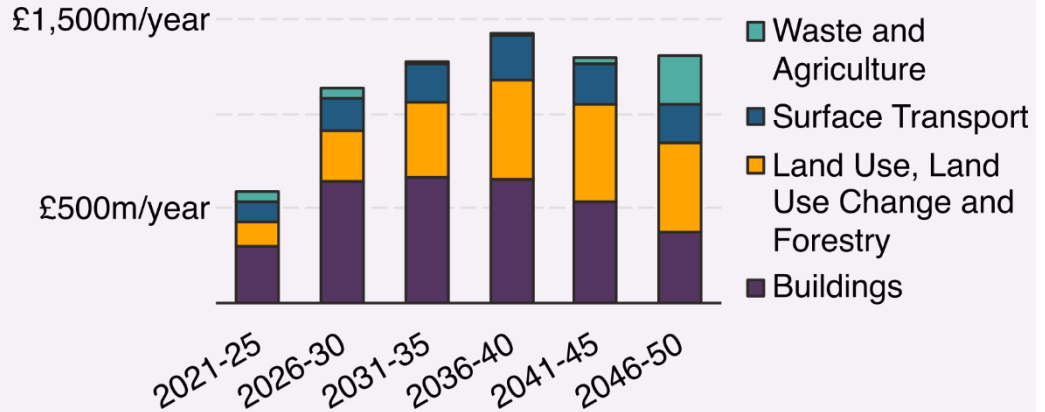
14 March 2024

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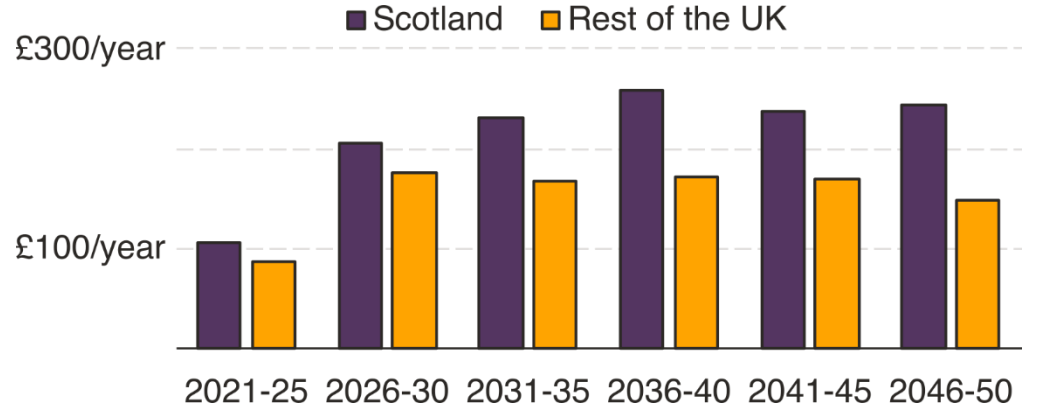
**Significant investment by Scottish Government required to reach net zero**

Public spending expected to be highest on Buildings to reach net zero followed by Land Use, Land Use Change and Forestry (LULUCF).



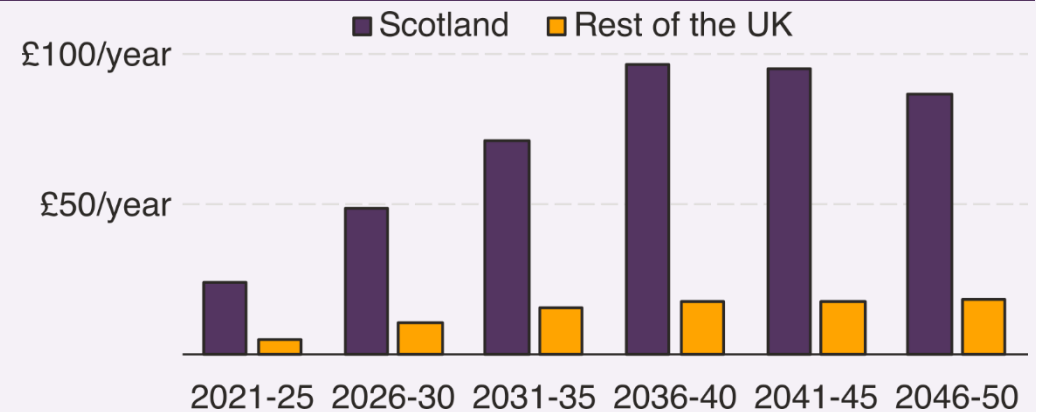
**Required public investment per person in devolved areas higher in Scotland**

More public spending per person in devolved areas is needed in Scotland than in the rest of the UK, potentially making it difficult for the Scottish Government to fund the transition to net zero.



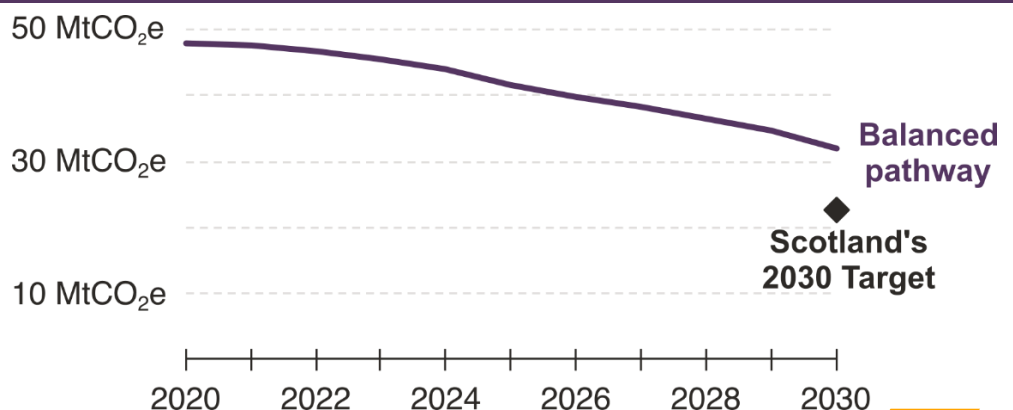
**Public investment in land use and forestry per person significantly higher**

Scotland contains 32 per cent of the UK's land mass, with roughly half of its trees and 70 per cent of its peatland, meaning Scotland is expected to invest more in LULUCF relative to the size of its population.



**Scotland's legislated 2030 emissions reduction target is challenging**

The Climate Change Committee have described the Scottish Parliament's 2030 emissions reduction target as "extremely challenging." We think it could be difficult for Scottish Government to fund meeting it.



# Summary

## Introduction

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1 In March 2023 we published our first Fiscal Sustainability Report.<sup>1</sup> This report is the first in our Fiscal Sustainability Perspectives series and focuses on climate change. We look at some of the implications for the Scottish public finances of meeting Scotland's statutory emissions target to reach net zero by 2045, adapting to climate change and handling the damage it will cause.

## Responding to climate change

2 The global climate is warming. The United Nations Intergovernmental Panel on Climate Change identifies human activity as responsible for the global average temperature increasing by 1.1°C by 2011 to 2020 from the average temperature between 1850 and 1900, and an average temperature rise of 1.5°C or more is expected by the mid-century.<sup>2</sup> This is largely due to burning fossil fuels which produces carbon dioxide and other greenhouse gases (GHG).<sup>3</sup>

3 There are three ways through which climate change will affect the public finances:<sup>4,5,6</sup>

- **Damage** from climate change through countries needing to invest in response to more frequent and intense severe weather events.
- **Adaptation** to climate change, such as through investment to reduce the impacts of climate change damage.
- **Mitigation** of climate change as countries transform their economies to reduce GHG emissions to limit further global warming.

4 The UN Climate Change Conference in Paris in 2015 agreed to hold the average global temperature change to below 2°C above pre-industrial levels and to make efforts to limit the increase to 1.5°C.<sup>7</sup> Achieving this requires global action to reduce GHG emissions to net zero by the middle of the century. In 2019, the Scottish Parliament set the target for Scotland to reach net zero by 2045.<sup>8</sup> In the same year, the UK Parliament legislated to reach net zero emissions by 2050.<sup>9</sup>

5 The UK and Scottish Government targets are on a territorial basis. The Scottish Government has responsibility for delivering net zero in Scotland though some of these emissions are produced from reserved sectors. The UK Government has responsibility for the entirety of the UK reaching net

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<sup>1</sup> Scottish Fiscal Commission (2023) Fiscal Sustainability Report ([link](#))

<sup>2</sup> Intergovernmental Panel on Climate Change (2023) Climate Change 2023 Synthesis Report, Summary for policymakers ([link](#))

<sup>3</sup> Intergovernmental Panel on Climate Change (2021) Summary for Policymakers ([link](#))

<sup>4</sup> Bank of England (2018) Climate change and the macro-economy: a critical review, Bank of England Working Paper No. 706 ([link](#))

<sup>5</sup> OBR (2019) Fiscal risks report – July 2019 ([link](#))

<sup>6</sup> OBR (2023) Discussion paper No. 4: Next steps for climate change analysis ([link](#))

<sup>7</sup> United Nations Framework Convention on Climate Change (2016) The Paris Agreement – Publication ([link](#))

<sup>8</sup> Climate Change (Emissions Reduction Targets) (Scotland) Act 2019 ([link](#))

<sup>9</sup> The Climate Change Act 2008 (2050 Target Amendment) Order 2019 ([link](#))

zero, including Scotland. The challenge of reaching net zero is intertwined for the two governments and each is dependent on the other for achieving their targets.

- 6 Even in devolved areas, UK Government policy can have implications for the Scottish Government. For example, Surface Transport is largely devolved, but how this works in practice is complicated. The Scottish Government maintains and improves trunk roads and funds local authority road maintenance. The operation of rail services in Scotland is devolved, although the UK-wide Network Rail is responsible for most of the infrastructure, and many ferry services are provided by a Scottish Government operator. The Scottish Government provides concessionary bus travel for certain groups of people. The Scottish Government therefore controls most public spending on Surface Transport in Scotland but many aspects of its regulation are reserved, for example banning polluting vehicles or imposing more stringent emission standards.<sup>10</sup> This illustrates how policy decisions at the UK level are important in ensuring the Scottish Government can meet its net zero targets.
- 7 In addition to the interdependencies between the Scottish and UK climate responses, there are also associated public funding links. The Scottish Government's funding position is influenced by UK Government choices. The Scottish Budget is funded through revenue from devolved Scottish taxes and funding from the UK Government, with some Scottish Government capital borrowing.<sup>11</sup> The largest source of funding is the Block Grant. When the UK Government changes spending plans in a devolved area, the Scottish Government receives a population share of that change to its Block Grant as determined by the Barnett formula. If the UK Government's response to climate change involves more spending by UK Government departments in devolved areas, this will result in more funding for the Scottish Government. Conversely if the UK Government uses levers other than spending or focuses spending in reserved areas, there would be less Block Grant funding.
- 8 Climate change will bring risks of fiscal pressures on the Scottish Government as it invests in mitigation and adaptation and responds to damage. There are risks from the UK and Scottish Government policy approaches diverging and UK regulatory choices making mitigation and adaptation more difficult for the Scottish Government. Conversely UK Government choices could support Scottish Government achieving its intended outcomes.
- 9 Climate change brings risk of greater volatility on a global level which may lead to macroeconomic shocks that are more frequent and larger than those experienced historically. In their 2021 Fiscal risks report, the OBR produced an illustrative unmitigated warming scenario. They assumed this would be associated with increased spending on adaptation of 0.3 per cent of GDP per year with each degree of warming, and the size and frequency of shocks progressively increases with rising temperatures, doubling relative to historic trends by the end of the century. As a result, they projected the UK's debt-to-GDP ratio reaching 289 per cent by the end of the century compared to a stable deficit baseline of 90 per cent.<sup>12</sup> This illustrates how unmitigated climate change would have catastrophic impacts on individuals, businesses, and the public finances. In this report we provide an estimate of the cost of the transition to net zero for the Scottish Government but do not incorporate the potential costs of unmitigated climate change and the associated shocks to the economy.
- 10 In this report, we identify potential risks to Scottish Government finances where there are asymmetries in spending between the UK and Scottish Government due to relative need or policy

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<sup>10</sup> While setting maximum emission levels in vehicles is reserved, as it relates to product standards, the creation of Low Emission Zones (LEZ) in urban areas is devolved and the Scottish Government can give local authorities permission to implement a LEZ.

<sup>11</sup> For further information on the Scottish Government's funding arrangements, see Scottish Fiscal Commission (2021) Funding for the Scottish Budget ([link](#)).

<sup>12</sup> OBR (2021) Fiscal risks report – July 2021 ([link](#))

choices. These risks could include the effects of climate change being felt differently in Scotland to the rest of the UK. For example, if severe weather caused more damage in Scotland in one financial year and more damage in the rest of the UK another year, under the fiscal framework the Scottish Government's capacity to cope with the corresponding fiscal pressures would be limited.

- 11 The extent of macroeconomic risks from climate change will depend on how climate-related policies are managed. In its 2019 Fiscal risks report, the OBR highlighted how well-signalled and orderly policies that allow time for the economy to adjust and for technological advances to reduce costs might pose little risk.<sup>13</sup> In contrast, uncertainty around policy changes could mean a greater risk in terms of foregone economic growth.
- 12 In this report we consider the ways in which climate change and the response by the UK and Scottish Governments could affect the fiscal sustainability of the Scottish Government. We consider fiscal sustainability under the current devolution settlement and fiscal framework. We do not project funding and spending in this report and do not assume current policies are held constant. Given the lack of costed climate change plans, we use the Climate Change Committee's Sixth Carbon Budget to estimate potential costs of mitigation and we discuss risks around adaptation and damage.<sup>14</sup> We look at how the sustainability of the devolved public finances is affected by the interaction of the fiscal framework with the policy choices made by both the UK and Scottish Governments.

## Adaptation and damage

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- 13 The amount of economic damage from climate change and the level of adaptation required will depend on the extent of mitigation at a global level. There is widespread scientific consensus on the broad scale of the challenge. However, there is uncertainty in how climate change will be felt in different locations and its associated damage. Particularly for the second half of the century, estimates have a wide range and there are possible tipping points which would lead to more extreme or catastrophic impacts. Losses and damage will occur as it is not possible to foresee or adapt to all the impacts of climate change.
- 14 The costs of adaptation are likely to be significant for both the overall economy and public sector. The CCC has estimated additional investment of around £10 billion a year for the UK on adaptation for the period from 2020 to 2030.<sup>15</sup> This is a partial estimate, and the optimal level of investment is unknown as the trajectory of warming and climate change is uncertain.
- 15 It is a risk for fiscal sustainability that full adaptation costs are not known at the UK or Scottish level. It means whether there is more pressure on the UK or Scottish Government is uncertain and we cannot estimate the scale of any pressures. If more investment is required in devolved areas in Scotland than in England, it could present a risk for Scottish Government finances. The scale of uncertainty associated with adaptation costs is a risk in itself.
- 16 There are different implications for the Scottish Government's finances depending on both the timing and the relative scale of climate damage in England and Scotland. For example, if the UK Government increased spending to deal with damage due to flooding from a storm affecting England, this would result in additional funding for the Scottish Government through the Block Grant. However, if climate damage is greater in Scotland overall or in a particular year, the Scottish Government would largely need to manage those costs within its existing budget. The Scottish

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<sup>13</sup> OBR (2019) Fiscal risks report – July 2019 ([link](#))

<sup>14</sup> Climate Change Committee (2020) Sixth Carbon Budget ([link](#))

<sup>15</sup> Climate Change Committee (2023) Investment for a well-adapted UK ([link](#))



Government cannot borrow to fund additional spending or meaningfully transfer spending between years. The increasing risk of climate change damage could make the Scottish Budget more vulnerable to volatility and create pressures on spending that require reprioritisation of commitments within the financial year.

## Mitigation

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- 17 Our quantitative analysis focuses on potential spending required to mitigate emissions and reach net zero. We estimate potential costs of climate change mitigation for Scottish Government using the Climate Change Committee's (CCC) balanced pathway scenario from the Sixth Carbon Budget.<sup>16</sup> This provides hypothetical emissions reductions for each sector each year and their required investment for the UK and Scotland. We apply assumptions as to whether sectors are devolved or reserved and assume a split of costs between the public and private sectors to estimate the level of investment required by the Scottish Government to reach net zero.
- 18 The costs do not reflect the Scottish Government's target of a 75 per cent reduction in emissions by 2030 or policies which may be included in the Scottish Government's Climate Change Plan published later in 2024. Both UK and Scottish Governments may choose to invest more or less, in different sectors or at different times than is presented in this analysis. The value of our approach is that the assumptions for Scotland and the UK are the same so that it allows us to identify where differences and potential pressures emerge, even assuming policy is the same. This allows us to illustrate the scale of investment required and highlight some potential risks for the Scottish Government.
- 19 We use the CCC's balanced pathway scenario to estimate the potential costs for the Scottish Government and compare these to the costs at the UK level. The balanced pathway scenario reflects Scotland reaching net zero by 2045 and the UK reaching net zero by 2050 as Scotland is expected to be net negative by 2050. This reflects the CCC's assumption that Scotland has greater capacity for emissions reductions in forestry and land use.

## Investment required in mitigation

- 20 Our analysis focuses on the sectors which are mainly devolved: Buildings; Land Use, Land Use Change, and Forestry (LULUCF); Surface Transport; and Waste and Agriculture. The costs we estimate are additional capital investment across the whole economy, this is additional investment in mitigation required above 2020 levels and we apply an assumed share of public investment to estimate costs for the Scottish Government. Figure 1 shows the projected average annual spend by the public sector in 2024 prices on mitigation for each of the devolved sectors based on the CCC's balanced pathway scenario to net zero. The biggest area of additional capital investment is expected to be decarbonising buildings, followed by LULUCF. The rise in waste and agriculture at the end of the projection is driven by an increase in spend on mitigation measures related to waste from 2045.

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<sup>16</sup> Climate Change Committee (2020) Sixth Carbon Budget ([link](#))

**Figure 1: Devolved average annual additional public capital investment by sector on the balanced pathway scenario**

**Devolved public sector additional capital is mostly expected in the Buildings sector and LULUCF**

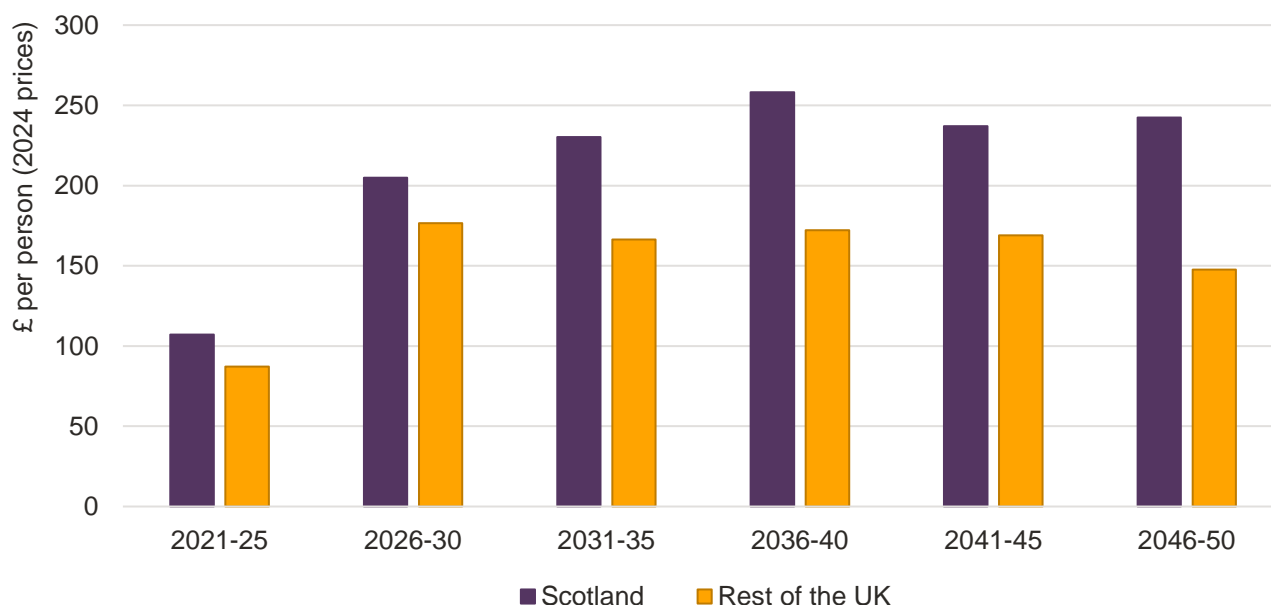


Description of Figure 1: Stacked bar chart showing, in 2024 prices, the average yearly amount of Scottish Government spending on mitigation to 2050 on the balanced pathway scenario. The most expensive sector of devolved responsibility is Buildings. Land Use, Land Use Change and Forestry (LULUCF) is the second largest area of required investment. Source: Scottish Fiscal Commission

21 Figure 2 shows that on a per person basis the need for public investment on mitigation in devolved areas is greater in Scotland than the rest of the UK. Under our assumptions, the average additional capital investment required per year by the Scottish Government is £1,136 million, in the rest of the UK it is £9,582 million (in 2024 prices). This is equivalent to £207 per person per year by Scottish Government compared to £149 per person per year in the rest of the UK. This will create a pressure for the Scottish Government to manage as it will have to meet the differential need from within its existing budget or raise more revenue from other devolved sources.

**Figure 2: Total devolved annual public additional capital investment per person on the balanced pathway scenario**

**Public spending on mitigation is expected to be relatively higher per person in Scotland than the rest of the UK**



Description of Figure 2: Bar chart showing, in 2024 prices, five-year average public additional capital investment per person until 2050 for mitigation on devolved sectors in Scotland and the rest of the UK. The amount of spending in Scotland is expected to be considerably higher than in the rest of the UK across the projection period.

Source: Scottish Fiscal Commission

- 22 We can put these additional costs into perspective by comparing them to current capital budgets. Capital spending in 2024-25 is expected to be £6,193 million. So investing £1,136 million a year would represent 18 per cent of the Scottish Government capital budget being spent on mitigation to reach net zero. With capital budgets expected to fall by 20 per cent over the next five years in real terms, this proportion will increase in the years after 2024-25.<sup>17</sup> This reflects UK Government capital spending plans which involve the expected end of financial transaction funding and other capital funding remaining flat in nominal terms and therefore falling in real terms.
- 23 The Scottish Government can borrow up to £450 million a year to a total of £3,000 million in debt stock to support capital investment, although it is currently quite close to its borrowing limit.<sup>18</sup> It can move funding from the resource to the capital budget, but the resource budget also has pressures on spending. These options could provide some leeway, but the context of forecast capital budgets declining brings pressures for other areas needing investment such as health. The resource budget supports day to day spending such as public sector pay and commitments to social security. The Scottish Government could reprioritise existing spending, raise additional revenue or change the conditionality attached to the funding it distributes.
- 24 Governments will also need to encourage private investment in mitigation by using taxation and regulation as levers for change. The Scottish Government has responsibility for some environmental taxes. These account for a small share of tax paid in Scotland, but they can influence behavioural change. The Scottish Parliament also has the power to introduce new national taxes with the

<sup>17</sup> Scottish Fiscal Commission (2023) Scotland’s Economic and Fiscal Forecasts – December 2023 ([link](#))

<sup>18</sup> These limits will increase each year by the GDP deflator following the fiscal framework review in 2023.

agreement of the UK Government and Parliament. This power has only been used once to date.<sup>19</sup> Non-tax approaches can be used, for example charging for single use carrier bags.

- 25 Overall, the Scottish Government has fewer levers than the UK Government to reduce emissions. The scale of investment required to meet its targets is expected to create a fiscal pressure for the Scottish Government. To address this fiscal pressure the government would have to decide whether to cut spending in different areas, use non-spending levers to achieve its objectives or raise additional revenue.
- 26 We note that based on our assumptions, public investment in devolved areas is between 80 and 90 per cent of the total public sector investment required in Scotland over the projection period. This is substantially more than the devolved share of overall public spending in Scotland by any existing metric.<sup>20</sup> This is partly because we assume the reserved sectors with the largest additional capital requirement such as electricity and fuel supply, are funded by private investment and consumers rather than the public sector. It is also partly explained by the total additional capital required in devolved areas being larger than in reserved areas.

## Land Use, Land Use Change and Forestry

- 27 Figure 3 shows that the driver of the difference in investment costs for mitigation between Scotland and the rest of the UK is the Land Use, Land Use Change and Forestry (LULUCF) sector. This refers to crops grown to be burnt for energy, restoration of peatlands, and forestry. Scotland contains 32 per cent of the UK land mass, roughly half of the trees and 70 per cent of the peatland. The CCC estimates that 30 per cent of UK-wide costs associated with LULUCF are assigned to Scotland. This is substantially more than Scotland's population share in the UK. When peatlands are degraded, they release emissions, but in good condition they can capture and store carbon dioxide. Between 2024 and 2050 the LULUCF sector is expected to become a net remover of carbon dioxide. All remaining emissions in Scotland by 2050 are expected to be offset by technological removals and the LULUCF sector.

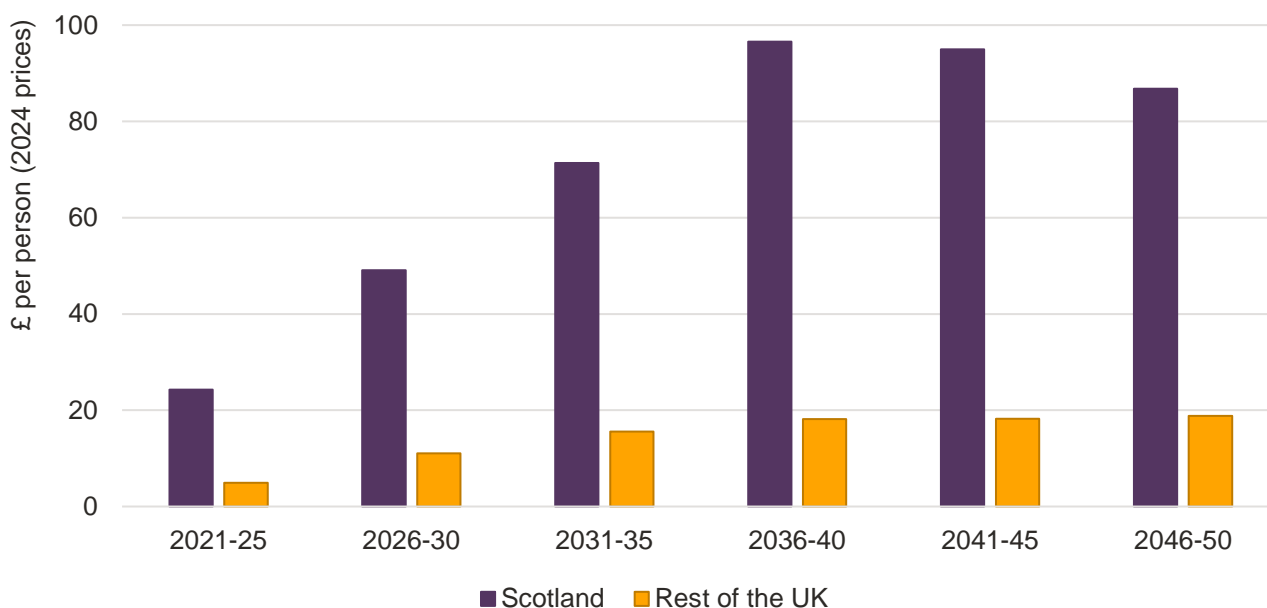
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<sup>19</sup> The Scotland Act 1998 (Specification of Devolved Tax) (Wild Fisheries) Order 2018 ([link](#))

<sup>20</sup> HM Treasury (2023) Country and Regional Analysis ([link](#)) data suggests devolved spending was 65 per cent of identifiable public spending in Scotland on average (2018-19 to 2022-23). The Scottish Government (2023) Government Expenditure and Revenue Scotland 2022-23 ([link](#)) adds to reserved Scotland-specific spending a notional amount of non-identifiable expenditure, such as payment for national debt interest, based on their published methodology. On that basis, devolved spending was slightly less than 65 per cent of total public spending in Scotland.

**Figure 3: Land Use, Land Use Change and Forestry annual public additional capital investment per person on the balanced pathway scenario**

**Public spending on LULUCF is expected to be considerably higher in Scotland than the rest of the UK per person from 2021 to 2050**



Description of Figure 3: Bar chart showing, in 2024 prices, the 5-year average public capital investment per person for mitigation in Scotland and the rest of the UK on Land Use, Land Use Change and Forestry until 2050. The amount of spending Scotland is expected to be considerably higher than in the rest of the UK per person.

Source: Scottish Fiscal Commission

- 28 Assuming Scotland and the UK both follow the balanced pathway scenario to net zero, the Scottish Government would need to invest on average five times as much per person as the rest of the UK in LULUCF. On average, this would be £68 per person a year compared to £14 per person a year for the rest of the UK. Over the projection period, investment by Scottish Government would peak at £97 per person a year between 2036 and 2040, while the peak in the rest of the UK (which occurs between 2046 and 2050) would be £19 per person per year.
- 29 The difference in the scale of investment needed could lead to a potentially substantial pressure on the Scottish Budget. Different pathways to net zero could be followed, but preventing peatlands from further degradation, restoring degraded peatlands, and using them and forests to capture carbon dioxide will inevitably require investment. Our analysis assumes the public sector is responsible for all the investment in the LULUCF sector, mirroring the assumption made by the OBR for the UK as a whole. Although a share of the costs could be required to be met by the private sector, there will still be a significant cost to the public sector.
- 30 The requirement for investment at this scale could be a risk for Scottish Government’s capacity to meet its targets for net zero which in turn would put the UK targets at risk. The CCC has noted that Scottish Government targets in LULUCF are less than what it has advised.<sup>21</sup> The pathways used here are hypothetical, Scottish Government may choose to offset emissions using different approaches. Changes in funding for Scottish Government via the Block Grant are derived on a per person basis. As the need for investment in LULUCF reflects Scotland’s different geography rather

<sup>21</sup> Climate Change Committee (December 2022) Scottish Emissions Targets – first five-yearly review ([link](#))

than population, corresponding spending in the rest of the UK will not deliver the level of funding required for the LULUCF sector.

## Buildings, Surface Transport and other sectors

- 31 Other risks of funding pressure relate to potential difference in shares and timing of public investment between Scotland and the rest of the UK. Decarbonising heating in Buildings is vital to reduce emissions and is expected to come at a substantial public cost. The costs to the public sector will come from decarbonising publicly owned buildings as well as supporting emissions reduction from heating in privately owned buildings., for example through replacing gas boilers with heat pumps. The cost to the public sector will depend on how much governments invest themselves and how much private investment they expect. The assumption used for the public share of investment in buildings in this analysis is 43 per cent on average for residential and non-residential buildings.
- 32 We find the expected public spend on Buildings per person is similar in Scotland and the rest of the UK. If public shares of investment are the same and investments occur at a similar point in time, then the expected spending at the UK level should broadly cover the expected spending needed by the Scottish Government. These projections are uncertain and illustrative, but overall they do not indicate a particular pressure for the Scottish Budget. However, the scale of expected public investment in this sector means that differences in the expected cost of decarbonising different types of property or the timing of spending being incurred could result in additional pressure on the Scottish Budget.
- 33 A potential risk for the Scottish Budget arises from different choices being made by the UK and Scottish Governments relating to the share of the cost funded by the public sector. With Buildings being a devolved area, if the Scottish Government opted for measures that involve the public sector providing a larger share of investment it may mean having less to spend in other parts of the budget.
- 34 The levels of public investment needed on Surface Transport to 2050 in Scotland and the rest of the UK are similar suggesting the funding received should broadly cover the expected spending. Other sectors that the Scottish Parliament has powers over, namely Waste and Agriculture, though important to reach net zero, do not pose a significant risk to the Scottish Budget due to the small scale of public investment assumed to be required.

## Scottish and UK emissions reduction targets for 2030

- 35 We have assumed Scotland and the UK both follow the CCC's balanced pathway scenario to reach net zero in our analysis. Without published costed plans from either government we cannot reflect their intentions in our projections or assess the implications for fiscal sustainability. However, the Scottish and UK targets for emissions reductions by 2030 differ and the Scottish Government have a more stringent target. The Scottish Government has a statutory target of a 75 per cent reduction compared to levels of territorial emissions in 1990.<sup>22</sup> This differs from the UK Government which aims for a 68 per cent reduction.<sup>23</sup>
- 36 Meeting the Scottish Government's more ambitious 2030 target is a fiscal risk. It would require technologies and other changes to be more advanced than set out in any of the CCC's pathway scenarios to reach net zero, and this would require substantial public investment. On top of this, the Scottish Government would need to spend to make up for the emissions from reserved areas in

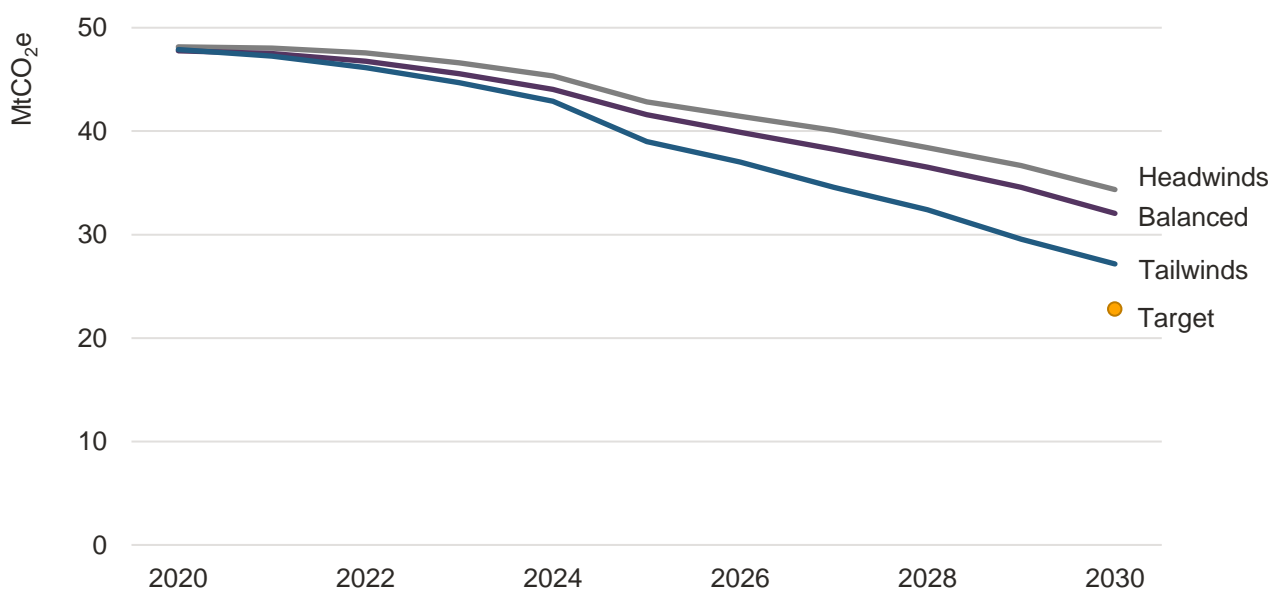
<sup>22</sup> Climate Change (Emissions Reduction Targets) (Scotland) Act 2019 ([link](#))

<sup>23</sup> UK Government (2022) UK's Nationally Determined Contribution, updated September 2022 ([link](#))

Scottish territory and could only make reductions in devolved areas. Its funding via the Block Grant would not keep pace with these demands as the UK Government is target in line with a 75 per cent reduction in emissions by 2030. Overall, this presents a substantial pressure for public spending and could be difficult to manage within the Scottish Budget. The 2045 target is not considered a risk in the same way as it is achievable under the balanced pathway scenario for the UK's 2050 target.

**Figure 4: Climate Change Committee's Scotland pathway scenarios with Scottish Government's 2030 target**

**The Scottish Government target is missed under the CCC pathway scenarios**



Description of Figure 4: Line chart showing the Climate Change Committee's pathway scenarios to 2030 and the Scottish Government target. Under all the pathway scenarios the 2030 target is missed.

Source: Scottish Fiscal Commission, Climate Change Committee (2020) Sixth Carbon Budget ([link](#)) Climate Change (Emissions Reduction Targets) (Scotland) Act 2019 ([link](#)).

- 37 The added complexity of the Scottish 2030 target being different to the UK's illustrates that the UK and Scottish Government's climate responses are interrelated. The UK and Scottish Government efforts to mitigate emissions are mutually dependent on one another. The policy, regulatory, and investment decisions made have implications for one another and the emissions produced in reserved and devolved sectors impact the two territorial targets.
- 38 Coordination and cooperation by the UK and Scottish Governments will be required to succeed in reducing emissions. The CCC highlighted a need for improved coordination in its 2022 progress report on mitigation for Scotland.<sup>24</sup> It recommended both governments assess the impact of their decisions, have regular communication and map the interactions between UK and Scottish Governments highlighting Scottish Government dependencies on reserved powers, the UK market and on shared infrastructure.
- 39 The CCC's most recent progress report on adaptation for Scotland recommended engaging and working with the UK Government across many outcomes.<sup>25</sup> The UK and Scottish Governments face a common challenge in climate change, their responses are interlinked and will impact each other.

<sup>24</sup> Climate Change Committee (2022) Scottish Emissions Targets – first five-yearly review ([link](#))

<sup>25</sup> Climate Change Committee (2023) Adapting to Climate Change Progress in Scotland ([link](#))



Clear plans and a coordinated approach by the two governments can ease risks around the transition to a net zero and well adapted UK.

## Climate change plans and costs

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- 40 In order to inform our future work on fiscal sustainability and to improve transparency and accountability, we make recommendations on data improvements in this report. The UK and Scottish Governments should articulate their plans on how to achieve net zero and what level of public spending will be required. Looking at these plans together with how the economy and demographics will change, long-term spending and funding projections, and pressures on other public services such as health is needed to support planning and prioritisation and to assess fiscal sustainability. We recommend that the Scottish Government publish the costs of each policy and programme supported in the Climate Change Plan and Scottish National Adaptation Plan. We recommend that spend on mitigation and adaptation be identifiable in budget documentation and outturn so that spending plans can be linked to delivered spending. This would improve transparency and accountability and support our future work on fiscal sustainability.



# Additional information

## Abbreviations

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CCC	Climate Change Committee
CCRA	Climate Change Risk Assessment
GDP	Gross Domestic Product
GHG	Greenhouse gases
LULUCF	Land Use, Land Use Change and Forestry
MtCO <sub>2</sub> e	Millions of tonnes of carbon dioxide equivalent
OBR	Office for Budget Responsibility
OECD	Office for Economic Cooperation and Development <sup>26</sup>

A full glossary of terms is available on our website:

<https://www.fiscalcommission.scot/explainers/glossary/>

## Professional Standards

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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 Cooperation and Development (OECD).<sup>26</sup>

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 Authority's Code of Practice for Statistics. Further details and our statement of voluntary compliance can be found on our website.<sup>27</sup>

## Correspondence and enquiries

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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](mailto:info@fiscalcommission.scot). Press enquiries should be sent to [press@fiscalcommission.scot](mailto: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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<sup>26</sup> OECD (2014) Recommendation on Principles for Independent Fiscal Institutions ([link](#))

<sup>27</sup> Scottish Fiscal Commission (2022) Compliance with the Code of Practice for Official Statistics ([link](#))

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