

Net Zero, Energy and Transport Committee
24 September 2024
27th Meeting, 2024 (Session 6)

Climate Change (Emissions Reduction Targets) (Scotland) Bill

Introduction

1. The [Climate Change \(Emissions Reduction Targets\) \(Scotland\) Bill](#) was introduced on 5 September 2024 with these accompanying documents:
 - [Explanatory notes](#)
 - [Policy memorandum](#)
 - [Financial memorandum](#)
 - [Delegated powers memorandum](#)
 - [Legislative competence statements](#)
2. The Bill changes interim greenhouse gas emissions targets in the main climate change legislation in Scotland: [Climate Change \(Scotland\) Act 2009](#), introducing a new “carbon budgeting” process- details on this and the reasons for the change are discussed further below. It does not amend the ultimate target in the 2009 Act of achieving “net zero” in emissions in Scotland by 2045.
3. Following pre-legislative scrutiny, the Committee is now taking evidence on the Bill at meetings in September. The Parliament has yet to agree a timetable but the Scottish Government wishes it to be agreed under an expedited timetable.

Current legislative framework

4. The 2009 Act established a statutory framework of greenhouse gas emission reduction targets in Scotland, all measured from a 1990 baseline. These were—
 - at least 42% reduction by 2020; and
 - at least 80% reduction by 2050
5. The Act also required Scottish Ministers to set annual targets for reductions via secondary legislation at least 12 years in advance and to report on each target. It also required Ministers to publish a report setting out the policies and proposals (RPP) that would achieve those targets, including specific comment on the contribution of energy efficiency, energy generation, land use and transport. Draft reports had to be laid in Parliament at least 60 days prior to publication of a final report. Reports were published in [2011](#), [2013](#) and [2018](#).

6. The [Climate Change \(Emissions Reduction Targets\) \(Scotland\) Act 2019](#) then amended the 2009 Act, mainly by introducing more ambitious targets. These were (again expressed as a reduction against a 1990 baseline)—
 - at least 56% reduction by 2020 (later [changed to 48.5%](#));
 - at least 75% reduction by 2030;
 - at least 90% reduction by 2040; and
 - Net zero emissions by 2045.
7. It also introduced annual targets, expressed as equal reductions each year between the interim targets. Annual reporting on these remained a requirement.
8. RPPs were renamed Climate Change Plans (CCPs) and the Parliament was given 120 days to consider a draft CCP. A CCP now had to include statements on how the plans accounted for climate justice and just transition principles, and other details, with chapters specifically on—
 - energy supply;
 - transport (including international aviation and shipping);
 - business and industrial process;
 - residential and public (in relation to buildings in those sectors);
 - waste management;
 - land use, land use change and forestry; and
 - agriculture.

The next Climate Change Plan

9. Following the 2019 Act, an [update to the 2018 Climate Change Plan](#) was published. As it was an “update”, it did not set out all the detail required by the 2019 Act. The next full CCP was expected to be laid in draft by November 2023, in line with the SNP and Scottish Greens’ [Bute House agreement](#). However, in [November 2023](#) the Scottish Government announced a delay.
10. In its [2023 Report to the Scottish Parliament on progress towards Scotland’s emissions reductions targets](#) (delayed to March 2024 because of issues associated with non-publication of a draft CCP), the Climate Change Committee, the statutory advisor to governments in the UK, concluded that—
 - **“Scotland’s annual target was missed again.** Scottish emissions in 2021 increased by 2.4% from 2020 as the economy rebounded from the pandemic and were 49.2% below 1990 levels. Scotland missed its 2021 annual legal target. This is the eighth target in the past 12 years that has been missed.
 - **The acceleration required in emissions reduction to meet the 2030 target is now beyond what is credible.** The recent rate of emissions reduction outside the electricity supply, aviation and shipping sectors needs to increase by a factor of nine in the nine years from 2021 to 2030, compared to the preceding nine years, if Scotland is to achieve its 2030 target of a 75% reduction compared to 1990 levels. This rate of reduction is nearly two times

higher than that in the CCC's ambitious pathway for Scotland, which we updated in 2022. Given the pace at which supply chains and investment would need to develop, this rate of reduction is not credible."

- "Scotland is therefore lacking a comprehensive strategy that outlines the actions and policies required to achieve the 2030 target."

The new Bill

11. A [Ministerial Statement to Parliament on 18 April](#) followed the CCC's 2023 Report. In it, the Scottish Government, accepted 'the CCC's recent rearticulation that this Parliament's interim 2030 target is out of reach' and announced forthcoming 'expedited legislation' for a revised timetable for achieving net zero by 2045, with a revised approach based on five-yearly carbon budgeting. A package of 19 [climate change policies](#) were also announced. In [evidence to the Committee on 28 May](#), the Scottish Government also clarified that the new Bill would push back the date for the next CCP, to align with the new approach.
12. The Bill establishes a carbon budget approach to target setting, with budgets set through secondary legislation using advice from the CCC. The proposed system will replace annual and interim targets and it will also make provision for a new CCP to be published that reflects the new approach.
13. Section 1 of the Bill defines a carbon budget. Staying within a carbon budget prescribed for any 5-year period is to be known as the "Scottish carbon budget target". The Scottish Ministers must ensure this is met.
14. Section 2 makes various changes to the text of the 2009 Act but the most significant is to remove all remaining targets in the Act, based on annual percentages. This is except for the final target of achieving net zero by 2045. Other changes in section 2 include textual changes to the 2009 Act to ensure alignment of current provisions with the new carbon budgeting process.
15. Section 3 requires the next CCP to be published "as soon as practicable after the first regulations setting a Scottish carbon budget come into force".
16. Section 4 requires that the regulations to set carbon budgets should do so by inserting text into the 2009 Act so that the target always appears on the face of the Act. It also requires advice to be sought on the budget-setting regulations.

Net Zero, Energy and Transport Committee consideration

17. In view of the Scottish Government's preference for an expedited Bill scrutiny process, the Committee ran a pre-legislative call for views this summer based on information in the public domain about what would be in the Bill.
 - [Responses to the Net Zero, Energy and Transport Committee's pre-legislative call for views on an approach to setting carbon budgets](#)

- [SPICe analysis of the call for views](#)
18. On 2 August, the Scottish Government published a [position paper](#) on the intended content of the Bill. The Convener wrote to the Scottish Government on [23 August](#) seeking further information. [There was a reply on 28 August](#).
19. Following the Bill's formal introduction, at its [meeting on 10 September](#), the Committee took evidence from—
- Dr Emily Nurse of the Climate Change Committee;
 - Professor Graeme Roy and Professor David Ulph of the Scottish Fiscal Commission;
 - David Hawkey of the Institute for Public Policy Research Scotland;
 - Rt Hon Philip Dunne, former Chair of the House of Commons Environmental Audit Committee (2020-24).
20. At its [meeting on 17 September](#), the Committee took evidence from—
- Dr Thomas Muinzer, University of Aberdeen School of Law;
 - Catherine Higham and Dr Alina Averchenkova, Grantham Research Institute of Climate Change and the Environment at the London School of Economics and Political Science;
 - Neil Langhorn; Environmental Standards Scotland;
 - Mike Robinson; Stop Climate Chaos Scotland;
 - Gillian Martin MSP, Acting Cabinet Secretary for Net Zero, Energy and Transport and Scottish Government officials.

Evidence on 24 September and next steps

21. At its meeting on 24 September, the Committee will hear from witnesses as listed on the agenda.
22. The Committee will discuss next steps on the Bill after hearing the evidence.

Clerks to the Committee September 2024

Annexe

Written submission from Aberdeenshire Council

Part One – Carbon budgets

1. Do you agree or disagree with the proposed shift to 5-yearly carbon budgets (in place of current system of annual targets)?

Agree

Please set out any advantages or disadvantages of a 5 yearly carbon budget approach in Scotland:

We would support this approach in replacement of the previous interim targets. However, it is important for this to be the last amendment of the targets to provide some stability for the wider public, private and third sectors to support. The advantage of the suggested 5 year carbon budget approach is that it aligns with the UK approach. The disadvantage is that with 5 yearly carbon budgets, it could be considered that this longer period of time may delay progress and/or the monitoring and reporting of delays in delivering on the targets. Monitoring and assessing progress therefore would still have to be frequent enough to prevent a delay in meeting the Net Zero by 2045 target.

Please set out any advantages or disadvantages of retaining the current annual target system:

We would support this approach in replacement of the previous interim targets. However, it is important for this to be the last amendment of the targets to provide some stability for the wider public, private and third sectors to support. The advantage of the suggested 5 year carbon budget approach is that it aligns with the UK approach. The disadvantage is that with 5 yearly carbon budgets, it could be considered that this longer period of time may delay progress and/or the monitoring and reporting of delays in delivering on the targets. Monitoring and assessing progress therefore would still have to be frequent enough to prevent a delay in meeting the Net Zero by 2045 target.

2. What are your views on the advantages and disadvantages of carbon budgets / targets being expressed as a percentage reduction or as absolute levels of emissions?

When presenting carbon budgets / targets expressed as a percentage it may be easier to understand and therefore get wider engagement. Emission figures can come across as too scientific and therefore may not get the same interaction / understanding as the same figure presented as a percentage.

However, both can be used – it does not have to be one or the other. The use of visuals such as graphs can be a good way to present both. However, it is also important that for both options there is transparency about the variability of the measurement.

3. The Climate Change Committee (CCC) suggested that the Scottish Government should consider aligning the proposed 5 yearly carbon budgets with the periods that are used for UK carbon budgets (i.e. 2023-27, 2028 – 32, 2033-2037 and 2038-42). What are the advantages and disadvantages of alignment with UK carbon budget periods?

It may be tricky to align 2023-27 as there has been a delay in progressing the Climate Change Targets Bill and Climate Change Plan. This may need to be amended to be shorter e.g. 2025-2027 and then align the others. Aligning with the UK is advantageous as it encourages a more collaborative approach while also allowing for some benchmarking of progress with the targets. Both Governments need to work together on climate action and this approach may encourage better collaboration going forward. As the response to question 1, the disadvantage maybe the less frequent monitoring of progress due to the targets moving from annual to every 5 years.

4. At the end of a carbon budget period, there can be a surplus or deficit of emissions reductions. What do you think the legislation should say about how future surplus or deficits in emission reductions are dealt with?

We would support that any surplus is 'banked'. This could then either support Scotland reaching net zero before 2045 or it could support future years where progress may be tougher due to challenges within the risk assessment (e.g. supply chains, technology, skills shortages). Surplus savings in this case could then support a year where a deficit takes place reducing the impact of progress towards net zero by 2045. Any deficit remaining after the 5 year carbon budget cycle should be rolled into the next 5 year carbon budget. This would leave Scotland with more to do but would reduce the risk of not meeting the net zero by 2045 target. Finding a mechanism that incentivises producing a surplus would be beneficial for Scotland and should be a consideration.

5. Should the Scottish Government wait for the planned advice on the UK's seventh carbon budget from the CCC, before setting their carbon budgets?

Waiting for the planned advice from the CCC is advisable at this stage. However, any later than early 2025 would potentially stall action. Work should already be undertaken on this, and then necessary amendments made after the CCC advice is published. This way there is a minimal delay from Scottish Government in publishing its carbon budgets.

Should the Scottish Government propose multiple 5-year carbon budgets in 2025 up to the year 2042?

As with previous questions this would mean aligning with UK Government carbon budgets other than the first period which currently covers 2023-2027. This we support.

How soon after the Scottish Government has received advice from the CCC should it propose their carbon budgets?

As soon as possible. The wider sectors who are needed to support the targets within the carbon budgets need to know what these are and how we can support as soon as possible. Others will also be re-assessing their targets and knowing what the Scottish Government has in place is essential for this work. As mentioned previously, work should already be undertaken on this, and then necessary amendments made after the CCC advice is published.

This way there is a minimal delay from Scottish Government in publishing its carbon budgets.

What should the process of parliamentary scrutiny look like for the laying of carbon budgets and plans for meeting budgets?

The process of parliamentary scrutiny should remain the same as what is currently in place for approving targets and monitoring progress.

Part Two – Climate Change Plan

6. Do you have views on when and how the Scottish Government should publish their plans for meeting the proposed carbon budgets?

As soon as possible. As stated previously, the wider sectors who are needed to support the targets within the carbon budgets and climate change plan need to know what these are and how we can support as soon as possible. Others will also be re-assessing their targets and plans and knowing what the Scottish Government has in place is essential for this work. Consultation of the Climate Change Plan will require appropriate and considerate timing to be put in place. This has already been significantly delayed alongside the Public Bodies Duties Statutory Guidance.

What period should the next Climate Change Plan cover?

Consideration could be given to developing two 10-year plans. There would be an immediate need for 2025-2035 as action over the next 10 years is crucial considering a number of annual targets have now not been met. Later a plan for the final push to net zero could be developed covering 2035-2045. Another option is that Climate Change Plan could align with the 5 year carbon budgets with a set of interventions that need to happen within those 5 years to achieve the reductions set out – who is responsible and what incentives are in place to support action. This

would make the Plan much more focused and make monitoring progress more straight forward.

Do you think the current requirements for Climate Change Plans within the existing legislation provide an effective regulatory framework?

Consideration should be taken by the Scottish Government on this through any learnings from the previous Climate Change Plans – what worked well, where has progressed stalled or improved etc. There is also likely to be a number of recommendations from the Climate Change Committee reports which should be taken on board at this time. If change is needed, then this should be done now while there is a delay in the publication of the next Plan.

Are there any other aspects of the current legal framework for the creation of Climate Change Plans that you think should be updated?

As with previous response – consideration should be taken by the Scottish Government on this through any learnings from the previous Climate Change Plans. For example, the causes for the delay in the current publication / consultation of the Climate Change Plan 2025-2040 even before the Cabinet Secretary's announcement that the 75% emission reduction by 2030 target being out of reach.

Part Three: Monitoring and reporting

7. What are your views on whether there should be changes to the existing Scottish Government monitoring and reporting framework?

Annual reporting is preferred and aligns with public bodies also having to report annually on their progress. However, if the CCC are looking to reduce annual reporting down to 2 reports every 5 years then further clarity on how this would look is needed. Delaying monitoring and reporting is a risk to not meeting carbon budgets and how best to mitigate this needs to be considered. In addition, a shift from solely reporting on progress on targets to quantifying the wider impact of actual programmes is important. This supports the lag in data and actually being able to understand progress before the emissions data becomes available.

What are your views on the potential changes to the level of Scottish reporting provided by the CCC?

As stated previously - Annual reporting is preferred and aligns with public bodies. However, if the CCC are looking to reduce annual reporting then further clarity on how this would look is needed.

8. The 2045 target will not be amended. How much do you estimate it would cost to achieve that target?

We cannot put a cost on this however it is understood that inaction will cost a lot more. Back in 2021/22 Aberdeenshire Council estimated that to reach 75% reduction

in operational emissions by 2030 would cost the organisation approximately £128,143,000. It is very likely this figure has further increased due to cost increases in energy and supply chains. That is just one public sector organisation and so demonstrates the enormity of the task ahead. For something of this scale the standard approach to Financial Memorandum production will not be adequate to ensure that the impacts on Local Authorities are properly addressed.

Are current spending levels on policies to achieve this in line with what is required?

Based on the work done thus far the answer would have to be No. Based on the change required and the time being taken to develop programmes of specific interventions it would seem that current spending levels are not even close to what is required. But even more important is the need to co-produce a coherent and effective set of policies across all levels of Government that can then be built into future fiscal models and budgets. This whole systems approach will also require resourcing on a collective and collaborative basis and currently that does not seem to be being planned. Consideration should be given to additional measures within the Bill that would enable this approach across the key sectors in particular. That may even involve seeking amendments to the duties of existing regulatory and delivery bodies within the transport, energy and construction/building industries. It is important that the policies also support closing the skills gap, addressing supply chain challenges, and provide certainty in financing. This will allow all sectors to be proactive in determining and planning for the best way to support delivery rather than a having a reactive approach.

Budget

How can the Scottish Government use this year's Budget to ensure all portfolio areas are focused on achieving the 2045 target?

It is important to identify the multiple co-benefits to climate action and fund the portfolio areas appropriately. Each portfolio area should be working towards net zero and supporting both climate change and the ecological crisis. The use of the Climate Change Assessment should be addressing this.

Has the inclusion of a Climate Change Assessment of the Budget improved outcomes and progress towards a target?

This has not improved the outcomes from a Local Authority perspective. There is not sufficient revenue or capital funding coming to Local Authorities in order to support the net zero target at the level that is needed. It is not appropriate for funding to only be available through resource intensive application processes. Money needs to be available to allow for multi-year planning for larger projects to get to the core of the issues and work towards resolving them.

What are your views on the presentation of the Climate Change Assessment and are there any changes you would like to see to this?

The presentation of the Climate Change Assessment makes for easy reading. Consideration could be given to providing links to further information on each of the amounts discussed in the bullet points as it is unclear where and how the amounts are actually being spent.

Written submission from Edinburgh Climate Change Institute

Submission by the Edinburgh Climate Change Institute (ECCI), part of the University of Edinburgh. ECCI manages and delivers a range of climate change programmes, including the Scottish Climate Intelligence Service (in partnership with the Improvement Service), the Sustainable Scotland Network, ClimateXChange, Scottish Carbon Capture and Storage, and a range of other business and public sector programmes supporting net zero transition.

Part One – Carbon budgets

1. Do you agree or disagree with the proposed shift to 5-yearly carbon budgets (in place of current system of annual targets)?

Not Answered

Please set out any advantages or disadvantages of a 5 yearly carbon budget approach in Scotland:

An advantage to this is that 5-year carbon budgets enable some smoothing of uncertainty. Annual targets are more susceptible to external factors such as weather and stochastic events such as COVID, while over 5 years the influence of these factors is more likely to be balanced out so we might get a truer picture of delivery progress. This could help to reduce the time and effort spent analysing, explaining, and responding to patterns that have little to do with actual delivery of action.

The disadvantage of a 5-year budget is that it can enable problem hand-off and lack of accountability, particularly in political cycles. There is also a natural tendency to put off action when there is a longer deadline, so the within the five years there needs to be a way to track actions that will lead to emissions reduction.

Whatever is adopted in terms of measuring progress on carbon and the frequency of budgets, what is needed alongside this is visibility and transparency on progress that can inform future planning and investment. We need to know if we are delivering actions that lead to emissions reductions at the pace and scale required, and if we

are successfully driving change. Some thought also needs to be given to establishing meaningful consequences of failing to keep within the budget, to reinforce priorities and behaviours.

Please set out any advantages or disadvantages of retaining the current annual target system:

See answer above.

2. What are your views on the advantages and disadvantages of carbon budgets / targets being expressed as a percentage reduction or as absolute levels of emissions?

Overall, we consider absolute measurement to have more advantages for both measurement and communication, as below:

- Percentage reductions rely on an accurate baseline and ongoing measurement methodology, whereas absolute reductions means that progress can be measured with best available methodology at each time. With either methodology we should be honest about the variability of the measurement.
- For communication, we consider it clearer to tell stakeholders that we have a limit of emissions over a period and to budget accordingly, in the same way that we understand budgets in a business or a household context.

3. The Climate Change Committee (CCC) suggested that the Scottish Government should consider aligning the proposed 5 yearly carbon budgets with the periods that are used for UK carbon budgets (i.e. 2023-27, 2028 – 32, 2033-2037 and 2038-42). What are the advantages and disadvantages of alignment with UK carbon budget periods?

We believe there is value in consistency and that aligning to the UK will help to communicate progress. There is no clear value in maintaining separate periods and no justification for retaining them. This would leave a decision to be made over the period we are already halfway through.

4. At the end of a carbon budget period, there can be a surplus or deficit of emissions reductions. What do you think the legislation should say about how future surplus or deficits in emission reductions are dealt with?

There is a need to incentivise producing a surplus and disincentivise a deficit. This often can be established by a trading mechanism, for example between devolved countries in the UK or between sectors or regions. If there is no carbon to be traded, a mechanism needs to be established for it to be purchased from the future bank at very high cost with money coming from the highest emitters. In this way we could, for example, start getting carbon bonds from high carbon sectors and establishing fit-for-purpose mechanisms to ring-fence funds raised for climate mitigation and adaption projects.

It is important to find a way of rewarding effective action that does not lead to rebound effect and to ensure that surpluses can be banked for future benefit otherwise the incentive is to spend the carbon in the budget period.

5. Should the Scottish Government wait for the planned advice on the UK's seventh carbon budget from the CCC, before setting their carbon budgets?

Following the CCC budget would help ensure consistency and coordination with the overall UK budget, including any dependencies and trading between UK countries and regions. Response timelines should allow for budgets to be well designed in our local authorities and for responses to be coordinated across relevant stakeholders.

However, we would expect Scottish Government to be engaging with the CCC through their own development process to anticipate findings and develop their own response in a timely manner. There is a clear need to focus on near term planning and actions to accelerate progress against targets and not to add further to future emissions challenges.

Carbon budgets to 2037 are already set by the 4th, 5th and 6th periods and the 7th budget should not make a substantial difference to immediate priorities. Scottish Government should therefore be developing plans now in parallel to the CCC process to bring us into alignment on the 4th and 5th budgets.

Should the Scottish Government propose multiple 5-year carbon budgets in 2025 up to the year 2042?

Not answered

How soon after the Scottish Government has received advice from the CCC should it propose their carbon budgets?

See response above regarding alignment to CCC budget.

What should the process of parliamentary scrutiny look like for the laying of carbon budgets and plans for meeting budgets?

Not answered

Part Two – Climate Change Plan

6. Do you have views on when and how the Scottish Government should publish their plans for meeting the proposed carbon budgets?

A challenge with the current Climate Change Plan is that it is published every 5 years but tries to cover a 15-year period. This means it contains a lot of visioning and is very dependent other strategies, policies and plans being produced to specify actions. Planning can be more effective by focusing on the near term interventions

which can contribute towards both the current budget and accelerate progress and maintain trajectory towards the overall target.

What period should the next Climate Change Plan cover?

If we have a 5-year carbon budget, the Climate Change Plan should be a shorter set of key interventions that need to happen over this 5-year period to achieve the reductions. It should be very clear what these interventions are, who is responsible, where the money is coming from and how we will know that they are working and delivering at the pace and scale needed to meet the carbon budget. Activities not actually delivering reductions or critical to future emissions reduction pathways can be left for the next plan.

Arguably having even a 5-year plan is too long and we should move to a more flexible and updatable climate planning system for Scotland, using data to track and monitor progress on actions which lead to emissions reduction. We would suggest shifting away from the production of static plans and strategies and towards a process which monitors actions on an ongoing basis. If there needs to be longer term visioning about what the strategy is, the benefits that can be realised, and how we expect to deliver the long-term transition, this should be produced separately.

As an example, Sweden uses an online platform (ClimateView) to collate, model and present country-level emissions and climate policy and action. While the emissions are published annually, the climate actions are updated on a much more regular basis, enabling a much more flexible approach to planning and monitoring. Use of the ClimateView platform has recently been purchased on behalf of all 32 local authorities by the Scottish Climate Intelligence Service.

Do you think the current requirements for Climate Change Plans within the existing legislation provide an effective regulatory framework?

As above, we would recommend moving away from the production of static plans and into a more dynamic planning and delivery process which allows monitoring of progress and continual updating of plans on an ongoing basis. With support in place to deliver these a stronger legislative or regulatory requirement could be established.

Are there any other aspects of the current legal framework for the creation of Climate Change Plans that you think should be updated?

Repeating the above, we would recommend moving away from the production of static plans and into a more dynamic planning and delivery process which allows monitoring of progress and continual updating of plans on an ongoing basis.

Part Three: Monitoring and reporting

7. What are your views on whether there should be changes to the existing Scottish Government monitoring and reporting framework?

We would suggest that the monitoring and reporting framework needs to focus on tracking the levels of intervention and action being delivered, using transition indicators leading to the emission outcomes. We also need to replace target setting with action planning accompanied by clarity and transparency on actions and progress towards delivery. While we need to know whether we are achieving reductions, emissions data has a significant time lag (of around two years) making it difficult to see the impact and effectiveness of policies and other interventions. Instead, we can use other transition indicators to assess whether we are delivering the required shifts in areas such as transport and heating to deliver change at the pace and scale required.

A shift to more demonstrable, measurable, and immediate indicators of progress on reducing emissions from key sources would substantially improve our ability to monitor progress and to target interventions and responses more quickly and effectively. This would also aid public engagement and behaviour change by enabling clearer communication of the changes which are needed and the progress we are making.

What are your views on the potential changes to the level of Scottish reporting provided by the CCC?

Not answered

8. The 2045 target will not be amended. How much do you estimate it would cost to achieve that target?

It is important to shift the narrative from cost of delivery and to highlight the returns and other benefits. The below are indicative costs of delivery alongside the financial and social benefits, calculated using a methodology for a comparable region in terms of rural and urban populations. They could be refined by more detailed application of specific factors local to Scotland.

Emissions reductions are based on the central scenario for decarbonisation (relative to baseline scenario) and subject to change dependant on meeting near-term projected emissions reductions. The costs, savings, and benefits figures are discounted, covering the time period 2025-2045. Co-benefits refer to the wider social and economic benefits of climate action and investment such as public health, job creation, and productivity.

- Total mitigation required: 533 Mt CO₂e (cumulative to 2045)
- Total projected costs: £103.3 Bn (average of £4.9 billion a year)
- Total projected savings: £111.5 Bn (average of £5.3 billion a year)
- Total projected co-benefits: £271.4 Bn (45% from increased active travel/physical activity)

This clearly demonstrates a cost-positive projection, partly due to decarbonisation in the transport sector being so cost-effective with avoided transport expenditures on fuels/vehicles due to increased walking/cycling. This highlights where the measures by which decarbonisation is achieved, such as prioritising EV uptake over active travel, can have a significant impact on the cost-effectiveness of reaching net-zero.

Are current spending levels on policies to achieve this in line with what is required?

It is hard to assess what current spending levels are because climate action is distributed across multiple policy areas. However, it is reasonable to assume from progress that current spending levels are not sufficient to deliver the pace and scale of action required and importantly investments are still being made in areas which make the target harder to achieve.

Alongside the scale of the investment challenge there is an acknowledged gap in the net zero finance and delivery system which is preventing projects and programmes from successfully attracting investment. There is a clear need to build system capacity and capability, and to create mechanisms and programmes which can effectively leverage private capital alongside public investment to enable net zero delivery.

Budget

How can the Scottish Government use this year's Budget to ensure all portfolio areas are focused on achieving the 2045 target?

The Scottish Government has made commendable progress incorporating climate considerations into its budget processes, most notably through the inclusion of a high-level carbon assessment in the 2023/24 Scottish Budget. There is significant room, however, for improvement in how the Scottish Government uses its budget to focus on achieving the 2045 net zero target.

For future budgets the Scottish Government is advised to develop a more robust Net Zero assessment process. This should involve assessing the expected emissions impact of each budget measure, including both positive and negative impacts. The assessment should be applied earlier in the policy development process, not at the final budget stage. This would allow for a more proactive approach to ensuring all portfolio areas are focused on achieving the 2045 target.

There is also a need for greater transparency and detail in the government's expected pathways to Net Zero. This includes quantifying the abatement expected from policies and plans in the upcoming Climate Change Plan. Additionally, there's a need to better align funding settlements with the roles that different parts of government, particularly local authorities, are expected to play in delivering Net Zero.

Some recommendations we would make to the Scottish Government are to:

- Develop a comprehensive Net Zero assessment process for all stages of policy and budget development.
- Quantify expected emissions impacts (both positive and negative) for each major budget measure.
- Increase transparency around expected pathways to Net Zero, including quantified abatement from policies.
- Align funding settlements with Net Zero delivery roles across government, especially for local authorities.
- Use the new Climate Delivery Framework between Scottish Government and COSLA, and work with the Scottish Climate Intelligence Service, Sustainable Scotland Network, and other relevant delivery and support stakeholders, to develop a clear and coordinated approach to climate priority delivery and funding.

Has the inclusion of a Climate Change Assessment of the Budget improved outcomes and progress towards a target?

See response above.

What are your views on the presentation of the Climate Change Assessment and are there any changes you would like to see to this?

In terms of presentation, we would suggest more emphasis on the returns and benefits from investing in climate action should sit alongside the costs of delivery, as outlined in the response to Question 8. There is also a need for greater focus on the costs of inaction, both in terms of likely cost implications of delaying transition expenditure, and in showing future costs of the impacts we are already seeing from climate change to support the need for investment in climate adaptation.