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The Climate Change (Emissions Reduction Targets) (Scotland) Bill

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The Climate Change (Emissions Reduction Targets) (Scotland) Bill was introduced in the Parliament on 23 May 2018. This briefing provides background information to the Bill, and summarises its key provisions.



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Executive Summary

To date Scotland's emissions have reduced by 49% since 1990. However sectoral progress varies considerably. Emission cuts of 69% from energy and 73% from waste contrast with reductions of 28% from agriculture, 21% from residential, and just 3% from transport.

The Climate Change (Emissions Reduction Targets) (Scotland) Bill responds to the UNFCCC Paris Agreement which seeks to limit global temperature rises to "well below" 2 degrees C and to "pursue efforts" to limit the increase to 1.5 degrees above pre-industrial levels. The Scottish Government, having taken advice from the Committee on Climate Change, and carried out a consultation, proposes to make substantial changes to the Climate Change (Scotland) Act 2009. The Bill:

- Increases the 2050 target for reduction of greenhouse gas emissions from 80% to 90%; it also increases the target level for 2020 (42% to 56%), and introduces new targets for 2030 (66%) and 2040 (78%). All targets are now expressed in percentage terms, rather than megatonnes of carbon to improve stability and transparency.
- Allows for a target of 100% reduction in greenhouse gas emissions (known as a net zero target) from the baseline to be created at a future date.
- Makes changes to the way emissions are accounted for when assessing and reporting on targets by removing the adjustment currently allowed through carbon trading (under the EU Emissions Trading Scheme). This means that all changes in domestic emissions are now accounted for. This does not affect the operation of EU ETS in Scotland.
- Sets a default limit of zero carbon credit usage for all future years, unless Ministers bring forward regulations (removing the current requirement for Ministers to set a limit in credit use every five years).
- Complements the move to percentage based targets by freezing the methods used to measure emissions for rolling periods of up to five years. This means that targets are assessed against the methods that were in place when they were set, and manages the challenges posed by volatile changes to emissions measurement science.
- Changes the name of Reports on Policies and Procedures to Climate Change Plans and extends the time available for parliamentary consideration of the Plan from 60 to 90 days.
- Rationalises and improves existing annual reporting duties, and stops double reporting. It also puts a new reporting requirement in place to provide further detail on progress against Climate Change Plans.

The Bill was introduced in the Scottish Parliament in May 2018, and the Environment, Climate Change and Land Reform Committee was designated as the lead Committee. Stage 1 scrutiny is expected to commence on 23 October 2018.

BACKGROUND

In 2009 the Scottish Parliament passed the Climate Change (Scotland) Bill unanimously.

The [Climate Change \(Scotland\) Act 2009](#) comprises six parts:

Part 1: Creates the framework for achieving greenhouse gas (GHG) emission cuts and sets an interim target of at least a 42% cut by 2020 and at least an 80% cut by 2050. This part also requires Scottish Ministers to set annual targets in secondary legislation in batches for the period 2010 to 2050. Part 1 also requires the Scottish Government to take advice before they set annual targets (currently provided by the UK Committee on Climate Change).

Part 2: Enables Ministers to establish a Scottish Committee on Climate Change or designate an existing body to provide the advisory functions required.

Part 3: Requires Ministers to bring forward regular plans setting out how future targets will be met, as well as to provide regular reports to the Scottish Parliament on Scotland's emissions and progress towards meeting the targets.

Part 4: Places duties on Scottish public bodies to contribute towards meeting the emission targets set in or under the Act.

Part 5: Makes a range of further provisions including a requirement on Ministers to set out a climate change adaptation programme, produce a land use strategy and publish plans to promote energy efficiency and renewable heat.

Part 6: Requires Ministers to prepare a public engagement strategy and accompany the draft budget proposals, as they are laid before Parliament, with a report setting out the greenhouse gas emissions associated with the planned spend.

Sections 3 and 4 (Part 1) of the 2009 Act require Ministers to set batches of annual targets for reducing GHG emissions, and section 35 (Part 3) requires the production of a plan outlining specific proposals and policies for meeting those targets, and describing how these proposals and policies contribute to the 2020 and 2050 targets. To date, three plans have been published and scrutinised by Parliament; the most recent Climate Change Plan - The Third Report on Proposals and Policies 2018 - 2032 was published in February 2018 following the setting of annual targets for the years 2028-2032 by the Parliament in October 2016 ¹. The Government states ¹:

“ The Climate Change Plan sits alongside the Scottish Government's [Energy Strategy](#), and provides the strategic framework for our transition to a low carbon Scotland. Building on previous reports on policies and proposals, the Plan sets out the path to a low carbon economy while helping to deliver sustainable economic growth and secure the wider benefits to a greener, fairer and healthier Scotland in 2032. The Plan includes policies and proposals to reduce emissions from electricity generation, buildings (both residential and non-residential), transport, industry, land use (forestry and peatlands), waste, and agriculture.”

[SPICe Briefing 16/41 Climate Change: Subject Profile](#) ² provides a detailed briefing on climate science, global, EU, and UK frameworks for addressing climate change as well as the main legislative and policy provisions in Scotland.

To date Scotland's emissions have reduced by 49% since 1990. However sectoral progress varies considerably. Emission cuts of 69% from energy and 73% from waste contrast with reductions of 28% from agriculture, 21% from residential, and just 3% from transport. Cuts in emissions have been attributed not only to specific policies (at a Scotland, UK and EU level) but also the economic downturn and the closure of Longannet coal fired power station ³.

The latest data shows that the equivalent of 69% of Scotland's gross electricity consumption came from renewable sources in 2016, compared to 12% in 2000, and 18% of all energy came from renewables in 2015. As context, the Scottish Government has set a target to generate the equivalent of 100% of electricity demand from renewables by 2020 and the equivalent of 50% of all energy for Scotland's heat, transport and electricity consumption from renewables by 2030 ⁴.

The Scottish Government states in relation to the Bill ⁵:

“ At present, it is estimated that Scotland emits around 55 million tonnes of carbon dioxide equivalent (MtCO₂e, or megatonnes) to the atmosphere each year. Around 7 megatonnes are absorbed back out of the atmosphere by the natural forestry sink, so Scotland's net emissions are currently estimated to be around 48 megatonnes per year. Global emissions are around 49,000 megatonnes per year, meaning Scotland's emissions are approximately 0.1% of the global total. Scotland's targets are set as percentage reductions from the 1990 baseline, which the most recent estimates suggest was around 77 megatonnes per year. A 90% reduction target currently means that net Scottish emissions will be around 8 megatonnes by 2050.”

The Paris Agreement and Scotland's Response

In December 2015, Parties to the United Nations Framework Convention on Climate Change (UNFCCC) met in Paris for their annual Conference, and following intense negotiation, the [Paris Agreement](#) was adopted.

[SPICe Briefing 16-08 Paris 2015 Climate Summit- Outcomes and Implications for Scotland](#) ⁶ provides further detail. The key provisions of the agreement are

- Global temperature rises should be limited to “well below” 2 degrees C and to “pursue efforts” to limit temperature increase to 1.5 degrees C above pre industrial levels
- Parties to the agreement are to aim to “reach global peaking of greenhouse gas emissions as soon as possible”
- Parties are to take action to “preserve and enhance” carbon sinks
- To conduct a “Global Stocktake” every five years, starting in 2023
- Developed countries to provide financial support for developing countries to mitigate climate change
- Creates a goal of “enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change”.

Following the adoption of the agreement, the First Minister (who attended the summit) welcomed the agreement and said ⁷ :

“ COP21 has, as we had hoped, achieved a big step forward in the international fight against climate change. [...] Devolved administrations, like the Scottish Government, will be strong drivers of a progressive climate agenda. We look forward to working with our international partners to secure the successful implementation of the Paris agreement.”

In its [Programme for Government 2016-17](#), the Scottish Government signalled its intentions to legislate to create new, more pressing climate change targets via new legislation in order to address the Paris Agreement. In its [2017-18 Programme for Government](#), the Scottish Government stated the Bill would be included in the programme of legislation that year and said ⁸ :

“ The Climate Change Bill will respond to the historic Paris Agreement by setting more ambitious targets to reduce greenhouse gas emissions. The Bill will increase transparency, demonstrate our commitment to sustainable economic growth and signal to the international community that Scotland is the place to do low carbon business.”

Forthcoming International Scientific Evidence

The Intergovernmental Panel on Climate Change (IPCC) is the UN body for assessing the science related to climate change. It was established in 1988 to provide policymakers with regular scientific assessments concerning climate change, its implications and potential future risks, as well as to put forward adaptation and mitigation strategies. It has 195 member states. IPCC assessments provide governments, at all levels, with scientific information to develop climate policies, and are a key input into relevant international negotiations. IPCC reports are drafted and reviewed in several stages to ensure objectivity and transparency.

The next significant IPCC publication is a special report on the impacts of global warming of 1.5°C, and a final version is expected in October 2018. A leaked draft summary of this report appeared online in early 2018, and was widely reviewed in the media ^{9 10 11} . However the IPCC requested that it not be quoted or cited for several reasons, including that it may not take account of newly published scientific literature, and that the text can change substantially between the draft and final versions once reviews and comments have been considered ¹² .

Advice from the Committee on Climate Change

The [UK Committee on Climate Change](#) (CCC) was established under the [Climate Change Act 2008](#), and is an independent statutory body with a remit to advise the UK Government and Devolved Administrations on emissions targets and report to Parliament on progress made in reducing greenhouse gas emissions and preparing for climate change. Strategic priorities include:

- Providing independent advice on setting and meeting carbon budgets and preparing for climate change.
- Monitoring progress in reducing emissions and achieving carbon budgets and targets.

- Conducting independent analysis into climate change science, economics and policy.

The Scottish Government requested advice on proposed legislation from the CCC in October 2016 and received [this advice](#) in March 2017¹³. [Updated advice](#), in light of scientific developments was received in December 2017¹⁴. The March advice states¹³:

“ In developing its advice, the Committee considered the latest climate science, the implications of the Paris Agreement and the feasibility and cost of long-term emissions reductions in Scotland. The recommendations reflect experience of the current Climate Change (Scotland) Act, responses to the CCC call for evidence on the Scottish Climate Change Bill, a public hearing held by the Committee to seek views in specific areas and wider engagement and discussions.”

The March 2017 advice proposed two options for a new 2050 target for emissions reduction:

- Retaining the current 2050 target of an 80% reduction in GHG, and setting out a process to review the target at future dates, with a view to amending it when further evidence emerges.
- Increasing the target to a 90% reduction in GHG to more closely reflect the ambition set out in the Paris Agreement, noting that a "90% target for all greenhouse gases could potentially be accompanied by a 2050 target to reduce Scotland's CO2 emissions to 'net-zero'. A net-zero target would reflect the commitment under the Paris Agreement to reach net zero global emissions in the second half of the century". This was recognised as being at "the limit of current CCC emissions reduction pathways for Scotland" and would require very strong progress in every sector.

Further recommendations included changing the overall Scottish emissions accounting framework to one based on actual emissions instead of the current system which adjusts emissions in line with the EU Emissions Trading System

The updated advice re-examined whether a 90% reduction by 2050 was still feasible in light of new emissions estimates being released, and concluded that it was. It also recommended that:

“ [...] the best design of a statutory climate target framework is to assess compliance with targets against a 'GHG Account' in the short term, with regular reviews – at least every five years – to ensure that the framework remains based on the scientific evidence.”

Consultation

As previously noted, the Scottish Government requested advice on proposed legislation from the CCC in October 2016 and received this advice in March 2017. Updated advice, in light of scientific developments was received in December 2017.

Between April and September 2017 a programme of stakeholder engagement was undertaken, as well as a [formal public consultation](#)¹⁵. The main themes of the consultation were:

- Updating the 2050 target in the Climate Change (Scotland) Act 2009 by increasing this from 80% to 90% lower than baseline levels. This is in line with the more stretching of the two options recommended by the CCC.
- Whether the Bill should contain provisions to allow for a net zero emissions target to be set at a later date. The CCC advised that a net-zero GHG target should not be set at the present time, as they could not establish a feasible pathway to reaching this.
- To update the interim target for 2020 contained in the Climate Change (Scotland) Act 2009 from 42% to 56% lower than baseline levels. This is in line with the CCC's advice.
- To add further interim targets of 66% by 2030 and 78% by 2040. This is in line with the CCC's advice.
- To change the presentation of annual targets from tonnes of emissions to percentages to be consistent with the interim targets. This is in line with the CCC's advice.
- For these annual targets to be presented as equidistant linear points between the interim targets. The CCC did not provide advice on how the annual targets should be determined.
- For targets to be set on the basis of actual emissions, rather than adjustments for crediting systems such as the European Union Emissions Trading Scheme (EU ETS). This is in line with the CCC's advice.
- Whether the interim and 2050 emissions targets should be allowed to be changed. The CCC's advice was that all targets should be able to be updated,
- Reporting, including Climate Change Plans.
- The impacts of the Bill on people, businesses and the environment.

Key Findings

The consultation generated 19,365 responses, of which 273 were non-campaign generated. Key findings [were published](#) in December 2017 ¹⁶.

In relation to **updating the 2050 and interim targets**, the majority of respondents were in favour, with 80% supporting the proposed 56% by 2020 target, 60% supporting the proposed 2030 (66%) and 2040 (78%) targets, and 68% supporting the 90% by 2050 target. The Key Findings document notes that support for the 2050 target may have been masked by some respondents stating that they did not support it, because they supported a net-zero or 100% target; however many respondents would rather have the proposed targets than no targets or lower targets. Reasons given for the proposed targets being higher include ¹⁶:

- Net-zero GHG emissions should be achieved as soon as possible, by 2030, 2040, or 2050 at the latest.
- It is essential to contribute to limiting the average global temperature increase to 1.5°C or 2°C.

- Scotland's historic production of GHG emissions increases its current responsibility for emission reductions therefore higher targets are appropriate.
- To set an example and remain a global leader in climate legislation.
- Further technological advances are expected to occur.
- To drive innovation, policy, and investment.

The majority of respondents (58%) supported the **proposal to provide for a net-zero GHG emission target to be set at a later date**. However ¹⁶ :

“ Some respondents, including several campaigns, feel that achieving net-zero GHG emission is feasible and the target should be set now, showing opposition to the proposal to set it at a later date. A few respondents are concerned that with the current proposal, the net-zero target may never be set. Many respondents suggest a net-zero target, generally feeling that it should be reached before 2050. Some respondents feel that setting a net-zero emissions target now is important [...]”

The proposals to **set annual emission reduction targets as percentages**, and to **automatically set these according to the 2050 target** were broadly supported, with 88% regarding the shift to percentages positively; reasons given include ¹⁶ :

- Percentages are easily and universally understood across different levels of expertise.
- Easier to visualise progress against overall targets than with absolute units.
- If the baseline is updated to reflect new evidence, targets will still stay the same.
- Because of the above reasons, percentages are easy to compare between countries, organisations, sectors and local authorities.

However, concerns were also raised ¹⁶ :

“ Some respondents, including some who support the proposal and some who oppose it, raise various concerns about the proposal. Some respondents have concerns about the use of percentages as annual targets. Most of these people say that a percentage format moves too far away from planning around global and national carbon budgets. They argue that whilst percentages are a clear way of demonstrating how far Scotland has come, they do not clearly demonstrate that there is an ultimate limit to the cumulative emissions that can occur before irreversible damage is caused to the climate, and how much more Scotland can emit before reaching this limit. These respondents feel that targets should be set by working backwards from carbon budgets, rather than looking forward from past performance.”

Just over 80% of respondents supported **setting annual targets as a direct consequence of the interim and 2050 targets** because ¹⁶ :

- It is common sense to derive short term targets from the overall targets.
- It will be clear if Scottish Government is falling behind targets, therefore holding them accountable for their performance against the agreed targets.

- It aids public understanding and interest as the overall target is broken down into more digestible or understandable ones, and the short-term targets encourage consistent focus.

The proposal to **set all targets on the basis of actual GHG emissions, by removing the EU ETS adjustment** was supported by 93% of respondents.

On the issue of **whether interim and 2050 targets should be allowed to be changed upwards or downwards**, many respondents were supportive. However others felt that targets should only be revised upwards. Other suggestions included allowing upwards revisions to go through secondary legislation, but requiring enhanced scrutiny for downwards revisions.

A broad range of responses were received in relation to five open questions on the frequency, scope, content and parliamentary scrutiny of future CCPs. Of those who specified a length of time, many proposed that it be extended from 60 days to 90, considering that "this would allow for proper scrutiny and consideration of plans", and that "a longer period of consideration allows more time for negotiation and consensus-building where necessary".

On 8 May 2018 the Cabinet Secretary for Environment, Climate Change and Land Reform gave [evidence to the Environment, Climate Change and Land Reform Committee](#) on the advice of the Committee on Climate Change ¹⁷ .

The Climate Change (Emissions Reduction) (Scotland) Bill 2018

The Climate Change (Emissions Reduction) (Scotland) Bill 2018 was introduced in the Scottish Parliament on Wednesday 23 May 2018, and the Environment, Climate Change and Land Reform (ECCLR) Committee was designated as the lead Committee by the Parliamentary Bureau for Stage 1 scrutiny.

The following documents were published:

- [Climate Change \(Emissions Reductions Targets\) \(Scotland\) Bill](#) ¹⁸ (the Bill)
- [Policy Memorandum](#) ¹⁹ (PM)
- [Explanatory Notes](#) ²⁰ (EN)
- [Financial Memorandum](#) ²¹ (FM)
- [Delegated Powers Memorandum](#) ²² (DPM)
- [Statements on Legislative Competence](#) ²³ (SLC)

Having taken evidence from the Cabinet Secretary regarding the advice of the CCC, the ECCLR Committee [received a letter with further information](#) from the Scottish Government

on 12 June 2018 ²⁴ . The Committee also took [evidence from the Scottish Government's Bill Team](#) on 19 June ²⁵ , and [launched a call for views on 27 June](#) ²⁶

The Bill contains three substantive parts and has, as its primary objective, to increase the GHG emissions reduction targets that were set out in the 2009 Act. It does not amend or repeal parts of the 2009 Act relating to e.g. adaptation, land use, energy efficiency, waste reduction. The Bill Team stated in oral evidence ²⁵ :

“ The raison d'être of the bill is to increase the target levels. [...] Our focus has been on introducing a bill that raises the ambition of the targets, to meet the Paris agreement, and on correcting or improving elements of the 2009 act that are evidently and demonstrably not functioning. We have not looked at the full scope of the 2009 act, because we consider that it is working well enough.”

The Government states in the PM ¹⁹ :

“ The 2009 Act established Scotland as a world leader in tackling climate change. In response to the United Nations Framework Convention on Climate Change Paris Agreement, the Bill reaffirms the Scottish Government's commitment to remain at the forefront of global ambition. This is achieved by increasing the ambition of the emissions reduction targets in line with an appropriate contribution to limiting global temperature rises to 1.5 degrees Celsius above pre-industrial levels, and incorporating provisions that will require the Scottish Ministers to regularly review whether the time is right to specify a net-zero target year.”

PART 1 - EMISSIONS REDUCTION TARGETS

This part of the Bill makes substantial changes through insertion, amendment, and substitution, to Part 1 (Emissions Reduction Targets) of the 2009 Act.

Targets

Section 1 inserts a new section A1 into the 2009 Act which imposes a duty on Ministers to ensure that the net Scottish emissions account for the net-zero target year is at least 100% lower than the baseline. This target is known as the “net zero target year” (subsection 1). The year by which the net-zero target year must be achieved is not specified, however there is a power for Ministers to set this “net-zero emissions target year”. The PM states ¹⁹ :

“ The Scottish Ministers are committed to achieving net-zero emissions as soon as possible, and to putting a target year into law as soon as there is sufficient evidence that doing so would be credible.”

This would be done by affirmative regulation (subsection 2), and subsection 3 requires Ministers to publish a statement as "soon as reasonably practicable" after laying the draft regulation, setting out:

- Their reasons for proposing to specify the net-zero emissions target year.
- The extent to which the proposed net-zero emissions target year takes account of the target-setting criteria (inserted by section 5 of the Bill).
- Whether the proposed net-zero emissions target year is consistent with the most up-to-date advice they have received from the relevant body (the CCC) (under subsection 6) and, if it is not, the reasons why.

Subsection 5 provides that any subsequent regulations must revoke the previous regulations, and cannot specify a later year unless this is consistent with CCC advice.

In May 2018 the Government published [When To Set a Net-Zero Greenhouse Gas Emissions Target Year: Information and Analysis to support discussion of the Climate Change \(Emissions Reduction Targets\)\(Scotland\) Bill](#) ⁵ . This summarises the information and analysis considered by Ministers in determining both the 90% target and the aspiration of net-zero. It considers the implications of Scotland setting a net-zero emissions date, and concludes that:

“ [...] putting a net-zero target year into legislation just now, before a credible pathway for achieving it through domestic effort can be shown, would require Scotland to compromise its existing framework in one or all of the following ways: ”

- by paying other countries to reduce emissions on our behalf through the purchase of international carbon credits, instead of focussing purely on domestic effort ”
- by removing some sectors from the target ”
- by making legally binding commitments that are dependent on as yet undeveloped technological advancement and cannot be properly scrutinised ”
- by taking steps that would have a substantial detrimental impact on people’s wellbeing and the economic growth of Scotland”

At present, the 2009 Act imposes a 2050 target of 80% for reductions in GHG emissions against 1990ⁱ and 1995ⁱⁱ baselines. **Section 2** increases this to 90%, which the CCC has advised would equate to 100% of carbon dioxide emissions.

Section 3 substitutes section 2 (the interim targets) of the 2009 Act with a new section, increasing the current target of a 42% reduction in GHG emissions by 2020 to 56%, and introducing new targets of 66% by 2030, and 78% by 2040. The PM argues that these “target levels are arguably the most ambitious legislative targets in the world given that they include international aviation and shipping and a default position that they must be achieved through domestic effort alone”. Furthermore ¹⁹ :

“ The target levels proposed are those that the CCC set out as a high ambition scenario. The CCC advise that a 2050 target of 90% emissions reduction —would require actions that are currently at the very limit of feasibility. The Scottish Government accepted the CCC high ambition scenario as Scotland’s targets should be very challenging, and should reflect a fair contribution to maintaining global temperatures to well below 2 degrees above pre-industrial levels as set out in the Paris Agreement. ”

By shifting the interim targets to percentage reductions, rather than megatonnes of CO₂ equivalent, it is hoped to improve transparency and consistency in reporting. In oral evidence to the Committee, the Government’s Bill Team stated ²⁵ :

i carbon dioxide, methane and nitrous oxide

ii hydrofluorocarbons, perfluorocarbons, sulphur hexafluoride and nitrogen trifluoride

“ There are pros and cons that come with both percentage-based and fixed amount of emissions-based targets. It is fair to say that a difficulty that was not foreseen at the time of the 2009 act is the potential for targets in two different forms becoming askew from each other. That misalignment is driven by changes to the measurement science and changes to the greenhouse gas inventory. Such changes affect the achievability of both types of target, but in different ways. In general, the fixed amount targets are much more sensitive to such changes than the percentage-based targets. One consequence of having two different types of target is that they can become misaligned, which can lead to real difficulties both for us and for stakeholders. At the moment, the clearest example of that is that there are two different targets for 2020 and at different levels it is quite conceivable that Scotland could end up meeting one target and missing the other. That would be very hard to explain and quite counterproductive for credibility, which we all agree is central.”

The Bill Team went on to set out the three main reasons why percentages are preferable to fixed amounts, and noted that the majority of respondents to the consultation favoured this approach:

- In general, percentages are more stable in relation to changes in measurement science, both for current emissions and the baseline.
- Percentage targets are more transparent i.e. it is easier to understand an 80% reduction than "x" megatonnes of carbon.
- Using percentage based targets is the approach advocated by the CCC.

Annual targets, as set out in section 9 are also now expressed in percentage terms, whereas under the 2009 Act these targets were set as megatonnes of CO₂ equivalent.

Section 4 relates to modifying the 2050 and interim target levels, by affirmative regulation, to "substitute a higher or lower figure". However, a lower figure may only be substituted if this is consistent with advice from the CCC and fulfils various other tests (new section 2A(2) of the 2009 Act). In any case, Ministers must have regard to the target-setting criteria set out in section 5 and the advice of the CCC (new section 2A(3) of the 2009 Act). Ministers must, as "soon as reasonably practicable after laying for approval a draft of [these] regulations" publish a statement setting out their reasons for modifying the target, how they took the target setting criteria into account, and whether the proposed modification is consistent with advice from the CCC. In oral evidence to the Committee, the Bill Team stated ²⁵ :

“ We definitely would not want to be modifying target levels too often. Clearly, an important function of targets is to provide long-term signalling and, if you keep on adjusting them, that function is undermined. However, if really big changes to our best understanding of the current emissions levels keep on occurring, it might be necessary at some future point to adjust the targets. Because those measurement changes can go in either direction, the issue is entirely policy neutral—at this level, it is purely technocratic. That is why the CCC advice is that it is important to be able to modify the targets both ways.”

Target Setting Criteria and Advice about Targets

Section 5 inserts a new section 2B into the 2009 Act.

This section matches the target-setting criteria as set out in the 2009 Act, with two additions. The Paris Agreement is explicitly recognised in 2B(1)(b) through the reference to the United Nations Framework Convention on Climate Change, and current international carbon reporting practice is also included at 2B(1)(k); this refers to the set of scientific methods by which emissions are measured and is often referred to as the greenhouse gas inventory, and is relevant to sections 15 and 16 which makes changes to the GHG accounting methodology. The full list of target setting criteria are therefore:

- The objective of not exceeding the fair and safe Scottish emissions budget.
- European and international law and policy relating to climate change (including the United Nations Framework Convention on Climate Change and protocols to that Convention).
- Scientific knowledge about climate change.
- Technology relevant to climate change.
- Economic circumstances, in particular the likely impact of the target on:
 - the Scottish economy
 - the competitiveness of particular sectors of the Scottish economy
 - small and medium-sized enterprises
 - jobs and employment opportunities
- Fiscal circumstances, in particular the likely impact of the target on taxation, public spending and public borrowing.
- Social circumstances, in particular the likely impact of the target on those living in poorer or deprived communities.
- The likely impact of the target on those living in remote rural communities and island communities.
- Energy policy, in particular the likely impact of the target on energy supplies, the renewable energy sector and the carbon and energy intensity of the Scottish economy.
- Environmental considerations and, in particular, the likely impact of the targets on biodiversity.
- Current international carbon reporting practice.

In oral evidence, the Bill Team stated ²⁵ :

“ We did not look to change the criteria substantially; we accepted the criteria from the 2009 act. We merely made some very minor changes in the light of changes to the accounting framework and in response to stakeholders’ view that the Paris agreement should be more explicitly recognised. We did not conduct a full review of the rest of the criteria in the 2009 act—we accepted those as read.”

This section also allows Ministers, by affirmative regulation, to amend target-setting criteria, and is preserved from the 2009 Act (section 6(1)).

Section 6 inserts a new section 2C into the 2009 Act which imposes a duty on Ministers to seek advice from the CCC (or another “relevant body” if such a body has been established) at least every 5 years. This advice has two main elements:

Firstly, Sections 2C(3)(a) and (b) stipulate that a request for advice from the CCC must request their view as to whether; the net-zero emissions target is achievable and, if so, what is the earliest achievable net-zero emissions target year, and whether the levels of the 2050 and interim targets remain appropriate. This advice on targets must be provided with reference to the target-setting criteria. The PM states ¹⁹ :

“ This is equivalent to the current requirements under the 2009 Act, but instead of the advice being about the next set of annual targets, the request for advice must seek the CCC’s views on, among other things, whether the net-zero emissions target is achievable, and if so, what is the earliest achievable year, taking account of the target-setting criteria. The request must also seek advice on the continued appropriateness of the levels of the interim and 2050 targets. The advice must take into account the target-setting criteria.”

Secondly, Sections 2C(3)(c) and (d) and (e) stipulate that the CCC must also take a view on certain aspects of how each relevant target – which is defined as the targets over the 15 year period from the time the advice is provided – should be met. These aspects are; the extent to which each relevant target should be met by domestic action versus the use of international credits, and the “respective contributions [...] that should be made by”, the traded and non-traded sectors of the Scottish economy, and from the energy efficiency, energy generation, land use, and transport sectors of the Scottish economy. These requirements are preserved from the 2009 Act.

Section 7 inserts a new section 2D (power to seek additional advice) into the 2009 Act, and gives Ministers the power to request advice from the CCC "at any time" on any relevant matter.

Section 8 inserts a new section 2E (ministerial duties following request for advice) into the 2009 Act. This requires Ministers to publish any advice requested and subsequently received from the CCC "as soon as reasonably practicable after they receive it". This requirement is preserved from the 2009 Act. It also requires Ministers to make a statement to Parliament if they do not follow the CCC’s advice on the setting (or modifying) of a net-zero emissions target year or on the modifying of the 2050 and/or interim target levels (subsections 2 – 5).

The PM states ¹⁹ :

“ Should the CCC advise a net-zero emissions target is achievable and suggest an earliest achievable year, or they advise that an interim or 2050 target level is no longer appropriate, the Scottish Ministers must either lay secondary legislation that acts on the advice within 12 months of receipt of the advice [under section 1], or publish a statement setting out their reasons for not doing so. The Scottish Ministers must have regard to the target-setting criteria in making their decision. ”

Annual Targets

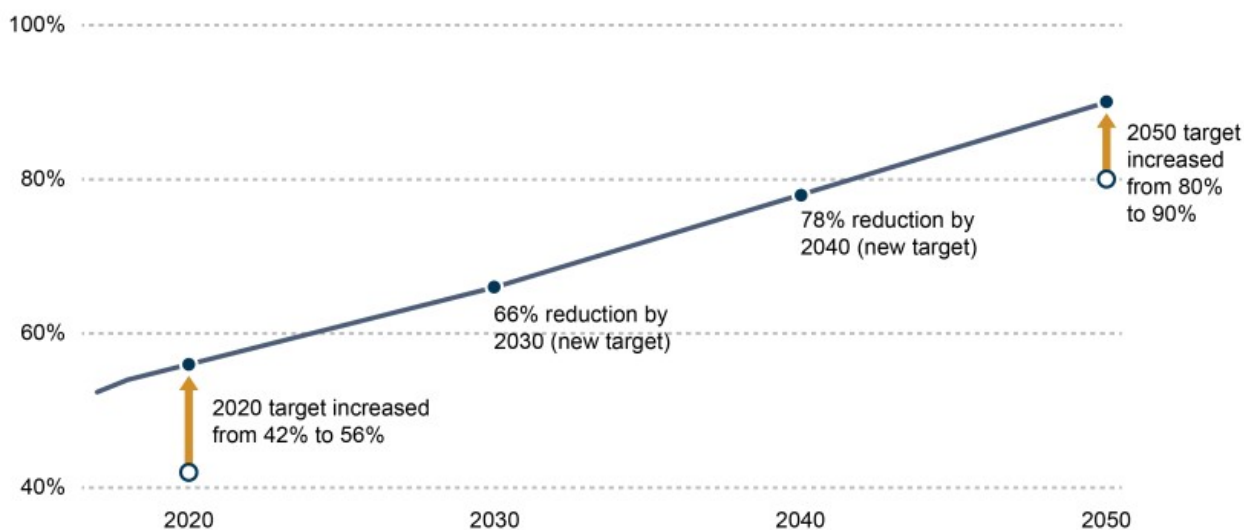
Section 9 substitutes section 3 (annual targets) of the 2009 Act with:

- A new section 3 (annual targets: 2021 to 2049).
- A new section 3A (annual targets: recalculation if net-zero emissions target year is in certain periods).
- A new section 3B (annual targets: further rules on recalculation).

The new section 3 requires Ministers to "ensure that the net Scottish emissions account is at least the relevant target figure lower than the baseline for each year in the period" 2021 - 2049, and sets out the rules for calculating the relevant percentage figure for each annual target. The essence of these rules is that a straight line is drawn between the two adjacent decadal targets (i.e. the 2050 and interim targets). These same rules would also be re-applied upon any modification of the 2050 and/or interim targets under the power in section 4 of the Bill . This will mean that the annual target levels automatically adjust to any changes in the decadal target levels.

Annual and Interim Targets 2020 - 2050

Subsections 2 - 5 effectively require a straight line to be drawn between the targets for 2020, 2030, 2040, and 2050, with the figures for each target year correlating with that line. The following diagram shows this line:



Adapted by SPICE from figures in the Scottish Government's Climate Change Bill Consultation Paper Scottish Government, 2017¹⁵

The new section 3A allows for annual targets to be recalculated in the specific case that a net-zero emissions target year is specified for a year that is "mid-decade". In this case, i) annual target levels are determined by a straight line drawn between the preceding decadal target and the net-zero target year and ii) the levels of any subsequent decadal targets (i.e. the 2050 and interim targets) are set to 100%.

The new section 3B is technical, and relates to annual target re-calculation rules, that apply when Ministers make secondary and subsequent regulations under the new section A1(2) to specify a net-zero emissions target year, and section 2A(1) to modify the 2050 or interim targets.

Section 10 is short, and sets (for the purposes of assessing and reporting only) updated, percentage form targets for 2017, 2018 and 2019, as follows:

- 2017: from 43% to 52.4%
- 2018: from 44.3% to 54.0%
- 2019: from 45.6% to 55.0%

These targets are specified for reporting purposes only, as they reflect current or past years. However, the emission statistics for these years are not yet available – due to the two year delay in the availability of this data. For example, emissions data for 2018 will likely be available in June 2020.

The levels of the updated targets are as recommended by the CCC in its 2017 advice as an appropriate path to an updated 2020 target of 56%.

Section 11 removes previous previous megatonne CO₂ equivalent form annual targets for the years 2017 to 2032 by revoking three Orders made under the 2009 Act, as they are superseded by new interim targets under section 2.

Section 12 inserts a new section 3C (publication of targets) into the 2009 Act, and requires Ministers to "keep and maintain" a list of the net-zero emissions target year and the percentage figures applying for each emissions reduction target.

In a letter to the Committee, the Scottish Government explains ²⁴ :

“ The Bill proposes that annual targets are calculated as the difference between interim targets; or the difference between interim targets and the 2050 target or net-zero emissions target year (if set). The annual targets will be recalculated if the interim or 2050 targets are amended. They will also be recalculated when a net-zero emissions target year is set. It was decided not to include a list of the annual targets on the face of the primary legislation as this could cause confusion if these targets are subsequently recalculated, to reflect shifts in science, knowledge and understanding in this field. Publishing a list of the targets will ensure up to date target levels are freely available and easily accessible to all at any time. ”

Subsection (3) requires Ministers to lay a copy of the list before Parliament as soon as is reasonably practicable after it has been compiled and, thereafter, as soon as reasonably practicable after the net-zero emissions target year or a percentage figure mentioned is specified or modified.

Part 2 - EMISSIONS ACCOUNTING

This part makes changes to emissions accounting, notably the permitted use of carbon credits, and to the way international carbon reporting practice, commonly known as the greenhouse gas inventory is used when reporting against target levels in the Bill.

Use of Carbon Credits

Section 13 makes changes to section 13 of the 2009 Act in relation to the permitted use of carbon unitsⁱⁱⁱ, most commonly traded under the [EU Emissions Trading Scheme](#) (EU-ETS).

The 2009 Act established the definition of the “net Scottish emissions account”, which is, in essence, actual emissions from Scotland (termed “net Scottish emissions”), adjusted for the use of carbon units. All of the emissions reduction targets in Part 1 of the 2009 Act are based on the net Scottish emissions account.

The Carbon Accounting Scheme (Scotland) Regulations 2010 (amended in 2015, 2016, 2017 and 2018), made under sections 13 and 20 of the 2009 Act, set out the two situations in which carbon units can currently be credited to, or debited from, the net Scottish emissions account:

- As an adjustment to reflect the operation in Scotland of the EU Emissions Trading Scheme (EU-ETS).
- To reflect any purchase of international carbon units by Scottish Ministers. This mechanism is subject to two statutory limits under the 2009 Act set out below). No such units have been purchased to date.

The Bill retains the definition of the “net Scottish emissions account” as the basis for all of the emissions reduction targets. However, the use of carbon units is further restricted from arrangements under the 2009 Act in two main ways.

Firstly, subsection (3) of section 13 states that no adjustment to reflect the operation of emissions trading schemes can be applied. This will remove the current EU ETS adjustment mechanism. Subsection (4) allows for the possibility that trading scheme adjustments (for the EU ETS or other schemes) could be re-introduced in the future, subject to affirmative procedure secondary legislation.

Secondly, subsection 1(c) of section 13 states that the amount of carbon units purchased by Ministers that may be credited to the net Scottish emissions account is zero, unless a higher limit has been specified by regulations (set out below). In short, this means that the proposals set a general default limit of zero carbon credit usage for all future years (post 2016), unless Ministers bring forward regulations allowing for the possibility of credit use in specified future years (under section 14).

Subsection (1)(a) of Section 13 repeal subsections (2) to (4) of the 2009 Act, these relate to the “allowable amount” of “carbon units credited to the net Scottish emissions accounts” and are no longer needed as they related to the 2009 Act arrangements where limits on

ⁱⁱⁱ a generic term for any tradable certificate or permit representing the right to emit one tonne of carbon dioxide or the mass of another GHG with a carbon dioxide equivalent equivalent to one tonne of carbon dioxide

the use of carbon units were set over periods (generally of 5 years), whereas any non-zero limits set under the Bill (section 14) would be on a year by year basis.

Subsection 1(b) of section 13 amends subsection (5) of section 13 of the 2009 Act to allow Ministers to use the Carbon Accounting Regulations to make rules where carbon units “may” be used. The effect is as follows ¹⁸ :

“ (5)The Scottish Ministers may, by regulations, make provision about— (a)the circumstances in which carbon units may "or may not" be credited to the net Scottish emissions account for a period; (b)the circumstances in which such units may "or may not" be debited from that account for a period; (c)the manner in which this is to be done.”

Further provisions in section 13 (subsections (2) - (5)) are technical.

Section 14 inserts a new section 13A into the 2009 Act which provides that Ministers may, by affirmative regulation, set a maximum limit on the amount of carbon units purchased by themselves that may be credited to the net Scottish emissions account per annum (subsection 1), not exceeding 20% of the planned emissions reduction for that year (subsection 2).

The default zero limit on the crediting of purchased carbon units, as set out in the new section 5A, along with this power to increase that limit for the specified future years, replace both the domestic effort target (section 8), which is repealed in the Schedule and the limits on the use of carbon units (section 21 and Orders made under this) under the 2009 Act. The EN state ²⁰ :

“ The domestic effort target required the Scottish Ministers to ensure that reductions in net Scottish emissions account for at least 80% of the reduction in the net Scottish emissions account for a target year (i.e. no more than 20% of the reduction should be due to the crediting of carbon units). Limiting the maximum amount of carbon units purchased by the Scottish Ministers that may be credited to the net Scottish emissions account for a year to no more than 20% of the reduction ensures that, for carbon units purchased by the Scottish Ministers, a broadly similar outcome is achieved.”

Further provisions in section 14 are technical; they set out how the planned reduction is calculated, and require Ministers to publish a statement, if regulations setting a non-zero limit are made, setting out their reasons and whether they are consistent with the most up-to-date advice from the CCC. Three existing Orders, made under the 2009 Act, which imposed limits on the use of carbon units for the period to 2022, are also revoked.

International Carbon Reporting Practice

Section 15 is largely technical, but crucial to the scrutiny of future reporting, and complements the shift to percentage based targets . The statutory term “international carbon reporting practice” refers to the set of scientific methods by which emissions are measured and is often referred to as the “greenhouse gas inventory”. This section of the Bill relates to the advice on these issues provided by the CCC to the Scottish Government in December 2017.

In oral evidence to the Committee the Cabinet Secretary explained that moving to percentage based targets is not adequate to improve stability and transparency ¹⁷ :

“ If the data revisions are very large or if they are uneven between the baseline and the present day, even percentage-based targets could be met or missed simply as a result of those revisions. [...] The CCC has used this opportunity to recommend further steps, beyond those it had set out in its initial advice, to stabilise Scotland’s statutory target framework for future data revisions. They have provided an objective and relatively simple approach to managing the challenges posed by the volatility of emissions estimates, while also ensuring that we keep pace with the best available science. Their proposal is to freeze the measurement methods for up to five years at a time and assess whether the targets in those years are hit or missed using those frozen methods. In other words, whether a target is hit or missed will be assessed against the methods that were in place when the target was set. Every five years there will be a reset of the measurement methods and potentially the targets, too, so that we never get too far behind the evolving measurement science.”

Section 15, taken collectively with the updated reporting duties in section 16 (set out below) mean that, in effect, the inventory methods used for the purpose of assessing progress against targets will be frozen for rolling periods of up to 5 years.

In particular, subsection (3) amends section 19 of the 2009 Act to create a new concept of “target-relevant international carbon reporting practice”, which is then used for reporting against targets (section 33 of the 2009 Act, as amended by section 16 of the Bill). The definition in section 15(3) ensures that the international carbon reporting practice used for this purpose is automatically re-set to the most up to date “current” practice at least every five years, through linking this to the receipt of each regular set of advice from the CCC under section 2C (section 6 of the Bill).

Subsections (1) and (2) of section 15 are technical and make consequential amendments to the definitions of international carbon reporting practice used in sections 17 and 18 of the 2009 Act.

As noted above, section 5 of the Bill has added “current international carbon reporting practice” to the list of target-setting criteria. This will mean that the CCC is required to have specific reference to the most up to date set of inventory methods when providing its advice on target levels.

PART 3 - REPORTING AND PLANNING DUTIES

This part rationalises the annual report produced under sections 33 and 34 of the 2009 Act, and puts a new reporting requirement in place which will assess progress towards implementation of Climate Change Plans.

Reports on Emissions Reduction Targets

At present, sections 33 and 34 of the 2009 Act require reports on annual targets (in the period 2010 - 2050) to be laid before Parliament no later than 31 October two years after the target year. The report must state:

- Whether the annual target has been met, and if not, why.
- Whether the domestic target has been met, and if not, why.
- The amount of net Scottish emissions and the net Scottish emissions account.

This is informed by an [annual official statistics publication](#) of Scottish greenhouse gas emissions, currently published in June. Therefore, whilst the statutory reporting under the 2009 Act takes place in October, the results are known around four months in advance.

Sections 16, 17 and 18

Sections 16, 17 and 18 provide for a new reporting framework. The PM states ¹⁹ :

“ [...] the Bill rationalises the annual report produced under sections 33 and 34 of the 2009 Act so that it contains only information directly related to the outcome of the emissions reduction target for the relevant year. It requires that a report is laid in the Parliament as soon as reasonably practicable, once the information required for the report is available. In practice this will occur when the annual Scottish Greenhouse Gas Emissions Statistics are published. This usually happens annually in June, however this publication date could vary in the future.”

Section 16 replaces section 33 (reports on annual targets) of the 2009 Act with a new section 33. It requires that Ministers must, as soon as reasonably practicable, following each target year, lay before Parliament a report in respect of that year, stating:

- The emissions reduction target for the relevant year.
- Whether the emissions reduction target has been met.
- The percentage by which the net Scottish emissions account is lower than the baseline.
- The amount by which the net Scottish emissions account is lower or higher than the emissions reduction target for that year.
- The cumulative amount by which the net Scottish emissions accounts are lower or higher than the corresponding emissions reduction targets.

This section requires Ministers to use "target-relevant international carbon reporting practice" (as defined in section 15 of the Bill) when assessing and reporting on the above. Furthermore, when determining these figures and amounts, Ministers must do so consistently "with the most up-to-date advice provided" by the CCC.

This means the 'GHG Account' calculation method set out by the CCC in its December 2017 advice, unless the CCC updates this advice in future. This calculation method estimates what the levels of current Scottish emissions would have been if a previous set of international carbon reporting practice had been used to determine this. Such a calculation is necessary as data on Scottish emissions levels using any set of international carbon reporting practice other than the current practice is not directly available through the UK GHG inventory process. The Bill also requires that the workings of the calculations undertaken for this purpose are set out in the report

Section 17 replaces section 34 of the 2009 Act with a new section 34. It requires that a report under the new section 3 provides additional information, including the baseline, the aggregate (i.e. total) amount of Scottish emissions for the year (in megatonnes), the percentage by which this differs from the baseline and the preceding year, the amount of emissions in previous years, and the methods used to calculate the aggregate amount. This report must also provide information in relation to any carbon units credited or debited from the net Scottish emissions account for that year.

This section requires Ministers to use "current international carbon reporting practice" for assessing and reporting on the information required. This means that information on the amounts of emissions for current and previous years will continue to be available on a comparable basis to that reported under the 2009 Act.

This section also requires Ministers to "specify", "state" and "explain" adjustments made to previously reported net Scottish emissions (i.e. data revisions). As discussed above, such revisions arise through changes to international carbon reporting practice. The requirement to set out the effects of any data revisions is preserved from the 2009 Act.

Section 18 is largely technical, and amends and updates section 42 (reports: provision of further information to the Scottish Parliament) of the 2009 Act.

Climate Change Plan

Section 19 is lengthy, and substitutes section 35 (reports on proposals and policies for meeting annual targets) with a new section 35 (climate change plan), as well as adding two new sections 35A (which relates to the process for climate change plans) and 35B (which relates to a new reporting duty in relation to progress towards climate change plans). Regarding the new reporting duty, the PM states that in this section ¹⁹ :

“ [...] high level emissions target reporting is supplemented later in the year by requiring the Scottish Ministers to lay reports in Parliament that contain an assessment of progress towards implementing the policies and proposals set out against the chapter headings in the most recently published Climate Change Plan. The Bill requires these reports to be laid annually by 31 October, or as soon as reasonably practicable thereafter. ”

The new section 35 changes the name of "Reports on Policies and Procedures" to "Climate Change Plans" (CCP) to reflect how these are referred to in practice, and requires that the next CCP is laid before Parliament within five years of this section coming into force, and then at least every five years thereafter (the same frequency as the 2009 Act). The essential requirement of the CCP remains to set out proposals and policies for meeting future emissions reduction targets. In the event that the previous emissions targets have been exceeded, the plan must set out compensatory measures to make up any cumulative excess of emissions (as reported in the most recent section 33 report).

Subsection 35(3) requires that each "plan period" should be 15 years, beginning the year after the draft CCP is laid. However Ministers are also allowed to vary this timescale by a period of five years either way to align with significant milestones e.g. an interim target, the 2050 target or the net-zero emissions target year (when it is specified).

Subsection 35(4) is the same as required by the 2009 Act, and requires that CCPs set out the contribution of the following sectors:

- Energy efficiency.
- Energy generation.
- Land use.
- Transport.

Beyond this requirement, Ministers are allowed to structure the Plan into chapters as considered appropriate (section 35(2)).

There is a requirement to explain how the proposals and policies in the plan will impact on different sectors of the Scottish economy (section 35(5)). Further subsections require plans to set out an assessment of progress towards on implementing the proposals and policies in the immediately preceding plan, including the current CCP which was laid under the 2009 Act.

Changes to Parliamentary Procedure and Progress Reporting

The **new section 35A** addresses concerns raised by parliamentary committees following scrutiny of the most recent climate change plan, and extends the time available for parliament to consider draft CCPs from 60 to 90 days, including a period of 60 days when not dissolved or in recess.

Ministers must also have regard to any representations made to them, resolutions passed by the Parliament, and relevant committee reports. They must, when laying a CCP, also lay a statement setting out the details of any such representations, resolutions or reports, and the changes, if any, they have made to the plan in response.

The **new section 35B** requires Ministers to lay an annual report on progress for "each substantive chapter of the most recent climate change plan laid under section 35". Each report must contain an assessment of progress towards implementing the proposals and policies set out in that chapter, and be laid by 31 October in the relevant year, or as soon as reasonably practicable thereafter. These sectoral reports are also applicable to the current CCP (which was laid under the 2009 Act) until such a time as a new CCP is laid.

PARTS 4 AND 5 - MINOR AND CONSEQUENTIAL MODIFICATIONS AND FINAL PROVISIONS

Part 4 sets out the meaning of certain terms, and amends section 98 (Interpretation) of the 2009 Act. It also provides for the schedule, which proposes further minor or consequential modifications the 2009 Act; e.g. repealing sections 4 to 7, as they are no longer needed due to annual targets being set automatically by the new sections inserted by section 9 of the Bill.

Part 5 provides for ancillary powers for Ministers as well as for commencement.

FINANCIAL MEMORANDUM

The FM states that it sets "out the costs associated with the measures introduced by the Bill", however it also recognises that cost estimates in relation to damages that will occur if climate change is not mitigated, and the costs of action to mitigate climate change are "inherently uncertain". Citing work carried out by ClimateXChange²⁷, the FM notes²¹:

- The average estimate of costs of global warming, of between 2.5 - 3 degrees higher than pre-industrial levels, is 2.2% of GDP. The median is 1.5%, and the 10th and 90th percentiles are 0.0% and 3.5% respectively. There are no estimates specifically for Scotland.
- The cost of mitigating climate change to less than 2 degrees, with a probability of 50%, is between 1.5 and 5% of GDP. Median abatement costs to limit warming to 1.5°C above pre-industrial levels were put at 3.4% of GDP by 2050, with an upper estimate of 6.2%.

And states²¹:

“ Broadly speaking, in narrow cost/benefit terms, limiting warming to 1.5°C will incur higher costs and produce relatively lower marginal gains when compared to limiting to below 2°C. However, the state of knowledge is not strong enough (and may never be strong enough) to determine more precisely where the 'optimal' level of mitigation lies. ”

More specific costs in relation to climate change mitigation are calculated by the [Scottish TIMES model](#) which was been used to support the development of the Scottish Energy Strategy, and most recent CCP. The FM states that it has been used to "assess the high level cost implications of moving from an 80% to 90%" target, and that²¹:

“ [...] the cost of moving from an 80% to 90% Greenhouse Gas reduction target is estimated to result in an additional system cost of approximately £13 billion over the period 2030-2050 [...]. Prior to 2030, the estimated system cost of an 80% and 90% ambition are broadly aligned. ”

Over the period 2030 to 2040 average additional costs are estimated to be £300m per annum, increasing to an average additional cost of £1 billion per annum in the period 2041-2050. Direct costs to the Scottish Administration are estimated to be £25,000 annually.

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