

Committee on Climate Change

7 Holbein Place

London SW1W 8NR

5th July 2016

Roseanna Cunningham MSP

Cabinet Secretary for Environment, Climate change and Land Reform

St Andrew's House, Regent Road

Edinburgh EH1 3DG

Dear Roseanna,

I am writing in response to your letter of 24 June in which you requested updated advice pursuant to the Climate Change (Scotland) Act. A new inventory of greenhouse gases has been published since the Committee on Climate Change (CCC) issued its advice in March. In light of the new evidence you requested the CCC re-examine:

1. The "fair and safe Scottish emissions budget"
2. Setting annual targets for years 2028 – 2032
3. Modification of the existing annual targets set for the years 2017 – 2027
4. Setting a limit on the use of carbon units for the period 2018 – 2022.

These four questions are inter-related so we address them together in the rest of this advice.

In our March assessment we recommended that targets set by the Scottish Government should be on track to meeting at least an 80% reduction from 1990 in 2050, while meeting the requirements of the Climate Change (Scotland) Act. We proposed that targets to 2019 be revised to align to our High Ambition scenario and targets from 2020 fall at the Act's minimum rate of 3% per annum, which could largely be met by delivering our High Ambition scenario.

Improved estimates for emissions, released since March, imply that there is no longer a material difference between the existing targets to 2019 and our High Ambition scenario. An application of our previous advice to the new information would therefore imply that targets for 2028-2032 are set based on a 3% annual reduction from the existing 2019 target. This would require revisions to existing targets for 2025-2027, which currently entail annual reductions greater than 3%. We note that given the uncertainty attached to both estimates and projections of emissions and the Government's proposal for a revised Climate Change (Scotland) Act an alternative option is to retain existing targets for now and set 2028 – 2032 on 3% annual reduction from the current legislated 2027 target.

Existing targets should be changed only under exceptional circumstances. To do so more frequently would undermine their value as a long-term signal. In this case the recommended revisions to existing targets to 2027 in our March advice were to preserve the value and credibility of the targets while maintaining the intention of the existing targets. However, as these revisions and the new targets for 2028 – 2032 have not yet been legislated, we welcome the opportunity to update our advice based on the latest available evidence.

The latest inventory for 1990 – 2014 has reduced the estimates for emissions for agriculture and land use, land use change and forestry by 1.8 MtCO₂e in 2013. It also provides actual data for 2014 in all sectors to which our scenarios can be realigned. Additionally, the changes in the inventory in agriculture have reduced our estimates of potential abatement in this sector from 2015 (see annex).

Updating our High Ambition scenario to reflect these changes, as well as adjusting for the effects of temperature on emissions from buildings (see annex) and then applying the same principle of following the High Ambition scenario to 2019 with a 3% annual reduction thereafter, implies a revision to those we proposed in March (Figure 1). These updated targets:

- if continued to 2050 will meet an 80% reduction from 1990 levels
- will meet at least a 42% reduction in 2020
- can be delivered largely through the High Ambition scenario with manageable effects relating to the Climate Change (Scotland) Act target-setting criteria
- support the UK's fifth carbon budget and increased global effort called for by the Paris Agreement
- imply no need for credit purchase in 2018 – 2020. In 2021 and 2022 credit purchase or additional abatement beyond the High Ambition scenario of 0.9 MtCO₂e per year would be required.

These targets are broadly in line with current legislated targets until 2024. From 2025 current targets could not be met through our High Ambition scenario. We therefore recommend the Scottish Government adopt one of two options for targets in 2017 – 2027, and subsequently 2028 – 2032:

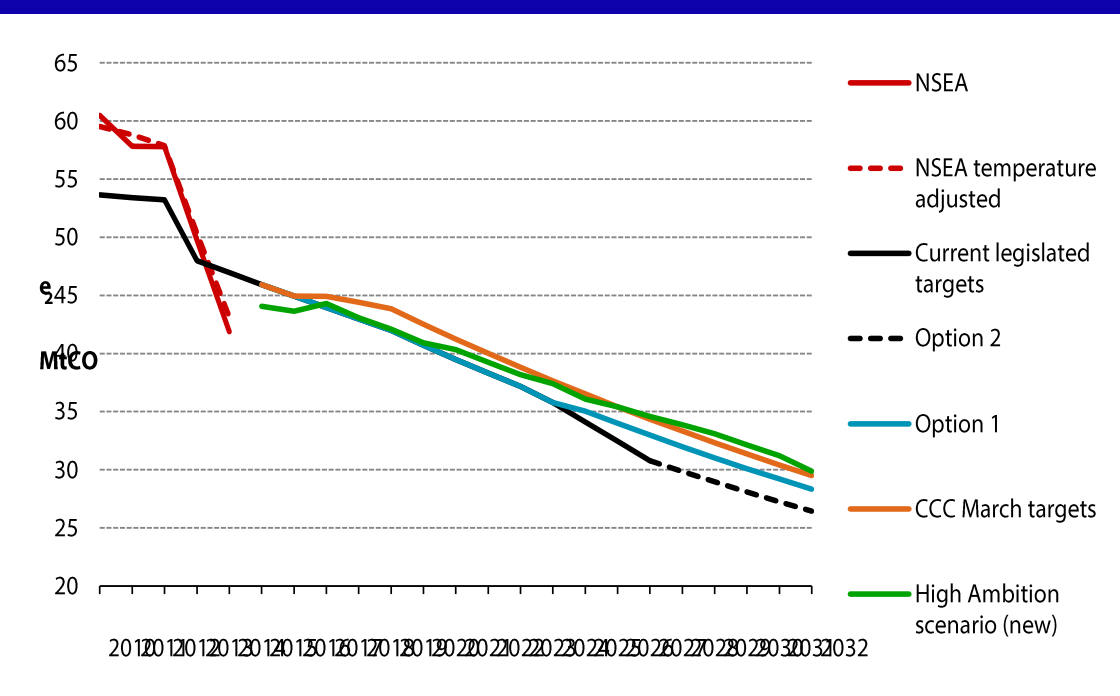
- 1. Keep existing legislated targets to 2024 and alter and align 2025 – 2032 to latest assessment of target levels (as in Table A1 in annex).** This option would bring the targets in line with the achievable target pathway to the 2050 target and be consistent with a steady rate of progress. They would give cumulative emissions of 1,313 MtCO₂e (providing all future targets are met) from 1990 – 2050 and would only be achievable through additional abatement beyond our High Ambition scenario or through the purchase of an average of 1.8 MtCO₂e credits per year between 2025 -2032.
- 2. Keep existing legislated targets to 2027 and then follow a 3% reduction per year to 2032 (as in table A1 in annex).** If continued after 2032 this would achieve an 80% reduction in 2050 and imply cumulative emissions of 1,277 MtCO₂e (providing all future

targets are met) from 1990 – 2050. These targets would only be achievable through additional abatement beyond our High Ambition scenario or through the purchase of an average of 3.5 MtCO₂e credits per year in 2025 - 2032.

The main criteria for deciding between them should be which of the two gives greater certainty about Scottish ambition to 2032. The Scottish Government has committed to bringing forward a new climate change act. That may include changes to how targets are derived and defined. If that new act is to be developed, consulted upon and legislated within the next 12 to 18 months then option 2 is to be preferred. It avoids adjusting the existing targets to 2027 and provides a simple approach to the targets out to 2032. Option 2 minimises the changes under the existing legislation in recognition that new legislation may result in some adjustments. However, if the new legislation is likely to be delayed beyond about 18 months then option 1 is to be preferred. Option 1 is closer to the cost-effective path and if a new Act is unlikely to emerge in the near future then it would be preferable to revise the targets as set out in option 1.

We will provide advice to the Scottish Government on the new legislation later in the year. In that advice, we will consider, amongst other issues, how to make the targets more robust to changes in the inventory.

Figure 1. NSEA and update to targets and high ambition scenario (2010 – 2032)



Source: NAEI (2016), CCC analysis

Notes: The increase between 2014 Net Scottish Emissions Account (NSEA) and 2015 high ambition scenario is due to rises in the traded sector from backloading. Non-traded sector emissions continue to decline.

Yours sincerely,



Matthew Bell
Chief Executive, Committee on Climate Change

ANNEX:

1. Target updates

Table A1. Current target levels and new recommended target levels (MtCO₂e)

	Current targets	Reduction against 1990	Option 1	Reduction against 1990	Option 2	Reduction against 1990
2017	43.946	-43%	43.946	-43%	43.946	-43%
2018	42.966	-44%	42.966	-44%	42.966	-44%
2019	41.976	-46%	41.976	-46%	41.976	-46%
2020	40.717	-47%	40.717	-47%	40.717	-47%
2021	39.495	-49%	39.495	-49%	39.495	-49%
2022	38.31	-50%	38.31	-50%	38.31	-50%
2023	37.161	-52%	37.161	-52%	37.161	-52%
2024	35.787	-54%	35.787	-53%	35.787	-54%
2025	34.117	-56%	35.049	-55%	34.117	-56%
2026	32.446	-58%	33.998	-56%	32.446	-58%
2027	30.777	-60%	32.978	-57%	30.777	-60%
2028			31.988	-59%	29.854	-61%
2029			31.029	-60%	28.958	-63%
2030			30.098	-61%	28.089	-64%
2031			29.195	-62%	27.247	-65%
2032			28.319	-63%	26.429	-66%

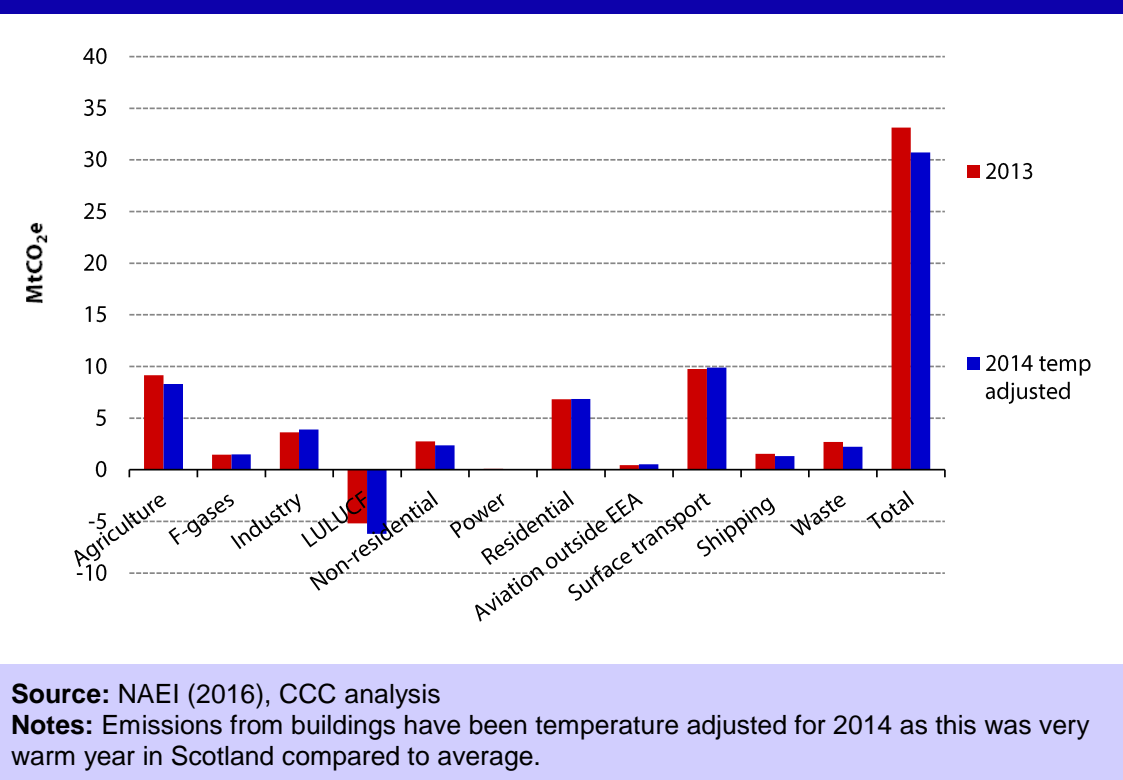
Source: CCC analysis

2. Inventory changes

In the latest inventory for 1990 – 2014 estimated emissions in a number of sectors have been revised. We re-aligned our business as usual projections to the latest outturn for 2014 to ensure that the high ambition scenario reflects the latest information. Figure A1 shows the changes in key non-traded sectors between 2013

and 2014 (temperature adjusted) which have been used as the starting point for BAU in our March advice and this updated advice respectively.

Figure A1. Inventory changes (2013-2014)



3. Agriculture abatement

In agriculture our estimates of potential abatement from 2015 – 2032 have been scaled by same amount that the inventory changed in 2013. Changes in the inventory occurred largely for N₂O with a reduction of 1.0 MtCO₂e (28%). The abatement from N₂O reduction measures was therefore decreased by 28%.

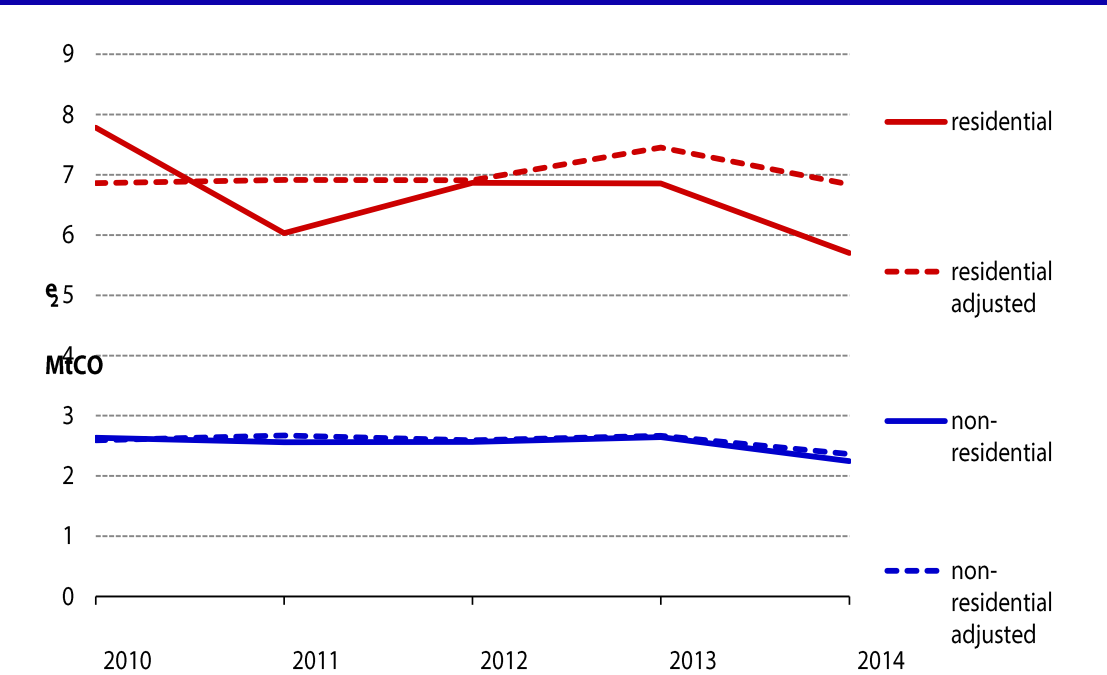
Changes to the land use, land use change and forestry (LULUCF) inventory in 2013 have not affected our projected abatement (2015 – 2032) because this is from increased tree planting whereas the majority of the changes to the inventory in the sector have been due to grasslands.

4. Temperature adjustment for buildings

There was a reduced demand for heating in 2014 as it was a warmer than average year. In order to adjust emissions from buildings to take account of this we have used UK wide adjustments in residential and non-residential buildings and aligned those to the number of heating degree days in Scotland compared to UK. For residential

buildings if 2014 had been an average temperature year emissions have been estimated as being 1 MtCO₂e higher (Figure A2).

Figure A2. Temperature adjusted emissions in buildings (2010 – 2014)



Source: NAEI (2016), CCC analysis