Dear Sara,

Climate Change (Emissions Reduction Targets) (Scotland) Bill – Financial Memorandum

Many thanks for your letter of 27 July 2018 providing further information to the Committee on the Climate Change (Emissions Reduction Targets) (Scotland) Bill following the evidence session in which you participated on 19 June 2018. Following receipt of this letter, the Committee has several further questions relating to the use of TIMES, the run of the model based on targets of 90% and the assumptions/constraints used for this run.

Development of the £13bn cost of the Bill figure

In evidence to the Committee, you said—

“We came up with that £13 billion figure by running TIMES under the assumptions of the climate change plan for the 80 per cent end target for 2050. We then ran the figures again using the 90 per cent target. We took the systems costs from both and subtracted one from the other to find the difference, which was £13 billion. That is above and beyond the cost that would happen anyway through society continuing to function. It is the additional cost of moving from a target of 80 per cent to one of 90 per cent.”¹

However, it is not clear from the evidence given, nor from your subsequent response, whether the same assumptions and inputs used to develop the final Climate Change Plan were also used when you “ran the figures again using the 90% target”. I would be grateful if you could provide the Committee with detail of the constraints placed on the TIMES model for the run based on a 90% target scenario.

¹ Environment, Climate Change and Land Reform Committee, Official Report, 19 June 2018
In your letter to the Committee of 27 July, you said:

“To provide an indicative assessment of the relative cost of increasing the targets, we assessed the total cost of two TIMES runs; one with a 90% target in 2050 and the other with an 80% target. The result showed that achieving a 90% target would result in an estimated cumulative additional cost of around £13 billion (2017 prices, discounted using the social discount rate) between 2030 and 2050.”

• The Committee requests details of the figure for 80% (which was subtracted) and the figure for 90% which were used in this calculation to arrive at £13bn

In your letter you also said:

“…adjusting for inflation and removing the impact of discounting, the estimated cost of moving to a 90% target is approximately £59bn.”

• Again, the Committee seeks details of the two figures used to arrive at this figure.

• Can you confirm whether the TIMES Model has removed “discounting” and adjusted for inflation in order to arrive at the £13bn figure?

Sector modelling within TIMES

During consideration of the draft Climate Change Plan, the Committee became aware that not all sectors had been modelled within TIMES, and that transport, agriculture, land use and waste had all been modelled externally before the results were added into the TIMES runs.

In order to better understand how this impacts on the costs which TIMES predicts, the Committee requests clarification as to how each sector was considered and modelled when running the TIMES model for the 90% target. This should include information about whether modelling done externally to TIMES for non-energy sectors was updated from modelling done for the 80% target under the current Climate Change Plan.

Additional costs between 80% and 90%

In your letter of 27 July 2018, you provided further details of where the additional costs might lie in moving from 80% to 90%. The largest cost category is an additional £10.0 billion on investment costs, which describes broadly where investment will be required in the energy and transport sectors.

The Committee requests details of:

• Why investment is only highlighted for these sectors?

• How has the TIMES Model developed cost pathways for sectors which were modelled outwith TIMES (Land use, agriculture, waste and transport)?
• What investment is envisaged in sectors other than energy and does this form part of the £10bn?

• If it does not form part of the £10bn, how much additional cost does it represent?

Costs of policies and proposals to achieve a 90% target

Previously, in its report on the draft Climate Change Plan, the Committee suggested that the final Climate Change Plan should include more detail on the estimated costs of each of the policies and proposals including the estimated costs to the public and business sectors.

The Committee understands that the TIMES model cannot provide this information, however is asking the Scottish Government to move beyond a “high level assessment”1, and provide the Committee of detail of:

• An assessment of the potential costs to the public or other sectors of meeting a 90% target; and

• Whether it plans to set out estimated costs (or a range of costs) to the public and other sectors in the next draft Climate Change Plan, as previously recommended by the Committee?

Cost Benefit and Risk Analysis

In evidence received by the Committee, it has been presented that the cost of acting will be less than the cost of failing to act. The Committee has also been told that action sooner, rather than later, will be less burdensome.

In evidence to the Committee, Jim Skea of the Intergovernmental Panel on Climate Change and Andy Kerr of ClimateXChange both spoke of the “co-benefits” to be derived from action to mitigate climate change.

The Committee requests details of the social and economic cost-benefits and risk analysis for which the Scottish Government has undertaken in relation to a move from an 80% target to a 90 or 100% target, and how benefits and cost savings are impacted by the rate at which action is taken. If this work has not been undertaken, the Committee seeks clarification as to why and recommends the Scottish Government carry out this work in order to provide the findings to the Committee.

The Committee also seeks this information in relation to analysis of the difference in cost of achieving a limit of global temperature rises of 1.5°C and 2°C.

Cost of progress and the cost of climate change action

The Committee considers that there is a difference between the actions which would be taken as a result of progress and technological advances, and actions which are proposed to be taken specifically to meet the objectives of the Bill and future Climate Change Plans. The Committee requests detail of the Scottish Government’s assessment of what will occur anyway and what action will arise specifically as a result of the Bill and future Climate Change Plans.
On behalf of the Committee, I request a response to this letter by **8 November 2018**.

Yours sincerely,

Gillian Martin MSP
Convener
Environment, Climate Change and Land Reform Committee