The Climate Change Plan Meeting the Emissions Reduction Targets 2018-2032

The Third Report on Proposals and Policies

Written statement laid before the Scottish Parliament pursuant to section 35 of the Climate Change (Scotland) Act 2009



# **The Climate Change Plan**

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### **Overview of Statutory Requirements**

- 1. The Scottish Government laid its draft Third Report on Proposals and Policies, the Climate Change Plan, for the period 2017-2032 before the Scottish Parliament on 19 January 2017. In accordance with the requirements of section 35 of the Climate Change (Scotland) Act 2009, this draft was subject to a 60-day period for Parliamentary scrutiny, beginning on 17 January 2017 and concluding on 17 March 2017.
- 2. Section 35(5) of the 2009 Act requires that Scottish Ministers must, before laying the final version of the Report on Proposals and Policies before the Scottish Parliament, have regard to:
  - (a) any representations on the draft report made to them;
  - (b) any resolution relating to the draft report passed by the Parliament; and
  - (c) any report relating to the draft report published by any committee of the Parliament for the time being appointed by virtue of standing orders.
- 3. This Written Statement accompanies the final version of the Climate Change Plan and has been produced in accordance with section 35(6) of the 2009 Act, which requires that the Scottish Ministers must, when laying the final Climate Change Plan before the Scottish Parliament, also lay a statement setting out:
  - (a) details of any representations, resolutions or reports mentioned in subsection (5);
  - (b) the changes (if any) they have made to the report in response to such representations, resolutions or reports and the reasons for those changes.

# Reports of Scottish Parliamentary Committees, Resolutions of the Parliament and Other Representations made on the draft Climate Change Plan

#### Reports of Scottish Parliamentary Committees

- 4. Parliamentary consideration of the draft Plan was undertaken by the following committees:
  - Environment, Climate Change, and Land Reform Committee (ECCLR)<sup>1</sup>
  - Rural Economy and Connectivity Committee (REC)<sup>2</sup>
  - Local Government and Communities Committee (LGC)<sup>3</sup>
  - Economy, Jobs and Fair Work Committee (EJFW)<sup>4</sup>
- 5. The reports of these committees were published on 10 March 2017 and are available from the Scottish Parliament Information Centre and on the Scottish Parliament's website.
- 6. This Written Statement incorporates the Scottish Government's formal response to the reports prepared by the four Parliamentary committees. References have been provided to the committee report paragraphs containing the relevant recommendations.

#### Resolution of Parliament

7. A Parliamentary debate on the Committee reports on the draft Climate Change Plan took place on 16 March 2017. At the conclusion of the debate Parliament agreed to motion S5M-04534:

"That the Parliament notes the reports of the Environment, Climate Change and Land Reform Committee, the Economy, Jobs and Fair Work Committee, the Local Government and Communities Committee and the Rural Economy and Connectivity Committee on the Scottish Government document, Draft Plan - the Draft Third Report on Policies and Proposals 2017-2032."

8. The Official Report of this debate is available on the Scottish Parliament's website. 5

#### **Other Representations**

- 9. The Scottish Government received three written representations on the draft Plan directly from the following organisations:
  - Federation of City Farms and Community Gardens
  - Society of Chief Officer of Transportation in Scotland
  - SEStran

10. In addition there was one individual representation to the Scottish Government.

http://www.parliament.scot/parliamentarybusiness/report.aspx?r=10841&i=99320

<sup>&</sup>lt;sup>1</sup> Scottish Parliament, Environment, Climate Change and Land Reform Committee Report on the draft Plan, <a href="http://www.parliament.scot/parliamentarybusiness/CurrentCommittees/103917.aspx">http://www.parliament.scot/parliamentarybusiness/CurrentCommittees/103917.aspx</a>

<sup>&</sup>lt;sup>2</sup> Scottish Parliament, Rural Economy and Connectivity Committee Report on the draft Plan, <a href="https://digitalpublications.parliament.scot/Committees/Report/REC/2017/3/10/Report-on-the-Draft-Climate-Change-Plan--the-draft-Third-Report-on-Policies-and-Proposals-2017-2032-2">https://digitalpublications.parliament.scot/Committees/Report/REC/2017/3/10/Report-on-the-Draft-Climate-Change-Plan--the-draft-Third-Report-on-Policies-and-Proposals-2017-2032-2</a>

<sup>&</sup>lt;sup>3</sup> Scottish Parliament, Local Government and Communities Committee Report on the draft Plan, <a href="https://digitalpublications.parliament.scot/Committees/Report/LGC/2017/3/10/Report-on-the-Draft-Climate-Change-Plan---the-Draft-Third-Report-on-Policies-and-Proposals-2017-2032">https://digitalpublications.parliament.scot/Committees/Report/LGC/2017/3/10/Report-on-the-Draft-Climate-Change-Plan---the-Draft-Third-Report-on-Policies-and-Proposals-2017-2032</a>

<sup>&</sup>lt;sup>4</sup> Scottish Parliament, Employment Jobs and Fair Work Committee Report on the draft Plan, <a href="http://www.parliament.scot/S5\_EconomyJobsFairWork/Reports/EJFWS052017R03.pdf">http://www.parliament.scot/S5\_EconomyJobsFairWork/Reports/EJFWS052017R03.pdf</a>

<sup>&</sup>lt;sup>5</sup> Scottish Parliament, Official Report, Draft Plan,

11. In preparing the final Climate Change Plan, Scottish Ministers have, however, also considered the written evidence submitted by a wide range of organisation to the four Parliamentary committees. All of these submissions are available on the Scottish Parliament's website. 6 Scottish Ministers have also had regard to the feedback received through stakeholder engagement and consultation exercises at a sector level.

# **Finalising the Climate Change Plan**

- 12. This statement sets out details of the resolutions and reports relevant to the draft Climate Change Plan and the changes that have been made to the final Climate Change Plan as a result. The statement has been structured to first cover a number of cross-cutting themes which emerged from the Parliamentary reports, and cover in more detail issues arising in the sector chapters of the Climate Change Plan.
- 13. In finalising the Climate Change Plan, Ministers have had regard to the recommendations in the report prepared by the four Parliamentary committees and the resolution of the Scottish Parliament to agree to motion S5M-04534.
- 14. A number of amendments have been made in finalising the Climate Change Plan. Many of these are minor drafting amendments, updates and corrections that reflect the transition from a draft to a final document, including reference to Parliament's role in the scrutiny of the document. Where amendments are substantial, details are provided here about those changes. The format of the final Plan has also been changed from the draft Plan in order to improve the structure and facilitate understanding of the content.
- 15. Some of the recommendations in the four Committee reports were in the form of agreement with either the Scottish Government's position or with certain issues, or noted that the Committee would examine a policy through their scrutiny of the Energy Strategy, for example. In other instances, the reports records the Committees' position on a particular matter but does not make a recommendation to the Scottish Government. We welcome such constructive comments, but since they do not require further amendment to the Plan we have generally not made reference to them in this statement. We would also note that, as with any scrutiny process where a diverse range of views are expressed, not every recommendation has resulted in a change to the Climate Change Plan.
- 16. For the remainder of this document the Climate Change Plan will be referred to as simply the Plan.

<sup>&</sup>lt;sup>6</sup> Scottish Parliament, written evidence on the draft Plan submitted to the Economy, Jobs and Fair Work Committee, http://www.parliament.scot/parliamentarybusiness/CurrentCommittees/103541.aspx Scottish Parliament, written evidence on the draft Plan submitted to Environment, Climate Change and Land Reform Committee, http://www.parliament.scot/parliamentarybusiness/CurrentCommittees/103117.aspx Scottish Parliament, written evidence on the draft Plan submitted to the Local Government and Communities Committee, http://www.parliament.scot/parliamentarybusiness/CurrentCommittees/103359.aspx Scottish Parliament, written evidence on the draft Plan submitted to the Rural Economy and Connectivity Committee, http://www.parliament.scot/parliamentarybusiness/CurrentCommittees/103306.aspx

#### 17. This statement is structured around the following sections:

- Development of the final Climate Change Plan
- Consultation
- Costs
- Wider Benefits
- Public Sector
- Local Government
- The Planning System
- Building Standards
- Communities
- Behaviour Change
- Sector Ambition
- TIMES Modelling

- Monitoring Framework
- Governance
- Scrutiny

#### **Sectors**

- Electricity
- Buildings
- Transport
- Industry
- Waste
- Land Use, land Use Change and Forestry (LULUCF) [including Blue Carbon]
- Agriculture

## **Development of the Final Climate Change Plan**

#### **Environment, Climate Change and Land Reform Committee**

- 1. The Committee recommended that the sections on progress since RPP2 should be consistent and follow the structure detailed in the ECCLR report on the draft Plan. (396)
  - The Scottish Government recognises the importance of consistency in presenting information on progress. However, it is important to recognise that flexibility is required as each sector has different forms of progress to report.
- 2. The Committee recommended that the Scottish Government provide information in the final Plan regarding discussions which have taken place at an EU and UK level in the development of the final Plan, future targets and the anticipated Climate Change Bill. (289)

The Scottish Government works with the UK Government on climate change policy and process, and those policies and proposals where competence is not wholly devolved have been informed by regular discussions between Scottish Government and UK Government officials. It would not be practical to list each discussion between the governments on policies which have a bearing on climate change.

- However, the EU Emissions Trading System (EU ETS) is a significant decarbonisation instrument for Scottish industry and emissions trading is a devolved matter. We have repeatedly urged the UK Government to engage with the devolved administrations on the UK's future membership of the EU ETS in the Brexit negotiations. We have reiterated to the UK Government the risks to energy intensive industries and the power sector of any failure to ensure continued the participation of carbon-intensive Scottish businesses.
- 3. The Committee recommended that experts consulted on other sectors of the draft Plan should also be listed in the final document, along with how advice provided impacted on the development of policies and proposals. (155)
  - As part of the development process of the Plan the Scottish Government set up an Advisory Group to act as a critical friend and sounding board. A link to the minutes for the Advisory Group can be found on the Scottish Government's website<sup>I</sup>. Extensive stakeholder engagement was undertaken in the development of the Plan and details of this can be found in the letter to the Convenor of the ECCLR Committee from Cabinet Secretary of Environment, Climate Change and Land Reform, dated 23 January 2018<sup>8</sup>.

http://www.gov.scot/Topics/Environment/climatechange/climate-change-plan

<sup>&</sup>lt;sup>7</sup> Scottish Government, Plan Advisory Group Minutes

<sup>&</sup>lt;sup>8</sup> Letter to the Convenor of the ECCLR Committee from Cabinet Secretary of Environment, Climate Change and Land Reform, 23 January 2018,

http://www.parliament.scot/S5\_Environment/General%20Documents/20180123\_CS\_to\_Conv\_on\_Climate\_Change\_P\_lan\_WEB.pdf

- 4. The Committee noted that it was important for the Scottish Government to take into account the recommendations developed throughout the scrutiny process, however the Committee recommended that publication of the final Plan should still take place within a reasonable timeframe and in advance of the consultation on the Climate Change Bill. (546)
  - Since the publication of the draft Plan we have considered the recommendations of the Scottish Parliament and the views of stakeholders. We have also incorporated updated data and undertaken further modelling, for example, TIMES runs. In addition, we announced new climate-related policies in the Programme for Government 2017- 2018. This has taken more time than the ECCLR Committee might have expected. However, It has been important to ensure the Plan is robust and based on sound evidence and up to date data. The final Plan has been published in advance of the Climate Change Bill which will be introduced to Parliament in Spring 2018.
- 5. The Committee recommended that the Scottish Government should consider accessibility issues and avoid elaborate or complicated language where plainer text would have sufficed in the final Plan. (555)
  - The Scottish Government is committed to ensuring all of its publications are written and designed with accessibility in mind. We adhere to the Web Accessibility Initiative (W3C) accessibility standards to ensure that all our online content it accessible to people with disabilities. We have used plain text where possible in the Plan and we are also publishing a summary document to allow the main points of the Plan to be accessible to a wider audience.
- 6. The Committee recommended that the final Plan include greater detail on planning for the implementation of policies or technologies which will require significant infrastructural changes and market development, and the steps to be taken by researchers, manufacturers, public and private. (205)
  - The Scottish Government understands that some policies and proposals will involve significant infrastructural changes and/or market development. Where that is the case, policy development and implementation will account for these issues. The Plan recognises the importance of sector or technology specific routemaps and action plans. For example, the Scottish Energy Efficiency Programme (SEEP) routemap will be published in May 2018.
  - Within the Energy Strategy, the companion document to the Plan, we set out a range of additional actions and research priorities to develop our understanding of the next steps towards delivering our low carbon energy system. The Strategy also recognises the importance of collaboration between academia and public and private sector actors to deliver these commitments.

#### **Multiple Committees**

- 1. The committees recommended that the Scottish Government make the relationship between the Plan and other strategies, such as the National Planning Framework, the Infrastructure Investment Plan and the Land Use Strategy, more explicit. (ECCLR 109, 476 & LGC 136)
  - The Plan includes explicit references to other relevant strategies, including the Land Use Strategy, National Planning Framework, Scotland's Energy Strategy and the Manufacturing Action Plan.

#### Consultation

#### **Environment, Climate Change and Land Reform Committee**

- 1. The Committee recommended that the final Plan should include further detail on how the Climate Conversations held in advance of the publication of the draft Plan have contributed directly to policy development. (87)
  - The findings emerging from the first phase of Climate Conversations have informed the development of policies and proposals in the Plan as part of wider evidence base available at the time. The Climate Conversations did not cover all the sectors in the Plan and most discussion was generated around local energy and transport scenarios. The summary of all findings from the first phase has now been published.<sup>9</sup>
- 2. The Committee recommended that the Scottish Government reflects upon the challenges posed to Parliamentary scrutiny of running a consultation on the future of sectors within the draft Plan in tandem with Parliamentary consideration of the draft Plan. In so far as the electoral cycle permits, consultations should be timetabled to inform the draft plans, avoiding parallel consultation and facilitating better alignment between these and parliamentary scrutiny of reports on policies and proposals. (107)
  - The Scottish Government would be pleased to provide background information relevant to future Plans in advance on parliamentary scrutiny of the document.
- 3. The Committee recommended that the Scottish Government consider how it can best secure deeper, more meaningful and comprehensive involvement of stakeholders and the public in future reports on policies and proposals, including through utilisation of the tools and evaluation around the Climate Conversations. (86)
  - The Scottish Government believes that stakeholder engagement is essential to the development of both current and future Plans. During the development of the current Plan we set up an Advisory Group to act as a critical friend and sounding board. This group includes representatives from such organisations as Transform Scotland, COSLA, the Energy Saving Trust, and Stop Climate Chaos Scotland. We have engaged with business, public sector, civil society and community representatives to gain a fuller understanding of their perspectives. The results from the Climate Conversations can be useful in informing policy, however, their main purpose is to encourage discussion about climate change among people who do not generally talk about it.

http://www.gov.scot/Topics/Environment/climatechange/lowcarbonbehaviours/findings-from-climate-conversations

<sup>&</sup>lt;sup>9</sup>Findings from the Climate Change Conversations

#### Costs

#### **Multiple Committees**

- 1. The committees called on the Scottish Government to provide further detail and financial information on the anticipated costs associated with the Climate Change Plan. Further, the committees recommended that the issue of climate change should be embedded in the draft budget and the final Plan should include detail of how this information will be included in future budgets. The Committees also recommended that the final Plan should include the proposed funding available for policies and proposals where a fund, grants or loan scheme has been proposed. (REC 21, ECCLR 199, 533, 198)
  - The policies and proposals in the Plan create benefits and costs for government, business and households. Scottish Government funding for climate change activities is less than this cost because the costs and benefits are to a society as a whole rather than the Scottish Government alone.
  - Our high level assessment of the Plan is that the cumulative discounted system resource cost to 2050 is estimated to be equivalent to around 1% of the cumulative Scottish GDP. This is down from approximately 2% in the draft Plan. Carbon Capture and Storage (CCS) is not required for the delivery of the electricity generation emissions envelope out to 2032 and therefore the costs have dropped in relation to the draft Plan. Scottish Government policies continue to support the development of CCS, which will be important for the long term cost-effective decarbonisation of our economy in key sectors such as heat, industry and electricity.
  - In addition, the short term nature of the Scottish Government's devolved budget restricts our ability to provide detailed long term costs.
  - The Scottish Government would be happy to work with the Scottish Parliament on the relationship between climate change budget information and the monitoring framework for the Plan. Further information has now been provided regarding funds, grants or loan schemes available for the policies and proposals within the Plan.

#### **Wider Benefits**

- 1. Whilst the Committee considers the use of the TIMES Model to be a potential advance in climate change policy making, it raised concerns regarding the limitations of the framework in considering wider benefits and believes these could be mitigated by the creation of a more formal structure supplementing the use of the Model. It noted that there is still work to do on the bottom up approach to ensure considerations such as behaviour change and wider benefits have equal status with the outputs of TIMES. The Committee recommended a formalised approach is adopted to consider wider benefits. (194)
  - The Committee on Climate Change states that there is increasing clarity about the wider benefits of action to tackle climate change. However, it also notes that some of these benefits are difficult to quantify in monetary terms.
  - The Scottish Government commissioned three evidence reviews of the potential wider impacts of climate change mitigation options, focusing on: agriculture, forestry, waste and related land use; the built environment; and transport. The findings of these reviews were used to inform the development of policies in the Plan.
  - The Plan includes examples of wider benefits, which are quantified where possible. For example:
    - Transport: The combined value of air quality improvements as a result of reduced transport emissions may be in excess of £500 million per year. Further benefits will come from reduced noise pollution, which has a positive impact on health and wellbeing.
    - Buildings and Energy Efficiency: The SEEP programme will help create multiple benefits, including supporting jobs and businesses within the local and national economy. Every £100 million spent on energy efficiency improvements in 2018 is estimated to support approximately 1,200 full-time equivalent jobs across the Scottish economy. It will also support health and early years improvements through people living in warmer homes.
  - The Scottish Government agrees with the Committee that understanding and enabling climate friendly behaviours is an important component in meeting our emission reduction targets. For example, active travel policies in transport include improvements to infrastructure and a range of behaviour change initiatives to increase people's awareness, skills and confidence around cycling and walking.

#### **Public Sector**

#### **Environment, Climate Change and Land Reform Committee**

- 1. The Committee recommended that the Scottish Government reflects on the calls for action to address the barriers to climate change leadership in the public sector and provides further information in the final Plan on the action the Government is taking to support strong leadership on climate change across the public sector. (501)
  - On 7 December 2017, the Cabinet Secretary for Environment, Climate Change and Land Reform
    met with the Scottish Leaders Forum on how its members could take a leadership role in the
    transition to a low carbon Scotland. The Scottish Government is keen to continue the discussion
    around climate change with the Scottish Leaders Forum, and has sought its views on priorities for
    future engagement on climate change

#### **Local Government and Communities Committee**

- 1. The Committee recommended that more specific information on how the public sector will be equipped to meet its ambitious target is included in the final Plan. (37)
  - This recommendation relates to the Services sector trajectory to 2032 in the draft Plan. The Services sector (which includes the public sector) has been combined with the Residential sector in the final Plan into the Buildings sector. The emissions reductions trajectory in the draft Plan remains ambitious but is less stretching in the final Plan. This is in response to Parliamentary and stakeholder feedback on the original trajectory.
  - As laid out in the Plan, the Scottish Government provides significant support to the public sector to help it meet its emission reduction responsibilities. For example, the Scottish Government funds the Sustainable Scotland Network, which enables collaboration between public sector professionals working on climate change. The Sustainable Scotland Network provides a network to share good practice and a platform to translate this into enhanced public sector action to tackle climate change.
  - In addition, the Scottish Government provides support through the Low Carbon Infrastructure Transition Programme (LCITP), a £60m fund (co-funded with the ERDF) that supports the acceleration of the delivery of low carbon capital projects, including public sector non domestic energy efficiency. There have been a number of LCITP applications approved from public sector bodies seeking support from technical advisors to help develop their final business cases for elected member approval and move to procurement.
  - Finally, through the Scottish Energy Efficiency Programme (SEEP), we are funding local authorities to pilot new and innovative approaches to improving energy efficiency; working with public bodies, community groups and businesses; and helping reduce costs and improve warmth in homes, schools, hospitals and businesses.

#### **Local Government**

#### **Local Government and Communities Committee**

- 1. The Committee recognises the important role that local government plays in the delivery of many areas in relation to climate change abatement and the need to consult with local authorities on the policy development aspects of the Plan. The Committee requested further information on how the Scottish Government will work with and resource local authorities in their delivery of the Plan. (30, 31)
  - The Scottish Government funds the Sustainable Scotland Network (SSN), which enables collaboration between public sector professionals, including local authorities, working on climate change. SSN provides a network to share good practice and a platform to translate this into enhanced public sector action to tackle climate change. They also support public bodies to comply with their mandatory climate change reporting requirements which the majority of reporting bodies agree has helped their organisation to strengthen climate change action. In addition, the Scottish Government fund a number of support organisations such as Zero Waste Scotland and Resource Efficient Scotland to provide public bodies with advice to drive down their emissions. The Scottish Government liaises with COSLA on a regular basis. This liaison includes discussion on issues related to the Climate Change Plan.
- 2. The Committee sought further information on how the Scottish Government will work with local authorities to ensure that climate change leadership is developed and promoted within local government. (32)
  - The Scottish Government continues to engage with local authorities on climate change leadership. On 5 October, the Sustainable Scotland Network conference, attended by 150 public sector delegates, including local authorities, focused on collaboration and support to deliver on climate change policy priorities. The Scottish Government liaises with COSLA on a regular basis. This liaison includes discussion on issues related to local government climate change leadership.
- 3. The Committee welcomed the Scottish Government's commitment to promoting energy efficiency best practice in relation to public procurement and requested further information on how it will work with and encourage local authorities to ensure that climate change considerations are built into their procedures and practices for procuring goods and services. (43)
  - The Procurement Reform (Scotland) Act 2014 requires contracting authorities to consider how their procurement activity can be used to improve economic, social and environmental wellbeing of their area and to act in a way to secure this. Contracting authorities must set out how they will ensure their procurement activities will comply with the duty in an organisational procurement strategy and report on how their activity has complied with this strategy. Initial strategies were published by December 2016 and initial annual reports are expected during the course of 2018.

## **Planning**

#### **Local Government Committee**

- 1. The Committee recommended that more emphasis is given to how the planning system can contribute to behavioural change and active and sustainable modes of travel in the transport section of the Plan. (91)
  - A key principle of the Scottish Government's Scottish Planning Policy is that new developments should support walkable access to local amenities, which are also accessible by bike and public transport. The Scottish Government has a transport hierarchy policy of supporting opportunities for people to walk and cycle first, followed by travel by public transport, followed by travel by private cars. Further information has been added on the role of the planning system in the Transport Chapter of the Plan.
- 2. The Committee was disappointed that there is a lack of information in the Plan on how the planning system can contribute to a modal shift away from single vehicular use to more sustainable and active forms of travel. (90)
  - The Scottish Government accepts this recommendation and further information has been added on the role of the planning system in sustainable and active travel in the Transport Chapter and The Planning System section of the Plan.
- 3. The Committee recommended that the final version of the Plan should set out how the Scottish Government will use the planning system to encourage the development of brownfield sites and protect green space. (97, 98)
  - Our principle policy on placemaking set out in Scottish Planning Policy is clear that planning should direct development to the right place, a principle of which is considering the re-use or redevelopment of brownfield land before new development takes place on greenfield sites. Scottish Planning Policy can be downloaded from the Scottish Government's website.<sup>10</sup>
  - Scottish Planning Policy is clear that planning should protect, enhance and promote green infrastructure including open space and green networks as an integral component of successful placemaking. Development plans should be informed by relevant, up-to-date audits, strategies and action plans covering green infrastructure's multiple functions. Local development plans should identify and protect open space identified in the open space audit and strategy as valued and functional or capable of being brought into use to meet local needs.
  - Scottish Planning Policy is also clear that consideration should be given to the permanent, temporary or advanced greening of all or some of a site could make a valuable contribution to green and open space networks, particularly where it is unlikely to be developed for some time or is unsuitable for development due to its location or viability issues.
  - Furthermore, Scottish Planning Policy is clear that most new urban development should take place within, or in planned extensions to, existing settlements. It seeks a tailored approach to settlement pattern which seeks to provide a sustainable network of settlements. In pressured areas the designation of green belts may be appropriate but the focus is on the spatial strategy of the

https://beta.gov.scot/policies/planning-architecture/.

<sup>&</sup>lt;sup>10</sup> Scottish Planning Policy

development plan delivering an appropriate response to the pressures, assets, needs and opportunity of the area.

- 4. The Committee asked for further information on how the Scottish Government will work with local authorities to ensure planners and key decision makers have the right skills to ensure that climate change impact is properly considered in decisions relating to planning. (115)
  - The planning review highlighted the importance of skills development in planning. We will work with the Royal Town Planning Institute Scotland, Heads of Planning Scotland, COSLA, and the Improvement Service to ensure the importance of skills development is recognised.
- 5. The Committee recommended that there should be more information on community involvement in the planning process in the final Plan. (79, 80,81)
  - The Scottish Government supports community engagement in the planning system. The Planning System section of the Plan has been updated to include information on engagement in the planning system.
- 6. The Committee requested that the Scottish Government brings forward more detailed policy and proposal information regarding planning. (64)
  - The planning system will be influenced by policy outcomes from the Plan and actions across the sectors identified in the plan. We have updated the text in The Planning System section highlighting that the Plan will be a fundamental information source for the preparation of the next National Planning Framework and Scottish Planning Policy, anticipated to be published in 2020. The planning system is not a 'sector' in its own right and therefore is not provided with an emissions envelope by the TIMES model. The approach of the Plan is to include policies which can be directly attributed to a reduction in emissions, which is not the case for the planning system.
  - Where the planning system does have a role to play, this has been highlighted in The Planning System section and within the individual sector chapters.
- 7. The Committee requested that the Scottish Government provide the Committee a full update on the decision taken regarding the removal of Section 3F from The Town and Country Planning (Scotland) Act 1997 as a result of the repeal of Section 72 of the Climate Change (Scotland) Act 2009. (107, 108)
  - Following initial consultation, Scottish Ministers published in June 2017 a consultation 'Places, people and planning, Position Statement'. This set out an initial set of proposals for the content of the Planning Bill. Having previously sought views in the initial consultation on the potential to remove Section 3F of the Town and Country Planning (Scotland) Act 1997, the Position Statement states: 'There appears to be general support for this, based on our view that it has limited added value. However, there are some concerns that removing this appears to be inconsistent with the aspirations of the emerging Plan. Given our commitment to climate change and the need for every policy area to contribute to reducing emissions, it is not our intention to progress this through the Planning Bill.' Indeed the Planning (Scotland) Bill introduced to the Parliament 4 December 2017 does not include the removal of Section 3F.

#### **Rural Economy and Connectivity Committee**

- 1. The Committee recommended the integration of land-use plans within the Plan to create a regional perspective and allow consideration of land-use strategies at a strategic level. (266)
  - National Planning Framework 3 and Scottish Planning Policy were informed by 'Low Carbon Scotland: Report of Proposals and Policies'. The next iteration of National Planning Framework and Scottish Planning Policy will be informed by the Plan.
  - The text in The Planning System section of the Plan sets out the revised approach to regional level planning set out in the Planning (Scotland) Bill, introduced to Parliament 4 December 2017. This approach allows issues to be tackled over a relevant geography using the collective powers of all relevant parties.
- 2. The Committee urged the Scottish Government to develop the sections on land-use and planning in the Plan. In addition, it called on the Scottish Government to integrate climate change impact assessments into planning decision, weighing economic benefits with the overall ambition of reducing carbon emissions. (227)
  - Information about the role of the planning system in facilitating delivery of the Plan has been enhanced throughout the Plan.
  - Through the Strategic Environmental Assessment of Local Development Plans, planning authorities can explore the potential contribution a plan, programme or strategy (PPS) is likely to make to greenhouse gas emissions, with the aim of trying to avoid or reduce significantly adverse emissions where feasible.
  - In relation to individual planning decisions, regulations governing Environmental Impact Assessment already require an assessment, where appropriate, of any likely significant effects on climate.

# **Building Standards**

#### **Local Government and Communities Committee**

- 1. The Committee welcomed the proposal to review energy standards within building regulations with a view to achieving zero carbon homes across Scotland by 2050. The Committee encouraged the Scotlish Government to ensure that there is an appropriate lead in time for any such changes. (187)
  - The review of energy standards within building regulations will commence in early 2018. This will investigate the further potential for energy and emission reductions from new buildings and from new building work, including options for a 'net zero carbon standard' for new development. Any changes arising from review will be implemented with appropriate lead-in time to enable industry to prepare. However, the Committee should be aware that an ambition of 'zero carbon homes' by 2050 is not within the scope of current review and would require broader action across government.
- 2. The Committee recommended that energy efficiency standards for existing homes should be addressed as a priority. (186)
  - Public consultation on proposed standards in the private rented sector was undertaken in the first half of 2017. The Minister for Local Government and Housing informed the Local Government and Communities Committee on 14 November 2017 that standards would be set out in the Scotland's Energy Efficiency Programme (SEEP) routemap, to be published in 2018. Proposals will allow for an appropriate lead in time for the sector to prepare.
  - Following public engagement over winter 2017/18, the SEEP routemap will also set out how the Scottish Government will encourage action to improve the energy efficiency in owner occupied homes
  - A review is currently underway of the Energy Efficiency Standard for Social Housing (EESSH), with membership in the Review Group from relevant stakeholder bodies (local authorities, Registered Social Landlords etc). Revised guidance for social landlords on meeting the 2020 milestone was published on 20 December 2017. The Review is currently considering future milestones for EESSH beyond 2020, and will inform the development of the SEEP routemap.

#### **Communities**

#### **Local Government and Communities Committee**

- 1. The Committee recommended that the role of the community sector should be better reflected in the final version of the Plan. (55)
  - The Scottish Government is encouraging communities in Scotland to talk about and take action on climate change in a number of different ways. Climate Conversations have enabled people across Scotland to discuss climate change and the actions that might be needed to tackle it.
  - The Climate Challenge Fund supports communities throughout Scotland to take action on climate change and make the move to low carbon living. The fund supports a range of activity and has helped communities to reduce, reuse and recycle their waste, increase the energy efficiency of homes and community buildings, encourage active travel and the use of low carbon transport, and produce local food. The continuation of the CCF demonstrates our ongoing commitment to support communities across Scotland to tackle climate change. This continued investment will also help to ensure that communities are empowered, well-equipped and supported to deliver long-term solutions to local issues on their own terms.
  - The important role that communities play in tackling climate change is explored in more detail in the final Plan.
- 2. The Committee welcomed the Climate Challenge Fund as a mechanism for funding community led programmes. However, it noted that the lack of information on how this fund will be financed going forward makes it difficult to assess how it will contribute to climate change abatement. Further, stakeholders highlighted that ongoing resources are required in order to achieve longer-term behaviour change and recommended a food fund to provide funds for community food growing enterprises on a more significant scale. (56)
  - The Climate Challenge Fund (CCF) was opened for 1 and 2 year applications in June 2017, with awards expected to be announced in March 2018. The CCF is a key route for the Scottish Government to engage with and support community action on climate change.
  - The CCF supports communities to deliver projects across five main themes; energy efficiency, sustainable travel, waste, building improvements and food. Since the CCF opened in 2008 a substantial number of communities have been supported to grow their own food, reduce the carbon impact of their food choices and reduce food waste. As such, we do not feel it necessary to support a dedicated food fund from the CCF budget at present.
  - Scottish Government already provides some funding for community growing initiatives, most notably through the Central Scotland Green Network Development Fund for which £100,000 has been set aside for community growing projects in 2018-19
- 3. The Committee requested further information regarding what mechanisms or funding the Scottish Government will use to drive behaviour change in those communities where climate change is a lower priority. (57)
  - The Climate Challenge Fund widens access and drives change by engaging audiences across a range of communities, including those where climate change is a lower priority. A 2015 independent review of the Climate Challenge Fund identified one of the Fund's key strengths as broadening its reach to new, disadvantaged and hard-to-reach communities, where climate change is not a key priority.

# **Behaviour Change**

- 1. The Committee recommended that the science of behaviour change be better reflected in the policies included in the final Plan, including on the specific examples raised with this Committee on modal shift. (315)
  - Our approach to individual and household behaviour change is science-based, taking account of evidence:
    - of the multiple influences on people's behaviours, within the three Individual, Social and Material contexts;
    - that behaviour change initiatives will be more effective if they address influences within all 3 ISM contexts, and the interactions between them.
  - This behaviour change science is incorporated in our ISM tool, which has been used to support a number of policy areas contributing to the Plan.
  - We focus on the 10 Key Behaviour Areas (KBAs) where, scientific evidence shows, individuals and households can make the biggest contribution to reducing emissions. These KBAs cover Energy, Transport, Food and Consumption / Waste. They are included in the Plan.
- 2. The Committee noted that tackling climate change is currently embedded within Curriculum for Excellence and believes the impact of this on behaviour change should be monitored and evaluated. (329)
  - Tackling climate change is embedded within Curriculum for Excellence in a number of ways: within the curriculum areas, as a context for interdisciplinary learning and also through Learning for Sustainability (LfS) which is an entitlement for learners. One of the approaches for embedding tackling climate change in learning has been through participation in Eco Schools programme. There are now 2,080 schools across Scotland with Green Flags. Resources on climate change are available to schools through GLOW (schools internet site). LfS is also embedded within the General Teaching Council for Scotland (GTCS) Professional Standards which require all registered educators to demonstrate LfS in their practice.
  - The impact of LfS, including aspects relating to tackling climate change, can be monitored as part of the school improvement process. Schools evaluate the effectiveness of their practice using 'How Good is Our School 4', which highlights the importance of LfS within school settings. The outcome from a school's self-evaluation process should be used to inform their improvement plans. The evaluation and improvement process is supported by formal inspections carried out by Education Scotland.

- 3. The Committee recommended that each policy and proposal in the final Plan should contain detail of how data on behaviour change has contributed to its development. In addition, it recommended that ISM information is used more consistently throughout the final Plan and emphasis is given to creating the conditions that support behavioural change. (320, 321)
  - In response to the Committee's recommendations, the final Plan explains how policies have taken into account the different influences on the key behaviours, in order to make it easier for people to change their behaviour. For example:
    - Buildings Energy Efficiency: The SEEP programme will support the installation of more efficient heating systems, investment in energy efficiency, and provision of free and impartial advice on energy saving behaviours and use of new technologies. Changes have already been made to the planning system which means that many energy efficiency measures, in particular for our homes, will not need to obtain planning permission in advance. These policies will work together to support householders to reduce their energy demand.
    - Transport Active Travel: Policies include improvements to infrastructure (for example, through better bike parking and the development of active travel hubs at public transport interchanges), and a range of behaviour change initiatives to increase people's awareness, skills and confidence around cycling and walking for short, everyday journeys. These policies complement each other to support people to make the shift to public transport and active travel.

#### **Economy, Jobs and Fair Work Committee**

- 1. The Committee noted the use of the ISM tool and other measures contained in the Plan aimed at encouraging behaviour change. However, the Committee noted that the final Plan must communicate clear messages about the targets and the behaviour changes required to meet them. (179)
  - Public understanding, engagement and action are critical to the social and economic transformations required to achieve a low carbon society. We are seeing an increase in people's understanding of the urgency of climate change, and about the contribution which they can make to help tackle it. Our aims are to continue to encourage public discussion about climate change; and to engage and support people to take low-carbon actions in their everyday lives. We recognise that this can be challenging and low carbon initiatives being taken forward aim to make the transition as seamless and straightforward as possible as well as providing a host of other benefits which are referenced throughout the final Plan. During 2018 we will review the Low Carbon Behaviours Framework, setting out what the Scottish Government will do to drive and support the transition to a low carbon Scotland.

#### **Sector Ambition**

#### **Environment, Climate Change and Land Reform Committee**

- 1. The Committee recommended that clarity should be provided in the final Plan that over or under performance in a sector will not impact on the carbon envelopes or expectations of other sectors. (214)
  - The Plan takes a whole-system approach to emissions reductions, reflecting the cross sector nature of greenhouse gas emissions. This approach calculates the most cost effective route to our emissions targets and provides flexibility to respond to evolving circumstances, such as future technological advances. Performance of sectors will be considered within this wider system. The monitoring framework will help us track whether policies are having the desired effect and to adjust our approach as circumstances inevitably change over time. Any sector over performance that leads to the overall targets being outperformed would represent a bonus, as the statutory requirements do not allow for this to be banked against future targets.
  - The final pathway has been developed in light of recommendations by the Scottish Parliament, engagement with stakeholders, data revisions and new modelling, and new policies and proposals. The combined impact of these changes has resulted in a plan that addresses the key concerns of stakeholders, particularly around the practical challenge of decarbonising heat, whilst ensuring the overall climate change targets are achieved.
- 2. The Committee recommended that the final Plan should provide further information explaining the reasons why the particular emission envelopes were arrived at, the range of policy outcomes that were considered and dismissed, the reason for this and clear information on the expected emissions impact associated with each policy and proposal, both considered and eventually included. (178, 188)
  - The emission reduction pathway, and associated policies and proposals set out in the Plan have been agreed by Scottish Ministers as the most beneficial to Scotland. The emissions envelopes and the pathway are different to those in the draft Plan. The final pathway has been developed in light of recommendations by the Scottish Parliament, engagement with stakeholders, data revisions and new modelling, and new policies and proposals (for example, transport measures in the Programme for Government 2017- 2018).

#### **Employment, Jobs and Fair Work Committee**

- 1. The Committee noted that emission reduction requirements for electricity and the residential sector are particularly ambitious. The Committee asked the Scottish Government to provide it with information regarding what discussions took place to balance practical considerations on delivery, costs and disruption across the sectors to arrive at the proposed emission reductions across the sectors. (41)
  - Since the draft Plan was published, we have taken into account the advice of both Parliament and the Committee on Climate Change, and have also updated the assumptions feeding into the TIMES model to reflect the latest data as well as make other improvements, such as expanding the range of residential conservation measures. Further detail on these updates is contained in the Cabinet Secretary for Environment, Climate Change and Land Reform's letter to the ECCLR Committee on 23 January 2018<sup>11</sup>. As a result, the amount of emissions reductions required in the Buildings and Electricity sectors has been reduced, requiring a slower, yet still very ambitious, transition to low carbon heat and renewable electricity generation.

<sup>&</sup>lt;sup>11</sup> Letter to the Convenor of the ECCLR Committee from Cabinet Secretary of Environment, Climate Change and Land Reform, 23 January 2018,

http://www.parliament.scot/S5\_Environment/General%20Documents/20180123\_CS\_to\_Conv\_on\_Climate\_Change\_P lan\_WEB.pdf

# Environment Climate Change and Land Reform Committee, Employment, Jobs and Fair Work Committee, an individual representation

- The Committees recommended that the Scottish Government give further consideration as to how carbon envelopes across the final Plan could be made equally challenging. Further concerns were raised that lesser emissions reductions in transport or agriculture may put particularly ambitious expectations upon the services sector. (ECCLR, 141 EJFW, 158)
  - The emission reduction pathway, and associated policies and proposals set out in the Plan have been agreed by Scottish Ministers as the most beneficial to Scotland. The emissions envelopes and the pathway are different to those in the draft Plan. The final pathway has been developed in light of recommendations by the Scottish Parliament, engagement with stakeholders, data revisions and new modelling, and new policies and proposals (for example, transport measures in the Programme for Government 2017- 2018).
  - The Services sector has been combined with the Residential sector in the final Plan into the Buildings sector. In response to stakeholder feedback the ambitious emissions reductions trajectory in the draft Plan is less stretching in the final Plan.
- 2. The Committee recommended that the Scottish Government should increase the extent of the carbon reduction envelope for agriculture and transport, and adopt more challenging policies and proposals, which should incorporate, and be informed by, the behavioural change research it has undertaken. The Committee and an individual representation recommended that that the Scottish Government should consider how to achieve ambitious rather than reasonable emission reductions in the agricultural sector. (173)
  - Our aim is to foster a cultural and behavioural shift throughout the Agriculture sector during a time of great uncertainty as the UK Government struggles to articulate what leaving the EU means for farming. In addition, what works on one farm may not be practical or effective on another: there is no universal solution. We are working with the sector to achieve emissions reductions, while protecting Scotland's food security and preventing the offshoring of emissions to another country. We will explore new opportunities as they arise.
  - As announced in the Programme for Government 2017- 2018, we have substantially increased our ambition in transport. This is supported by a number of policies designed to change behaviour and encourage more sustainable transport choices. In both the Programme for Government 2017 -18 and the Plan we outline our future transport vision. In this vision we have ended the need to purchase a petrol or diesel car or van by 2032, and travelling by bike or foot is a feasible option for short, every day journeys in our cities. Further, low emission zones have dramatically improved air quality in our urban areas by restricting access to the most polluting vehicles. Taken together, these measures send a clear message to individuals and businesses that behaviour change is needed if we are to meet our emission reduction goals.

## **TIMES Modelling**

- 1. The Committee recommended that an independent assessment of the use of the TIMES Model in a Scottish context be commissioned following the publication of the final Plan and the results should form part of the development of the next report on policies and proposals. (217)
  - We remain committed to releasing the Scottish TIMES model. We will work towards releasing the model for the academic community to further research into whole system energy and climate change modelling; and maintain our commitment to transparency
- 2. The Committee recommended that the Scottish Government publish the audits (the inputs, constraints, assumptions and results) of each TIMES Model run in full, including the data used to ascertain the cost to the system of removing carbon capture and storage (CCS), in the final Plan. (262)
  - Further details around the underlying assumptions, inputs, constraints applied and results by sector are included in the technical annex of the Plan.
  - Scottish Government policies support the development of Carbon Capture and Storage, which will be important for the long term cost-effective decarbonisation of our economy in key sectors such as heat, industry and electricity. In response to feedback on the draft Plan and Energy Strategy, we have revised our assumptions about the application of CCS. The feedback we received highlighted the challenge of deploying CCS at scale in the period set out in the draft. As a result of this, we have applied a constraint in the model, limiting the uptake of CCS before 2030. Given the feedback on the interaction with bioenergy, we have also limited the ability to account for negative emissions in the modelling, through bioenergy generation with CCS. CCS is not required for the delivery of the electricity generation carbon envelope out to 2032. Scottish Government policies continue to support the development of CCS, which will be important for the long term cost-effective decarbonisation of our economy in key sectors such as heat, industry and electricity.
- 3. The Committee recommended that a run of the TIMES Model is produced to supplement the final Plan which emphasises alternative car traffic growth assumptions and greater emphasis on modal shift. (316)
  - The Element Energy report: "Greenhouse Gas Emissions Reduction Potential in the Scottish Transport Sector From Recent Advances in Transport Fuels and Fuel Technologies", commissioned by Transport Scotland and published in January 2017, sets out different scenarios on the impact of reducing demand growth. Our view is that the measures set out in the final Plan mean that we do not require additional demand reduction measures to meet the emissions reduction envelope.
- 4. The Committee proposed that the final Plan include detail of how the TIMES Model will be used in the monitoring and evaluation of the progress being made towards Scotland's goals for greenhouse gas emissions reductions, including any proposed stakeholder involvement in the use of the Model. (533)
  - TIMES is a high-level strategic model used to identify a potential pathway for achieving our climate change targets and meeting our energy demands over a specified time horizon. To report on actual emissions savings achieved over time we will use the Greenhouse Gas Inventory and other sector data sources.
  - In terms of stakeholder involvement in the use of the model, we continue to develop the model and seconded our lead TIMES analyst to the Edinburgh Centre for Carbon Innovation to work with

academics to refine and improve the model, embed understanding of it, and draw in sector expertise.

- We remain committed to releasing the Scottish TIMES model. We will work towards releasing the model for the academic community to further research into whole system energy and climate change modelling; and maintain our commitment to transparency
- 5. The Committee recommended that the Scottish Government include details of the analysis (where it is available) undertaken of alternative modelling approaches (including the framework in place for RPP1 and 2 and the system used by the Committee on Climate Change), showing the advantages and disadvantages of each, and demonstrate the justification for choosing the TIMES Model in the final Plan. (126)
  - The Scottish TIMES model is a high level strategic model, covering the entire Scottish energy system and containing many thousands of variables covering existing and future technologies and processes. The development of the TIMES modelling framework is co-ordinated by the International Energy Agency. It is rapidly becoming the de-facto standard tool for whole-systems energy modelling in Europe and North America. The Scottish model was built by an international consortium of experts from E4TECH, E4SMA, KANORS, SYSTRA and Imperial College London. We are grateful for the advice and assistance provided by the analytical team in the UK Department for Business, Energy and Industrial Strategy. The Scottish Government has been keen to ensure compatibility with the UK Government's approach.
  - The model combines two different, and complementary, approaches to modelling energy: a technical engineering approach and an economic approach. The model uses this information to identify the carbon cost-effectiveness of different technologies, fuels and other carbon reduction measures, in order to provide a consistent comparison of the costs of action across all sectors.
  - We continue to use sector models to complement and strengthen the overall analysis for the Plan. Sector models provide more detail on the individual sectors than is possible within the TIMES framework. We have made adjustments to the TIMES model to take into account this sector-specific analysis.
  - For the first two Reports on Proposals and Policies we did not have access to a whole-system energy model. As a result we estimated a top down 'business as usual' (BAU) set of emissions for each year of the RPP, for each sector. We then netted off the estimated impact of policies and proposals to ensure our net emissions in each year were in line with the targets.
  - The key constraint with the approach in previous RPPs was that, while sectors could individually identify where they could best reduce emissions, they couldn't see how the costs of their efforts compared on a consistent basis with other sectors nor what the wider system impacts might be of the total package of policies and proposals.
- 6. The Committee recommended that all sectors, policies and proposals are consistently considered within the same model framework and the detail on the development of these be equally extensive. The Committee recommended that the extent to which the TIMES Model and related external models were used for each sector is made clear in the final Plan. (177, 179, 146, 216)
  - Outputs are grouped into eight sectors in Scottish TIMES. These are: Residential and Services, combined into a new Buildings chapter; Industry; Electricity; Transport; Waste; Agriculture; and Land Use, Land Use Change and Forestry (LULUCF). For the demand driven sectors (Residential,

Services, Industry, Transport, and heat and transport within the Agriculture sector), the model must meet the defined final energy demands. In the Electricity sector, demand is determined by the model and is driven by demand for electricity as a fuel in the other sectors (through the electrification of transport or heating demand).

- Scottish TIMES also incorporates non-energy sectors (most of Agriculture, Waste and LULUCF, including peatland). Although these non-energy sectors, for the most part, do not have final energy demands nor long potential supply chains, the model incorporates emissions projections for each, informed by sector analysis and models. This is a standard approach used to address non-energy components of whole system models and ensures that once the climate change targets are taken into account, emissions from energy sectors are not allowed to increase beyond the overall targets.
- The Transport sector is incorporated into TIMES via fuel shares and emissions projections. While both are determined exogenously, changes to Transport fuel shares will ripple through the rest of the system, as Transport supply chains are fully incorporated into the model. Transport emissions projections are taken into account in deriving sector envelopes in the same way as for the nonenergy sectors; their inclusion ensures total emissions from all sectors do not exceed the overall targets. The emission projections and fuel shares for Transport in the draft Plan were based on data provided by Transport Scotland and sourced from research by Element Energy. The Element Energy report , commissioned by Transport Scotland and published in January 2017, sets out potential pathways for emissions reductions in the Transport Sector. The Element Energy report allowed the Scottish Government to utilise more granular data in considering its emissions reduction strategy. The transport sector emissions profile in the Plan has been updated to account for the impact of Programme for Government 2017- 2018 announcements on low emission zones and electric vehicles.
- By ensuring that emissions trajectories for all sectors are informed by sector-specific models and analysis, we can be confident of the robustness of sector emissions envelopes. Further detail on the input assumptions, approach and results by sector is provided in the technical annex of the Plan.
- 7. The Committee recommended that the final Plan include information on plans to allow stakeholders, including the Committee on Climate Change, access to iterations of the TIMES Model to allow them to run scenarios through the framework. (99)
  - We remain committed to releasing the Scottish TIMES model. We will work towards releasing the model for the academic community to further research into whole system energy and climate change modelling; and maintain our commitment to transparency

#### **Employment, Jobs and Fair Work Committee**

- 1. The Committee commended the whole-system approach but noted that it should not be at the expense of the detail provided in the earlier Reports on Proposals and Policies. The Committee noted that the TIMES model relies on certain assumptions. However, the Committee does not know exactly what information was incorporated into the model and what weight was given to practical considerations on delivery, costs and disruption. The Committee noted that it believes that this approach lacks transparency. (EJFW 15)
  - Further details around the underlying assumptions, modelling approach taken and results by sector is included in the technical annex of the Plan.

# Environment, Climate Change and Land Reform Committee & Rural Economy and Connectivity Committee

- 1. The committees recommended that each policy outcome, policy and proposal in the Plan should contain information on the emissions reductions in MtCO<sub>2</sub>e they are expected to achieve. (ECCLR 255, REC 19)
  - The TIMES model does not work on the basis of deducting abatement from projected emissions; instead, it identifies the most efficient parts of the system to remove greenhouse gas emissions and allocates sector envelopes accordingly. Policies and proposals are then developed to ensure emissions remain within the envelope limits.
  - The consequence of employing TIMES is that it does not present annual emissions abatement for individual policies and proposals as was the case in the two previous reports on proposals and policies. There is no counterfactual from which to deduct abatement.
  - In addition to the absence of sector business as usual projections, attributing abatement to any one sector is problematic when considering the whole energy system. TIMES tells us the amount by which emissions need to fall over time to meet our targets and while it does produce suggested sector envelopes for meeting these targets, these cannot necessarily be translated into abatement by sector. For instance, does a reduction in electricity demand in one sector equate to abatement for that sector or for the electricity generation sector? Similarly, does an increase in electric vehicles result in emissions abatement from transport, an increase in demand from the generation sector or a reduction in emissions from refineries? TIMES addresses this challenge by taking a system-wide view.

# **Monitoring**

#### **Local Government and Communities Committee**

- 1. The Committee requests that the Scottish Government provides it with an annual update on performance on areas specific to its remit, with the potential to schedule further updates as and when required. (227)
  - The Scottish Government will publish an Annual Progress Report on the Monitoring Framework, and make this available to SPICe, detailing how each sector is performing against the indicators set out in the Plan. The monitoring framework will evolve over time as we learn lessons from initial implementation and we welcome the opportunity for ongoing engagement with the Parliament on this.

- 1. The Committee asked for further discussion with the Scottish Government on issues of timing of publication of the annual summary monitoring reports and the alignment of these with other key documents. (375)
  - The first Annual Progress Report on Monitoring will be published in October 2018. The timing of subsequent reports will be confirmed following further discussions with the Scottish Parliament and the Committee on Climate Change (CCC).
- 2. The Committee recommended that the Scottish Government publish an update on the monitoring framework in advance of the publication of the final Plan, to allow this to be scrutinised by the Committee. (354)
  - As recommended by the Committee, the Scottish Government has embedded the monitoring framework into the Plan to show clearly how each sector is monitoring its progress. For this reason it was not possible to share the monitoring framework outwith the context of the full Plan ahead of its publication. The monitoring framework will evolve over time as we learn lessons from initial implementation.
- 3. The Committee sought a commitment from the Scottish Government that it will have the opportunity to review the draft monitoring framework prior to the publication of the final Plan. (335)
  - The Director of Energy and Climate Change provided an update to the Committee on the development of the monitoring framework on 7 November 2017 and 30 January 2018. As recommended by the Committee, the Scottish Government has embedded the monitoring framework into the Plan to show clearly how each sector is monitoring its progress.
- 4. The Committee recommended that progress reports should follow the format contained in the final Plan. The Committee made several recommendations on this, including embedding the monitoring and evaluation across policies and proposals sections of the Plan. (379)
  - The format for the first Annual Progress Report will follow the format set out in the final Plan as closely as possible. The monitoring framework will evolve over time as we learn lessons from initial implementation.

- 5. The Committee recommended that the final Plan include the detail outlined in the "Structure of the final Plan embedding monitoring and evaluation across policies and proposals" section of its report, drawing on commentary from each section, for each policy and proposal. Further, each policy and delivery route should contain detail, supported by evidence or data, to show precisely how it will be achieved. (391, 392)
  - The monitoring framework has been embedded in the final Plan, as recommended by the Scottish Parliament. Improvement and learning underpins the monitoring framework. We will continue to develop the framework, working with the Parliament, the CCC and other stakeholders as we learn from the implementation process.
- 6. The Committee recommended that the final Plan should make it clear how performance will be measured and how successes in some areas will not allow struggling sectors to reduce their efforts at future TIMES Model runs. (215)
  - The monitoring framework has been embedded in the final Plan, as recommended by the Scottish Parliament. The Scottish Government will use policy output indicators to determine if implementation of the Plan is on track and flag any policy area that needs attention.
  - The Plan takes a whole-system approach to emissions reductions, reflecting the cross sector nature of greenhouse gas emissions. Performance of sectors will be considered within this wider system. Any underperformance of the emissions envelope for one sector will therefore need to be made up through working harder in others. Any sector over performance that leads to the overall targets being outperformed would represent a bonus, as the statutory requirements do not allow for this to be banked against future targets.

#### Economy, Jobs and Fair Work Committee

- The Committee recommended that additional details on budgets, targets, timelines and policies should be included in the Plan, consistent with that provided in the earlier Reports on Proposals and Policies, in order to ensure that all those involved in delivering the Plan are fully informed and able to do so. (EJFW 16)
  - The Scottish Government will use the monitoring framework, which is embedded in the Plan, to monitor progress against indicators to determine if implementation of the Plan is on track and flag any policy area that needs attention. An annual monitoring report will be made available to Parliament. We aim to publish the first report in October 2018.

#### **Rural Economy and Connectivity Committee**

- 1. The Committee called on the Scottish Government to include in the monitoring framework clear plans for when policies and proposals will be implemented, as well as measurable SMART targets, progress indicators and milestones. (24)
  - The monitoring framework includes measurable SMART targets, progress indicators and milestones where possible. Timescales for implementation of policies and proposals have also been included where possible. These will be developed over time by sectors where data is currently not available.

#### Governance

- 1. The Committee strongly recommends the final Plan include the precise detail on the operation of the Governance body. (387)
  - The final Plan sets out the key functions of the Governance Body which will oversee the implementation and monitoring of the Plan.

# **Scrutiny**

#### **Local Government and Communities Committee**

- 1. The Committee saw merit in considering whether a date for the Plan's publication should be set in statute. It noted that this would provide certainty for Committees and stakeholders, as well as maximise the time available for scrutiny. (14)
  - In light of this recommendation, we explored issues associated with timing of future Plans as part of our consultation on the forthcoming Climate Change Bill. Issues explored included the frequency with which Plans should be produced and alignment with the Paris Stocktake Processes (occurring in 2023 and every five years thereafter). Many respondents to the public consultation specified they wish Plans to be produced at least every five years, and there was a mix of views on whether Plans should be aligned to Paris Stocktake processes and if so how. In meetings of the Technical Discussion Group (established for key stakeholders to discuss elements of the Bill in depth), a consensus emerged that the most important factor is that Plans should be developed at least every five years, but that the dates for publication should not be prescribed in statute, to allow for alignment with Paris Stocktake Processes, elections and other events to be managed flexibly.

- The Committee considers transparency of the presentation of the draft Plan to be essential to the
  Parliamentary scrutiny process. Apparent changes to soil testing policy and the external development of
  the waste carbon envelope were identified by the thorough and determined pursuit of both issues by the
  Committee. The Committee recommended that the Scottish Government consider how future
  communications could more swiftly and efficiently aid the Parliamentary scrutiny process. (522)
  - The Scottish Government will consider, and would welcome further discussion with the Committee around how its communications with Parliament on the Plan processes might be improved in future.
- 2. The Committee welcomes the briefing materials and presentation provided by the Scottish Government on the TIMES Model in advance of parliamentary scrutiny of the draft Plan. The Committee considers such advance engagement to be essential to assisting Committees prepare. The Committee recommends the Scottish Government provides information relevant to the consideration of the document, such as methodology and structure, to the Committees of the Scottish Parliament, no later than the October recess of a preceding year. (115)
  - The Scottish Government would be pleased to provide background information relevant to future Plans in advance on parliamentary scrutiny of the document.

Environment, Climate Change and Land Reform Committee, Local Government and Communities Committee, Rural Economy and Connectivity Committee, and the Economy, Jobs and Fair Work Committee

- 1. All four committees that provided scrutiny of the draft Plan recommended that the Scottish Government should review the time available for parliamentary scrutiny and use the opportunity afforded by the forthcoming Climate Change Bill to either remove the fixed period or extend the current 60 day restriction. (LGC 13, ECCLR 550, REC 14, EJFW 17)
  - In light of these recommendations from the committees, the proposals for the forthcoming Climate Change Bill consulted on in summer 2017 included a proposal to extend the period for Parliamentary consideration. The consultation also sought views on how many days the consideration period should be. Respondents generally felt that the period for parliamentary consideration should be 90 or 120 days to allow for proper scrutiny and consensus-building. This will be reflected in the Climate Change Bill when it is introduced to Parliament in the coming months.

### **Electricity**

#### Economy, Jobs and Fair Work Committee

- 1. The Committee recommended that, given the reliance within the Plan on the development and large-scale demonstration of Carbon Capture and Storage (CCS), consideration is given to other available options, alongside CCS. (65)
  - In response to the feedback on the draft Plan and Energy Strategy, we have revised our assumptions about the application of CCS. The feedback we received highlighted the challenge of deploying CCS at scale in the period set out in the draft. In response to this, we have applied a constraint in the model, limiting the uptake of CCS before 2030. Given the feedback on the interaction with bioenergy, we have also limited the ability to account for negative emissions in the modelling, through bioenergy generation with CCS. Scottish Government policies support the development of CCS, which will be important for the long term cost-effective decarbonisation of our economy in key sectors such as heat, industry and electricity.
- 2. The Committee sought additional information from the Scottish Government regarding the intergovernmental collaboration required with the UK Government for the development of CCS and how the Scottish Government plans to take this forward. The Committee noted that it is vital to establish how the development of CCS will be supported and funded. (66)
  - The UK Government has proposed a new policy approach to Carbon Capture Utilisation and Storage (CCUS) as part of its wider Clean Growth Strategy launched on 12 October 2017. To advance CCUS the UK Government has set up a Ministerial-led CCUS Council and established a CCUS Cost Reduction Taskforce. Scottish Government officials are participating in both of these forums. The UK Government has also committed £20m funding towards a CCUS demonstration programme.
  - In addition to this, the Scottish Government is supporting the Acorn CCS Project, which has secured €1.9m under an EU science funding stream to Accelerate CCS Technologies (ACT). We are contributing £100k funding towards this project's feasibility study on a small scale CCS demonstrator project targeting industrial gas processing CO₂ emissions at St. Fergus.
  - The Scottish Government has also provided £250k funding to Scottish Carbon Capture Storage (SCCS) to take forward a programme of work to assess further opportunities to support the delivery of CCS infrastructure and demonstration facilities for CCS and CO<sub>2</sub> Utilisation on the ground in Scotland.
- 3. The Committee noted that the demonstration and commercialisation of CCS must be encouraged not only in Scotland but also within the UK, with a UK government system aligned with Scottish energy priorities. (67)
  - CCS infrastructure deployed across UK regions and industrial sectors has the potential to contribute greatly to achieving deep decarbonisation.
  - The UK Government's new policy approach on CCUS has made commitments to work with Teesside, Merseyside, South Wales and Grangemouth to test potential for development of industrial CCUS decarbonisation clusters. Scottish Government officials are collaborating with UK counterparts to ensure Scottish clustering opportunities are explored and discussed as part of the UK Government Ministerial –led CCUS Council.

- 4. The Committee noted that it believes that CCS has a role to play and can be applied in diverse ways including industrial applications. The Committee highlighted that it believes that there is merit in exploring options for the future use of the existing asset at Peterhead and that CCS represents an opportunity to do so. (68)
  - CCS and CCU are currently the principal technologies capable of industrial-scale climate mitigation in some of the most carbon-intensive industrial processes such as cement production, oil and gas processing, and the production of steel and other metals. In collaboration with Scottish Enterprise and SCCS, the Scottish Government has explored the role of CCS in decarbonisation industry and potential hub models to role of carbon capture, transport and storage. <sup>12</sup> <sup>13</sup> CCS would also be necessary to mitigate CO₂ emission from steam methane reforming, if deployed as part of a future heat decarbonisation plan.
  - The Scottish Government is supporting the Acorn CCS Project at St Fergus, which has secured €1.9M under an EU science funding stream to Accelerate CCS Technologies (ACT). We are contributing £100k funding towards this project's feasibility study on a small scale CCS demonstrator project targeting industrial gas –processing CO₂ emissions at St. Fergus which will draw upon important elements of the publicly funded FEED study work carried out for the previous Peterhead Project.
  - The role of the planning system including CCS is included in the revised The Planning System section of the Plan.
- 5. The Committee recommended that the Scottish Government works with the UK Government to consider what investment can be made in Peterhead to secure its long-term future. (69)
  - Investment in Peterhead power station is a commercial matter for station owners SSE. This is being considered as part of its ongoing review of the power station.
  - The Scottish Government is clear that it views Peterhead as a significant strategic asset for Scottish energy resilience. In July 2017, the First Minister made a successful representation to Ofgem regarding changes to the transmission charging regime. These changes, which will be implemented by April 2018, will have a material impact on the operation of the power station. The cost difference is a key factor in SSE's ongoing review. We will continue to engage and work collaboratively with the UK Government, National Grid and Ofgem on Great Britain-wide resilience issues.
- 6. The Committee questioned whether there is a need for additional thermal capacity for the purposes of mitigating climate change and noted that evidence from the National Grid, who say it is not required. The Committee asked the Scottish Government to provide it with details of the modelling carried out to work out what installed capacity is needed. (76)
  - A strategic objective of our Energy Strategy and Plan is for a secure and flexible energy supply, with a system robust against fluctuations and interruptions to supply. Investment in new, efficient gasfired generation can play a key role in delivering this.

http://www.element-energy.co.uk/wordpress/wp-content/uploads/2014/06/Element-Energy-Scottish-CCS-Hub-Study-Revised-Final-Main-Report-310314c.pdf

<sup>&</sup>lt;sup>12</sup>Scotland and the North Sea CCS Hub Study (2014)

<sup>&</sup>lt;sup>13</sup>Building a C02 Storage Hub in the Central North Sea – Scotland's Blueprint for a Carbon-Proofed Economy (2015)

http://www.sccs.org.uk/images/expertise/misc/SE-CO2-Hub.pdf

- The National Grid's view that new gas-fired capacity in Scotland is not necessary to meet peak demand is correct. Scotland's grid regularly operates with a high penetration of low carbon power, with this supported by transmission infrastructure.
- However, our preference for new, flexible and efficient gas-fired generation to be spread throughout GB and in Scotland reflects our consideration of Scotland's power system in the round the need for sufficient megawatts of power, for quality of power supplied and, crucially, for system operability, resilience and restoration. This aligns with evidence presented to the EJFW Committee on 13 June 2017 by Duncan Burt of National Grid's System Operation. Mr Burt commented that, ideally, remaining thermal plants should be spread across GB to help manage the grid.
- Current regulatory and market mechanisms attempt to be cost-reflective but, while capturing some of the costs created by synchronous generation in Scotland, fail to reflect the benefits they create, not least through their role in restoring demand after an interruption to supply. The result is that as thermal power stations such as Longannet and Cockenzie have closed, transmission charges and shortcomings within the Capacity Market continue to act as a barrier to investment in replacement gas capacity in Scotland. We firmly believe this needs to be addressed.
- 7. The Committee noted that many of the support mechanisms for renewable energy are under the control of the UK Government and acknowledged that this is the case for other technologies which are vital for the Plan. The Committee encouraged the Scottish Government to do what it can within its own remit to achieve its policy outcomes, whilst working with the UK Government to maximise support available to the renewable energy industry in Scotland. (44)
  - The recently published Scottish Energy Strategy reiterates the Scottish Government's determination to take actions of our own to support renewable generation and growth across Scotland, while working with the UK Government to pursue the necessary policy changes and delivery in those areas which are reserved. The Energy Strategy lists a number of actions, ranging from continued funding for renewables innovation, targeted relief through non-domestic rates for specific renewables projects, and a sustained focus on securing renewables supply chain benefits.
- 8. The Committee noted the aim in the Plan to demonstrate technologies such as hydrogen and CCS at commercial scale by 2030. The Committee recommended that the final Plan should contain more detail on how the policy outcomes for industry will be achieved and implemented. (173)
  - We are monitoring the progress of Scottish Gas Network's current feasibility study funded by OFGEM which in its next phase looks to demonstrate a 100% hydrogen gas network system for heat pilot in Scotland. If successful this may in turn open up opportunities for fuel-switching options to zero-emissions hydrogen in industrial processes.
  - Our funding contribution to the Acorn CCS Project in St. Fergus, committed in the Programme for Government 2017- 2018, will contribute to the ambition in the Plan to see CCS demonstrated at a commercial scale by 2030. The Acorn feasibility study aims to demonstrate a lowest cost full-chain CCS project that targets industrial emissions. Subsequent project phases would aim to establish the UK's first full chain CCS demonstrator.
  - The UK Government's new policy approach to CCUS sets out an ambition to deploy CCUS at scale in the 2030s and has committed the UK Government to publish its CCUS "deployment pathway" in 2018. The UK Government have set up a Ministerial-led CCUS Council and established a CCUS Cost Reduction Taskforce. To take these plans forward Scottish Government officials are participating in both of these forums.

 As outlined in the Scottish Government's Energy Strategy, it is the our intention to publish a gas network vision paper, which will provide an opportunity to explore issues such as the role of hydrogen in more depth, and inform future investment cycles by network operators.

- 1. The Committee noted its support for the objectives relating to the successful implementation of carbon capture and storage, however it highlighted that there are significant assumptions in achieving this, and it is unclear what will happen if this is not achieved. (265)
  - There is widespread international recognition that CCS will be essential to cost-effective climate policies. Within this international context, there are currently 12 CCS projects, with countries across the world investigating options for establishing future CCS industries. For instance, Norway has been operating a CCS plant since 1996, and has plans to further develop their storage resources to support international decarbonisation efforts. Scottish Government policy, which targets both CCS and CCU, aims to ensure that future commercial CCS opportunities harness Scotland's carbon storage assets.
- 2. The Committee noted that it does not have the evidence required to enable it to concur with the view of the Scottish Government regarding the credibility of CCS in the draft Plan. It recommended that it would be helpful for the final Plan to include further evidence and data (where available) on why the Plan is so reliant on CCS. (274)
  - In response to the feedback on the draft Plan and Energy Strategy, we have revised our assumptions about the application of CCS. The feedback we received highlighted the challenge of deploying CCS at scale in the period set out in the draft. In response to this, we have applied a constraint in the model, limiting the uptake of CCS before 2030. Given the feedback on the interaction with bioenergy, we have also limited the ability to account for negative emissions in the modelling, through bioenergy generation with CCS.
- 3. The Committee recommended that the final draft of the Plan includes an alternative (Plan B) option for those policies where the EU and the UK policy making will carry significant weight. Given the concerns raised particularly about the bioenergy and CCS assumptions the Committee recommends that a Plan B option that does not rely on this technology in the timescale anticipated is developed. It further recommended that this Plan B option should set out what can be done within domestic efforts to achieve the policy outcomes. (288)
  - In response to the feedback on the draft Plan and Energy Strategy, we have revised our assumptions about the application of CCS. The feedback we received highlighted the challenge of deploying CCS at scale in the period set out in the draft. We therefore applied a constraint in the model, limiting the uptake of CCS before 2030. In addition, given the feedback on the interaction with bioenergy, we also limited the ability to account for negative emissions in the modelling, through bioenergy generation with CCS.
  - Scottish Government policies, however, support the development of CCS, which will be important for the long term cost-effective decarbonisation of our economy in key sectors such as heat, industry and electricity. CCS is not required for the delivery of the electricity generation carbon envelope out to 2032. It does, however, represent the only viable technology capable of mitigating industrial scale CO₂ emissions in some of the world's most carbon intensive industrial processes.

- 4. The Committee recommended that the final Plan state explicitly how the results of the draft Energy Strategy consultation contributed to the final Plan. (108)
  - The Plan has benefitted from the in depth consideration of energy issues during the considerable public and stakeholder engagement and feedback gathered during the consultation on the draft Energy Strategy. The analysis of the consultation of responses to the draft Energy Strategy was carried out by an independent social research company and the report was published on 14 November 2017. This includes responses to the separate consultations on Scotland's Energy Efficiency Programme, and the draft Onshore Wind Policy Statement. The results of this analysis were considered carefully during the development of the Plan.
- 5. The Committee recommended that the final Plan should explicitly state the source of gas incorporated into energy sector assumptions to provide clarity and confidence for the Committee and stakeholders that unconventional gas will not form part of the delivery of the final Plan. (536)
  - On 3 October 2017 the Scottish Government set out its preferred position on unconventional oil and gas, this was to not support the development of this industry in Scotland. On 24 October, the Scottish Parliament voted to support the Scottish Government's position. In line with statutory responsibilities, a Strategic Environmental Assessment is being prepared for consideration before the position on unconventional oil and gas is finalised.

# **Buildings**

#### **Services**

#### Economy, Jobs and Fair Work Committee

- 1. The Committee noted the practical measures planned by the Scottish Government, such as the public sector energy efficiency procurement framework, but believes that behaviour change is also key to achieving the targets. The Committee asked the Scottish Government to report back on how behaviour change considerations were used to inform the selection of policies, proposals and delivery routes in the services sector. (157)
  - The Scottish Government's Resource Efficient Scotland (RES) programme provides support to businesses which is focused on influencing behaviours. The RES Advice and Support Service for Small and Medium Sized Enterprises (SMEs) provides free advice on all aspects of resource efficiency – energy, waste, water, materials – as well as bespoke reports on actions individual businesses can take. Other RES behaviour-change activity includes:
    - Green Champions training training for individuals to be able to influence behaviour change within their organisation.
    - Resource Efficiency Pledge and pledge ambassadors where businesses pledge to make changes.
    - Green Business Network of businesses willing to share their experience of resource efficiency action, to encourage others.
    - Events, webinars, case studies, regional campaigns.
  - The 2 phases of SEEP pilots now underway address behaviour change and the Scottish Government will also build behaviour change into the transition programme. The provision of advice and information will evolve as SEEP evolves, and this will help drive behaviour change in future.
- 2. The Committee asked for more detail regarding how the work to transition from gas heating to low carbon heating between 2025 and 2032 will progress. (140)
  - SEEP will focus to the mid-2020s on reducing energy demand in all buildings across Scotland –
    establishing solutions for switching heating supplies from high to lower carbon or renewable sources
    for properties off the mains gas grid.
  - SEEP is also developing a new framework for Local Heat & Energy Efficiency Strategies (LHEES), creating a strategy to guide investment in energy efficiency and heat decarbonisation at a local level. Led by local authorities, working closely with their communities, this will set out a long term prospectus for investment in new energy efficiency, district heating, and other heat decarbonisation programmes. It will provide opportunities for communities to not only develop their own energy projects, but also to have their voices heard in the planning processes for energy developments.
  - We expect the UK Government to have taken these decisions on the long-term direction of heat decarbonisation by the early 2020s. We will continue to work closely with the UK Department for Business Energy and Industrial Strategy, urging them to come to a decision as rapidly as possible and to carefully consider Scottish circumstances and the aims of this Strategy as they take decisions on the future of the gas network, and the overall mix of heat decarbonisation in reserved areas.

- The Scottish Government will thereafter develop and identify the best approach to the long-term decarbonisation of the heat supply in a future Plan, and will adjust the actions under the Energy Strategy accordingly.
- The Committee raised concerns regarding the 2025-2032 window for transforming the energy supply to mainly low-carbon sources in the services sector. The Committee expressed the view that this timescale was unrealistic and urged the Scottish Government to consider beginning this process sooner. (159)
  - Emissions will be reduced through continued deployment of low carbon heat in off-gas properties and other low regrets options on-gas over the period of the Plan. From 2025, the pace of emission reduction increases as we begin to supply an increasing proportion of heat to on-gas buildings using lower carbon fuels, where they are a low or no regrets option. (The UK CCC describes low regrets options as measures to increase energy efficiency and decarbonise heat that are sensible regardless of which long-term options are chosen.) This is in line with UK Committee on Climate Change advice that 'low regrets' decarbonisation technologies should be deployed while the UK Government gathers evidence on options for wider heat infrastructure, such as decarbonisation of the gas grid. To do otherwise would result in far greater risk of significant investment into stranded assets.

### Residential

#### **Local Government and Communities Committee**

- 1. The Committee welcomed the Scottish Government's ambitious targets in the residential sector but noted that achieving this will require consumer behavioural change, energy advice and information and potentially regulation in order to achieve these targets. (225)
  - Behaviour change is already at the heart of our energy efficiency programmes and will continue to be so as SEEP is developed and rolled out. In addition to our delivery programmes, the Scottish Government also funds Home Energy Scotland and Resource Efficient Scotland who provide free, impartial advice to property owners including on energy saving behaviours. Advice is also embedded into our domestic area-based schemes to help households maximise the benefits of energy efficiency improvements, for example by adjusting heating systems.
  - As we develop SEEP, the Scottish Government continues to review how we can best act to influence behaviours. To support this we have undertaken a series of ISM workshops examining how to:
    - create demand for energy efficiency in housing
    - encourage uptake of loans (for energy efficiency improvements)
    - engage householders with their heating controls.
  - The findings of these workshops are helping to inform the development of SEEP, which will be set out in more detail in a routemap later in 2018. As set out in the SEEP consultation of 2017, SEEP will put in place regulation and standards providing long-term certainty and making it the norm to invest in energy efficiency.
- 2. The Committee requested an update on the current status of the Scottish Government's work regarding the methodology the current EPC system. (149)
  - The Scottish Government are reviewing the methodology of the current Energy Performance Certificate (EPC) system and its application as we develop and rollout SEEP. Further details on

SEEP, including our long-term ambition and interim milestones, will be set out in a routemap for the programme in May 2018.

- 3. The Committee was supportive of the area-based approach taken to Homes Energy Efficiency Programmes for Scotland) (HEEPS) but was concerned that there was a lack of information on how the programme will be funded post-2021. The Committee requested further information in the final Plan. (172)
  - In the Programme for Government 2016 2017 we committed to investing £500 million in energy efficiency improvements over four years, helping to reduce greenhouse gas emissions and tackle fuel poverty. SEEP is a long-term programme and will be funded from a mix of public and private sources. As we set out in the Infrastructure Investment Plan we will continue to provide grant funding to help improve the homes of those vulnerable to fuel poverty, and will seek opportunities to create low-cost loan facilities to help those who can afford to invest in energy efficiency spread the cost of doing so.
  - We will publish a routemap for SEEP in 2018, setting out our long-term ambitions for the programme and the milestones along the way. This will include details on how our existing programmes, including HEEPS: Area Based Schemes, will be transitioned to SEEP. Funding decisions for delivery post-2021 are for the next administration and Parliament, and will be decided following the Scottish Parliament elections in 2021.
- 4. The Committee sought an explanation as to why progress regarding the transfer of regulation in the private residential sector from a proposal to a policy, between RPP2 and RPP3 had been slow. However, it welcomed the Minister's commitment to consulting on the private rented sector in March 2017 and to provide a timeline for consulting on the owner-occupied sector.
  - The previous administration took the decision to delay consultation on minimum energy efficiency standards due to unexpected UK Government changes to the energy efficiency funding landscape, which removed Green Deal loan finance and reduced the scale of grant funding available.
  - In 2017 we consulted on minimum energy efficiency and condition standards for homes in the private rented sector. We will confirm our proposals for minimum energy efficiency standards in the private rented sector as part of the SEEP routemap publication in 2018. The Programme for Government confirmed our commitment to seek the views of owner-occupiers on improving the energy efficiency of their homes, including the role of standards and the use of financial and fiscal incentives. More information will be set out in the SEEP routemap.
- 5. The Committee highlighted that the Scottish Government may wish to consider the views expressed in the section of Local Government and Communities Committee report entitled "Priorities for SEEP" during the development of SEEP. (144)
  - The Scottish Government is considering the recommendations made by Parliament and stakeholders (via the 2017 SEEP Consultation) as the programme is designed and developed.
- 6. The Committee recommended that further details of the implementation of the roll out of smart meters be included in the final Plan. (178)
  - The Scottish Government supports the aims of the smart meter roll-out; however, we continue to press the UK Government to ensure that the programme is delivered to the greatest number of

Scottish consumers, at the lowest possible cost, whilst enhancing the benefits to the most vulnerable in our society and those at risk of fuel poverty.

### **Economy, Jobs and Fair Work Committee**

- 1. The Committee recommended that the Scottish Government reconsider its target to make improvements to the fabric of Scotland's domestic buildings resulting in a 6% reduction in their heat demand by 2032. (109)
  - Additional modelling has been undertaken in order to finalise the Plan, including modelling a broader set of energy efficiency measures. As such, in the final Plan energy efficiency improvements to the fabric of Scotland's domestic buildings will result in a 15% reduction in heat demand by 2032.
- 2. The Committee noted the potential barriers to developing district heating projects, including housing tenure, persuading people to sign up, the need for sufficient resources for such projects to proceed and the need to ensure that consumers are protected. The Committee asked the Scottish Government to report back to it on what steps are being taken to address these issues. (141)
  - The Scottish Government published Scotland's Energy Efficiency Programme: Second Consultation on Local Heat & Energy Efficiency Strategies, and Regulation of District and Communal Heating <sup>14</sup> in November 2017. This follows a high level policy scoping consultation paper published in January 2017 as part of the broader Scotland's Energy Efficiency Programme (SEEP). This paper was developed on the back of advice from a Short Life Working Group on Heat Regulation established by the Minister for Business, Innovation & Energy in September 2017.
  - The Scottish Government recognises that a central element of developing a coordinated programme for energy efficiency and heat decarbonisation through SEEP is to consider the role that local strategies could play in helping coordinate local delivery programmes for SEEP. The Scottish Government is proposing a statutory strategy to guide investment in energy efficiency and heat decarbonisation over a 20 year period at a local level. Prior to commencement of any statute, local authorities would be offered capacity and support to develop LHEES.
  - To support appropriately sited, low carbon affordable district heating developing in a strategic manner with accelerated delivery, this consultation also proposed the creation of a new regulatory framework for the development and operation of district heating. The aim is to deliver a framework where district and communal heating serves its customers well, delivers affordable low carbon heat, where there is increased confidence in the investment in new and expanded district heating and wherever possible Scotland secures the economic opportunity presented from these schemes. The consultation closed on 20 February 2018.
  - More broadly, SEEP aims to radically improve the energy efficiency of Scotland's homes, and buildings in the commercial, public and industrial sectors. SEEP will focus to the mid-2020s on reducing energy demand in all buildings across Scotland establishing solutions for switching heating supplies from high to lower carbon or renewable sources for properties off the mains gas grid. It will also encourage appropriately-sited low carbon district heating, where that is the most appropriate 'low regrets' heat decarbonisation technology. SEEP will build on existing successful programmes. It will build upon a transition programme which offers local authorities incrementally greater opportunities to deliver integrated energy efficiency projects.

<sup>&</sup>lt;sup>14</sup> Scotland's Energy Efficiency Programme: Second Consultation on Local Heat & Energy Efficiency Strategies, and Regulation of District and Communal Heating <a href="http://www.gov.scot/Publications/2017/11/6232">http://www.gov.scot/Publications/2017/11/6232</a>

- 3. The Committee noted the concerns expressed in relation to non-domestic rates for district heating and changes to non-domestic rates for renewables. The Committee will examine the issue of non-domestic rates in more detail during its work on the draft Energy Strategy. (143)
  - The Scottish Government is driving a number of improvements to non-domestic rates, following the external Barclay review that concluded in 2017, with our approach continuing to be informed by wide-ranging dialogue with energy sector stakeholders. Support measures include a 50 per cent rates relief for district heating schemes in place since April 2017, relief of up to 100 per cent for community schemes in place since April 2016, and a new 60 per cent relief for hydropower schemes (with rateable value up to £5 million) commencing April 2018. As per our implementation plan following the Barclay review, a fast-tracked review of plant and machinery rateability for hydropower will also commence shortly, with further detail on a wider plant and machinery review covering district heating and wider renewables to follow.
- 4. The Committee noted that appropriate resources are required to deliver the planned changes and asked the Government for further details on the proposed budget, including incentive-based schemes, grants and loans. (114)
  - As we set out in the Infrastructure Investment Plan, we will continue to provide grant funding to help improve the homes of those vulnerable to fuel poverty, and will seek opportunities to create low-cost loan facilities to help those who can afford to invest in energy efficiency spread the cost of doing so. We will also bring forward regulations and standards, as appropriate and necessary, to make it the norm to invest in energy efficiency.
  - The Programme for Government 2016- 2017 committed to investing £500 million in energy efficiency improvements over four years, helping to reduce greenhouse gas emissions and tackle fuel poverty. Funding decisions for delivery post-2021 are for the next administration and Parliament and will be decided following the Scottish Parliament elections in 2021.
- The Committee recommended that the Scottish Government produce a detailed plan on how the retrofitting of domestic buildings will be carried out and resourced, including owner-occupied and the private rented sectors. (110)
  - We will publish a routemap for Scotland's Energy Efficiency Programme in 2018, setting out our long-term ambition for the Programme, as well as interim milestones.
- 6. The Committee noted the support being given to Home Energy Scotland and the roll out of smart meters but asked for further detail in the Plan regarding other actions planned to address the behavioural change required to reduce heat demand. (113)
  - Home Energy Scotland provides national advice and support through a network of regional advice centres which, among their services, provide advice on how to keep reduce their energy costs, provide behaviour change advice on how to use their home efficiently and encourage the uptake of low carbon heat options. The Scottish Government also funds HEEPS low cost loans scheme open to individuals and businesses. This supports and encourages the uptake and installation of energy efficiency measures and low carbon heating systems to improve the energy efficiency of, and reduce carbon emissions from homes and buildings.
  - In addition, the 2 phases of SEEP (Scottish Energy Efficiency Programme) pilots now underway address behaviour change, and the Scottish Government will also build behaviour change into the

transition programme. The provision of advice and information will evolve as SEEP evolves, and this will help drive behaviour change in future.

## Local Government and Communities Committee and Economy, Jobs and Fair Work Committee

- Both Committees requested further information regarding the transformation of Scotland's heating supply from gas to low carbon sources and noted concerns regarding the short timescale between 2025-2032 for this change. The Committees however noted that evolving technologies to deliver this change as well as the reliance on UK Government policy decisions explains to some extent this planned intense period of change. (EJFW 139, LGC 210)
  - Additional modelling has been undertaken in order to finalise the Plan, including incorporating new data, amending delivery assumptions in line with advice received from stakeholders, the Committee on Climate Change and Parliament. As such, the final Plan requires 35% of domestic buildings' heat to be supplied from low carbon sources by 2032, compared to 80% in the draft Plan.
  - We are consulting on proposals for local authority-led Local Heat and Energy Efficiency Strategies, which will be a mechanism to identify the most appropriate means for decarbonising the heat supply across local authority areas. In addition, once SEEP is fully deployed from 2020, it will help to decarbonise the heat supply to off-gas buildings and look for opportunities to deploy low-regret low-carbon heating options where they make socio-economic sense in on-gas areas.
  - We will continue to work with the UK Government on options for the future decarbonisation of the mains gas network. Once UK Government decisions have been taken, SEEP will be reviewed to consider its role in supporting delivery.

## **Transport**

### Rural Economy and Connectivity Committee (REC)

- 1. The Committee requested more information regarding the forecast that vehicle traffic will grow by 27% by 2030 and how this has impacted the policy and proposal outcomes modelled by TIMES. (150)
  - Transport Scotland will publish its forecasts of transport demand by Spring 2018 providing detail on how the forecasts were developed. The report also includes a number of different scenarios which have been investigated.
- 2. The Committee called on the Scottish Government to include more information regarding transport emissions in appendices to provide clarity on what action and financial resources will be required to meet targets within the transport sector. (164)
  - Transport Scotland publishes the Carbon Account for Transport annually, detailing carbon emissions across all modes of transport. This sits alongside the Element Energy research which sets out potential emissions based on differing abatement profiles.
- 3. The Committee welcomed the progress made in developing electric vehicle charging infrastructure and encouraged the Scottish Government to continue to assess whether further investment is needed to extend the charge place network to support its ambition for 40% of all new cars sold to be ultra-low emissions by 2032. (179)
  - Since the publication of the draft Climate Change Plan, the Minister for Transport and the Islands has published 'Switched on Scotland Phase Two: An Action Plan for Growth'. Action 1 of the Action Plan commits the SG to continue to invest in the ChargePlace Scotland network until at least August 2019 to enable people to confidently charge their Electric Vehicles (EVs) across Scotland and sets out the approach to doing this. As announced in the Programme for Government 2017-2018, we will strengthen our ambition to ensure there is no need to purchase a petrol or diesel car or van by 2032.
- 4. The Committee called on the Scottish Government to provide plans on how it intends to challenge the retail, freight and logistics industries' to establish consolidation centres in urban and rural areas to help reduce emissions and congestion. (185)
  - The Scottish Government is working with freight stakeholders across sectors to improve urban freight movements. The retail, freight and logistics industries operate in very competitive markets. Delivery models and schedules are reviewed on a regular basis to ensure opportunities to increase efficiency are maximised. Indeed, we are aware of examples where retailers already consolidate deliveries e.g. Co-op consolidates dairy produce in Fife for delivery to Edinburgh.
  - Opportunities for consolidation need to be industry-led and commercially viable if they are to be sustainable without ongoing public sector support. Consolidation centres are one of many potential options to minimise freight journeys. As announced in the Programme for Government 2017- 2018, we will also create low emission zones in Scotland's four largest cities by 2020, removing the most polluting vehicles from our urban areas.
- 5. The Committee called on the Scottish Government, in considering options for making 50% of the Scottish bus fleet low-emission by 2032 to explore all alternatives to diesel, including electric, hydrogen and hybrid options. (196)
  - The Scottish Green Bus Fund is helping our bus industry invest in the latest emission reducing technology and is another clear indication of our support and commitment to the bus industry in Scotland. The Scottish Government has begun a review of how future rounds of the Scottish Green

Bus Fund should work given developments in technology and markets and the need to tackle both air quality and greenhouse gas emissions.

- We are also reviewing the longer term shape of the Bus Service Operator Grant low carbon incentive, in discussion with the industry, to ensure its financial sustainability. We want to see more green buses on the road, and to weight the incentive to the greenest buses, on a technology neutral basis.
- 6. The Committee asked the Scottish Government to ensure that, as part of its proposed consultation on changes to the Concessionary Travel Scheme, it seeks to identify any unintended consequences these may have on its climate change ambitions. (203)
  - The Scottish Government is committed to maintaining free travel through the National Entitlement Card on local or long distance buses for Scotland's older people and disabled people. No adverse changes will be made to the current eligibility criteria for the scheme for those with a disability, and we will ensure that any changes will not affect those already in possession of bus passes.
  - The main aims of the scheme are to:-
    - allow older and disabled people improved access to services, facilities and social networks and thus promote social inclusion;
    - improve health by promoting a more active lifestyle for elderly and disabled people,
    - promote modal shift;
    - maintain a no better no worse off position for bus operators; and provide opportunities for improvements to public transport, for example increasing the rollout of smart ticketing.
  - As anyone who already has a pass will keep it, we believe any climate impacts would be minimal. However, we would consider potential climate impacts (including any local variations) as part of the decision making process and during implementation of any changes which may be considered in future.
- 7. The Committee recommended that the Scottish Government continues to invest in a range of infrastructure enhancements to support the Rail Freight Strategy and support the extension of train length. (206)
  - The Scottish Government continues to invest in a range of enhancements (including infrastructure) to support the rail freight industry and the extension of train length. The Scottish Government fully recognises the importance of rail freight to the economy and is supportive of a sustainable rail freight sector playing an increasing role in Scotland's economic growth by providing a safer, greener and more efficient way of transporting products and materials.
  - The Rail Freight Strategy sets out our vision for rail freight and how we will work in partnership with the rail freight industry and others to realise the vision through the four core levers of: innovation, facilitation, promotion and investment. The various actions set out in the strategy are being taken forward by Transport Scotland in partnership with key stakeholders. One of the measures of success of our strategy is longer, faster, greener trains as they are more energy efficient per tonne carried and powered by less carbon intensive sources, such as electricity.
  - This work is being taken forward alongside record levels of investment in Scotland's railways, with a £1.8 billion programme of enhancements during Control Period 5 (2014 2019) to improve the capacity and capability of the infrastructure, delivering benefits for freight as well as passenger

services. We also have the £30 million Scottish Strategic Rail Freight Investment Fund that is helping to better unlock opportunities for rail freight across the country.

- Looking beyond 2019, the Scottish Ministers' recently published High Level Output Specification (HLOS) requires Network Rail to develop a plan with the wider industry to facilitate the growth of new rail freight business. The plan should include both maximising the use of existing flows and the development of new business/terminal facilities.
- 8. The Committee recommended that when the Scottish Government is planning major infrastructure projects, a key consideration should be how these might impact on its climate change ambitions. (215)
  - Scottish Transport Appraisal Guidance (STAG) is the framework used to appraise potential major transport infrastructure options in a particular study area. A Transport Appraisal includes consideration of the impact of potential transport infrastructure options against a range of criteria, including the environment. The environment criterion consists of a number of sub-criteria, one of which is "Global Air Quality" and involves assessing the impact of a transport infrastructure option on carbon dioxide emissions. Further details of this sub-criterion are available in section 7.4.2 of the STAG Technical Database.<sup>15</sup>
  - A Policy Assessment Framework (PAF) exercise is also completed for potential transport options, as part of a Transport Appraisal, with scoring against policy criteria including Scotland's climate change targets. Further details on the PAF are available in the STAG Technical Database<sup>16</sup>.
  - The evidence from a Transport Appraisal should provide the strategic business case for any emerging transport infrastructure project in line with Transport Scotland's Governance Procedures for Investment Decision Making and Monitoring and Review and Guidance on the Development of Business Cases<sup>17</sup> and be sufficient for the project to proceed to development. The findings of a Strategic Business Case, including impacts against the environment, are revisited in greater detail as the business case progresses to the Outline Business Case stage and the project is designed and developed in line with the Design Manual for Roads and Bridges (DMRB) for road projects and Network Rail's Governance for Railway Investment Project (GRIP) for rail projects. The preparation of major road schemes, for example, includes the publication of an Environmental Statement setting out environmental impacts and proposed mitigation.
- 9. The Committee recommended that the impact on carbon levels of the proposed reduction in air passenger duty (APD) should be covered in the Plan. It also recommended that the Scottish Government should commit to undertaking and publishing an analysis of the likely increase in carbon emissions from aviation if air passenger duty were to be reduced. (222)
  - The 'whole system' approach of the TIMES model does not allow us to attribute abatement to individual policies. This approach is stronger and more transparent; outlining what the emissions profile needs to look like if we are to meet our goals.

www.transport.gov.scot/publication/stag-technical-database/

<sup>16</sup>Stag Technical Database

www.transport.gov.scot/publication/stag-technical-database/

<sup>&</sup>lt;sup>15</sup>Stag Technical Database

<sup>&</sup>lt;sup>17</sup>Transport Scotland's Governance Procedures for Investment Decision Making and Monitoring and Review and Guidance on the Development of Business Cases

www.transport.gov.scot/publication/guidance-on-the-development-of-business-cases-march-2016

- The impact of reducing APD has already been factored into the transport emissions envelope. As such, measures to offset the increase resulting from APD have been taken into account when formulating the policies and proposals included within the Plan.
- 10. The Committee welcomed the decreased noise pollution and improved air quality that results from reduced transport emissions. However, it felt that greater emphasis should be given to the benefits of active travel in the plan. It noted that modal shift to active travel has less impact on carbon abatement, however, it has significant health benefits, which it suggested should be factored in the final plan. (271)
  - Transport Scotland recognises the co-benefits of active travel and enthusiastically supports them where available, however in terms of emissions abatement the overall impact of active travel is small. We note the broader benefits of active travel in the Transport Chapter of the Plan and explore these fully in our partner document, the Cycling Action Plan for Scotland published in January 2017.<sup>18</sup>

### Rural Economy and Connectivity Committee (REC) and Transport Stakeholders

- 1. The Committee and transport stakeholders called on the Scottish Government to consider whether demand management measures such as low emission zones and workplace parking levies should be afforded increased prominence in the final Plan. (219)
  - The Scottish Government recognise that low emission zones have a role to play in reducing emissions from the most polluting vehicles. As stated in the Programme for Government 2017-2018, we will look to roll out further low emission zones to the four biggest cities by 2020 and to all Air Quality Management Areas by 2023.
- 2. The Committee recommended that policies to encourage modal shift and incentivise bus patronage are outlined in the final Plan. It also recommended further and increased support for the development of walking and cycling infrastructure to allow for integrated active travel and public transport journeys, with a view to encouraging modal shift from private cars. In addition, transport stakeholders recommended that the focus on individualised modes of transport should not be at the expense of collective or active modes of travel. (202)
  - The Scottish Government invests more than £1 billion annually in public and sustainable transport improving passenger experience and reducing journey times. We will continue to provide free bus travel to those who need it most whilst ensuring the scheme is sustainable in the long term.
  - Transport Scotland is working in partnership with bus operators and local authorities to create a legislative framework that provides options to help them deliver a stronger and more sustainable network for their communities. The Scottish Government supports the development of partnership working to tackle issues like congestion and ensure that bus passengers get the best possible service.
  - The final version of the Plan reflects the bold new low emission policy commitments in the Programme for Government 2017 -2018, including phasing out the need for new petrol and diesel cars and vans by 2032, doubling investment in active travel and introducing Low Emission Zones to Scotland's cities.

<sup>&</sup>lt;sup>18</sup> Cycling Action Plan for Scotland 2017 <a href="https://www.transport.gov.scot/media/10311/transport-scotland-policy-cycling-action-plan-for-scotland-january-2017.pdf">https://www.transport.gov.scot/media/10311/transport-scotland-policy-cycling-action-plan-for-scotland-january-2017.pdf</a>

- 3. The Committee called on the Scottish Government to set out, in the final Plan, how it intends to meet its walking and cycling modal shift commitments, especially its commitment that 10% of everyday trips are made by bike by 2020 In addition, transport stakeholders requested further information regarding Active Travel budgets to ensure that Active Travel behaviours are embedded and sustained over the coming decades. (192)
  - Transport Scotland published an updated Cycling Action Plan for Scotland in January 2017, detailing measures we and our partner organisations must take if we are to reach our ambitious vision if we intend to meet our cycling commitments. Additionally, as announced in the Programme for Government 2017 2018 we are doubling our active travel budget from £40 million to £80 million per year from 2018/19. This will contribute to making our towns and cities safer and friendlier spaces for pedestrians, increasing active travel opportunities in our urban areas.
- 4. The Committee and SEStran recommended that further information on any incentives proposed by the Scottish Government and the associated costs required to encourage uptake of ultra-low emission vehicles is detailed in the Plan. (176)
  - Since the publication of the draft Plan, the Minister for the Transport has published 'Switched on Scotland Phase Two: An Action Plan for Growth'<sup>19</sup>. The Action Plan provides further information on measures to encourage the uptake of ultra-low emission vehicles. Furthermore, the Programme for Government 2017- 208 has announced a step change in Scotland's ambition around electric vehicles, ensuring we will end the need to purchase a petrol or diesel car or van by 2032.

### **Environment, Climate Change and Land Reform Committee Recommendations**

- 1. The Committee recommended that the final Plan should include detail of how modal shift can be achieved, with emphasis on the role of policies to influence behaviour change. (317)
  - The Plan contains a number of catalytic actions which send a clear signal to individuals and businesses that behaviour change is needed to achieve our emissions goals. This includes measures specifically designed to encourage modal shift. For example, low emission zones, freight consolidation centres and electric vehicle incentives.
  - We will continue to develop measures which encourage modal shift to sustainable transport, including through our Smarter Choices, Smarter Places and Energy Saving Trust behaviour change initiatives. These include support for car clubs, fuel efficient driver training and a range of innovative active travel projects. The Programme for Government 2017- 2018 announcement regarding the increase in active travel budget further shows our commitment to encouraging people to switch to more sustainable modes of travel by making our towns and cities safer and friendlier spaces for cyclists and pedestrians.
- 2. The Committee recommended that the final Plan include clarification as to the reason why the traffic growth assumptions used in the Element Energy research to inform the plan differ from the assumptions that the Cabinet Secretary for Environment, Climate Change and Land Reform referred to and the CCC have used in their own analysis. (172)
  - The traffic growth assumptions used in the Plan originate from the Transport Model for Scotland (TMfS). Element Energy then used its own modelling to allocate this demand growth to different vehicle segments and powertrains and generate its energy projections and emissions. The assumptions used in this modelling, including mode splits and rates of penetration of technological change will differ from the assumptions used by the UK CCC.

<sup>&</sup>lt;sup>19</sup> Switched on Scotland Phase Two: An Action Plan for Growth https://www.transport.gov.scot/media/39306/switched-on-scotland-phase-2.pdf

## **Industry**

### Economy, Jobs and Fair Work Committee

- 1. The Committee believes that there is merit in exploring options for the future use of the existing asset at Peterhead and that CCS represents an opportunity to do so. (68)
  - Our funding contribution to the Acorn CCS Project committed to in the Programme for Government 2017- 2018 will contribute to policy to see CCS demonstrated at a commercial scale by 2030. The Acorn feasibility study aims to demonstrate a lowest cost full-chain CCS project that specifically targets industrial emissions in St. Fergus. Subsequent project phases of this project would aim to establish the UK's first full chain CCS demonstrator.
  - Our funding of Scottish Carbon Capture Storage (SCCS) includes a programme of work to identify options for CCS demonstration and innovation which contributes to the ambition in the Plan to see CCS demonstrated at commercial scale by 2030. We will consider any options proposed for the incorporation of CCS at the existing Peterhead Power Station.
  - For CCS to progress to commercial scale it is essential that the UK Government provides a robust policy framework to support full chain CCS. In their Clean Growth Strategy the UK Government committed to set up a Ministerial-led Carbon Capture Utilisation Storage (CCUS) Council with industry and a CCUS Taskforce with a remit to deliver a cost-reduction deployment pathway for CCUS. The first meeting of the UKG's CCUS Council took place on 29th January 2018 followed by the larger CCUS Taskforce held on 7th February 2018. Scottish Government officials attended both meetings and we will continue our engagement as part of these forums going forward.
  - CCS is the only large scale emissions reduction technology for some of our largest energy intensive industry. If the UK Government do not provide a suitable policy environment for the storage of CO<sub>2</sub> in our offshore storage reserves it is likely that CO<sub>2</sub> will still need to be captured and exported at considerable cost for offshore storage internationally, most likely in Norwegian stores. In that scenario both Scotland and the UK would lose the opportunity to be an import destination for CO<sub>2</sub> from other countries and the economic and employment benefits of developing our own CO<sub>2</sub> storage industry.
- 2. The Committee noted the aim in the Plan to demonstrate technologies such as hydrogen and CCS at commercial scale by 2030. The Committee recommended that the final Plan should contain more detail on how the policy outcomes for industry will be achieved and implemented. (173)
  - The Scottish Government is monitoring the progress of Scottish Gas Network's current feasibility study funded by OFGEM which in its next phase looks to demonstrate a 100% Hydrogen Gas network system for heat pilot in Scotland. If successful, this may in turn open up opportunities for fuel-switching options to zero-emissions hydrogen in industrial processes.
  - Our funding contribution to the Acorn CCS Project in St, Fergus committed to in the Programme for Government 2017 - 2018 will contribute to our policy to see CCS demonstrated at a commercial scale by 2030. The Acorn feasibility study aims to demonstrate a lowest cost full-chain CCS project that targets industrial emissions. Subsequent project phases would aim to establish the UK's first full chain CCS demonstrator.

### Waste

## The Environment, Climate Change, and Land Reform Committee (ECCLR)

- 1. The Committee recommended that the final Plan included detailed information on the contribution of the circular economy to the policies and proposals in the waste sector. (436)
  - The Scottish Government agrees that further development of the circular economy is important as we move towards a low carbon world. We will continue to work with Zero Waste Scotland and other partners to identify how we can use the circular economy to drive waste reduction and improvements in the market for recycled material.
- 2. The Committee recommended that the draft Plan make clear the timescales for a consultation on whether the target for food waste recycling will be mandatory. (428)
  - The Scottish Government is currently considering a comprehensive Food Waste Action Plan to achieve the target which will be published in 2018. This plan could include legislative measures that would need to be consulted on. The Scottish Government will clarify the timescales for any consultation at that point.
- 3. The Committee recommended that the Scottish Government give further consideration to the Committee on Climate Change's (CCC) recommendation that efforts to support recycling and food waste collections in rural and island communities should be strengthened. (427)
  - The Scottish Government will continue to look for ways in which efforts to support recycling and food waste collections in rural areas and island communities can be strengthened.
- 4. The Committee highlighted concerns by stakeholders about the challenges associated with meeting the target to end landfilling of biodegradable municipal waste by 2020, the Committee recommended that the Scottish Government provide further detail about the actions they are putting in place to achieve this while ensuring that this does not result in an increase in this waste being treated in energy from waste facilities. (432)
  - The Scottish Government accepts that some stakeholders have concerns about the challenges associated with the 1 January 2021 deadline for banning biodegradable municipal waste (BMW) to landfill.
  - The Scottish Environment Protection Agency will shortly write to councils and private operators
    providing guidance on the administration of the ban and asking about their plans for compliance.
  - Energy from Waste plants have a role in managing residual BMW. The Scottish Government is clear that waste should be treated in line with the waste hierarchy set out in "Making Things Last"<sup>20</sup>. The hierarchy sets out that energy recovery is the last step before landfill. We will therefore continue, in line with our circular economy strategy, to seek to reduce waste arising, and promote reuse and recycling to maximise the circularity of our economy.

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<sup>&</sup>lt;sup>20</sup>Making Things Last

- 5. The Committee supported the Scottish Government commitments to exploring how producer responsibility schemes can be made more effective and developing new schemes for tyres, mattresses and furniture, and would like to be kept updated on progress on this work. (435)
  - The Scottish Government accepts this recommendation and will keep the committee updated on this work, including its proposed consultation on a deposit return scheme, announced in the Programme for Government 2017 - 2018.

## Land Use, Land Use Change and Forestry (LULUCF)

## **Forestry**

### Rural Economy and Connectivity Committee (REC)

- 1. The Committee called on the Scottish Government to improve the levels of community engagement in order to mitigate any objections or complaints concerning new forest developments and land-use changes. (242)
  - The Scottish Government is committed to meaningful community engagement to inform the development of woodland creation proposals. Under the Scottish Government Forestry Grant Scheme<sup>21</sup> applicants for woodland creation support must meet the requirements of the UK Forestry Standard that states that "consideration should be given to involving people in the development of forestry proposals". Furthermore, the Scottish Government is producing guidance on Community Engagement to facilitate this process, and the Confederation of Forest Industries (representing forestry owners, managers and processors) has also produced a guidance note on stakeholder engagement that was promoted through the Mackinnon review process.
- 2. The Committee called on the Scottish Government to include restocking targets and to ensure any backlog in restocking the National Forest Estate is addressed. It also called on the Scottish Government to consider the impact that climate change may have on new species of pests and diseases, and therefore the levels of carbon capture. (260)
  - In this Plan, the Scottish Government focuses on emissions reductions. However, it is fair that stakeholders highlighted the importance of managing existing woodlands, so as not to reduce the carbon sink. The key to this is ensuring that woodlands are managed sustainably, in accordance with the UK Forestry Standard, which is a key Government policy. An explicit reference to the importance of sustainably managing Scotland's existing woodlands has been added to the forestry section of the Land Use, Land Use Change and Forestry chapter of the final Plan.
  - The Scottish Government's Control of Woodland Removal Policy has established the presumption that woodland removal should be kept to the minimum and where woodland is felled it should be replanted, or where a change of land use is permitted under the planning system that compensatory planting is carried out in a different location. A reference to this policy has been added to the forestry section of the Land Use, Land Use Change and Forestry chapter of the final Plan.
  - To assist this we must also continue to minimise permanent woodland loss by ensuring that forests are replanted after felling. The Scottish Government has taken action since the Committee's report in March 2017. This includes discussions with industry stakeholders, to understand their concerns on restocking and the publication by Forest Enterprise Scotland of a Restocking Strategy for Scotland's National Forest Estate<sup>22</sup> with input from the forestry sector.
  - The Scottish Government will be reviewing restocking- guidance in line with the new forestry legislation (Forest and Land Management (Scotland) Bill), developing the successor to the current forestry strategy, and in developing the regulations that will underpin the regulation of felling and restocking in the future to reflect the desire that restocking is carried out timeously.

http://scotland.forestry.gov.uk/supporting/grants-and-regulations/forestry-grants

<sup>22</sup> Restocking Strategy for Scotland's National Forest Estate

http://scotland.forestry.gov.uk/images/corporate/pdf/restocking-stategy-nfe.pdf

<sup>&</sup>lt;sup>21</sup> Scottish Government Forestry Grant Scheme

- 3. The Committee called on the Scottish Government to consider the funding options available to support those farmers wishing to participate in forestry activity in the context of higher payments for agriculture activity on their land and any competing subsidy requirements. (263)
  - The Scottish Government supports productive, sustainable mixed land use where forestry and other land uses such as farming, recreation and sporting interests work well together and are managed in an integrated way. The Scottish Rural Development Plan 2014-20 encourages better integration between woodland creation and farming by allowing farmers that create woodlands to retain their single farm payment. Furthermore, under the Sheep and Trees initiative a grant package has been developed to better reflect the opportunities for integrating farming and forestry enterprises. A reference has been added to the forestry section of the Land Use, Land Use Change and Forestry chapter of the final Plan.
- 4. The Committee noted that the Scottish Government has not met its forestry targets since the last Plan. However, it acknowledged that plans have been put in place which seeks to address this failure and improve planting rates in future. The Committee called on the Scottish Government to include an action in the Plan to keep the progress on the implementation of the Mackinnon recommendations under review. (231, 240)
  - The Scottish Government recognises this is going to be a big challenge but recently Forestry Commission Scotland has started to see a significant upsurge of woodland creation activity with more applications for planting coming in. This upturn in applications has given us confidence that over the next few years we will achieve 10,000 hectares a year.
  - To increase the pace and scale of tree planting to meet these ambitious targets the Scottish Government has taken decisive action by implementing the Mackinnon Report recommendations to streamline the planting approval process; providing more attractive grant rates for native woodlands in remote areas; increasing the grant funding for woodland creation by £4 million in 2017/18; and working with community, public and private sector investors to explore new partnership funding models. The Scottish Government will publish grant processing data to monitor the speed of forestry grant application processing. This is referenced in the Plan.
- 5. The Committee called for the Scottish Government to consider how it may support the improved education, awareness and uptake in the construction industry. (249)
  - The Scottish Government is already working closely with the construction industry, designers, specifiers and architects on the use and benefits of using wood products in construction. Through the Forestry Commission Scotland's Timber Development Programme, the Scottish Government will continue to support the Scottish forestry sector to help deliver our ambition to increase the use of wood products through research, innovation and knowledge transfer. This knowledge will be disseminated through campaigns such as 'Wood for Good<sup>23</sup>', the timber industry's campaign to promote use of wood in design and construction, and Forestry Commission publications, such as 'Sustainable Construction Timber<sup>24</sup>' which provide specific advice on sourcing and specifying local timber.

https://woodforgood.com/

<sup>&</sup>lt;sup>23</sup> Wood For Good

<sup>&</sup>lt;sup>24</sup> Sustainable Construction Timber

- 6. The Committee called on the Scottish Government to set out in the Plan the calculation for how much CO<sub>2</sub> the planned planting targets are anticipated to capture. It also called on the Scottish Government to give greater consideration to the research required into the benefits of planting the 'right tree in the right location' in order to achieve optimum carbon capture. (255)
  - Woodland creation delivers a range of Scottish Government commitments on climate change, biodiversity and sustainable supply of wood products to the Scottish forestry industry. The target in the draft plan is therefore expressed in terms of 'hectares of woodland created' which is more meaningful in terms of delivery.
  - Woodland creation will be taken forward in a sustainable way, including working closely with a range of stakeholders to ensure appropriate consideration of Scotland's distinctive upland landscapes. This includes following the guidance included in Local Authority Forest and Woodland Strategies. Modern sustainable forestry principles as outlined in the UK Forestry Standards<sup>25</sup> ensure that new woods are 'the right woods in the right place for the right purpose' including for carbon capture. The Scottish Government will continue to commission research into optimising the range of benefits derived from woodland creation and management including carbon capture.
- 7. The Committee called on the Scottish Government to include targets for hardwood and native broadleaf trees in order to maximise biodiversity and to increase resilience to pests and diseases. (241)
  - The Scottish Government's targets for woodland creation will be taken forward in a sustainable way and require the creation of a range of different woodland types, on different sites, with different objectives. The Scottish Government is committed to supporting the creation of at least 3,000 hectares of new native woodland a year (Scottish Biodiversity Strategy: Route Map 2020<sup>26</sup>) and to help deliver this has already committed to increase the investment in the creation of new native woodland in the Highlands of Scotland.

### **Peat**

### Environment, Climate Change and Land Reform Committee (ECCLR)

- 1. The Committee recommended that the final Plan should include explicit confirmation that forestry and peatland restoration goals should not conflict, and that activities to meet tree planting targets cannot be carried out on peatlands. (475)
  - The Scottish Government recognises that forestry operations on deep peatland can, in some circumstances, result in an overall release of carbon due to changes in the soil. The current UK Forestry Standard<sup>27</sup>, which is the Scottish Government's benchmark for sustainable forestry, has a presumption against planting on deep peaty soils.

https://www.forestry.gov.uk/ukfs

<sup>27</sup> Forestry Standard

https://www.forestry.gov.uk/ukfs

<sup>&</sup>lt;sup>25</sup> UK Forestry Standard

<sup>&</sup>lt;sup>26</sup> Scottish Biodiversity Strategy: Route Map 2020

http://www.biodiversityscotland.gov.uk/doing/route-map-to-2020/

- 2. The Committee recommended that the final Plan should include detail on the protection and continuation of funding for peatland restoration. The Committee asked that the detail provided by the Cabinet Secretary in correspondence on deer management and peatland restoration, and detail on monitoring and protection issues, in relation to restored peatland and forestry should be included in the final Plan to ensure that restored carbon sinks were not damaged by other causes such as deer. (453 & 458)
  - The final Plan includes a monitoring framework which will allow Parliament and others to monitor delivery of our peatland commitments. It is important to recognise delivery of peatland restoration can be affected by a number of factors such as the availability of contractors and the weather. For example, snowfall from November 2017 onwards has impacted a number of restoration projects by affecting site accessibility and the ability to undertake physical restoration.
  - The Plan sets out the Scottish Government's ambitions for peatland restoration, an agenda which is shared with other partners such as individual land managers. There is an important role for the SNH led Peatland Action initiative to support this delivery and we will continue to ensure funding is available. There are also important synergies to be made with other funding initiatives across the public and private sector, eg the Peatland Code initiative. This reflects the multiple benefits that peatland restoration delivers and a challenge for the monitoring framework will be how we capture all such projects moving forward.
  - The final Plan sets out that support will only be provided to restoration projects that are sustainable and have long term commitment from land managers to maintain restored peatlands. This will ensure that issue such as deer do not damage restored peatlands and create further, unnecessary, pressures on public funds.
- 3. The Committee recommended that the Scottish Government explores the actions within its power to prevent fertilisers containing peat from being sold and used in Scotland. (463)
  - The commercial availability of compost containing peat is a global rather than Scottish issue. The Scottish Government has offered its support to industry led initiative to phase out use and the national Peatland Group will continue to explore opportunities, e.g. to profile of the issue and the efficacy of alternative fertilizers.

## **Blue Carbon**

### **Environment, Climate Change and Land Reform Committee**

- 1. The Committee recommended that the final Plan reinstate a section on blue carbon, outlining progress in research since the RPP2 (including specific areas explored such as sea kelp) and indicating the severity of the gap between the current research and what will be required to secure policies and proposals in this area in the future. (543)
  - The final Plan includes a section on Blue Carbon. The section refers to our programme of work including research into the role of Blue Carbon in carbon sequestration. Blue carbon is currently not included in the UK greenhouse gas inventory. Scientific work is ongoing internationally to consider whether it will be integrated into future inventory reporting.

# **Agriculture**

## **Rural Economy and Connectivity Committee**

- 1. The Committee agreed with the Scottish Government's assertion that climate change mitigation measures can make good financial sense for farmers. It therefore recommended that farm advisory services offered should include a business support element. (62)
  - The Scottish Government believes that providing advice to farmers and crofters about the economic benefits of climate change mitigation measures is important, not only to help reduce agricultural emission, but also to help ensure the financial security of Scottish farmers. Business support is already part of the remit of the Farm Advisory Service. This has now been clarified in the Plan.
- 2. The Committee highlighted the upfront costs associated with many climate change mitigation measures and asked the Scottish Government to consider how existing financial support or incentives could be used to support farmers to put the knowledge they learn via the Farm Advisory Service into practice. The Committee also asked the Scottish Government to consider how it can best use the existing financial support available to incentivise investment in appropriate covered storage, application methods and machinery for manure and slurry. (61, )
  - The Scottish Government will continue to consider the potential of existing support schemes and explore all new opportunities that arise to support farmers to put climate change mitigation techniques into practice. This has now been clarified in the Plan.
- 3. The Committee highlighted that a new agri-tech group should complement rather than duplicate the UK agri-tech and that the Scottish Government should be aware of the possibility of stakeholder fatigue in this field. (64)
  - It is not the intention of the Scottish Government to duplicate work, instead the aim is to complement and maximise the work of the likes of the UK agri-tech strategy. The aim of the group will be to share learning regarding advances in agricultural technology. This will enable farmers in Scotland to utilise the most appropriate tools, techniques and equipment to optimise crop yield and reduce their emissions intensity. This has now been clarified in the Plan. The Scottish Government also takes on board the committees concerns regarding the possibility of stakeholder fatigue.
- 4. The Committee highlighted its support for agroforestry and encouraged the Scottish Government to maximise opportunities to raise awareness of its benefits and how it can complement existing farming systems. It also recommended that there needs to be a range of incentives to encourage farmers to make the cultural and practical shift for agroforestry and meet any woodland cover targets. It called on the Scottish Government to consider what incentives it could make available. (132)
  - The Scottish Government is keen to promote the benefits of all forms of woodland on farm including agroforestry. Agroforestry has now been highlighted as example of on-farm woodland in the Plan. The Scottish Government will continue to be alert to any new opportunities and how climate change benefits can be maximised, and will work closely with the agriculture sector and the Forestry Commission Scotland.

- 5. The Committee highlighted the concern of stakeholders in regard to the unintended consequences of the use of anaerobic digesters including the potential removal of fields from food production, increased requirements to transport feed and timber and the increased pressure it may place on the livestock industry in less favoured areas. (119)
  - The Scottish Government acknowledges that there are concerns from some stakeholders regarding some policies. Addressing any concerns regarding unintended consequences of anaerobic digesters will form part of the proposed feasibility study. This has now been clarified in the Plan.
- 6. The Committee recommended that the Scottish Government be more ambitious regarding targets for carbon audit uptake. They called on the Scottish Government to work with the sector to produce more stretching targets and make public the detail on how it plans to implement its carbon audit roll out up to 2032. (68)
  - Following the consultation, the Scottish Government will work with the sector on increasing the uptake of carbon audits. However, at this time we cannot commit to any specific course of action. The Scottish Government shall take the Committee's comment into consideration throughout that process.
- 7. The Committee called on the Scottish Government to consider how greater recognition can be given in the Plan to those in the agriculture sector who are making positive efforts to mitigate climate change through such measures as forestry, peatland restoration and renewable energy. (36)
  - The Scottish Government will continue to work with the sector and others to ensure that agriculture is able to demonstrate the undoubted benefits that it brings as Scotland looks to achieve its climate change goals. The Plan has been improved to highlight the many areas that agriculture contributes to climate change mitigation.
- 8. The Committee called on the Scottish Government to give further consideration to the policy areas in which the co-benefits are variable and the more targeted actions are required. (276)
  - The Scottish Government will continue to work across Forestry, Peatland and Energy on the bioenergy action plan as we look to maximise the co-benefits of various policy areas.
- 9. The Committee called on the Scottish Government to consider the practice of conservation tillage in the final draft of the Plan. (143)
  - The Scottish Government already encourages and promotes conservation tillage where practical
    and will continue to promote this technique. Conservation tillage has now been highlighted as an
    example mitigation measure in the Plan.
- 10. The Committee agrees with the Scottish Government that the publication of emission intensity figures for red meat and dairy will be a useful benchmarking tool. However, it raised concerns that this could impose a significant bureaucratic burden on farmers. (112)
  - The Scottish Government's plans to publish emissions intensity figures for beef, lamb and milk places no additional burden on farmers. The work on emissions intensity is based on data that is currently collected. This has now been clarified in the Plan.

- 11. The Committee called on the Scottish Government to provide clarity on the ways in which it intends to show and enable leadership in the sector. In particular, how it will raise awareness and disseminate best practice arising from the monitor farms programme. (60)
  - The Scottish Government will continue to lead on promoting change by ensuring that high quality advice, information and on-farm demonstrations are available through the Farm Advisory Service and Farming for a Better Climate. The Scottish Government will continue to support and enable innovation and knowledge exchange from within the sector through the likes of the Monitor Farm Network, the Soil Nutrient Network and others support mechanisms.
- 12. The Committee highlighted that the use of livestock grazing in rotation may be restricted by the infrastructure available on each individual farm. It suggests that this approach should therefore be suggested as best practice only. It called on the Scottish Government to consider any relevant husbandry skills, biosecurity, soil type classification and livestock transportation issues that implementation of the scheme may impose. (123)
  - The Scottish Government will commission a feasibility study that will address these issues. Initial evidence has shown that livestock grazing in rotation on arable land could reduce the amount of nitrogen fertiliser needed on that land, improve soil health, and increase soil carbon. However, further work is required to consider associated emissions and practicalities such as infrastructure, biosecurity and husbandry skills.
- 13. The Committee recommended that the Scottish Government's consultation on the contribution of livestock health to climate change mitigation to includes a cost benefit analysis of any interventions, the economic implications of various disease management approaches as well as the most effective methods of knowledge exchange. (115)
  - The Scottish Government will take into account a cost benefits analysis of any interventions, as well as the economic implications of different disease management approaches and the effectiveness of knowledge exchange methods before any measure is agreed. This has now been clarified in the Plan.
- 14. The Committee welcomed increased support for advisory services but noted that farmers often find it challenging to create time to consider climate change mitigation methods. They asked the Scottish Government to share more detailed plans on how it will support the multitude of small agricultural units across Scotland to help them contribute to the plan. (59)
  - The Farm Advisory Service, Farming For a Better Climate, the Nutrient Network and the Monitor Farm Programme are open to all farms. We shall continue to ensure smaller farms and crofts have access to the same high quality advice and information as all other farmers. However, the Scottish Government will continue to explore new opportunities as they arise and shall take the committees comment into consideration.
- 15. The Committee encouraged the Scottish Government to create a Nitrogen Budget for Scotland highlighting the expertise Scotland already has available in this field at the centre for Ecology and Hydrology. It also recommended that any science based target for nitrogen reduction be SMART (Specific, Measurable, Achievable, Realistic and Time-based), taking account of soil type and 'use intensity,' as well as local systems and climate. (85, 86)
  - The Scottish Government is committed to work on the feasibility of a SMART nitrogen target in the Plan. Soil type, use intensity, local systems and climate will be taken under consideration in the

development of any target. This has now been clarified in the Plan. Until this work has been established it would be unrealistic to commit to further work. However, the Scottish Government will take the Committee's comment into consideration.

- 16. The Committee called for further investigation into the nitrogen fixing potential of legume crops. It also called for the creation of an operational group to agree cost-effective measures to improve nitrogen-use efficiency. (106)
  - The Scottish Government will investigate the role of leguminous crops in rotation. The Plan already contains a commitment to this research. On-farm measures to increase N-use efficiency are already promoted by the Scottish Government and there are case studies and technical notes available through the Farm Advisory Service as well as on farm demonstrations through Farming For a Better Climate. At this point we do not see the need for an operational group in this area. However, the Scottish Government shall consider this further as we look to increase their uptake.
- 17. The Committee asked why organic agricultural methods are not included in the Plan. (137)
  - There are elements of organic farming that are promoted to the wider sector such as nutrient management through slurries and manures and the use of clovers and other legumes in the Plan. However, the Scottish Government stops short of adding the promotion of organic farming as a whole as a mitigation measure. Organic farming in itself is not always better for the climate; increased time for livestock to reach slaughter weight and more regular ploughing of land for weed control can lead to higher GHG emissions.
- 18. The Committee asked the Scottish Government to consider the issue of long term soil fertility while tenant farmers are functioning within short term tenancies with particular focus on reviewing the procedure for both initial 'ingo' valuations and end of tenancy 'waygo' valuations. (72)
  - The Scottish Government is committed to exploring all the options to help the tenant farming sector and will look at potential barriers and take the Committee's comment into consideration.
- 19. The Committee suggested that the Scottish Government should monitor progress regarding the voluntary take up of soil testing, and if the current policy is not effective, it should be prepared to consider further action to ensure farmers are willing and able to soil test effectively. (95)
  - The Scottish Government will continue to monitor progress. There is, for example, a commitment to progress check soil testing in 2020 and we will look at further incentives if we are not on track to meet targets. The Scottish Government will continue to look at new opportunities as they arise and will take the Committee's comment into consideration.
- 20. The Committee noted the benefits associated with soil testing and in particular the benefits of testing, phosphorus, potassium and organic matter and called on the Scottish Government to encourage this approach as best practice. (100)
  - The Scottish Government agrees with the Committee's views on the importance of nutrient and organic matter testing and will add it to the future consultation. This has now been clarified in the Plan.

- 21. The Committee recommended that the Scottish Government consult with its stakeholders in order to clarify and consolidate its future plans for the Agricultural Sector. In particular, to fulfil the Climate Change Act (Scotland) 2009 requirement and set out plans for climate change mitigation, not just up to 2025 but to 2032. (46)
  - The Scottish Government has been heavily involved with stakeholders throughout this process. This has been illustrated by Andrew Bauer, NFUS, who when giving evidence in February 2017, stated that NFU Scotland "has no complaints about the extent to which it has been consulted." However, we are in constant discussion with our stakeholders and we will continue as we look at how to improve the lines of communication as we move forward with the delivery of the Plan.
- 22. The Committee advised that initial views of stakeholders should be taken into account regarding the utility and effectiveness of any low carbon marketing scheme when there are existing schemes which may provide similar results. (75)
  - The Scottish Government will take into account contributions that could be made from established marketing schemes and we will continue to work with Scottish Government colleagues around relevant upcoming policies or bills. This has now been clarified in the Plan.
- 23. The Committee called for the Scottish Government to close its evidence gaps in terms of the wider benefits of climate change mitigation activities including issues around livestock consumption and health, emissions storage and nitrogen efficiency with leguminous crops as well as human health and social impacts. (275)
  - The Plan already contains commitments for research into the wider benefits of climate change mitigation activities. The policy proposals include the investigation of the benefits and barriers of leguminous crops in rotation and planting varieties with improved Nitrogen-use efficiency. In addition the policy proposals include the action to investigate the practicalities of livestock grazing in rotation of current arable land and a feasibility study into the establishment of manure/ slurry exchanges.

#### **Environment, Climate Change and Land Reform Committee**

- 1. The Committee recommended that the final Plan includes timescales for the evaluation work on the Farming for a Better Climate scheme. (507)
  - The Farming for a Better Climate Scheme works with farmers to find practical ways to move towards a more profitable, low carbon future, adapt to a changing climate and secure farm viability for future generations. Work on the evaluation of Farming for a Better Climate is being taken forward and more information will be available in the monitoring framework.
- 2. The Committee recommended that soil testing should be subject to regulation and that the policy for compulsory soil testing for improved land should be reinstated in the final Plan. (523)
  - The Scottish Government believes that this is not the approach that is currently needed. We must first work with the industry to establish the level of testing currently being performed in Scotland and then look to encourage further uptake. Soil testing alone will not reduce greenhouse gas emissions, the farmer must undertake action on the farm after they receive the results. The best way to achieve this is by working with them. However, there is a commitment to progress check soil testing in 2020 and to look at further incentives if we are not on track to meet targets.

- The Committee recommended that the final Plan should include a list of the sector experts involved in reviewing the initial emissions trajectory for agriculture and the development of the carbon envelope for the sector and provide information on the changes made as a result of that advice to ensure transparency. (154)
  - The level of detail requested by the Committee is not appropriate for inclusion in the Plan. However, the Scottish Government has and will continue to provide information on the consultation process and the stakeholder/sectorial experts involved in the development of the agricultural chapter when requested.
  - In finalising the Agriculture emissions envelope we incorporated the latest 2015 Greenhouse Gas
    Inventory data which resulted in a revised emissions profile for non-energy Agricultural emissions,
    as well as transport emissions, captured in the agricultural sector

### **Multiple Committees**

- 1. The ECCLR and REC committees expressed views about the voluntary nature of the Agricultural sector's climate change mitigation actions including the importance of behavioural change within the sector. Both committees recommended that the Scottish Government should consider alternative approaches if the voluntary measures aren't effective. (54)
  - The Scottish Government will continue to monitor progress and as such there is a commitment to progress check soil testing in 2020 and will look at further incentives if we are not on track to meet targets for example. In addition, the Scottish Government will publish an Annual Progress Report on the Monitoring Framework of the Plan, detailing how each sector including Agriculture is performing against the indicators set out in the Plan.



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