Infrastructure and Capital Investment Committee

Report on Draft Budget 2015-16

The Committee reports to the Finance Committee as follows—

INTRODUCTION

1. The Draft Budget 2015-16\(^1\) was published by the Scottish Government on 9 October 2014.

2. The role of the Infrastructure and Capital Investment (ICI) Committee is to consider the Government’s spending proposals outlined in the budget documents which relate to its remit and report to the Finance Committee.

Background to scrutiny model

3. Last year, the ICI Committee’s report on the Draft Budget 2014-15\(^2\) made several recommendations relating to how improvements to the budget scrutiny process could be made by linking it more closely to the National Performance Framework (NPF)\(^3\). In particular, the Committee recommended that the use of logic modelling would be useful in highlighting the links between inputs, outputs and outcomes and that this would, as a consequence, assist in budget scrutiny. The Scottish Government responded favourably to this recommendation, saying that it was “exploring how best to assist business areas in aligning their policies and activities with the NPF. The use of logic modelling will be considered as part of this.”

4. Given its recommendations in the Draft Budget 2014-15, at its meeting on 18 June 2014 the ICI Committee agreed to focus its scrutiny of the Draft Budget 2015-16 (“the draft budget”) to three of the National Indicators contained within the NPF which relate to its remit, namely:

- Reduce Scotland’s carbon footprint
- Reduce traffic congestion

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\(^3\) Scottish Government’s National Performance Framework. Available at: [http://www.scotland.gov.uk/About/Performance/scotPerforms](http://www.scotland.gov.uk/About/Performance/scotPerforms)
• Increase the proportion of journeys to work by public or active travel\(^4\)

5. For each of these Indicators, the Committee has sought to consider how the proposals in the draft budget linked with the inputs, outputs and outcomes related to the three Indicators. In particular, it was keen to establish what impact policy intervention and budgetary provision within the Committee’s remit has made in relation to meeting the targets set in the indicators.

6. As in previous years, the Finance Committee issued some general guidance to committees\(^5\) which sought to highlight the four key themes of budget scrutiny: Affordability, Prioritisation, Value for Money and the Budget Process. In particular, the Finance Committee suggested that subject committees should focus on Prioritisation and Value for Money. As the ICI Committee has concentrated its work on whether the draft budget will be helping the Scottish Government to meet its stated objectives in each National Indicator, the Committee’s work mainly focussed on prioritisation.

7. Cross-cutting themes such as welfare reform and equalities were all considered during the evidence gathering. Moreover, given the Committee’s interest in how the draft budget might help reduce Scotland’s carbon footprint, cut traffic congestion and increase public and active travel, spending in relation to climate change was given a particular emphasis during the evidence gathering and analysis phases.

Adviser
8. The Committee appointed Professor Ian Thomson to assist in its scrutiny and is grateful for his analysis and expertise throughout the budget process.

Evidence
9. The Committee heard oral evidence from a range of stakeholders during its scrutiny period, concluding with evidence from the then Cabinet Secretary for Infrastructure, Investment and Cities, Nicola Sturgeon MSP (“the Cabinet Secretary”).

10. The Committee also issued a call for written evidence on the draft budget and received 38 responses.

11. This report sets out the Committee’s findings and recommendations to the Finance Committee.

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\(^4\) Scottish Government’s National Indicators. Available at: http://www.scotland.gov.uk/About/Performance/scotPerforms/indicators

SCRUTINY OF THE DRAFT BUDGET

General views of the impact of Draft Budget 2015-16 on greenhouse gas emissions

12. The majority of witnesses and written submission praised the underlying policies and strategies that the Scottish Government had developed in relation to climate change mitigation. For example, Dr Richard Dixon, Director of Friends of the Earth Scotland and also a representative of Stop Climate Chaos Scotland, commented that—

“Scotland has in many ways been a leader in setting targets. “Low Carbon Scotland: Meeting our Emissions Reduction Targets 2013-2027—The Second Report on Proposals and Policies” has its deficiencies…but as there is probably not another document like it in western Europe, it is exciting.”

13. Similarly, many witnesses noted that through a number of previous Scottish Government funded initiatives and pilot schemes had developed robust, practical solutions that if fully implemented across Scotland could result in Scotland meeting its long term greenhouse gas (GHG) emission reduction targets. For example, John Lauder, Director of Sustrans Scotland and also a representative of Stop Climate Chaos Scotland, said that the Scottish Government had developed excellent policies but “It is delivering the policies that we need to do more of.”

14. The Committee was keen to establish whether the funding for climate change mitigations contained within the draft budget was considered to be sufficient to meet the Scottish Government’s climate change targets. The proposed budget funding for climate change mitigation measures is very similar to previous budget despite the fact that the Scottish Government has missed its greenhouse gas emissions targets in 2010, 2011 and 2012. In general, the view expressed by the majority of witnesses and most written submissions was that the proposed funding was insufficient in this regard. It was suggested that there is no evidence of the step-change in the funding of climate change mitigation measures that would be required to make up for these missed targets and to meet key future targets in 2020 and 2050. The general consensus was that the proposals in the draft budget lacked the sense of urgency required to respond to the growing problems associated with climate change and that it was therefore extremely difficult to predict how it would impact on Scotland’s medium to long term GHG emissions.

15. Almost all the evidence received noted that the speed of the rollout of policy solutions was slower than required and that the level of funding was lower than what was required to meet the Scottish Government’s targets. Witnesses suggested that not enough progress was being made to reduce GHG emissions in areas such as making the road network safer for walking and cycling; furthering community renewable heat programmes; expanding home energy efficiency improvements; extending rural community broadband connectivity; and the

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broadening of real-time traffic information systems. There was considerable frustration that the effort invested in developing solutions and the capacity that has been built up could be wasted through a lack of commitment to sufficiently funding their implementation.

16. The Committee however acknowledges that, in his foreword to the draft budget, the Cabinet Secretary for Cabinet Secretary for Finance, Constitution and Economy, John Swinney, said that over the past five years the Scottish Fiscal Departmental Spending Limit (DEL) budget had been cut by 10 per cent in real terms against a backdrop of a continuing period of austerity. In relation to the 2015-16 draft budget, a briefing by the Scottish Parliament Information Centre calculated that the DEL budget, of £30.4bn, represents a 0.7 per cent increase in real terms on the 2014-15 figure.8

Recommendation

17. While acknowledging that the Scottish Government must prioritise spending based on the overall budgetary constraints, the Committee notes with concern that Scotland has failed to meet its 2010, 2011 and 2012 GHG emission reduction targets and that significant effort will be required to meet the targets in future years. The Committee calls on all parties in Parliament to work together to achieve these challenging targets. The Committee also recommends that the Scottish Government undertake a systematic review of the consequences of its current and future infrastructure programmes and policies in relation to meeting its GHG emissions targets and reports back to the Committee ahead of the next spending review.

Analysis of budget documents

18. In order to consider the inputs, outputs and outcomes on each national indicator, it was necessary for the Committee to consider the spending plans listed in the draft budget alongside three other Scottish Government documents:

- Carbon Assessment of the 2015-16 Draft Budget;9
- Low Carbon Scotland: Meeting our Emissions Reduction Targets 2013-2027: The Second Report on Proposals and Policies (RPP2);10 and
- Draft Budget 2015-16: Details of funding for Climate Change Mitigation Measures.11

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19. The lack of a clear narrative in the budget document relating to the link between the funding for Government programmes and GHG emissions reduction was noted by witnesses as problematic in a number of ways. Firstly, the draft budget did not make sufficient links/reference to RPP2 which specifies the pathways and strategies needed if Scotland was to meet its GHG emission reductions targets. Secondly, the carbon assessment of the draft budget used a form of carbon accounting that was inappropriate for the purposes of budget scrutiny. Thirdly, the report detailing the funding for climate change mitigation measures, which was only released on 11 November 2014, was incomplete and did not specifically mention any GHG emission reductions associated with the climate change mitigation measures.

Carbon Assessment of the 2015-16 Draft Budget

20. The methods used by the Scottish Government to assess the carbon impact of the draft budget were considered inappropriate for evaluating the medium to long impact of GHG emissions for major capital projects and infrastructure expenditure. A number of witnesses did not consider it feasible to use the Carbon Assessment of the 2015-16 Draft Budget (CADB 15) to evaluate the GHG consequences of the programmes, projects and actions funded by the Scottish Government. The carbon assessment method used, although innovative when first introduced, was no longer considered to be best practice and does not present the necessary evidence to allow for effective Budget scrutiny in relation to Scotland’s obligations to reduce its GHG emissions. Dr Dixon considered that—

“To me, section 94 of the Climate Change (Scotland) Act 2009 means that the Government should be giving you a very clear message about whether the budget is or is not taking you in the right direction, but you cannot tell that from the information in front of you. In my view, therefore, the commitment in section 94 is not being delivered by the information that the Government is putting in front of you.”12

21. CADB15 reports on the emissions associated with the purchasing of goods and services. As a consumption-based measure it only identifies direct emissions (such as fuel consumed by heating buildings), indirect emissions (through the use of electricity) and imported emissions generated in producing the goods and services that Government purchases. This Carbon Assessment does not however capture the medium to long term consequences of the Government programmes funded by these expenditures (known as second-round emissions) such as whether the use of public goods and services are beneficial in terms of reducing emissions (e.g. spending on energy efficiency) or negative in terms of increasing emissions (e.g. road use).

22. An illustration of this issue was provided by Francisco Ascui, Director of the Centre for Business and Climate Change at the University of Edinburgh, who remarked—

“I know from my involvement with the woodland carbon code, which was developed by the Forestry Commission here in Edinburgh, that that

programme has incentivised more than 1 million tonnes of carbon sequestration. That does not show up in the account. All that we see are the emissions from spending the money, planting the trees and so forth. We know that there are good stories and we know that there are things that need to be looked into further, but that is simply not evident from this particular carbon account.”¹³

23. There was strong support for the point that meeting Scotland’s GHG targets will require an understanding of the whole life cycle carbon consequences and the use of whole life cycle carbon accounting. For example, Professor Michael Fourman, Chair of the Digital Scotland Working Group at the Royal Society of Edinburgh, commented—

“…I found the document on the carbon impact of the Scottish Government’s activities fascinating. However, it does not tell us about the impact of the Scottish Government’s activities on Scotland’s carbon outputs. It specifically says: “‘Second-round’ emissions...are not recorded in the assessment.” Without that, it might be interesting…but in order to inform the budget in relation to the goal of reducing Scotland’s emissions, we need a document about the effects that those activities will have on Scotland’s emissions, but such a document is not there.”¹⁴

24. Some of the witnesses appearing before the Committee mentioned that there are a number of more appropriate carbon accounting methods, some of which are used within the Scottish Government, public sector and third sector organisations that might prove to be more informative and effective.

25. While praising the Scottish Government for probably being the first country in the world to produce such a document, Mr Ascui highlighted the need for the Scottish Government to develop what it is doing in this area so that it can continue to be a world leader.¹⁵ Professor Susan Roaf of Heriot-Watt University’s School of the Built Environment, added—

“It is quite easy to develop transparent accounting systems—we have the carbon accountants who can do it. They could develop a Scottish methodology for carbon accounting in communities or cities that would use Scottish rules and Scottish assumptions…Therefore, some way of getting international GHG protocol-facing but easily useable and Scotland-centric accounting methods for communities would be very welcome.”¹⁶

26. In particular, Mr Ascui noted the importance of selecting the most appropriate form of carbon accounting for the specific type of decision it is supporting. He acknowledged that there were many different forms of carbon assessment and

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they all have different strengths and weaknesses, but it has to be recognised that no one carbon assessment methodology will be appropriate for all types of decisions.\textsuperscript{17} Professor Roaf noted that Aberdeen City Council was in the process of developing credible, transparent carbon accounting methods and that there was a demand from local authorities, communities, universities, building owners and individual for methods to produce their own relevant carbon accounts. She argued that “Rather than every city having to relearn the tricks of how to accurately account, we should surely have some central organisation or management programme in the Government” that could support this process.\textsuperscript{18}

27. CADB 15 was also criticised as being a top-down approach that started with the overall Scottish Government spending plan and then subsequently calculated the carbon consequences. A bottom-up analysis building from the life cycle carbon consequences of individual programmes linking the existing carbon accounts within the Scottish Government was seen to offer far greater potential to be more effective. Mr Ascui noted that all of this analysis has already been undertaken to produce RPP2 and stated that, because of this “…it should be possible to say that the changes in budget allocation from year to year can be linked to changes in those proposals and policies for which estimates have already been made in a bottom-up way. That way, some rough estimates could be made of what the budget changes are likely to result in.”\textsuperscript{19}

28. John Lauder of Sustrans Scotland provided an example of how this bottom up carbon assessment is being used and how it is integrated into other carbon assessment exercises—

“In our work, we use a calculation that allows us to calculate what the national cycle network is saving…We use it to give a value to the carbon that has been saved by the national cycle network, and the Government statisticians are happy when we present it to them as part of our annual report.”\textsuperscript{20}

29. The benefits of this bottom-up, lifecycle approach to measuring GHG emissions was supported by witnesses, who also expressed the hope that it might be extended to examine the GHG impact resulting from how a Government raises money as well as how it plans to spend its money. It was felt that this was particularly important given the transfer of taxation powers to the Scottish Ministers under the Scotland Act 2012 as well as any new powers currently being considered by the Smith Commission.

Recommendation
30. The evidence received by the Committee strongly suggests that a lifecycle approach that considers the medium to long term levels of GHG

emissions resulting from the programmes funded in the Budget would be a more effective approach. The current carbon assessment omits any consideration of the medium to long term carbon benefits of the Scottish Government spending programmes, which could inadvertently result in resource allocation decisions that act against meeting Scotland’s GHG emission targets. This present approach to carbon assessment results in an absence of important information and evidence during the budget scrutiny period, which severely curtails the effectiveness of this important Parliamentary process. The Committee recommends that the Scottish Government review the effectiveness of its method of Carbon Assessment of the draft budget in line with the evidence submitted to the committee.

**Draft Budget 2015-16: Details of funding for Climate Change Mitigation Measures**

31. Witnesses were critical of the absence of the Scottish Government report detailing the funding for climate change mitigation measures during the early stages of the Committee’s scrutiny process. When the report was published on Monday 10 November, this was only just in time for the Committee’s evidence session with the Cabinet Secretary on Wednesday 12 November.

32. In giving evidence, the Cabinet Secretary said that “there has been no delay at all; the information has been published and the Minister for Environment and Climate Change is currently writing to committee conveners about it.”

**Recommendation**

33. While the Committee acknowledges the eventual publication of the report on climate change mitigation measures, the timing does make it challenging for the Parliament and stakeholders to properly review the material during what is a very short scrutiny period. The Committee therefore endorses the Finance Committee’s recommendation in its report on the 2014-15 Draft Budget that “funding information for climate change mitigation measures should be published alongside publication of the draft budget” and calls on the Scottish Government to ensure that this happens in future years.

34. As well as commenting on the lateness of the production of the report, there were a number of criticisms relating to the completeness and adequacy of this and previous climate change mitigation measures reports. The stated objective of the report is to identify the Scottish Government’s Funding for Climate Change Mitigation Measures for the draft budget and form a link between this and RPP2. Whilst the report did list some of the planned expenditure on climate change mitigation measures it did not include an estimate of the anticipated reduction in GHG emissions resulting from this spend. While the report summarised the planned expenditure on measures that were likely to reduce GHG emissions contained within the draft budget, it omitted to take into account government spending plans that, all other things being equal, were likely to increase carbon emissions, for example road building. It was noted that report and its previous

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versions, for 2013-14\textsuperscript{22} and 2014-15\textsuperscript{23} respectively, omitted a number of measures identified in RRP1 and RRP2 as likely to reduce GHG emissions. Professor Michael Fourman noted that he was—

“slightly bemused by the fact that neither the word ‘digital’ nor the word ‘broadband’ occurs once in the carbon assessment of the budget, whereas earlier policy documents contained statements such as: our ‘Low Carbon Economic Strategy’ sets out how Scotland can secure the transition to a low carbon economy. Digital technologies will be an integral part of that transition by, for example: replacing goods and services with virtual equivalents; allowing more efficient use of energy and offering virtual technologies that allow online shopping, teleworking and access to online public services”\textsuperscript{24}

35. There also appear to be some uncertainty in the figures provided in the climate change mitigation measures report as it would appear that approximately 1.3% of the Scottish Government’s proposed expenditure will reduce medium to long term GHG emissions. This suggests that that 98.7% of the government’s expenditure is likely to either have no reduction or increase medium to long-term GHG emissions. The equivalent percentage of the Infrastructure, Investment and Cities (IIC) Portfolio draft budget was approx. 6.7% (with 3 Budget line items still to be confirmed).

36. An alternative evaluation undertaken by the Committee’s adviser as to the likely direction of travel of the medium to long term GHG emissions of the IIC portfolio budget identified that approximately 48% of the expenditure is on measures that could reduce GHG emissions (compared with 53% in 2014-15). This evaluation also identified that 45% of this expenditure is on measures that could increase GHG emissions (compared with 38% in 2014-15). Most of the 11% increase in the proposed IIC budget expenditure is on measures that are likely to increase Scotland’s GHG emissions in the medium to long term. These measures include £14m increased expenditure on Air Services, an extra £80.6m on Motorway and Trunk Roads, and an additional £214.2m on Supporting Economic Growth and increasing Housing Supply.

Recommendation
37. Given the substantive difference between these two evaluations, the Committee encourages the Scottish Government to review the scope and format of the climate change mitigation measures report with a view to more accurately representing the GHG emission consequences of any future draft budgets.

Presentation of information
38. There was strong consensus by all witnesses and written submissions in relation to the difficulty in finding relevant information on specific spending plans and the impact of these plans on the Scottish Government’s published outcomes.

and performance targets. This criticism of the presentation of information extended beyond the three performance targets selected to be the focus of the Committee’s review of DB15. In particular, a large number of concerns were expressed about a general lack of clarity as to how much was being proposed to be spent on policy measures to support active travel. Different Scottish Government publications produced different figures apparently relating to the same measures. The table below is drawn from four different documents and relates to the same Level 3 Budget Line – Support for Sustainable and Active Travel (SSAT). Whilst it is accepted that Budget plans can change for valid reasons a more consistent approach across documents would be preferred, particularly when investigating changes in levels of funding for particular programmes being proposed by Scottish Government.

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39. For example, the draft budget states that there is “an additional investment of £10 million in Sustainable and Active Travel [SSAT]”. However, it is difficult from the figures presented in the draft budget or the climate change mitigation measures to support that assertion. Whichever of the 2014-15 to 2015-16 comparison figures you use the proposed expenditure is substantively lower in 2015-16 than 2014-15 or 2013-14. In evidence presented to the committee the Cabinet Secretary said that the Scottish Government is “increasing our expenditure on support for sustainable and active travel by a further £10 million, to £25 million. We have now invested over £84 million in active travel since 2011”. The budget analysis above would suggest that there is a reduction in expenditure of £14m between the Draft Budget 2014-15 and the Draft budget 2015-16 and a total budget allocated to SSAT line of £112.5m from 2012 to 2016. The lack of clarity in the published information causes difficulties in the scrutiny process. Spokes brought up this issue in its written submission—

“The new £10m is indeed additional in the sense that it is £10m more than had been indicated in advance for 15/16 in last year’s budget statement. However, quite apart from the fact that, as above, £5m of the £10m has already been announced, the £10m is not additional to actual 14/15 cycling investment – which the average listener would certainly understand from “an additional £10 million next year” in the speech.

25 Climate Change Mitigation Measures
“Worst of all, we understand that £5m of the “additional £10m” is in fact the £5m already announced in June, and announced not for infrastructure but for behaviour change. Second, in the budget document the other £5m is specified as 'Financial Transactions' - which SPICe Budget Bulletin11 14/70 [page 9] suggests can only be used “beyond the public sector.” Thus it is far from clear how much – if indeed any! - of the ‘additional £10m’ can be used for infrastructure work, and particularly that with local authorities and other public sector partners.\(^{28}\)

40. This lack of clarity in relation to the full range of Government funding for SSAT is further compounded by the funding being incorporated in different budget lines in the draft budget. It was suggested that the problem could be avoided through the climate change mitigation measures report providing a usable summary of these Budget lines. However, there was an unnecessary lack of consistency in the presentation of SSAT funding in the climate change mitigation measures reports from 2012-13, 2013-14 and 2014-15 as well as the draft budget 2015-16 (this inconsistency also applied to funding on other climate change mitigation measures in these reports). The tables below contain the relevant extracts of the SSAT related budget lines in these four related reports and illustrate the difficulty in drawing any robust conclusions from the information contained within.

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<th>Climate change mitigation measures 2012-13</th>
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*CCMM 13 included in SSAT line, CCMM 15 included in SSAT line, CCMM 14 included in SSAT infrastructure and promotion line. Tbc = to be confirmed, nd = not disclosed.

\(^{28}\) Spokes. Written submission, pages 2-3.
41. In particular, written submissions from external organisations supporting active travel expressed considerable frustration about the difficulty in making sense of the Government's plans for funding active travel projects. For example, Sustrans Scotland wrote—

“At present, it is well-nigh impossible to accurately ascertain how much money will be directed towards active travel as the figure is so buried away within other funding pots. This situation must be resolved imminently.”

42. The Cabinet Secretary in her evidence to the Committee confirmed that there was a lack of clarity in how information of SSAT was presented and noted that

“There is an even deeper issue than the one that you have outlined. Other parts of the budget and other activity include support for sustainable and active travel that is not shown in either of the budget lines that you named. I will give one example. There is a lot in the new rail franchise about supporting infrastructure for cycling at stations and on trains, which will not show up in either budget line that you mentioned but is nevertheless support for active travel that is supported by Government investment. Perhaps, in addition to what you have asked me to consider, we need to consider how we draw out all the support for that area from the different parts of the budget to make it easier to see the totality.”

43. Witnesses also expressed their concern that wider benefits accruing from climate change mitigation measures that did not appear to be fully taken into account when determining spending priorities. These included health savings, fuel poverty alleviation, reduced air pollution, improved connectivity and economic development in terms of business growth and employment opportunities. The Cabinet Secretary agreed that there were wider benefits and said that the Scottish Government has a “policy appraisal toolkit that requires that the financial, economic, welfare and distributional benefits of any potential intervention be considered.”

Recommendation

44. Concerns were expressed over the poor linkage between RPP2 and climate change mitigation reduction measures contained in the draft budget. This lack of transparency and integration of funding plans and GHG emission consequences is problematic as it hinders effective budget scrutiny and government accountability, as well as leading to potentially poor decisions in relation to the allocation of budgets. While RPP2 is generally recognised as highly innovative and a clearly articulated pathway to meeting the Scottish Government's GHG targets, there is an apparent disconnect between RPP2, the report on climate change mitigation measures and the draft budget. Greater integration and transparency between RPP2, the future reports on both climate change mitigation measures and draft budgets would assist the delivery of RPP2. It should

also be noted that the Committee has highlighted this lack of transparency in all of its previous budget reports during the current session.

45. The Committee recommends that greater integration with RRP2 is required and estimates of the likely medium/long term impact of these measures on GHG emissions should be incorporated into these documents. This would then allow those scrutinising future budget proposals to see which policies were on track and to make an informed judgement as to whether budget proposals were targeted in the most appropriate programmes.

46. The Committee also restates its recommendation from its report on the Draft Budget 2014-15 that the Level Three Budget for Support for Sustainable and Active Travel, be separated into Support for Sustainable Travel and Support for Active Travel in future draft budgets and climate change mitigation measures reports.

47. In relation to recording wider health benefits accrued from various climate change mitigation measures, the Committee considers that a more holistic approach to making visible these benefits would strengthen the case for greater levels of investment. The Committee therefore recommends that the Scottish Government should ensure that future climate change mitigation measures reports address these issues in terms of their method, scope and content.

Transport

Sustainable and active travel

48. There was general consensus amongst the witnesses and written submissions that the overall package of measures funded in the draft budget on transport measures would be insufficient to meet the government’s performance targets on GHG emissions, traffic congestion and levels of sustainable and active travel. A recurring theme in the evidence presented to the Committee was that witnesses recognised that the Scottish Government was funding some very useful initiatives, but criticised the scale of that funding. There was considerable frustration expressed that despite evidence from international best practice, evidence from projects in Scotland, evidence of impressive returns from investing in sustainable and active travel, strong demand from other organisations and the availability of matching funds, the level of support for public, sustainable and active travel was insufficient.

49. In written evidence, Professor Iain Docherty stated that—

“My most significant concern by far is the continuing very low level of investment in active and sustainable travel which in fact appears to decrease this year. A figure of £25million out of a total budget for transport in the order of £2billion neither demonstrates sufficient commitment nor will make a significant difference in reality to the extent to which walking and cycling really become more important in the overall transport mix in Scotland. We know from academic research that increased levels of walking and cycling bring real and important improvements not just in transport outcomes such as
congestion relief, local air quality improvement etc, but also perhaps more importantly in public health, wellbeing and social inclusion.”

50. Professor Jillian Anable, Chair of Transport and Energy Demand at the University of Aberdeen, supported this position, particularly in relation to the roll out of successful projects that had been subject to independent academic investigation.

“Some of my work in Scotland and England has been about evaluating demonstration programmes such as the smarter choices, smarter places programme, and I have done quite detailed analysis of areas in which individual expenditures are incurred in providing alternative transport measures versus promoting them, looking at the expenditure per capita and the optimal balances of expenditure. There has rarely been a study that I have been involved with or which I have looked at that has suggested that the expenditure per capita—if you can look at that £25 million on a per capita basis—should be so low.”

51. As mentioned in previous section – it would appear that there is an overall reduction in the funding of public, sustainable and active travel, which witnesses criticised, would lead to greater GHG emissions, likely to increase traffic congestion and limit the emerging signs of growth in levels of active travel journeys.

52. While witnesses welcomed the Scottish Government’s on-going support of SSAT, they questioned whether the current levels of financial support were sufficient and the claims that there was a year on year increase in funding. There was strong consensus as to the many and wide ranging benefits of active travel investments and support for greater levels of government support for these types of projects. When witnesses benchmarked against countries with the levels of active travel the Government wish to emulate, they concluded that Scotland is considerably under-investing in SSAT. It was suggested that a figure of 10% of the overall travel budget (approximately £200m) would be an appropriate level of funding for sustainable and active travel. Whilst this is a step change increase in SSAT expenditure, evidence was presented that this would lead to a step change in benefits and other cost savings. For example, John Lauder reported that work undertaken by Sustran identified that for every £ invested in cycling infrastructure there was an associated benefit/cost saving of £16.3. These benefits and cost savings from sustainable and active travel were taken from what were claimed to be robust and widely used assessment methodologies, for example the World Health Organisation’s HEAT model, for valuing carbon reduction and improved health outcomes. It was argued that greater visibility of the beneficial outcomes of active travel investment would create a compelling business case to justify further expenditure on SSAT.

53. John Lauder noted that—

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32 Professor Iain Docherty. Written submission, page 1.
“Using the tool, we have calculated that in 2013 the national cycle network provided benefits of £66 million for walking and £44 million for cycling, so such elements might need to be factored into our thinking about the levels of investment that are being made.”

54. The Committee heard evidence of successful pilot SSAT trial projects undertaken in Scotland such as the Fife 20mph initiative. A strong case was made for funding to roll out these projects that will in the medium and long term make a positive contribution to future government spending plans and the Scottish economy.

55. Sustrans Scotland provided supplementary written evidence on the costs of reducing residential and shopping street limits to 20mph from the existing 30mph. It claimed that reducing the urban speed limit to 20mph, as well making roads more attractive to pedestrians and cyclists, there would be a reduction in noise pollution, improved urban liveability, reduced air pollution, improved public health and would reduce future demands on NHS resources. The average cost of reducing speed limits to 20mph per school zone in Fife, which now has 20mph limits in over 95% of residential streets in school catchment areas, was £50,000. Sustans estimated that the lowest cost option, although it did not have a precise figure to put on it, could be delivered by legislation to make 20mph the speed limit for all residential and shopping streets in Scotland and this was enforced by Police Scotland or Local Authority wardens.

56. It was also argued that Scottish Government support of these initiatives would also leverage in financial and other resources from private, public and third sector partners. Sustrans again said—

“In 14/15 Transport Scotland invested £19m into the programme and this was matched by £23m from partners, resulting in 41 partners delivering 180 Community Links schemes right across Scotland. It should be noted that applications for Community Links funding still outstripped the available budget. Therefore, we consider that it is important to not merely maintain the current budget for such programmes, but to in actual fact increase it to allow more excellent cycling and walking projects to come on board.”

57. Responding to these concerns during evidence, the Cabinet Secretary said that the Scottish Government is “keen to set out a long-term strategic commitment to sustainable and active travel” but that the UK spending review timetable means it cannot commit to more than a one-year budget at a time.

58. On overall spending for SSAT, the Cabinet Secretary said the Scottish Government wished to give as much support as possible but are constrained by a fixed budget:

35 Sustrans Scotland. Supplementary written submission, page 1.
36 Sustrans Scotland. Written submission, page 3.
“We have to make choices and, every time we increase spending on one thing, we have to reduce investment elsewhere. We have put forward a draft budget that gives proper priority to the issues, but we have a willingness and an appetite to go further in the future, if we can find the resources.”

Recommendation

59. While the Committee acknowledges that choices have to be made when allocating funding, in order to meet targets it has set for GHG reduction and SSAT, it is recommended that in advance of the next spending review the Scottish Government systematically re-evaluate the level of funding for sustainable and active travel. This should take into account the wide range of benefits associated with increasing levels of sustainable active travel to support a move towards more predictable, strategically focussed and higher levels of funding. This would allow the Scottish Government to benefit from the success from a number of trial projects, such as cycling in Edinburgh and Glasgow as well as Smarter Choices, Smarter Places and road safety improvements in Fife. This funding should be focussed on the widespread implementation of exemplary projects, supporting the delivery at a local level but also providing a strategic vision of what can be achieved. Substantial additional funding should be considered to roll out SSAT projects that in the medium to long term will be likely to reduce future Government spending plans and make a positive contribution to the Scottish economy.

60. While the Committee recognises the constraints in long term funding the commitments, this has been overcome in other transport areas where a priority need has been identified, such as the new Forth crossing. The Scottish Government should therefore explore different ways of creating greater long term certainty in their future commitments to funding SSAT infrastructure projects, particularly when there are requirements for matching funds, leveraging funds from external organisations and working collaboratively with public, private and third sector organisations.

Public Transport

61. Experts and written submissions raised a number of concerns relating to the level of funding on public transport infrastructure investments and revenue support. Concern was expressed that the overall reduction in the levels of funding for public transport could have an adverse effect on GHG emissions from the transport sector, negatively impact traffic congestion and levels of active travel.

62. The proposed expenditure on public transport infrastructure was not seen to be sufficient for the radical and structural reforms seen as necessary to meet the transport sector’s contribution to reducing Scotland’s GHG emission targets. This was observed by a number of witnesses and written submissions as a missed opportunity to make the necessary step-change reduction in transport related GHG emissions. For example, Professor Anable observed that

“In the context of thinking about the relationship between transport and the economy, some interesting structural changes are taking place in the transport system, particularly in relation to car traffic. Since pre-recessionary times, we have seen evidence that the increase in car traffic is slowing down. During the recession, as we would expect, we saw absolute reductions, but we are starting to see an increase in car traffic.

“The missed opportunity is in not looking at the trajectory and considering whether we can lock it in and tap into some of the changes that have been taking place. Underneath those aggregate figures of a slowing down in the growth of traffic is a real increase in rail use—hence my suggestion that that is a real missed opportunity, particularly right now. We could be looking at those structural changes and trying to push them in positive directions.”

63. In its submission the Confederation for Passenger Transport (CPT) believed that the Scottish Government’s funding for bus transport would only be partially successful in reducing GHG emissions, reducing traffic congestion and increasing levels of public or active travel. Its concerns related to the small increase in funding for the National Concessionary Travel Scheme could lead to operators being forced to reduce or cut services or increasing fares which could discourage modal shift to bus. Similar concerns that the stand still position of funding for Support Bus Services could discourage bus operators from investing further in Local Carbon Vehicles.

64. In the evidence presented to the Committee it was noted that investment in public transport infrastructure was only part of the solution to increasing the modal shift from cars to public or active transport. This modal shift would require a package of measures to change the behaviour of travellers and to assist them in the decisions as to how to make a particular journey. Attention was drawn to the effectiveness of digital and real time public transport journey planning information in increasing modal switch and the dependence of these systems on the national digital infrastructure and its accessibility. This relationship between enhancing digital connectivity and growing use of public transport was worthy of further exploration. Professor Anable commented that—

“...the biggest revolutions in transport in recent decades, such as there have been, have been digital. The ideas of information and that people are now looking much more to use their travel time productively are among the reasons behind the resurgence of train travel. They are not necessarily the main reason for but are a significant contribution to younger people delaying car use.”

65. Similarly, Professor Fourman noted the potential value of digital technologies in promoting the use of public transport—

40 Confederation for Passenger Transport. Written submission, page 2.
“I believe that the increase in passenger numbers on Lothian transport owes a lot to the buses app. I would be interested in comments on that. People can tell when a bus is coming, and they will wait for it. That makes a huge difference. We do not yet integrate different transport providers very well. Glasgow does not have an integrated transport app in the way that Edinburgh does; it has individual ones for different companies, which is missing a trick. The user simply wants a bus and they do not care who turns up with it; they simply want to know when it will turn up. There is a lot to be done in making information available to people to make the public transport option more attractive.”

66. The role of digital technologies (and developments in Local Carbon Vehicles) in increasing the level of public transport in Scotland was acknowledged by the Cabinet Secretary who noted that the Scottish Government was—

“...doing work on alternative fuels and are actively supporting the development of hydrogen as a fuel source. Aberdeen will soon see the first operational hydrogen-fuelled bus, and I understand that Aberdeen City Council already has two hydrogen-fuelled vans in its fleet. Mobile technology and the ability to use apps to plan journeys better, make use of smart ticketing and pay for services are other examples of how we are trying to be innovative, both in the way services are delivered to make them easier to access and in the way we encourage people to shift from cars to public transport and to use more fuel-efficient means of transport.”

67. In a subsequent letter to the Committee sent on 2 December 2014, the new Cabinet Secretary for Infrastructure, Investment and Cities, Keith Brown, highlighted a range of Scottish Government transport initiatives aimed at reducing carbon emissions.

**Recommendation**

68. **While the Committee recognises the investment made by the Scottish Government in public transport infrastructure and support for public transport services, it should take advantage of the structural changes in how people are travelling and try to lock in the GHG savings potential of these changes.**

69. **The Committee also considers that the impact of digital technologies and innovative transport information systems is worthy of further analysis and once clear links have been established then these are areas that should be targeted for further investments.**

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44 Scottish Government. Letter from the Cabinet Secretary for Infrastructure, Investment and Cities on 2 December 2014. Available at: [http://www.scottish.parliament.uk/S4_InfrastructureandCapitalInvestmentCommittee/Letter_from_CAB_Sec_2_Dec.pdf](http://www.scottish.parliament.uk/S4_InfrastructureandCapitalInvestmentCommittee/Letter_from_CAB_Sec_2_Dec.pdf)
Road infrastructure and reducing traffic congestion

70. The vast majority of evidence questioned the impact on GHG emissions or traffic congestions of the levels of funding for the expansion of motorway and trunk road network (with the noticeable exception of the Scottish Chambers of Commerce)\textsuperscript{45}. There was, however, general support for greater expenditure on road repairs and dealing with backlog maintenance. The evidence presented suggested that the overall package of measures relating to motorways and trunk roads would increase levels of GHG emissions and road traffic congestions (RTC).

71. The Cabinet Secretary argued that the road building programme would not necessarily increase GHG emissions. When asked if the road building programme runs counter to the government’s objective to meet their climate change targets she said—

“It is fair to say that, all other things being equal, if road kilometres travelled increase for whatever reason, that will lead to an increase in road emissions. The thing is that not all other things are equal; the other side of the equation is not in equilibrium. The RPP sets out the various ways in which we are intervening to cut emissions per road kilometre travelled and the other important measures that we are taking to encourage mode switching, so that we can bear down on the number of road kilometres driven and cut down congestion and, in turn, emissions per kilometre. It is not the case that all other things are equal and that, if we invest in roads, emissions will go up.”\textsuperscript{46}

72. However, Professor Anable noted that—

“The additional expenditure in this budget compared with last year’s on roads and motorways does not appear to be particularly well justified in terms of its potential carbon benefits and therefore its potential knock-on carbon reduction benefits. The overall transport budget has increased, which is largely due to the increase in the road network budget. As I said, there does not appear to me to be any discussion or inclusion of any policies to lock in the potential increase in traffic that might result from the road building.”\textsuperscript{47}

73. The evidence presented to the Committee challenged the Cabinet Secretary’s assertion that enough was being done to ‘balance the equation’. Despite the improvements in the average fuel efficiency of the ‘Scottish car fleet’ prior research strongly predicted that the building of new roads and related road infrastructure will lead to more vehicle kilometres, car journeys and GHG emissions. If GHG emissions from road transport rise there is a corresponding need for greater investment in demand reduction measures, alternatively fuelled vehicles, urban planning and public and active travel to attempt to counteract the predicted increase in road traffic. Professor Anable noted—

“The fact that the road building expenditure is not balanced by attempts to mitigate the impact of traffic growth in urban areas means that little is being

\textsuperscript{45} Scottish Chambers of Commerce. Written submission, page 1.
done to reduce carbon from roads other than by reducing carbon from the fuels and the vehicles themselves. My recommendation would be to think again about what could be included in terms of traffic management and demand management."\textsuperscript{48}

74. Traffic management and demand management were also considered important measures for reducing traffic congestion, rather than by increasing road building. Professor Anable commented—

"I see no clear targeting of expenditure at traffic and demand management measures for the real congestion hotspots. What I see is the alleviation of congestion largely through road expansion rather than through demand management."\textsuperscript{49}

75. Previous research suggested that the likely reduction on road congestion due to road expansion is likely to be temporary and in the medium to long term will act against modal shifts towards active and public transport options.

76. Evidence was also given that the move to alternatively fuelled vehicles (AFV) will add to road traffic congestion. For example it was suggested that given the greater initial cost of AFVs there would be a greater incentive to use these vehicles in order to gain the benefit of this investment. The higher initial cost of AFVs and lower running costs could combine to increase the number of car journeys rather than reducing them and act against other measures that were designed to encourage people where possible not to use cars and to switch modes.

77. Witnesses commented positively on the contribution that programmes such as car sharing could make to reducing traffic demand and congestion. The support that the Scottish Government and Local Authorities had given to the development of car sharing schemes was recognised. It was argued that the benefits of car sharing justified greater levels of government support and a much wider roll out of this scheme and further innovation.

78. Witnesses also commented on the benefits of rolling out more car clubs, including Mr Asci who said—

"We led the way to a certain extent with the Edinburgh city car club, which is now City Car Club and is all over the UK. There are many other similar car-sharing schemes around the world. That was a fantastic initiative, which I was a founding member of. Cars are incredibly inefficiently used assets. We have millions of them just sitting around doing nothing for most of the time. There must be huge potential to expand such schemes, perhaps by using smart technology to enable people to donate their cars. People could simply


Recommendation

79. In order to meet the Scottish Government’s own targets on GHG emissions and reducing traffic congestion it should give greater priority at the next spending review to investing in traffic demand reduction and traffic management measures. It should be recognised that reducing traffic congestion is unlikely to be achieved through road expansion alone without any accompanying action on traffic demand management. Greater investment and support for alternatively fuelled vehicles should be continued, but it has to be recognised that without adequate traffic demand reduction or management systems alternatively fuelled vehicles may worsen levels of road congestion and adversely affect modal shifts to public or active travel. Future investments in the road networks, road vehicles and demand reduction should be targeted to balance the social and economic benefits of improved connectivity within Scotland with its social, economic and environmental costs.

Housing

New housing

80. The need for an increase in the number of houses, particularly affordable houses, was widely recognised and the Scottish Government’s substantial increase in funding for building new houses building was welcomed. However, there was also general consensus that the funding level for new house building should be higher still. For example, Shelter Scotland estimated that a figure of 10,000 affordable houses a year would be required and Homes for Scotland estimates that 22,000 houses a year would be required to be built to address Scotland’s housing needs.

81. Building new houses will have an impact on Scotland’s GHG emissions in two significant ways. Firstly, due to new energy efficiency standards each new house built in Scotland has the potential to use 70% less energy than a house built in the 1990s. These energy efficiency standards will be tightened further in the near future making new houses even more energy efficient. Secondly, increasing the housing stock will increase the overall GHG emissions from housing, unless these new houses will replace existing energy inefficient homes. Adding new energy efficient homes to the existing housing stock will marginally improve the average energy efficiency of the Scottish housing stock, but will not reduce GHG emissions from housing. Given the housing shortage in Scotland even the new energy efficiency standards of new builds is likely only to reduce the rate of increase of GHG emissions from housing.

82. Karen Campbell, Head of Policy and Operations at Homes for Scotland, noted that—

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51 Shelter Scotland. Written submission. page 1.
52 Homes for Scotland. Written submission, page 2.
“Unfortunately, because we are building so few homes just now, the dent that building new homes can make in the carbon footprint is very small. I have done some analysis on the RPP and looked at the contribution that new build would make through using building standards. It was estimated to be only 0.3 per cent of the whole economy, based on the low number of new homes that we are building. If new-build homes are to make a bigger dent, we need to build more and replace old and less efficient stock.”

83. However, there was considerable support from witnesses and written submissions that more support should be provided to further incentivise house builders to go beyond these minimum energy standards and lock in as much energy efficiencies into new houses as it feasible. However, it was noted that currently there was a lack of demand for energy efficient houses and no apparent added value to house purchasers or renters of an energy efficient home. It was reported that the Royal Institute of Chartered Surveyors will not attach a value to an energy-efficient home until energy efficiency is what the customer is looking for. Karen Campbell compared this to changes that have occurred in the car market—

“If you are buying a car, you think about your tax per year and you also think about your miles per gallon. The issue is easier to understand in the car industry. The EPC (Energy Performance Certificate) has gone some way to make it easier—every home advertised has to state the EPC level—but recently we did some research on the EPC, and nobody was paying attention to it. We need to attach something financial to energy efficiency to get people to pay attention to it.”

84. Witnesses suggested a number of ways that could incentivise the building of more energy efficient homes and create demand (and added value) for these houses in the social, for sale and rental markets. These included:

- Changing the EPC, which reports the potential energy use, to a Declared Energy Certificate (DEC), that reports actual energy use or emissions and would be a better guide to energy cost;
- Reforming the Land and Building Tax to reflect a house’s energy efficiency;
- Reforming future ‘help to buy’ schemes to reflect energy efficiency ratings;
- Extending the energy efficiency subsidy of £4,000 per house that is available to the social housing market to the ‘for sale’ housing market for building houses above and beyond standards;
- Funding the mainstreaming of pilot projects for example, Construction Scotland Innovation Centre and innovation parks in Fife and Inverness; and
- Creating minimum energy standards for homes at the point of sale or rent not only at the point of construction.

85. Giving evidence, the Cabinet Secretary said that she was “very open to considering how we design our schemes and use the powers that we have to improve energy efficiency and stimulate demand.” However, she said that the Scottish Government did not believe that reforming the Land and Building Tax to reflect a house’s energy efficiency would have the desired effect. The Cabinet Secretary added that—

“Tax aside, we should be open minded about how we design energy efficiency schemes, fund house building and direct the resource that we have to stimulate demand and people’s appetite for taking up energy efficiency measures.”

86. In his letter\(^\text{56}\) of 2 December 2014, Keith Brown also listed a number of Scottish Government measures to help deliver more sustainable homes.

Recommendation
87. The Committee also considers that greater priority has to be given to fund incentives for the building of all energy efficient new houses and to create demand and value for energy efficient homes. However, it has to be recognised that energy efficient new housing will only make a marginal impact on Scotland’s GHG emissions and that to meet GHG reductions from housing greater priority must be given to improving the energy efficiency of the existing housing stock. The Committee therefore calls on the Scottish Government to continue to fund measures to enhance the future sustainability of all new houses built in Scotland, in particular locking in energy efficiency into the fabric of new houses.

Existing Housing
88. There was very strong support for substantive greater funding and efforts in improving the energy efficiency in the existing house stock. Witnesses argued that this should become a national infrastructure priority, in terms of the impact of GHG emissions and the wide range of benefits that potentially flow from having warm, dry affordable homes, including social, economic and environmental benefits. It was also reported that existing housing energy efficiency measures could be regarded as a substantive economic development opportunity rather than a cost. Energy efficiency measures have the advantages of reducing GHG emissions immediately and locking in GHG reduction over a long period of time. Given the challenging nature of Scotland’s GHG emission targets it was said that the quicker we can act to reduce carbon emissions the easier it will be to meet the medium to long term carbon reduction targets.

89. Funding for improved energy efficiency in existing houses was not however considered adequate to meet the Government’s housing strategies or GHG emissions targets. Funding for home energy efficiency remained at the same level as 2014-15 and did not represent a funding programme that was able to ‘deliver a


\(^{56}\) Scottish Government. Letter from the Cabinet Secretary for Infrastructure, Investment and Cities on 2 December 2014. Available at: http://www.scottish.parliament.uk/S4_InfrastructureandCapitalInvestmentCommittee/Letter_from_CAB_Sec_2_Dec.pdf
step-change in provision of energy efficient homes to 2030 through retrofit of existing housing' (para 40 RPP2). It was pointed out that Scotland has a significant problem with fuel poverty and a number of witnesses and written submissions commented on the positive relationship between improving the energy efficiency of housing and fuel poverty alleviation. However, as stated by Alan Ferguson, Chair of Existing Homes Alliance Scotland—

“Our view is that the moneys in the draft budget are insufficient and will not reduce emissions. Unless we increase energy efficiency and tackle the problem of poor housing in rural areas and elsewhere, we will not hit the overall targets on emissions, we will not hit the overall targets on fuel poverty and we will not improve the wellbeing of many people in Scotland. As far as we are concerned, the budget goes a long way but, as Richard Dixon has said, it is still insufficient if we want to increase energy efficiency and reduce emissions.”

90. In relation to the funding required, the Existing Homes Alliance considered £175m would be appropriate in delivering on RPP2 which is around £96m more than current funding.

91. In its supplementary written evidence, the Existing Homes Alliance suggested that the Scottish Government consider using a proportion of the European Regional Development Fund for improving energy efficiency in social housing. They note the success of similar projects in Wales and France and consider that if adopted in Scotland, it could produce a step-change in housing energy efficiency, cut fuel poverty, boost employment and training in poorer areas and positively impact on Scotland’s economy. A loan fund could be set up to help lower income households improve the energy efficiency of their homes. By setting up a National Lending Unit, financed using Barnett Consequential money (which can only be used for loan finance), the Existing Homes Alliance believes this would help overcome the obstacle of high initial costs of retrofitting existing houses. The initial size of this fund would be around £20m.

92. In addition to the lack of increase in Government funding for energy efficiency measures, concern was expressed over the short to medium term impact of changes to the UK Energy Company’s Obligation scheme. The Energy Companies Obligation (ECO) is an energy efficiency programme that placed legal obligations on the larger energy suppliers to deliver energy efficiency measures to domestic energy users. It was designed to help people make energy efficiency improvements to buildings by allowing them to pay the costs through their energy bills rather than upfront. ECO is intended to work alongside the Green Deal to provide additional support in the domestic sector, with a particular focus on vulnerable consumer groups and hard-to-treat homes.

93. In December 2013, the UK Government announced plans to make changes to the Energy Companies Obligation (ECO). These changes are designed to reduce delivery costs for obligated suppliers and in turn reduce consumer energy

58 Existing Homes Alliance Scotland. Supplementary written submission, page 1.
bills. The changes resulted in a reduction in the target emission reductions to be funded by Energy Corporations, extending the period over which the Energy Company’s obligation have to be met by, relaxing the qualifying criteria as to what counts as energy efficiency measures and a significant reduction in the funding provided by Energy Company’s. It is difficult to know with certainty the impact on Scotland of this UK wide scheme, but it was estimated to result in a reduction of around £50m for 2014-15. UK Energy Companies were previously obligated to reduce carbon by 20.9MT by 2015 but this has reduced to 14MT. The responsibility for the reduction of 6.9MT will pass onto the public sector and requires to be funded accordingly. Given that Scotland has been more successful than other areas of the UK in attracting funding through ECO it is therefore likely the transfer of these obligations from Energy Company’s to the Government or individual will have a more significant impact here than for the rest of the UK. Clarification is therefore needed as to how Scottish Government is going to deal with ECO1.2 and ECO2 changes.  

94. Commenting on the reduction in ECO funding by energy companies, the Cabinet Secretary said that one of the Government’s frustrations was that the Scottish Government did not control the overall design of energy efficiency schemes. Nicola Sturgeon added that—

“…it would be far better if we were able to be responsible for and design those schemes ourselves. That would allow us to integrate and align them with our own activity much more easily and much better.”

95. Much of the evidence in this area stressed the importance of making the benefits that flow from energy efficient housing more visible in the Scottish Government’s budgetary process. This greater visibility of the benefits can then be used to justify the higher level of investment that most witnesses agreed was necessary. For example, Dr Dixon said—

“The Government has been good at talking about investing in one area and acknowledging savings in another. We have not gone quite far enough with housing in that regard, because if we make people’s lives better, we improve the economy, if we make people healthier, we save money in the health service, and if we insulate people’s homes, builders have jobs. There are many ways in which investing in the efficiency of homes can improve things across the economy and can save the Government money in other parts of the economy.”

59 ECO1.2 refers to changes to ECO relating to the current obligation period that will end in March 2015. These changes includes a 33% reduction in carbon emission reduction targets, modification as to what qualifies as carbon reduction measures and an eligible community with effect from 1 April 2014. ECO2 relates to a new obligation period, new carbon reduction targets, qualifying carbon reduction measures and eligible communities, which will run from 1 April 2015 to 31 March 2017.


96. The witnesses were of the opinion that there were a range of energy efficiency technologies that were relatively easy to retrofit at a reasonable cost. For example, Professor Roaf said that harnessing solar energy could form part of the answer—

“For £7,000, we can put into a house 4KW of photovoltaics—solar electric—plus a solar hot water system of 3KW, so for the same price we can have a house that pays for only 20 to 30 per cent of its hot water each year and can generate most of its electricity free.”

97. Professor Roaf mentioned how this had been used in a pilot study in Dundee—

“For every solar home produced for those in fuel poverty—putting in photovoltaics for solar hot water—we take a household out of fuel poverty for ever. We did a very good study that showed that if we put photovoltaics and solar hot water in all the council houses in the deprived areas of central Dundee, we could take the majority of the population of poorer and socially deprived people in Dundee—over 2,000 families—out of fuel poverty for a total cost of about £67 million.”

98. Professor Roaf provided further, written details of the level of investment would be required so that every house in Scotland had a solar power system on the roof and a solar hot water tank. She estimated that if 732,000 Scottish homes were suitable for solar power (which Professor Roaf considered a pessimistic figure), the total cost would come to £1,385bn. If 1,978,500 homes were suitable (described by Professor Roaf as the most optimistic scenario), it would cost £3,745bn. The optimistic scenario produces nearly 150% of the energy generated at Scotland’s largest power station (coal) at Longannet which has a capacity of 2,400 MW. The current estimated price of the new nuclear power plant at Olkiluoto in Finland (10 years in the building) is now put at around €10 billion. This nuclear power station would generate around 1720MW, less than half of the installed capacity of solar thermal energy that would be generated under the more optimistic scenario. It would result in a CO\textsubscript{2} emissions reduction of around 1,473,000 tonnes of CO\textsubscript{2}/yr.

99. Witnesses were also supportive of further development in renewable heat schemes. Alan Ferguson noted that—

“Some housing associations and councils, including Cube Housing Association in Glasgow and Aberdeen City Council, are looking at combined heat and power and district heating systems. Can we develop

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those further? Can we encourage more organisations not just to consider them but to do something about them?\textsuperscript{65}

100. The Cabinet Secretary emphasised the importance of energy efficiency in existing housing to help meet the Scottish Government’s climate change targets. She pointed at statistics from the Scottish House Condition Survey which indicated that in 2012, 44 per cent of homes had a good rating in their energy performance certificates compared with only 16 per cent in 2007. While highlighting this progress, the Cabinet Secretary also acknowledged that there was still a lot of work to do.

101. On ECO funding, the Cabinet Secretary said that it, taken with the budget allocations for our energy efficiency programmes, the warm homes fund and the green homes cashback scheme, would indicate a total investment of about £260 million. She added “That is what we have to spend and I think that we can do an awful lot with that.”\textsuperscript{66}

102. Following the Cabinet Secretary’s appearance, Scottish Government officials were asked for a breakdown of this figure and how it appears in the draft budget. The Government responded that the £260m referred to was from the 2013-14 budget and that the ECO investment for 2015-16 is not yet known.

Recommendation
103. Given the potential carbon savings from upgrading existing homes, the Committee strongly believes that improving the energy efficiency of homes should be a national infrastructure priority.

104. While perhaps too late for the draft budget, the Committee recommends that the Scottish Government should re-examine the appropriate level of funding for home energy efficiency improvements in the upcoming spending review.

105. The Committee also recommends that the Scottish Government should explore ways of valuing the holistic benefits of home energy efficiency and balance these benefits with the investment costs when making future budget allocations to home energy efficiency.

106. The Scottish Government should also clarify the impact of the changes to ECO, what the precise figure is for 2015-16 and how they plan to deal with the expected reduction in funding.

107. Furthermore, the Committee recommends that the Scottish Government should evaluate the benefits of renewable heat schemes, particularly community based scheme with a view to considering how the development of these schemes might be encouraged and funded. The solar heating example presented by Professor Roaf is worthy of further consideration and


illustrates the potential benefits of adopting a more innovative approach to thinking about housing based energy efficiency solutions.

Improving digital infrastructure

108. There was general consensus among witnesses that the potential of Scotland’s digital infrastructure for GHG reduction, while heading in the right direction, was not being fully realized. This potential included the facilitation of home working, elimination of the need to travel, traffic demand management, traffic management, supporting public transport choices and more energy efficient logistics.

109. Mark Tate, Director of Community Broadband Scotland, spoke of one community who had benefited from improved digital infrastructure—

“…there is a community project—Locheilnet—around Applecross, which now has 200 transformational connections to homes and businesses. There is a music recording studio that rather than using couriers to transport digital files—that is what it had to do in the past—can now send them by file transfer over the internet; those journeys no longer need to happen. A simple example is home shopping on the internet, which aggregates many journeys into one delivery journey. Another example is a young student who used to have to travel into Fort William to use his grandmother’s internet connection but no longer has to make that journey.”

110. However, witnesses questioned whether the level of funding was sufficient to fully capture these benefits. Professor Fourman viewed this underinvestment in digital infrastructure as a major missed opportunity—

“We see lots of opportunities for reducing transport use through people having digital connectivity, particularly in remote communities. However, the current investment in digital in Scotland will not bring superfast speeds to a large proportion of the people in the Highlands and Islands. In Scotland as a whole, at least 44 per cent of those who are not currently served will not get superfast speeds according to the current EU definition. The idea is that everyone should have those speeds by 2020.

“I think that we have invested almost £300 million in broadband over five years, and we are investing £800 million in rail and £400 million in buses and ferries over one year. Therefore, there is a missed opportunity in not saying, “This can really change the way that things happen if we take it seriously.” I do not believe that digital connectivity is yet being taken seriously in the UK or in Scotland.”

111. Professor Anable supported the potential benefits of greater investment in digital infrastructure and more sustainable transport and commented that—

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“If we take the crossover between digital and transport, much of the potential lies in green logistics, for example with businesses and green freight. I suggest that the committee digs around in that a little in order to understand whether that is being targeted through the policies and expenditure.”

112. Professor Fourman also felt that there needed to be a change of emphasis so that digital infrastructure was considered in the same way as road, rail and ferry networks. He also said that like with motorways, the major digital infrastructure should be open to all, and gave the following example—

“We now have an internet exchange in Edinburgh, but if somebody in the west of Scotland wants to connect to that internet exchange, they must pay an arm and a leg for it because it is a long way away and they pay a distance-based charge. If people could connect to that exchange from anywhere in Scotland and then exchange data with others, that would change the digital economy in the country. Changing the digital economy will have wider effects, but it will also allow the various carbon-reduction measures that we talked about to happen locally.”

113. Professor Fourman added—

“We have opportunities to open up whole areas of Scotland for industries that want secure areas to develop, with constant energy, good schools and travel communications, but one of the things that is missing is assured digital connections. We need a major revision of what we offer industries by looking at infrastructure in that context.”

114. The Cabinet Secretary agreed with Professor Fourman’s assessment that “broadband infrastructure is as vital in the modern age as good transport infrastructure” and outlined the public sector investment of £300m over five years in the delivery of two next-generation broadband projects. She also outlined how the Scottish Futures Trust had been charged with identifying technical options for delivering connectivity “anytime, anywhere, using any device – and with exploring financial models that might be appropriate for future investment plans.

115. On whether the current digital infrastructure is open to competition, the Cabinet Secretary confirmed that the Scottish Government’s investment, while being delivered through a contract with BT, is open source so people can access that service via any provider. Mark Tate also referred to the open source nature of the new fibre optic cable being laid by BT and that while some of the powers are

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reserved to the UK Parliament, the current legislation requires all public investment must be open source.\textsuperscript{74}

116. The Committee also heard evidence on the importance of opening up digital infrastructure so those currently excluded can access it. The Committee heard encouraging evidence of work being done by the Glasgow Housing Association to reduce costs to accessing broadband by bringing in one main supply into a block of flats and then allowing that supply to be shared by all occupants. The Committee welcomes this innovative approach.

117. In refereeing to this work, Mark Tate added—

“A digital infrastructure will not itself transform much; the transformational thing is how people use it. We work closely with partners where the infrastructure is installed. With the main contracts, there has been a lot of demand stimulation and participation work following the physical infrastructure roll-out.”\textsuperscript{75}

118. On whether enough was being done by digital providers to encourage people to get superfast broadband into their homes, the Cabinet Secretary said—

“I hope so, but I am certainly very happy to look at that on an on-going basis. As I keep saying, having the infrastructure is one thing, but ensuring that people are accessing and using it is another.”\textsuperscript{76}

Recommendation

119. The Committee strongly believes that delivering access to superfast broadband in homes and businesses across Scotland, particularly in more rural areas, will have a lasting benefit on GHG emissions. As well as welcoming the continued investment in digital infrastructure, the Committee is keen to learn more of the Government plans, currently being considered by the Scottish Futures Trust, to provide comprehensive digital infrastructure across Scotland and enabling innovative developments in business that can build on Scotland’s natural resources.

120. The Committee remained concerned that fibre networks were not as open as they might be and asks the Scottish Government for further information on what is being done to ensure open access to the wider digital infrastructure sector who may wish to provide extensions or enhancements to networks. The Government should also continue to develop measures to deal with the problems of digital exclusion.

121. The Committee also heard evidence on a number of points not specifically connected to its focus on the three National Indicators, yet related to the draft budget and within its remit.

**Government borrowing**

122. Under the new borrowing powers granted under the Scotland Act 2012, the Scottish Government is now able to borrow an equivalent of up to 10% of its capital budget each year. The Scottish Government has stated that it intends to borrow the full 10% in 2015-16 which will amount to £304 million. During evidence, the Cabinet Secretary said that rather than being used to fund specific projects, the borrowing powers has allowed the Scottish Government to “support the overall investment programme that is reflected across the budget.”

**General housing supply**

123. The housing and regeneration budget has increased by £200m (£543.2m to £743.3m). For housing supply, the budget has increased from 368.5m in 2014-15 to 597.63m in 2015-16 and is expected to provide over 6,000 affordable homes.

124. Of these 6,000 affordable homes, the Committee heard evidence seeking to clarify what types of homes would be built and what the mix would be. The Cabinet Secretary said that the majority will be social rented homes with the remainder being homes for mid-market rent and some opportunities for shared equity provision. However, Ms Sturgeon was not able to say what the mix of provision would be at this time for 2015-16 but referenced figures from 2014-14.

125. The Cabinet Secretary was also asked what types of innovative funding methods the Scottish Government would be using to continue to support the housing sector. In her answer, the Ms Sturgeon said as well as continuing to support the Help to Buy scheme in 2015-16, much of the funding comes from financial transactions via the UK Government. While the Cabinet Secretary said that she “would not choose to receive funding in that form” given some of its restrictions, “it is welcome in the sense that it is resource that we would not otherwise have”.

**Private finance initiative project payments**

126. The Committee sought figures from the Cabinet Secretary on the level of revenue payments on public private partnership (PPP) and non-profit distribution (NPD) projects expected for 2015-16 as these were not listed in the draft budget. The Cabinet Secretary said that while no payments will be made to NPD projects in the coming year as work funded under the scheme has yet to reach that stage. Payments are however expected to begin in 2016-17 for the M8, M73 and M74 improvements. Revenue payments for PPP works are nevertheless expected to

amount to £89m in the coming financial year. Ms Sturgeon said that these are to cover the M6, the M77 and the M80 Steps to Haggs transport projects.\textsuperscript{80}

**NEXT SPENDING REVIEW**

127. The Committee acknowledges that as the 2015-16 draft budget is the final budget in the current three year spending review, much of the spending for the coming financial year has already been committed. However, the Committee sees the next spending review, expected in 2015, as a major opportunity for the Scottish Government to align its spending priorities with its objective of meeting its carbon emission targets for 2020 and beyond.

128. From the evidence received by the Committee, these opportunities can be found in transport, digital infrastructure and housing and as one witness, said, the Scottish Government has developed excellent policies aimed at reducing emissions but there needs to be a significant step forward in their delivery. In particular, the Committee sees a wealth of opportunity within the housing budget and, as mentioned earlier in the report, considers believes that improving the energy efficiency of homes should be a national infrastructure priority.

129. The Committee’s evidence was mirrored in evidence heard by the Rural Affairs, Climate Change and Environment (RACCE) Committee during its recent work on whether the Scottish Government is meeting the climate change targets. In a letter\textsuperscript{81} to the Minister for Environment, Climate Change and Land Reform sent on 26 November 2014, the RACCE Committee called on the Scottish Government to consider what “more can be done…what measures can be prioritised and what actions can be expedited” to meet the CO\textsubscript{2} emissions targets.

130. The Committee recommends that the Scottish Government reports back to the Committee on its consideration of the above recommendations ahead of the next spending review.

131. Also, as stated earlier in this report, the Committee recommends that the Scottish Government undertake a systematic review of the consequences of its current and future infrastructure programmes and policies in relation to meeting its GHG emissions targets and reports back to the Committee ahead of the next spending review.


\textsuperscript{81} Scottish Parliament Rural Affairs, Climate Change and Environment Committee. Letter to the Minister for Environment, Climate Change and Land Reform, 26 November 2014. Available at: http://www.scottish.parliament.uk/S4_RuralAffairsClimateChangeandEnvironmentCommittee/General%20Documents/2014.11.26_-_Convener_to_Minister_climate_change.pdf
ANNEXE A: EXTRACTS FROM THE MINUTES OF THE INFRASTRUCTURE AND CAPITAL INVESTMENT COMMITTEE

19th Meeting, 2014 (Session 4): Wednesday 18 June 2014

Draft Budget Scrutiny 2015-16 (in private): The Committee considered and agreed its approach to the scrutiny of the Scottish Government's Draft Budget 2015-16.

20th Meeting, 2014 (Session 4): Wednesday 13 August 2014

Draft Budget Scrutiny 2015-16 (in private): The Committee considered and agreed a candidate for the post of budget adviser.

24th Meeting, 2014 (Session 4): Wednesday 29 October 2014

Draft Budget Scrutiny 2015-16: The Committee took evidence on the Scottish Government's Draft Budget 2015-16 from—
Professor Jillian Anable, Chair of Transport and Energy Demand, University of Aberdeen;
Francisco Ascui, Director, Centre for Business and Climate Change, University of Edinburgh;
Professor Susan Roaf, School of the Built Environment, Heriot-Watt University;
Professor Michael Fourman, Chair of the Digital Scotland Working Group, Royal Society of Edinburgh.

Draft Budget Scrutiny 2015-16 (in private): The Committee considered the evidence heard and discussed its next steps.

25th Meeting, 2014 (Session 4): Wednesday 5 November 2014

Draft Budget Scrutiny 2015-16: The Committee took evidence on the Scottish Government's Draft Budget 2015-16 from—
Karen Campbell, Head of Policy and Operations, Homes for Scotland;
Richard Dixon, Director, Friends of the Earth Scotland, and John Lauder, Director, Sustrans Scotland, representing Stop Climate Chaos Scotland;
Alan Ferguson, Chair, Existing Homes Alliance Scotland;
Mark Tate, Director, Community Broadband Scotland.

26th Meeting, 2014 (Session 4): Wednesday 12 November 2014

Draft Budget Scrutiny 2015-16: The Committee took evidence from—
Nicola Sturgeon, Cabinet Secretary for Infrastructure, Investment and Cities;
Sharon Fairweather, Director of Finance, Transport Scotland;
Dominic Munro, Deputy Director, Housing Sustainability and Innovative Finance;
Scott Mackay, Infrastructure Investment Unit, Scottish Government.
27th Meeting, 2014 (Session 4): Wednesday 26 November 2014

**Draft Budget Scrutiny 2015-16 (in private):** The Committee considered a draft report to the Finance Committee on the Scottish Government's Draft Budget 2015-16 and agreed to consider a further draft report at its next meeting.

28th Meeting, 2014 (Session 4): Wednesday 3 December 2014

**Draft Budget Scrutiny 2015-16 (in private):** The Committee considered a revised draft report to the Finance Committee on the Scottish Government's Draft Budget 2015-16. The report was agreed for publication.
ANNEXE B: ORAL EVIDENCE AND ASSOCIATED WRITTEN EVIDENCE

24th Meeting, 2014 (Session 4): Wednesday 29 October 2014

Oral Evidence
University of Aberdeen
University of Edinburgh
Heriot-Watt University
Royal Society of Edinburgh

Supplementary Written Evidence from
Dr Susan Roaf, Heriot-Watt University

Supporting Documents
Building integrated solar Dundee case study (970KB pdf)
Transitioning to Eco-Cities (514KB pdf)
Optimat Final Report for SISER Study (1886KB pdf)

25th Meeting, 2014 (Session 4): Wednesday 5 November 2014

Oral Evidence
Homes for Scotland
Stop Climate Chaos
Existing Homes Alliance Scotland
Community Broadband Scotland

Written Evidence
Homes for Scotland
Stop climate Chaos Scotland
Existing Homes Alliance Scotland
Community Broadband Scotland

26th Meeting, 2014 (Session 4): Wednesday 12 November 2014

Oral Evidence
Nicola Sturgeon, Cabinet Secretary for Infrastructure, Investment and Cities

Supplementary Written Evidence
Keith Brown, Cabinet Secretary for Infrastructure, Investment and Cities
ANNEXE C: OTHER WRITTEN EVIDENCE

- ALACHO (152KB pdf)
- BEMIS Scotland (229KB pdf)
- BT Scotland (125KB pdf)
- Carplus (375KB pdf)
- Chartered Institute of Housing (104KB pdf)
- City of Edinburgh Council (59KB pdf)
- Community Broadband Scotland (266KB pdf)
- Confederation of Passenger Transport - Scotland (246KB pdf)
- Cycling Scotland (306KB pdf)
- Dr David Connelly (229KB pdf)
- Professor Iain Docherty (67KB pdf)
- East Ayrshire Council (144KB pdf)
- East Coast Mainline Authorities (74KB pdf)
- Energy Saving Trust (256KB pdf)
- Existing Homes Alliance Scotland (461KB pdf)
- Existing Homes Alliance - supplementary evidence (174KB pdf)
- R S Garrow Ltd (71KB pdf)
- Homes for Scotland (270KB pdf)
- KPMG (227KB pdf)
- Living Streets (155KB pdf)
- North Ayrshire Council (222KB pdf)
- Ofcom Scotland (247KB pdf)
- Paths for All (165KB pdf)
- Pedal on Parliament (139KB pdf)
- Passenger Focus (166KB pdf)
- Scottish Chambers of Commerce (346KB pdf)
- Scottish Council for Voluntary Organisations (19KB pdf)
- Scottish Federation of Housing Associations (102KB pdf)
- Shelter Scotland (143KB pdf)
- SEStran (222KB pdf)
- Society of Chief OfficersTransportation in Scotland (SCOTS) (144KB pdf)
- South Lanarkshire Council (187KB pdf)
- Spokes (194KB pdf)
- Stop Climate Chaos Scotland (387KB pdf)
- Sustrans Scotland (234KB pdf)
- Sustrans Scotland - supplementary evidence (147KB pdf)
- Transform Scotland (233KB pdf)
- UNISON (187KB pdf)
- WWF Scotland (323KB pdf)