

Scottish Government Draft Climate Change Plan

Evidence to the Economy, Jobs and Fair Work Committee - February 2017

Summary

- The draft CCP has clearly set out the Scottish Government’s vision for a low carbon Scotland and the overarching framework for achieving emissions reduction targets.
- Much of the progress to date in reducing Scotland’s emissions derives from changes in the power generation sector. Achieving further significant progress will need progress in areas that require active consumer involvement.
- In relation to costs, there is insufficient detail to judge the impact on consumers. The significant increase in investment required to achieve the ambitions in the plan must be carefully handled to ensure consumers are not overburdened. Financial support or incentives will be required to achieve the proposed paradigm shift in domestic heating by 2032.
- In relation to costs, there is insufficient detail to judge the impact on consumers. The significant increase in investment required to achieve the ambitions set out in the plan must be carefully handled to ensure consumers are not overburdened. Financial support or incentives will be required to achieve the proposed paradigm shift in domestic heating by 2032, and there should not be overreliance on technologies that are still commercially unproven.
- A focus on the energy efficiency of the existing housing stock is warranted because it has the theoretical potential to reduce GHG emissions at the same time as helping alleviate fuel poverty. We welcome the commitment to developing Scotland’s Energy Efficiency Programme to meet the scale of the ambition. More detail is required on how the new target of installing 90,000 new insulation measures each year from 2023 through to 2032 will be met, as well as how to motivate investment in energy efficiency measures in the owner occupied sector.
- The draft CPP has been successful at identifying the share in discrete policy envelopes the total decarbonisation effort at the lowest cost. However, it doesn’t allocate specific emission reductions attributable to each policy or proposal, or adequately account for the role of consumer behaviour in meeting the targets.

Introduction

1. The Consumer Futures Unit (‘the CFU’) sits within Citizens Advice Scotland (‘CAS’). The CFU is the Scottish consumer representative body in the regulated markets of energy, post and water. It uses evidence, expert analysis and research to put consumer interests at the heart of policy-making and market behaviour.
2. The CFU welcomes the Scottish Parliament’s scrutiny of the Scottish Government’s third draft Climate Change Plan (CCP) and we are pleased to have the opportunity to comment on Scottish Ministers’ plans for meeting Scotland’s annual greenhouse gas (GHG) emissions reduction targets. We have limited our comments to areas of the draft plan that are directly relevant to our remit.

Overall assessment

3. The draft CCP has clearly set out the Scottish Government's vision for a low carbon Scotland to 2032, and sets out the overarching framework for achieving GHG emissions reduction targets. Yet, while we have assessed the draft plan as being high in ambition, it is low on detail about implementation. As a result, it has been difficult to comment on:
 - the scale of the reductions proposed;
 - the timescales required for targets to be met; and
 - the significant questions of the cost and affordability of the programme to consumers.
4. To date much of the progress on reducing Scotland's GHG emissions has been from changes in the power generation sector. While some of this has been from increased renewable generation, much of the reduction is a result of the closure of Scotland's coal-fired power stations. This brings into sharp focus the enormity of the challenge, particularly if transformational changes in consumer lifestyles are to be realised.
5. Unlike previous Reports on Policies and Proposals (RPP1 & RPP2), the draft CCP does not include details of specific emission reductions attributable to each policy or proposal. This makes it difficult to understand the relative significance of each policy or proposal in meeting targets.
6. The following evidence presents the CFU's three primary concerns with the draft plan, related to the committee's focus on: electricity generation, reducing energy demand, renewable energy and fuel poverty. These are:
 - Issues related to consumer costs
 - Issues related to energy efficiency and residential heating
 - Issues related to consumer engagement

Consumer costs

7. The draft plan generally lacks detail on costs beyond the 'system costs' identified by the modelling. This makes it impossible to comment on the financial impacts for consumers – yet these will be an essential component to the deliverability and uptake of the measures detailed in the draft CCP.
8. In addressing the costs, benefits and wider impacts, the draft plan acknowledges the argument put forward in the Stern Review on the economics of climate change¹ that future costs will be higher if demanding mitigation strategies are not put in place in the coming decades. The CFU is of the view, however, that the cost of such measures must be carefully handled to ensure that consumers, and low income consumers in particular, many of whom may currently be in or at risk of falling into fuel poverty, are not expected to pay for them across short timescales.
9. A number of the technologies identified in the draft plan as integral to cutting emissions (e.g. heat pumps, carbon capture storage, hydrogen infrastructure and energy storage) have yet to become mainstreamed and at this time remain commercially unproven. While we agree these technologies will be essential to achieving GHG emissions reductions, alternative approaches may be required if those technologies don't fulfil their hoped for potential, or lead to increased costs for consumers.

¹ http://webarchive.nationalarchives.gov.uk/20080910140413/http://www.hm-treasury.gov.uk/independent_reviews/stern_review_economics_climate_change/sternreview_index.cfm

10. The draft CCP depicts a paradigm shift in how we all heat our homes through to 2032, without any real detail on how it will be financed. Consumers in every income bracket will need to be supported to make the substantial level of changes required to meet the targets. Without incentives the consumer uptake of less familiar technologies will likely be extremely low and targets not met. Further, it is essential that low income households are not expected to pay high upfront capital costs associated with the installation of new heating systems, some of which can be significant. For instance, the Energy Saving Trust estimates that installing an automatically-fed biomass boiler could cost an average home in excess of £20,000².
11. To achieve the scale of ambition the draft plan sets out for mitigation measures will require a significant increase in the level of investment. For instance, the projected costs for the Scottish Government's proposed energy efficiency programme for Scotland are quoted at around £10billion³, but the current public sector spend, plus ECO, is around £200million per annum. In addition, if the Scottish Government are convinced about the range of health and economic benefits from energy efficiency and reductions in fuel poverty (all of which we agree with), we would question why the budget remains unchanged from previous years and is entirely taken from housing, rather than drawing on the economic development and health improvement budgets too.

Energy efficiency and residential heating

12. Given that around 85% of today's houses will still be in use in 2050⁴, a focus on the energy efficiency of the existing housing stock is warranted because it has the theoretical potential to reduce GHG emissions at the same time as helping alleviate fuel poverty. Research for our predecessor body suggested that the average fuel bill savings per fuel poor property could be reduced by as much as £505 per year⁵.
13. Nevertheless, the draft CCP fails to include enough new policies and proposals on energy efficiency to meet the scale of the ambition. The draft plan is reliant on Scotland's Energy Efficiency Programme (SEEP) to deliver energy efficiency measures in Scotland. While we have welcomed the Scottish Government designating energy efficiency as a national infrastructure priority, the detail of SEEP, and its central role in realising Scotland's ambitions in relation to climate change, remains to be seen.
14. In particular, while the overall ambition in the draft CCP is welcome, the new target of installing 90,000 new insulation measures each year from 2023 through to 2032 implies a considerable increase in activity and cost. In 2014/15, 67,000 energy efficiency measures (insulation and heating) were installed in Scotland across all schemes (HEEPS and ECO)⁶. However, in planning for the future, recent research⁷ for the CFU indicated that careful consideration needs to be given to the fact that many of the easiest and lowest cost energy efficiency measures (e.g. easy cavity wall and loft insulation) have already been completed. Significant potential exists for installing more costly measures that are more difficult to do, with more than 90% of solid walls remaining

² <http://www.energysavingtrust.org.uk/renewable-energy/heat>

³ SEEP Consultation Document - <http://www.gov.scot/Resource/0051/00513248.pdf>

⁴ Scotland's *Sustainable Housing Strategy* (2013) <http://www.gov.scot/Resource/0042/00425697.pdf>

⁵ Economic impact of improving energy efficiency of fuel poor households in Scotland - <http://www.cas.org.uk/system/files/publications/economic-impact-of-energy-efficiency-investment-in-scotland.pdf>

⁶ From Energy Savings Trust – Home Energy Efficiency Programmes for Scotland Summary Delivery Report 2014/15

<http://www.energysavingtrust.org.uk/sites/default/files/HEEPS%2014-15%20report.pdf>

⁷ Taking the Temperature. A review of energy efficiency and fuel poverty schemes in Scotland. <http://www.cas.org.uk/publications/taking-temperature>

uninsulated in some parts of the country. It is clear therefore that achieving the scale of new insulation installations as outlined in the draft CCP will be extremely challenging and one that will require significant resources and innovative approaches to be a success.

15. The CFU's report *Coming in from the Cold*⁸ has set out the challenge of engaging owner occupiers in energy efficiency. This was reiterated by the *Homes for Scotland* comment about SEEP in their own evidence to parliament, "the main challenge for the Scottish Government will be in encouraging the 1.5 million homes in the owner occupiers sector to make a considerable investment in energy efficiency measures"⁹ yet the draft CCP makes almost no reference to energy efficiency in the owner occupied sector. The CFU is currently undertaking a substantial piece of consumer research in order to understand what balance between incentives and new regulation would be most likely to encourage home owners in Scotland to invest in improving the energy efficiency of their homes. We are planning to publish the results of that in the first half of this year.
16. The draft CCP sets tough ambitions on low carbon and renewable heating, with 80% of homes to be connected to low carbon heating systems by 2032. While we support this ambitious target we urge the Scottish Government to provide more clarity on how the target will be practically achieved. For reference, data from Ofgem show that up to October 2016 just under 10,000 domestic Renewable Heat Incentive (RHI) accredited installations have been done in Scotland¹⁰. Whilst this is seen as a success, the rate at which renewable heating systems are installed will need to increase substantially to meet targets.
17. There are a number of key issues which may affect consumers:
 - **The timescale of renewable heating targets.** The draft plan projects little progress on the decarbonisation of domestic heating until 2025, followed by a sudden increase over a 7 year period to the 80% target in 2032. We are concerned that the abrupt nature of this target could expose consumers to a shock in energy costs. If a substantial technical change were used to decarbonise the domestic heat network after 2025 (such as a change to a hydrogen gas network)¹¹, the Scottish Government must ensure that consumers are protected and the costs managed accordingly.
 - **Electrification of heating systems – fuel poverty alignment?** Low carbon (electric) heating is only likely to be successfully deployed where it is better and / or cheaper than the alternative, and there would need to be a very significant market shift for that to be the case for consumers using mains gas. Currently electricity is the most expensive fuel type and households with electric heating have the highest rates of fuel poverty in Scotland¹². While heat pumps offer an alternative to standard electric heating, these currently have high initial associated costs. Low income consumers are unlikely to be able to afford to pay for the widespread rollout of renewable heating systems in the residential sector, and it would not be realistic to expect them to do so.
 - **District heating – a need for consumer protection.** The draft CCP sets out the need for district heating. While we support this technology in appropriate settings, as outlined by the Scottish Government's *Strategic Working Group on Fuel Poverty* there is currently a lack of

⁹ http://www.parliament.scot/S5_Local_Gov/Inquiries/20170202_RPP3_HomesScotland.pdf

¹⁰ <https://www.ofgem.gov.uk/publications-and-updates/domestic-renewable-heat-incentive-quarterly-report-issue-10>

¹¹ Draft Energy Strategy - <https://beta.gov.scot/publications/scottish-energy-strategy-future-energy-scotland/documents/00513324.pdf?inline=true>

¹² Scottish House Condition Survey 2015

statutory protection for consumers using district heating¹³. More generally, district heating schemes are run as supply monopolies, and therefore there is an additional need to protect consumers against overly high prices as there is generally no option to switch supplier or tariff. The risks involved with developing district heating systems, with the capital expenditure spread across a smaller number of people means that the cost of capital for such schemes is high¹⁴. The Scottish Government should ensure that consumers are not liable for these costs. The CFU is currently examining how to increase consumer protection in the heat market and will publish a report on this in the first half of 2017.

- **Electricity generation.** The draft CCP may not be giving Solar Photovoltaic (Solar PV) as much attention as it might deserve. 51,000 households have installed Solar PV¹⁵ in Scotland. As we outlined previously, this is five times the number that currently have renewable heating in Scotland.
- **Rebound effects.** The Jevons' Paradox, or "rebound effects", describes how actual energy savings following the installation of energy efficiency measures may be much lower than predicted by economic models. This is because some households, who may have been under-heating their homes, may take some of the energy efficiency gains as increased thermal comfort, rather than reducing their energy use. A recent literature review in the CFU's¹⁶ *Taking the Temperature* report summarised a study of household energy efficiency behaviours in 39 European countries, which calculated an average rebound effect of 35.4% for the UK. This was consistent with other nations that have undertaken extensive energy efficiency refurbishment programmes. While the draft CCP acknowledges this possibility, it is not fully explored.

Consumer engagement issues for reducing energy demand

18. The modelling underpinning the draft CCP has been successful at identifying the share in discrete policy envelopes the total decarbonisation effort at the lowest cost. However, it fails to allocate specific emission reductions attributable to each policy or proposal and it fails to adequately account for the role of consumer behaviour in meeting the targets. Because the modelling underpinning the draft plan has not been able to recommend the actions to be taken by individual actors, there are obvious risks associated with an over-dependence on consumer behaviour.
19. As highlighted in the draft CCP, demand side response (DSR), whereby customers are incentivised to lower or shift their energy use at peak times, and flexibility in the electricity sector, will be an important component of decarbonising. Previous research for the Citizens Advice Service has highlighted some of the likely difficulties of DSR and getting consumers to engage with such processes¹⁷, which should not be underestimated. In addition, the role of DSR with the increased use of electric heating may also be limited given the unpredictability of heating demand.

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¹³ Strategic Working Group On Fuel Poverty- Final Report October 2016

¹⁴ Draft Energy Strategy 2017

¹⁵ Sub-regional Feed-in Tariffs statistics Dec 2016- <https://www.gov.uk/government/statistical-data-sets/sub-regional-feed-in-tariffs-confirmed-on-the-cfr-statistics>

¹⁶ Taking the Temperature - <http://www.cas.org.uk/publications/taking-temperature>

¹⁷ Take a walk on the demand side - <https://tinyurl.com/ne97ddz>