1. Calor Scotland welcomes this opportunity to respond to the Economy, Jobs and Fair Work Committee’s inquiry into the Scottish Government’s Draft Climate Change Plan RPP3 and Draft Energy Strategy.

2. We have focused our response on the following critical areas, which while reflected in the Draft Climate Change Plan and the Draft Energy Strategy, require greater prominence and focus:
   a. the overall impact (or lack of) of national energy and energy efficiency policies targeted at rural off-gas grid home owners and businesses
   b. future regulation of private sector homes and how this is applied equitably in rural off-gas grid areas
   c. how the assessment of energy efficiency in rural off-gas grid buildings could be improved by reforming Scottish Energy Performance Certificates (EPCs)
   d. how a future Energy Company Obligation (ECO) in Scotland could better benefit rural off-gas grid homeowners
   e. cost-effective measures Scottish Government could take to decarbonise rural off-gas grid Scotland.

Rural off-gas grid Scotland

3. Approximately 200,000 homes in Scotland are rural off-gas grid. Calor operates within this off-gas grid market supplying bulk and cylinder LPG to homes and businesses across Scotland giving the company unique insights into rural energy, energy efficiency, housing and emerging renewable technologies.

4. Successive UK and Scottish government energy and energy efficiency policies have paid scant attention to rural off-gas grid communities. UK government policy has focused on the Renewable Heat Incentive that has only provided the option of expensive replacement renewable heating systems which are out of the reach of the majority of off-gas grid consumers. The Scottish Government’s former Heat Policy Statement ‘heat hierarchy’ placed too much emphasis on the future role of electricity and technologies such as heat pumps. Various authoritative studies from organisations such as the Energy Savings Trust have questioned the widespread application of these technologies as cost-effective and technical solutions in existing properties.

5. The Energy Company Obligation (ECO), in all its forms, systematically failed rural off-gas grid homes due to a combination of poor policy design and discretionary delivery by obligated suppliers. As such rural off-gas grid households continue to be least likely to receive help whilst experiencing the most severe levels of fuel poverty. From a lodged FOI request to Ofgem (who oversee the monitoring and reporting of ECO), the data to September 2015 shows that only 2% of rural off-grid homes where the main fuel type is heating oil or LPG received ECO
measures. The majority of these measures were for loft insulation, with only 0.07% of rural off-grid measures being for a new LPG boiler.

Reducing energy demand

*Regulation of energy efficiency in private homes (REEPS) must take rural realities into account*

6. The Draft Energy Strategy rightly takes a ‘whole-system’ approach to reviewing Scotland’s future energy requirements. This also takes into account energy reduction or energy efficiency as a core component. Previous Scottish Government policies have included a range of measures to improve the energy efficiency of Scotland’s existing building stock.

7. The Draft Climate Change Plan seeks two policy outcomes in relation to improvements to the fabric of Scotland’s domestic buildings which result in a 6% reduction in their heat demand by 2032. By 2032 80% of domestic buildings’ heat is to be supplied using low carbon heat technologies.

8. The Scottish Government is currently consulting on ‘Scotland Energy Efficiency Programme’ (SEEP) via the Energy Strategy. As part of this, the consultation points towards a future phased approach to ‘Regulations for Energy Efficiency in the Private Sector’ (REEPs). The Scottish Government was due to consult on REEPs in 2015 but the policy has been subject to successive delays; the consultation ‘Scotland’s Energy Efficiency Programme’, published with the Draft Energy Strategy, alludes to a future consultation on phased regulation at some point during 2017/18.

9. It is likely that these regulations will be enforced on point-of-sale i.e. homes will need to meet a certain Energy Performance Certificate (EPC) score before they can be sold. Unless the principles of financial sustainability and equitability are enshrined, there is the possibility that these regulations could disproportionately disadvantage rural home owners due to the current flawed design of Scottish EPCs in which off-gas grid properties will automatically receive a lower EPC rating than their on-grid counterparts.

10. For off-grid homes, this could be very expensive for the following reasons:

   a. The REEPs technical working group recognises the flaws with EPCs and is exploring the possibility that off-gas grid and hard-to-treat housing would require ‘variability’ in setting standards. However, it remains the case that it will be more expensive to retrofit hard-to-treat houses off-gas grid to achieve a higher grade than on-grid.

   b. REEPS could exacerbate the existing disadvantages experiences by rural homeowners. Access to the FIT is determined by a minimum EPC rating (D or higher), so in order to meet a future REEP standard, many rural homeowners will not have equitable access to funded incentive schemes in order to improve their property’s EPC rating. They have certainly been effectively excluded until now.
Scottish Government has an opportunity to reform EPCs

11. The Scottish Government’s Draft Energy Strategy alludes to stakeholder concern around EPC-based building assessments, particularly around modelled values and the fact that they do not favour low carbon heat. If future Scottish Government energy efficiency scheme use EPCs as a base for measurement, Calor asks the Scottish Government to review them as part of the Draft Energy Strategy consultation.

12. Calor Gas has been critical of the design of EPCs for well over a decade. As the principal “Energy Efficiency Rating” measure on the EPC is based on running costs (£s) and not units of energy (kWh). As such they are unreliable as a measure of “energy efficiency” in off-gas grid areas.

13. The current EPC system disadvantages off-grid properties as it grades houses by their notional cost of providing energy for heating and hot water per square metre in the form of bands from A (cheap to heat) to G (expensive to heat). As all energies used to heat properties in off-gas grid Britain (heating oil, electricity, solid fuel and LPG) are typically more expensive than natural gas then it follows that any buildings’ EPC will automatically score lower grades – typically at least one if not two grades lower i.e. an ‘F’ (rural) rather than a ‘D’ (urban). This has serious implications for the future treatment of rural property owners as EPC ratings prioritise activity under the Energy Company Obligation as well as to limit the availability of energy efficiency incentives and renewable technology incentives such as the FIT for solar PV. Many off gas grid rural properties were not able to access FITs on solar panels for this reason.

14. Furthermore, there is a clear relationship between SAP rating and falling fuel prices. Figure 1 below suggests that many off-grid homes have seen increases to EPC ratings – even when no material improvements to the environmental performance of the building have taken place due to low fuel prices.

Figure 1
Scotland can design a better Energy Company Obligation

15. The Scotland Act 2016 devolves power to the Scottish Parliament over domestic energy efficiency programmes. As such, Scottish ministers will now have the ability to redesign the ECO so that it better meets the needs of the Scottish energy consumer, particularly those off-gas grid.

16. The UK Government has recently extended the ECO for 18 months to September 2018. ECO previously included a rural safeguard within the Carbon Saving Communities Obligation (CSCO) which ensured a minimum level of delivery of measures to rural communities. Following consultation, the ECO extension will see CSCO scrapped and the rural safeguard moved to the Carbon Emissions Reduction Obligation (CERO). At least 15% of CERO must be delivered to rural locations (i.e. settlements with fewer than 10,000 inhabitants in Scotland). The UK Government has also mandated that during the ECO extension, a maximum number of 25,000 mains gas boilers will be allowed to be replaced in this 18 month window plus a target for obligated suppliers to focus insulation measures into rural areas under CERO.

17. The Scottish Government can improve the ECO scheme in Scotland in the following ways:

   a. Redefine the criteria for a rural settlement. Current definition is a rural settlement of <10,000 inhabitants. This is more market-town than rural village, especially in Scotland where rural conurbations tend to be smaller and more remote than elsewhere in the UK. Scotland’s current definition of accessible and remote rural is <3000 and a 30 min drive to a conurbation of >10,000. Any future Scottish ECO should take this into account.

   b. Require suppliers to replace a certain level of off-gas grid heating systems; heating oil and LPG boilers have been ignored by ECO suppliers since the scheme’s inception. Scotland, via its current HEEPS: ABS scheme include the replacement of LPG and heating oil boilers.

Incentivise a shift away from carbon intensive fuels in off-gas grid Scotland

18. The Scottish Government’s Draft Energy Strategy places significant emphasis on the role of electricity and future hydrogen technologies to decarbonise heat used for space heating and cooking. However, the Draft Energy Strategy does not pay significant attention to the decarbonisation of off-gas grid homes and businesses. Calor would like to draw the attention of the Committee to the plans under consultation by the Department for Business, Energy and Industrial Strategy (DBEIS) on Heat in Buildings.


20. Currently, oil dominates the off-gas grid domestic market, however LPG is a viable immediate alternative for off-grid properties and is around 20% less carbon intensive. This carbon reduction potential increases substantially as a result of the deployment of bioLPG which can be as much as 88% lower in carbon than fossil LPG (DECC, 2014). Additionally, using LPG does not require any changes
to consumer behaviour and the upfront capital costs are significantly less than an equivalent oil system. Furthermore, installing an LPG system now will allow users to take advantage of future innovations in green gas fuels as LPG systems can also run off fuels such as bioLPG. This makes LPG a better choice for the environment now and in the future.

21. To pull consumers towards cleaner choices, the government could actively promote alternative lower carbon fuels such as LPG and bioLPG. Firstly, the government could help overcome the often insurmountable hurdle of replacing an oil system by introducing a boiler/oil tank scrappage scheme. Replacing an oil system with any alternative requires the removal and replacement of not only a boiler, but also a tank and any residual fuel. Tank and fuel removal represents a significant cost to the end consumer. As this cost could deter any potential move away from oil, support could therefore allow more households to make the change to cleaner fuels. If the scheme was initiated in the spring, then the cost of removing any residual fuel will be minimised as fuel stocks should be at their lowest. Scrappage schemes, unlike the RHI, also have the additional benefit of being time limited, one-off payments which means that budget management is straightforward.

**Renewable heat – Development of Sustainable “Green Gas” solutions for Off Grid Rural Britain**

22. In Q2 2017, Calor will be bringing the first delivery of over 2,000 tonnes of bioLPG into the UK. This is equivalent to the average annual LPG demand for 2000 households. This is the first time that this innovative product will be available to UK customers and will be the first delivery of many. Calor recognises the importance of finding ways to reduce the carbon footprint of its primary product, LPG, and is therefore committing time and resource to finding additional ways of producing bioLPG at scale and in a sustainable manner.

23. BioLPG (also known as biopropane) deployment offers real opportunities for carbon reduction. BioLPG is molecularly identical to LPG, but it is derived from organic materials. This means that it is significantly less carbon intensive than LPG; in fact up to 88% less (dependent on feedstock) but can be used with no changes to LPG equipment. It is a true drop-in fuel, which customers can use with no additional capital expenditure or changes to equipment. There are currently approximately 171,000 British households using LPG boilers and these could all be easily switched to bioLPG. Overall, the switch to bioLPG offers a significant opportunity to decarbonise the off grid sector. It is estimated that the annual carbon emissions from the domestic LPG heating sector could be reduced by 83% through the introduction of bioLPG by 2025.

24. The Draft Energy Strategy points towards the exploration of new energy sources, including the development of biofuels such as bioLPG. There is an opportunity for the Scottish Government to support the development of indigenous production of bioLPG in Scotland, which would help its aims of decarbonising heat in harder to address, rural, off-gas grid areas.