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To: eemarket@beis.gov.uk

Creating a Market for Energy Efficiency

The BEIS call for evidence on creating a market for energy efficiency is to be welcomed. Energy efficiency has to be a vital part of a strategy for decarbonisation given that it can both reduce costs for users, making energy more affordable, and help tackle carbon emissions. It also has an important role in tackling fuel poverty and improving health and wellbeing among households who, while not technically fuel poor, may still be concerned about heating costs.

Until last year I was Senior Partner at Ofgem responsible for regulating the distribution networks, having previously overseen work on vulnerable customers, retail markets and smart metering. Since leaving Ofgem I have been working as an independent consultant as Director Grid Edge Policy. In that capacity I have provided regulatory advice to network companies as well as co-authoring a report for National Energy Action on heat de-carbonisation (“Heat Decarbonisation – Potential impacts on social equity and fuel poverty”) which includes some findings of direct relevance to this call for evidence. I am also a co-founder of Energised Projects in Scotland aimed at bringing energy policy to life by supporting innovative local energy projects that can help inform the wider policy debate. I am also an associate with Sustainability First a small charity working on sustainability in the energy and water sectors. This response represents my personal views not those of any of my clients or partners.

As the consultation acknowledges the uptake of energy efficiency cannot be seen as driven by purely financial considerations and needs to draw on wider evidence of consumer attitudes and experience which is largely missing from this call for evidence.

Street by street programmes can play a part in building awareness and support but this does not necessarily point to DNO involvement. The DNO benefits from energy efficiency are overstated and not linked to the greater challenges of thermal insulation (except in the case of electrically heated homes). DNOs have only a very limited customer facing role currently and hence this would be a significant step.

The fact that the cost of carbon is not reflected in gas prices means that the carbon reduction value from energy efficiency is not factored into customers’ assessment. At a time when affordability of energy prices is high on the agenda the imposition of a carbon tax would not be acceptable. However this does provide a rationale for ongoing government support for energy efficiency (ie to address the externality).

Finally, and linked to the need to bring the consumer perspective into the policy debate, is the issue of innovation and the potential role of thin insulation. Finding technical solutions to the practical constraints consumers face should be a priority. This points to research funding and also ensuring that current standards are not themselves a barrier (ie “the best being the enemy of the good”).

I have provided answers to groups of questions overleaf and would be happy to provide any further assistance that may be helpful.

Maxine Frerk

Director Grid Edge Policy

State of the Market (Q1-4)

The call for evidence asks about potential savings and target markets.

The NEA report mentioned above¹ included an assessment of the role that energy efficiency can play in heat decarbonisation. This forward look, acknowledging the wider uncertainty around the future of heat, is largely missing from the consultation. One key message from the analysis informing that report is the obvious point that the financial benefit of energy efficiency measures is greatest where the fuel costs are highest. In the future context this means that the financial case for energy efficiency is strongest for electrically heated properties and weakest for district heating. In some cases, such as with heat pumps, thermal efficiency is necessary to provide adequate standards of comfort.

Applying this insight to the current market would point to the fact that energy efficiency measures are likely to have the strongest case for homes off the gas grid and utilising more expensive fuels.

By contrast for some smaller properties with low usage there may be less of a financial case.

Barriers to market growth (q5-9)

The consultation also acknowledges the important message that the barriers to energy efficiency are not simply financial and looks to draw on behavioural science and identify trigger points for when consumers are most likely to take up measures. However, the consultation still lacks a real consumer perspective and BEIS would do well to engage in consumer research (or draw on existing research²) to ensure that it properly understands the barriers to take up. Given that hassle and inconvenience are likely to feature high in customers' minds BEIS needs to be clear whether it has a role in addressing these.

The evidence from ECO is that services like loft clearance can help with take-up of loft insulation. This could become a commercial service but those providing insulation may not be the obvious players who could be trusted to do this.

More directly within government's control is a question, which BEIS allude to, and is returned to later, of whether the building standards themselves could be a barrier to the take-up of internal cladding.

Rather than just looking at "international" experience it would be worth BEIS ensuring it understands the arrangements in Scotland where energy efficiency is seen as an infrastructure priority. A local approach is encouraged through the involvement of local authorities and stronger support for local energy projects. From my experience working on the smart Fintry project and as part of Energised Solutions, it is clear that local community champions can play a valuable role in helping promote uptake of energy efficiency.

¹ <http://www.nea.org.uk/wp-content/uploads/2017/09/Heat-Decarbonisation-Report-2017.pdf>

² For example the Citizens Advice Research
<https://www.citizensadvice.org.uk/Global/CitizensAdvice/Energy/Driving%20Installation%20of%20Energy%20Efficiency%20Measures-%20Customer%20Research%20Findings.pdf>

Proposed approach (q10-11)

The principles set out are sensible but it is worth noting that despite the acknowledgement of the need for a wider focus beyond financial barriers, the demand side actions proposed concentrate on financing and price signals which history has shown are not enough.

Financing (q12-18)

No further comment

Price signals (q19-22)

The section on price signals creates a worrying prospect of households in thermally inefficient properties paying a surcharge to subsidise those living in energy efficient homes. As noted this has the potential to penalise those living in fuel poverty. Before launching any sort of field trial BEIS should at least carry out the analysis using NEED and other data to identify what the distributional impacts of such a policy might be.

Moreover customers do already face a price signal through the cost of the energy they use but for the reasons set out in the consultation (eg on how consumers under-value long term savings) this is not the main driver.

Having said that there is an issue that in identifying the range of potential beneficiaries from energy efficiency the carbon savings are mentioned but (unlike for DNO or health benefits) no attempt is made to consider how to monetise those savings.

Again the NEA report explores the fact that there is currently not a carbon price included in domestic gas prices. This has the potential to distort the choices between gas and low carbon heat solutions but also means that the full social benefits of energy efficiency are not reflected in the savings. As set out in the NEA report the absence of a carbon price would be a reason for providing an enduring subsidy to energy efficiency. While I would be wary of advocating a carbon price given the prevailing concerns about the affordability of energy there is scope to think more creatively about ideas such as rising block tariffs. However it is important that this is linked to total gas usage not simply the energy efficiency rating of the property. Someone living in a large moderately efficient house should face a price signal as strong (or stronger) than someone in a small poorly insulated property if such a scheme is to be seen as fair and to have any economic justification.

Improving awareness (q23-26)

No further comment

Involving players with potential to derive value (q27-34)

As noted above one of the key benefits from energy efficiency is the carbon savings which are not currently valued in the cost of gas and would provide a justification for ongoing government support for energy efficiency measures.

The role of DNOs

The consultation raises some interesting questions about the potential role of DNOs in delivering energy efficiency but includes some muddled thinking.

The idea of involving DNOs is presented in the first instance as being linked to the benefits that they secure in terms of avoided investment. While there are potential benefits the consultation fails to draw out the limited extent of such benefits:

- Most of the consultation is focussed on insulation measures. Insulation will only benefit the DNO if the home is electrically heated (around 2 million homes – under 10%).
- The DNO will only benefit from energy efficiency measures if it is in an area where it is currently facing constraints. These tend to be in very localised areas.
- The case study presented of ENW is encouraging but focuses on lighting and appliance use not insulation.

Thus, while there are instances where the DNO has an interest in energy efficiency, the opportunities are relatively limited and the DNOs are already incentivised to pursue such opportunities by the RIIO framework which drives them to seek out the lowest cost solutions (whether traditional network investment or alternative solutions). The fact that there are wider benefits (such as generation cost savings) is not an issue as energy cost savings will benefit consumers.

DNOs do also have additional incentives in terms of vulnerable customer and stakeholder engagement discretionary rewards which provide an additional incentive on them to look at solutions that target such customers, as well as specific innovation funding (which was the driver for eg UKPN's Energywise helping promote energy efficiency among those in fuel poverty).

Looking to the longer term, and depending what role electrification of heat plays in heat decarbonisation, the benefits to DNOs are likely to grow and incentives may well be needed to ensure they play their part in that process while minimising costs. However significant steps towards decarbonisation are likely to be beyond RIIO2.

For RIIO2 Ofgem will be considering how best to evolve the current discretionary reward schemes and some sort of scheme incentivising carbon reduction (both direct savings and those facilitated through for example the connection of low carbon generation) would have merit and would incentivise them to play their part in driving energy efficiency.

While the DNO direct interest in energy efficiency is limited as set out above, the consultation also presents an argument for DNOs taking on a wider delivery based on the idea that they could carry out street-by-street programmes reflecting their regional coverage and have access to lower cost capital with a longer time frame associated.

The consultation cites Denmark and Italy as examples where this approach has been adopted. It should be noted however that in the Denmark context the report that is referenced talks about the Denmark Utility having consumer contact as being a reason for going down that path. DNOs in GB do not have a day-to-day customer facing capability (unlike in other countries where they are responsible for metering and meter reading for example). In practice therefore the DNOs would simply be sub-contracting others to do this work on their behalf in the same way as generators have done under ECO.

Clearly there is scope for requiring the DNOs to take this on and they could be set obligations akin to those imposed on suppliers and generators. However the lessons should be learned from past energy efficiency programmes and BEIS should be clear that customers would still be picking up the costs of such schemes through energy bills.

Viewed through that lens there would be at least as much logic in placing the obligation on gas DNs as on DNOs. Gas DNs are strongly focussed on the challenges of heat decarbonisation and the idea of a carbon reduction incentive could apply equally to GDNs (including to encourage connection of low carbon gas). The main disadvantage of putting an obligation on gas DNs would be that it could only relate to properties on the gas network whereas, as noted above, the greatest financial benefits accrue where the fuel costs are highest which is typically in off grid areas.

Innovative products (q35-37)

As noted above one of the established barriers to customers taking up energy efficiency measures is either the hassle or the aesthetic impact. In particular for internal wall insulation (for solid wall properties) the resultant loss of space is major consideration. As well as reducing the room size thicker cladding also requires the involvement of additional skilled tradesmen to move sockets and radiators. In contrast thin insulation has the potential as a solution that could readily be installed in the same way as wallpaper.

While it is understandable that building standards are set to achieve a high level of thermal efficiency, it is important that the best does not become the enemy of the good, in particular given the major challenge that solid wall properties present.

Consumer research is critical to understanding the extent to which this is a barrier. While standards have been useful in driving uptake of high efficiency versions of products that people want (eg in the consumer electronics space) it can be a barrier if it tips people against doing otherwise worthwhile but technically imperfect projects.

The consultation makes clear that there is no possibility of reducing building standards. However there is an exception where the standards are not technically, economically or practically feasible. Subject to consumer feedback this could be used to provide exceptions where eg internal cladding to the required standard would reduce the room size by more than a certain % or would entail costly consequential work. Providing clarity on how such exceptions could be justified would help unlock that part of the market.

In parallel government should look at how it can promote the research and development that would lead to the development of materials that could provide high thermal efficiency while addressing consumer concerns around practicality. In the absence of consumer “pull” for such products government support is likely to be needed to help drive such innovation. Significant innovation funding is provided for the sexier topics of storage and smart systems. Some investment in materials technology that could help with energy efficiency would surely be equally worthwhile

Improving Data (q38-39)

The consultation rightly highlights the potential value of smart meter data to help make this market work but notes the need to respect consumer privacy. As the Sustainability First response notes there are some significant issues around access to smart meter data for public interest purposes which Sustainability First is working with CSE to explore.

Supply chain (q40-42)

No further comment