Department for Business, Energy & Industrial Strategy: Consultation on the Fuel Poverty Strategy for England

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Consultation response from the

Centre for Competition Policy

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CCP Response to 'Consultation on the Fuel Poverty Strategy for England'

We welcome the opportunity to comment on the BEIS's proposals regarding the Fuel Poverty (FP) strategy for England and possible changes to the definition of FP. In general, we respond only to those questions where we have academic evidence to present. Throughout this response we have flagged evidence and discussions around fuel poverty including those discussed in Deller and Waddams Price (2018a). This report summarisies the results of a multi-year and multi-disciplinary research project looking at equity and justice in the UK energy market, which formed part of the UK Energy Research Centre's (UKERC) research programme.

Question 1: Do you agree with the Government's proposal to update the fuel poverty metric to Low Income Low Energy Efficiency? If not, which metric would you prefer and why?

Before thinking about the specific metric the government should use to measure FP it seems important to address the general framework for investigating and assessing FP. As pg 15-20 of the consultation document indicates the government is currently considering the third statistical definition of FP in 20 years and the Scottish government has an alternative definition of FP. This frequency of change creates practical problems for non-government organisations trying to tackle FP and, more fundamentally, potentially indicates problems with the government's conception of how FP statistics should be incorporated into policymaking.

First, the practical challenge: as explained in Deller and Waddams Price (2018a)[1], interviews by Elizabeth Errington identified that organisations such as charities have limited resources to: (i) engage with policymaking processes to influence their direction and (ii) to adapt to policy changes. As a result, frequent changes to policy make it harder for small organisations to provide effective FP support. Also, for support organisations covering the whole UK there would be advantages to having a common FP definition across the UK.

Issues with the Current Fuel Poverty Measurement Framework

As discussed by Deller (2018), the central issue creating the perceived problems with England's official FP metric, and the interest in repeatedly changing the official FP metric, is the belief that the official FP metric should both: (i) measure the extent and nature of FP, and (ii) be used to assess the effectiveness of FP policies. Deller (2018) argues that focusing on a single statistical metric to perform both these functions is an error. Instead, assessing the size of the FP problem and evaluating the success or failure of individual policies should be treated as separate exercises.

While having a single statistic for both purposes might appear intuitively sensible it has a number of significant issues:

1. No single statistic is perfect - all statistics only provide a picture of an underlying phenomenon and are likely to embody assumptions and/or value judgements. Linking policy interventions to particular statistical definitions risks policy being distorted by the details of the statistics rather than having policy led by the needs of households on the ground

2. Linking movements in high-level macro statistics to particular policy interventions is intrinsically difficult. There are two concerns:

[1] See pg 42-43

(a) The size of the policy intervention often needs to be very large before a headline statistic will move. This is illustrated in simulations by Deller (2018)[2] on how the proportion of households with energy expenditure exceeding 10% of total expenditure is relatively insensitive to substantial monetary transfers.

(b) There is no particular reason why a movement in a headline statistic should be caused by a policy intervention (or a lack of intervention). This is the fundamental distinction between correlation and causation. For example, the rise in 10% FP rate between 2004-05 and 2009 was largely driven by rising energy prices, in other words, the size of the FP 'problem' increased, but this does not necessarily imply that the FP interventions being performed at the time were failures in terms of the benefits they delivered. Establishing convincing causation, as opposed to merely correlation, is a fundamental challenge in the social sciences which has spawned a voluminous and complex statistical literature on impact evaluation.

3. Policy may focus on improving the 'picture' of FP rather than on improving the lives of those in most need – As discussed in Deller (2018)[3] with headcount indicators of FP (or general poverty) a cynical policymaker could be tempted to direct resources at those households closest to the FP threshold to reduce the headline rate of FP by the largest amount; however, it is households in the deepest FP, a long way from the threshold, who are likely to be in most need.

4. There could be a temptation to alter statistical definitions when a statistic gives a picture of FP that is inconvenient to policymakers – If a policy emphasis is placed on statistical metrics and movements in them, when statistics move in the 'wrong direction' rather than policies being improved, it may be that the statistical metric comes to be viewed as 'wrong' and requiring adjustment.

That the number of people in 10% FP responds to energy price fluctuations is not a problem with the 10% statistic as an indicator of the prevalence of FP, indeed, it is a benefit: it is common sense that as energy prices rise more people will struggle to afford energy services in their home. The problem only occurs when it is assumed that movements in the 10% FP indicator can be used to evaluate the effectiveness of policy interventions.

To be clear, we have no evidence of any deliberate attempt to alter the statistical definitions of FP for political gain.

The Low Income Low Energy Efficiency (LILEE) metric

The key issue to note with the LILEE metric and the 2015 FP target "to ensure that as many fuel poor homes as is reasonably practicable achieve a minimum energy efficiency rating of Band C, by 2030"[4] is the primary focus on energy efficiency rather than the actual living conditions of households. In one sense the LILEE metric should be commended in that its title is open about the heavy policy emphasis placed on energy efficiency and the modelling around this, however, we make two significant comments.

First, talking about a 'FP strategy' may become a misnomer: the main policy is to increase the energy efficiency of the housing stock and to skew this policy towards those on low incomes who live in the least energy efficient homes. Such a policy is perfectly sensible (assuming the benefits exceed the costs), but it likely only addresses a portion of those in deprivation related to an inability to afford warmth in the home (or other energy services). Retaining the title of FP, but focusing the

[2] See section 5.3
[3] See section 6.1
[4] See HM Government (2015)

measurement of FP heavily on energy efficiency risks increasing the gap between the government's understanding of FP and intuitive understandings of FP as being about energy related deprivation. Households in energy efficient properties, particularly those in social housing, may nevertheless struggle to afford energy due to their low income as highlighted by the work of Tom Hargreaves and Noel Longhurst discussed in Deller and Waddams Price (2018a)[5]. Yet these households will not be identified as FP according to either the LIHC or LILEE metrics. Ultimately, it could be that FP is declared eliminated according to the LILEE metric, while many households continue to struggle to afford energy services in the home.

Second, as with the earlier official FP statistics, there is heavy reliance on the modelling of households' 'required' energy costs, a process that involves a significant number of technical and behavioural assumptions. While this appears to have the benefit of including those who may ration their energy use because of their financial position, it inevitably means that, at the individual household level, there may be discrepancies between modelled energy expenditures and actual energy expenditures. The potential for these types of differences is discussed in Deller and Waddams Price (2018a)[6]. Any issues with the energy efficiency modelling are likely to be translated into issues with the FP statistics. While modelling energy efficiency and the energy costs of households is a useful exercise, there should be continuing efforts to explore differences between actual and modelled energy costs as these differences are likely to vary through time. The differences are likely to vary as households respond to energy price fluctuations by adjusting the quantity of energy they consume.[7]

Also, as has long been recognised, basing official FP statistics on detailed property surveys means it can be difficult to identify households meeting the official FP definition when implementing policies on the ground.

An alternative approach

As discussed above, we suggest that gathering evidence on the scale and nature of FP should be separated from the processes of: (i) deciding the quantity of resources to devote to FP alleviation and (ii) evaluating the effectiveness of FP alleviation policies. As outlined in Deller (2018), there is unlikely to be a single perfect statistical indicator of FP, instead it is valuable to look at a range of indicators and 'triangulate' this evidence to maximise understanding regarding the nuances of FP. While we recognise that for government the Warm Homes and Energy Conservation Act 2000 specifies FP as being about households on low income with unreasonably high heating costs, from an academic perspective Deller and Waddams Price (2018a) suggest it may be better to view FP as an umbrella term to cover a range of real world phenomenon where attempts are made to measure these phenomena directly. For example, if a fundamental concern is that vulnerable individuals are living in the cold, the greatest understanding would be gained from efforts to directly assess household temperatures and vulnerable households' temperature preferences.

If a range of evidence is considered, the precise definition of FP becomes less contentious as it no longer mechanically drives the implementation of policies and, in turn, which households do or do not receive support. As part of the overall evidence gathering process, calculating an expenditure based FP metric is perfectly reasonable. One addressing the issues of both the 10% and LIHC definitions would be to look at the percentage of households that have energy expenditures exceeding 10% of income and have income lying below 60% of median income. Such a FP metric would be responsive

[5] See pg66.
[6] See pg62-64 and pg77-78
[7] That the relationship between FP statistics based on actual and modelled energy expenditures varies over time is illustrated by Figure 3, pg78, Chapter 6 in Deller and Waddams (2018a).

to energy price fluctuations while ruling out high income households from being classified as FP. This proposed indicator could be calculated using both modelled energy expenditure (using data from the English Housing Survey) and reported energy expenditure (using data from the Living Costs and Food Survey).

Based on such a range of evidence government, citizens and non-government organisations could then engage in inherently political discussions around the quantity of resources to allocate to FP alleviation and whether specific groups of households should be particularly supported. Once these decisions have been taken, an implementation phase could explore how to target households on the ground. Identifying individual households to receive interventions is always likely to be tricky in the absence of detailed information on every household/property in the country. By framing FP in terms of observable real world situations[8], as opposed to measuring FP solely in terms of detailed expenditure or engineering data, it may at least reduce the challenge of identifying FP households 'on the doorstep'.

The last stage would be to assess the effectiveness of interventions in terms of the welfare gain achieved by households against the costs of intervention. This stage is critical in developing the policy to ensure that the maximum benefit results from the resources available to tackle FP alleviation. Here the policy assessment is on the benefit achieved relative to the resources devoted to FP alleviation rather than on whether sufficient resources have been allocated to FP alleviation to 'solve' the issue of FP. As Deller (2018) notes, such assessments are not necessarily straightforward, with a key issue being establishing the appropriate counterfactual (the situation if interventions had not occurred)[9]. If the central purpose of FP policy is the relief of deprivation it is household welfare improvements, rather than energy efficiency ratings, that should be central to the assessment process. There should be efforts to explicitly measure the energy bill savings and any increase in indoor temperatures[10] achieved by households receiving interventions to allow judgements about whether particular interventions are more or less cost-effective. Subsequently adapting policy in the direction of the more effective interventions should maximise the real world benefits FP policy achieves for households.

Question 4: Do you have views or evidence on our proposal to add more detail on, and clarify, the meaning of the 'Worst First' principle, including the considerations raised above?

Given the points raised in Deller (2018) about the potentially problematic policymaking incentives related to headcount FP indicators and targeting households close to the FP threshold, this seems like a sensible principle. Also, given that visiting a household represents a 'fixed cost', the consultation's suggestion of maximising the impact of any house visit by delivering multiple interventions at the same time also appears something worth exploring further.

Question 5: Do you have views or evidence on our proposal to add more detail on, and clarify, the meaning of the cost effectiveness principle, including the considerations raised above?

In general terms it is important to consider cost-effectiveness in the design of any policy. However, there seem to be a number of potential issues with the way the cost-effectiveness principle is described in the consultation document. First, there could be more explicit recognition of how the

[8] This might take the form of self-reported lived experience indicators as discussed in section 6.2 of Deller (2018). For example, a question might be: "Last winter were you forced to keep your home colder than you would like due to financial pressures".

[9] Randomised control trials are one possible approach for doing this.

[10] The well-known 'rebound effect' means that when a property becomes cheaper to heat a household will likely choose a somewhat higher indoor temperature rather than just leaving the indoor temperature unchanged to maximise the reduction in their energy bills.

trade-offs should be made between the cost-effectiveness principle and other principles. For example, how does the 'Worst First' principle work if households in the worst FP require particularly costly interventions? The consultation document seems to imply the 'Worst First' principle dominates, but this is not entirely clear.

Second, cost effectiveness appears to be framed almost entirely in terms of the energy efficiency rating achieved. It needs to be remembered that energy efficiency ratings for homes are only an intermediate objective: the final objective is improving the welfare of householders (and potentially reducing carbon emissions). As discussed above, energy efficiency ratings are themselves the result of a modelling process and so while one hopes improved energy efficiency ratings result in improved household welfare this assumption should be continually tested. The key objective of the cost effectiveness principle should be about maximising the improvements in household welfare achieved for the expenditure incurred.

Question 7: Do you agree with our proposal to create a fourth principle on aligning fuel poverty strategy with current and future Government priorities? Do you have views or evidence that may be useful in creating this principle?

While there may be some sense in ensuring FP policy and other parts of the government's agenda do not operate at cross purposes to each other, this principle again seems to shift the focus of FP policy further away from alleviating household deprivation (poverty) to improving the energy efficiency of the housing stock in order to tackle climate change. While energy efficiency measures do offer the potential to both reduce energy bills and emissions, it is wrong to believe that an 'optimal' policy to minimise total energy consumption across households (i.e. to maximise emission reductions) will look the same as an 'optimal' policy designed to minimise the number of households that struggle to afford energy services.

The work of Michael Harker and David Reader in relation to the evolving statutory duties of the gas regulator over time, as described in Deller and Waddams Price (2018a)[11], stresses the importance of government recognising that trade-offs exist between different policy objectives. For effective policy design and implementation it is valuable for government to be explicit in how different objectives should be prioritised.

Question 24: What commitments, whether new or retained from the 2015 strategy, might supplement the policy plan in the updated strategy to improve the evidence base on fuel poverty?

In terms of improving the evidence base on FP, four priority areas are detailed below. We stress that in a world where energy prices can fluctuate significantly through time, it is valuable to repeat these research exercises at frequent intervals, or at least repeat them whenever a substantial energy price increase/decrease has occurred. Household behaviour is likely to vary (potentially significantly) between periods of high and low energy prices. Also, the larger the quantity of resources allocated FP alleviation the more valuable it is to support to evidence gathering as a greater quantity of resources is at risk of being poorly allocated.

Our proposed priority areas are:

1. Ongoing evaluations of the effectiveness (particularly cost-effectiveness) of interventions designed to alleviate FP – As discussed above, these are essential to ensure that the maximum benefit for FP households is achieved with the resources available for FP alleviation.

[11] See pg35-40

2. Obtain more data on temperatures achieved in dwellings and the temperature preferences of their occupiers – Official FP statistics are based on models of the required energy to heat a home to a specified temperature and the potential cost savings delivered by energy efficiency interventions depend critically on the indoor temperatures a household seeks before and after intervention. Hence, indoor temperatures are a fundamental in FP measurement and policy, yet, there currently appears to be limited data on household temperatures and, crucially, the temperatures that households would like to obtain. Some households may prefer cooler temperatures than those assumed in models of heating costs and, where this is the case, models of energy efficiency interventions may over-estimate the financial savings these households may achieve. While gaining indoor temperature data may be challenging, new technologies, such as smart thermostats, may offer new opportunities to gain in-home temperature data on a large scale.

Deller and Waddams Price (2018a)[12] detail how there is only a limited overlap between expenditure-based indicators of FP and indicators recording households' perceptions of their ability to afford warmth in the home. This builds on earlier work by Waddams Price, Brazier and Wang (2012). However, without detailed information on the household temperatures achieved and householders' temperature preferences, it is difficult to draw robust conclusions on what drives the differences between indicators.

3. Identify, agree on and then track real world situations in everyday life that are judged to constitute FP - A central issue with the current statistical definitions of FP is that in a sense they are rather abstract: they are based on detailed data collected in surveys which are not embedded in householders' everyday lives. This creates two issues: (i) it is difficult for householders to self-identify as meeting the FP definitions, and (ii) there is a degree of uncertainty about what the statistics imply for householders in real life. Deller (2018)[13] suggests that carefully worded questions specifying real world situations considered problematic may help address this issue and embed the meaning of FP used by policymakers in the lived experience of households. To be useful the situations considered should be easily understood, precisely defined, directly linked to energy, refer to a specified time period and, if possible, independently verifiable. Verifiability can be useful because it opens up the possibility of research identifying potential 'reporting biases' across different types of households. An example of a question meeting these criteria would be: In the last twelve months, has your electricity or gas supply been disconnected for the non-payment of bills?'

Straightforward questions like the one above not only potentially allow self-identification by households, their simple nature also enables them to be easily inserted into pre-existing surveys.

4. View discrepancies between FP indicators as an opportunity for further investigation and insight – That different indicators potentially give different pictures of FP should not be seen as problem, rather they provide additional detail on the complexities and nuances of FP. Where possible, surveys would ideally allow the production of alternative FP indicators for the same individual household. In particular, it would be useful for the English Housing Survey to routinely gather information on households' energy expenditures so that modelled and reported energy expenditures could be compared on an ongoing basis.

[12] See pg 79-83

[13] See section 6.2

Question 26: Do you have any further views or evidence on how the 2015 fuel poverty strategy should be updated?

Throughout this response we have flagged a number of pieces of evidence relevant to discussions of FP. Here we highlight some additional evidence discussed in Deller and Waddams Price (2018a), a report summarising the results of a multi-year and multi-disciplinary research project looking at equity and justice in the UK energy market, which formed part of the UK Energy Research Centre's (UKERC) research programme.

Key additional pieces of evidence are:

1. Data from the British Household Panel Survey (BHPS) supports the evidence on pg 17 of the consultation document that there is significant movement into and out of fuel poverty between years.[14] This finding is consistent across a range of perception- and expenditure-based indicators. Such evidence, if taken at face value, raises questions about whether energy efficiency interventions are always the best way to tackle FP-related deprivation. If a households is only temporarily in FP, it may be simpler and/or cheaper to provide a temporary cash transfer to the household than to permanently upgrade the energy efficiency of their dwelling. Although, of course, such an alternative approach would not generate the longer term benefits to households (and the environment) that improved energy efficiency can potentially deliver.

2. The introduction of the Winter Fuel Payment represented a shift in the balance of resources devoted to addressing energy affordability/FP towards older households compared to households on low income. Households aged 65-70 devote a similar proportion of their household expenditure to energy as households in the upper-middle of the income distribution.[15] In other words, one may question whether these younger pensioner households are more deserving of financial support than those towards the bottom of the income distribution. Alternatively, one needs to demonstrate that the health consequences of not being able to afford energy more severe for households aged 65-70 than for low income households.

3. Data from the BHPS indicates that around a third of households reporting an inability to keep their home adequately warm do not attribute this to an inability to afford adequate warmth. Similarly, the majority of households who report that their dwelling lacks adequate heating facilities nevertheless report that they can keep their home adequately warm.[16] This suggests ensuring households can access and control heat in their home is an issue that extends beyond merely the cost of energy.

4. Prior to 2013 there appears to be a significant missing data issue for energy expenditures in the Living Costs and Food Survey and its precursors which relates specifically to households who pay for energy via a pre-payment meter.[17] This data issue is important as it potentially explains why some previous research found that energy expenditures reported by households are noticeably below modelled energy expenditures.[18] This is significant as these earlier studies could be wrongly interpreted as showing a high prevalence of 'under-heating' among low income households.

[14] See pg 67-69, Deller and Waddams Price (2018a)
[15] See pg 28-30, Deller and Waddams Price (2018a) and sections 4.2 and 5.2 of Deller and Waddams Price (2018b)
[16] See pg 61, Deller and Waddams Price (2018a)
[17] See pg 74-77, Deller and Waddams Price (2018a) and sections 3.1 and 3.2 of Deller and Waddams Price (2018b).
[18] For example, Hirsch, D., I. Preston, and V. White (2011), 'Understanding fuel expenditure: Fuel poverty and spending on fuel', Centre for Sustainable Energy, Bristol, United Kingdom, available at:

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