

# **IDEAL ECONOMICS**

# **Submission to Call for Evidence: Cost of Energy Review**

**by**

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This submission relates only to Electricity Supply. The questions posed in the Call for Evidence that I have answered are shown underlined and in bold.

Note that documents cited in footnotes more than once are referred to by a shortened title shown in bold in the first mention.

**Abbreviations used in this paper:-**

CMA: Competition and Markets Authority.

PPM: Pre-payment meter.

SME: Small and medium-sized enterprise.

SVT: Standard variable tariff.

TDCV: Typical Domestic Consumption Values.

VAT: Value added tax.

## Electricity Supply

### Taking into account the findings and recommendations of the Helm Review:

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### - What matters should the Government take into account in considering the longer-term operation of the retail market?

#### Effect on competition

1. The Review claimed that the 'default tariff'<sup>1</sup> it advocated would boost competition<sup>2</sup>. However, it didn't explain how it addresses the factors identified in the Competition and Markets Authority (CMA)'s Energy Market Investigation as restricting competition, notably inactive consumers failing to engage in the market effectively and select good value tariffs<sup>3</sup>.
2. The Review recommended this tariff for the standard variable tariff (SVT) price cap the Government is proposing. However, such a price cap (even if specified in terms of margin rather than price) is liable to forestall effective competition by causing:-
  - Diminished customer engagement by reducing the gain from switching supplier or tariff<sup>4,5</sup>. Given the persistence of switching habits, this effect might continue after the price cap was withdrawn.

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<sup>1</sup> Suppliers would be obliged to offer this. However, it isn't entirely clear whether the Review intends that suppliers would be obliged to move customers who don't select another tariff on to this one rather than being able to provide a default tariff of their own devising for those customers. If they were so obliged, while they would "remain free to offer any other tariff they wished" (p.206) such tariffs offered to customers who were making a choice of tariff would be unlikely to be more expensive so the proposed 'default tariff' would become a de facto SVT price cap (albeit stated in terms of margin rather than price). If this was not the case, the proposed default tariff would become just another tariff that (presumably) offered better value than suppliers' SVTs unless it was chosen as the basis of the proposed SVT cap.

<sup>2</sup> The Review says "By focusing on any fat margins that exist, the default tariff will accelerate, not impede, the development of competition. In a competitive market, margins (and the prices of supply) will converge on the competitive margins and prices. There will be no incentive to increase margins." (P.164). However, it is not currently a competitive market and it is unclear how the default tariff would hasten it to the extent that suppliers would discard their incentive to increase margins.

<sup>3</sup> *Energy market investigation Final report* (June 2016) Competition and Markets Authority (hereafter referred to as '**CMA Final report**') (<https://assets.publishing.service.gov.uk/media/5773de34e5274a0da3000113/final-report-energy-market-investigation.pdf>) paragraph 9.562.

<sup>4</sup> CMA Final report paragraphs 14.400-14.404.

<sup>5</sup> Research shows that the level of switching depends on the potential savings from doing so. Both the CMA and Ofgem have used survey evidence to estimate the amounts consumers need to save in order for switching to be deemed worthwhile. The CMA survey found the minimum savings needed to encourage respondents to switch supplier had a median of £120 and a mean of £204 as some customers responded with very large amounts (CMA Final report Appendix 9.1 Table 12 and paragraph 120 p.38). The Ofgem survey report found that consumers feel they need to save, on average, just under £300 per year to make it worth changing their supplier or tariff. *Consumer engagement in the energy market since the Retail Market Review - 2016 Survey Findings (Report prepared for Ofgem)* (August 2016) Ofgem (hereafter called '**Ofgem survey report**'). (<https://www.ofgem.gov.uk/publications-and->

- Reduced competition between suppliers to attract customers who are protected by a cap, with a risk that a price cap forms a focal point to which suppliers raise their cheaper tariffs<sup>6</sup>.
2. Thus many customers' bills are likely to increase following imposition of a cap. It is important that any protection is targeted at just those who need it.
  3. A cap would also damage 'green' suppliers (e.g. Ecotricity and Good Energy), who are key challenger firms. Their business models are based on pricing near to SVT levels to fund renewable energy development. The draft legislation for the SVT cap excludes them but the cap would nevertheless lead to reductions in their market shares if it undercut them. This would have implications for renewable energy development and carbon emissions.
  4. A cap defined in terms of suppliers' margin on endogenous costs could have other unintended consequences too, for example loosening suppliers' incentive to cut costs.

### **Allocation of "fixed system costs"**

5. The Review left it to the Government to decide how the "fixed system costs" outside suppliers' control should be allocated "between the customer classes"<sup>7</sup>. These costs included the "legacy costs" of subsidies that have supported the development of low carbon electricity<sup>8</sup>. The allocation would determine how the level of the default tariff varied across different households and businesses.
6. The Review listed<sup>9</sup> six possible ways of allocating these costs. One of these involved industrial policy and another was to recover them through a fixed charge "like a standing charge" but the remaining four were on the basis of volumes consumed (i.e. through the unit rate<sup>10</sup> in some way):-
  - (1) Purely according to volumes consumed.
  - (2) Providing an initial minimum block of energy on a discounted basis, followed by charges related to levels of demand. The basic provision could be viewed as a universal entitlement and this would help to address fuel poverty.
  - (3) Charging according to ability to pay (e.g. applying a reduction to the poorest customers or with higher prices for higher consumption).

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updates/consumer-engagement-energy-market-retail-market-review-2016-survey-findings). P.71

<sup>6</sup> CMA Final report paragraphs 14.405-14.413.

<sup>7</sup> Pp. 28, 33, 164.

<sup>8</sup> Through such mechanisms as the Renewables Obligation and Feed-in tariffs (Pp. 54-59). The Review says that these costs are sunk and should be taken out of the market so that they don't impact on future behaviour, even if they have to be paid for (p.58). But doesn't this apply to all investment in new technology, just as it will in relation to the future development of renewables too? The Review says (p.165) that the legacy costs should be clearly and separately identified on bills but it is not explained what doing this would achieve. It would be liable to increase the difficulties currently experienced by some consumers in understanding their energy bills with a view to switching.

<sup>9</sup> Pp.33-34

<sup>10</sup> Energy bills consist of a standing charge per day and a price per unit of energy consumed (the unit rate).

- (4) Charging according to the Ramsey criteria for economic efficiency, i.e. allocating 'fixed costs' in inverse relation to different consumers' demand elasticities.
7. In fact the amounts suppliers are charged for use of the network (i.e. transmission and distribution) and under government policies aimed at supporting development of low carbon electricity are not 'fixed' (although they are out of suppliers' control). Rather, they vary mainly according to the amount of energy supplied. This is explained for network costs in Annex 1 (section (i)) and for policy costs in Annex 2. These charges reflect the effect of the level of energy demand on the costs that must be incurred in the long run to develop capacity.
  8. It is efficient for suppliers to recover costs that depend on the amount of energy supplied through the unit rate and those that relate to serving customers through the standing charge. Thus network and policy costs should be recovered predominantly through the unit rate rather than the standing charge.
  9. Notwithstanding that network and policy costs are not fixed, the prices described in (4) above (i.e. higher mark-ups for consumers with inelastic demand) are optimal given energy suppliers' market power<sup>11</sup>.
  10. The Review said<sup>12</sup> that (4) could imply charging loyal customers on SVTs more than those who switch. This is incorrect. Rather, it means charging extra to those who reduce their consumption least in response to higher prices, i.e. those whose price elasticity of demand is low. This is quite different from whether they switch between suppliers, which reflects a number of factors including their level of engagement in the market and the difference in prices between suppliers<sup>13</sup>.
  11. Price elasticity of demand for energy varies according to households' income and consumption (which are closely correlated, as demonstrated in Annex 3). It is higher for lower income / consumption households, as evidence presented in Annex 4 shows. This may be explained by the effect of energy spending on consumers' budgets. It forms a higher proportion of the budget of lower income households so a variation in the price of energy will have a greater effect on their budgets and hence on how affordable energy is.
  12. Thus mark-ups should be higher on those who consume most energy. At the very least (i.e. in the absence of prices increasing with levels of consumption) this entails minimising (i.e. capping) the standing charge as it forms a larger proportion of the bills of those who consume least energy. It also means suppliers being prevented from offering lower unit rates for higher levels of consumption, which would be necessary in any case to prevent them effectively raising the standing charge by charging high rates for the first units consumed.
  13. In the absence of subsidies for low levels of consumption, capping the standing charge would also make energy more affordable for lower income households, which was the intention of (2) and (3).

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<sup>11</sup> Such firms price above marginal costs, which causes a loss in welfare relative to perfect competition. Ramsey prices cause the quantities that customers demand to deviate as little as possible from the amounts they would purchase under marginal cost pricing.

<sup>12</sup> Pp. 27-8 (paragraphs 17-18) and 33 (paragraph 34(i)).

<sup>13</sup> See footnote 5 above.

## Alternative remedy – a cap on the standing charge<sup>14</sup>

14. Indeed a cap on just the standing charge component of all gas and electricity tariffs is not only economically efficient but also more effective at reducing energy costs than the default tariff and cap proposed in the Review<sup>15</sup>.
15. It targets protection at low income households, who are the most in need of help as they pay the most for energy and are the least able to look after their own interests in the energy market. They pay the highest prices per unit of energy because they consume the least energy<sup>16</sup> so the standing charge forms a large proportion of their total bill. They are also most likely to be on the worst value tariffs (including SVTs) because their lower consumption means the potential gains from switching are less; they are the least engaged consumers and they find it difficult to compare tariffs. The combination of low income and high energy costs means they are the most likely to be in fuel poverty. Evidence of these points is provided in Annex 5.
16. The standing charges currently levied are excessive and capping them would save the poorest consumers up to £100 p.a.. Some dual fuel<sup>17</sup> standing charges for customers with conventional meters<sup>18</sup> are more than £200 and the average is £156 p.a.(see Annex 6), whereas, as Annex 1 sets out, the appropriate, cost-reflective level is approximately £60 p.a. (including VAT).
17. The immediate benefit of a standing charge cap is estimated at £336 million p.a. for those on (non-PPM) SVTs and with below average consumption (and income)<sup>19</sup>. It would be higher still if the existing cap on PPM tariffs was replaced by a standing charge cap as this would reduce the amount most PPM customers pay.
18. In fact the total benefit is likely to be much greater than this because, unlike price caps on the total energy bill, a cap on just the standing charge will dramatically improve competition. It will become much easier for consumers to compare tariffs

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<sup>14</sup> This is explained more fully in *The case for a cap on the standing charge in energy bills* by David Osmon (October 2017) Ideal Economics (hereafter referred to as '**Standing charge cap paper**') (<http://idealeconomics.com/the-case-for-a-cap-on-the-standing-charge-in-energy-bills/>).

<sup>15</sup> This is the opposite of the current pre-payment meter (PPM) price cap, which was imposed by Ofgem in April 2017 on the recommendation of the CMA. This is calculated for each level of consumption of both gas and electricity according to a straight line drawn through prices for supplying zero energy and the median level of energy consumption (i.e. medium typical domestic consumption values or TDCV). While the latter is set at a competitive level, the former is the average of the Big Six suppliers' PPM standing charges, which are not competitive. This means that those who consume relatively small quantities (including most PPM customers, as well as most of those on low incomes, on SVTs and in fuel poverty) save very little. (This is explained in more detail in section 4 of the Standing charge cap paper).

<sup>16</sup> See Annex 3 for the link between household income and energy consumption.

<sup>17</sup> I.e. gas and electricity.

<sup>18</sup> I.e. not PPMs.

<sup>19</sup> This is calculated on the assumption that all consumers on SVTs are spread evenly across the consumption range. It is calculated as  $14,076,746$  (no. of SVT customers) / 2 \* (£156 - £60) / 2. £156 is the average standing charge and £60 is the estimate of the appropriate level of a standing charge cap. The difference between these two amounts is the saving for households on zero consumption and half this is the average saving for those who consume less than medium TDCV given that the saving at medium TDCV is zero.

as they will only need to consider the unit rate<sup>20</sup>. In addition, while suppliers will respond by trying to raise their unit rates, their ability to do this will be constrained. Those most affected by higher unit rates are those who consume most energy and they are more able to drive competition as they gain more from switching to better tariffs.

19. Lower standing charges will mean those in fuel poverty can afford more energy but overall the higher unit rates will lead consumers to reduce their energy consumption. This will lower carbon emissions, improve security of supply and reduce the investment needed in additional generation capacity and network enhancements, which feeds through to bills.
20. Note further that not capping the standing charge (as now) means that suppliers are able to recoup the costs of government policies aimed at reducing carbon emissions and tackling fuel poverty through the standing charge rather than the unit rate. A higher standing charge relative to the unit rate actually incentivises higher energy consumption and emissions overall and makes energy less affordable for low income households.
21. Thus a cap on the standing charge would overcome the problem inherent in the Review's objectives that cheaper energy is usually liable to increase energy consumption and thereby increase carbon emissions and make energy supply less secure.
22. Similar competition problems and excessive bills arise in the supply of energy to SMEs.<sup>21,22</sup> As with domestic customers, capping the standing charge would strengthen the competitive constraint on suppliers by improving price transparency and consumer engagement. It would substantially reduce the energy bills of micro-businesses in particular.
23. Unlike a price cap based on the Review's default tariff, a cap on the standing charge is likely to be simple and quick to implement. Indeed Ofgem has previously set out how it could fix the standing charge<sup>23</sup> and it could cap it by the

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<sup>20</sup> Large and variable standing charges make it difficult for consumers to compare tariffs so reduce the competitive constraint on energy bills. The CMA described how this leads to the weak customer response to which it attributed the market power of suppliers, which they exploit in the pricing of their SVTs. (CMA Final report paragraphs 9.165, 9.562, 9.563(b)(i)).

<sup>21</sup> While the CMA Final report estimated the detriment from excessive prices in SVTs to domestic consumers of the Big Six energy suppliers at £1.4 billion p.a. (paragraph 10.125), it conservatively estimated the detriment to SME customers of the Big Six from high energy bills at £220 million p.a., of which £180 million p.a. related to micro-businesses (paragraph 283 of the Summary).

<sup>22</sup> In his letter to Ofgem of 21 June 2017 Greg Clark, the Business Secretary, asked Ofgem to advise him what action it intended to take to ensure that micro businesses were fairly treated, as well as to safeguard domestic customers on the poorest value tariffs and in relation to SVTs.

<sup>23</sup> In 2012 Ofgem proposed imposing a fixed standing charge by incorporating a schedule of standing charges into licences, with an automatic adjuster for subsequent years. It considered that it would be possible to estimate the level of future costs with a reasonable degree of accuracy but would monitor actual costs incurred by suppliers and might propose a change to the licence if observed costs differed significantly from those anticipated. (*The Standardised Element of Standard Tariffs under the Retail Market Review* (hereafter referred to as '**Standardised Element document**') February 2012 Ofgem <https://www.ofgem.gov.uk/publications-and-updates/standardised-element-standard-tariffs-under-retail-market-review> paragraphs 2.26-2.29.)

same means. Ofgem also said recently that this “could be implemented relatively quickly”<sup>24</sup>. Moreover it would be easier to calculate accurately and less costly to monitor compliance (for both Ofgem and suppliers) than any cap on overall bills<sup>25</sup>.

## VAT

24. VAT is currently levied on energy bills at 5 per cent. The Review noted<sup>26</sup> that the Ramsey principle of minimising distortions in consumption patterns means taxing inelastically demanded commodities. Thus it would be efficient to exempt the standing charge from VAT and this would enhance the benefits of a standing charge cap.
25. The Review did say the “principle behind VAT” was that consumption is taxed at a uniform rate<sup>27</sup>. However, it isn’t clear why VAT should differ from other commodity taxes and this isn’t a “principle” but the implication of EU directives which limit the application of reduced rates of VAT. In fact it appears that exempting energy bills (and in particular the standing charge) from VAT would be allowed<sup>28</sup>.
26. The Review said that political considerations justify VAT exemptions in energy<sup>29</sup>. Thus the standing charge is suitable for exemption as it confers the ability to access a supply of energy, which is a necessity<sup>30</sup>.

## Energy efficiency

27. Obligations on suppliers to install energy efficiency measures under the Energy Company Obligation<sup>31</sup> entail a conflict of interest<sup>32</sup> and impose an unnecessary

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<sup>24</sup> Ofgem said this in relation to mandating a particular tariff design (e.g. tariffs without a standing charge) in its consultation for a vulnerable customer safeguard tariff. *Financial protections for vulnerable consumers Technical document* Ofgem October 2017 ([https://www.ofgem.gov.uk/system/files/docs/2017/10/financial\\_protections\\_for\\_vulnerable\\_consumers\\_-\\_technical\\_document.pdf](https://www.ofgem.gov.uk/system/files/docs/2017/10/financial_protections_for_vulnerable_consumers_-_technical_document.pdf)) Paragraphs 3.21-3.22.

<sup>25</sup> It is simpler to estimate the appropriate level of just the few categories of costs that belong in a standing charge.

<sup>26</sup> P.167

<sup>27</sup> P.167.

<sup>28</sup> EU members are allowed to charge ‘special’ rates of VAT for particular products – indeed energy is subject to a reduced rate - and items not subject to VAT prior to the introduction of the EU single market in 1992 (including energy bills) may continue to be zero-rated where the exemptions have “been adopted for clearly defined social reasons and for the benefit of the final consumer”. More detail is provided in Annex 7.

<sup>29</sup> The Review also said (p.168) that it was almost always more efficient to use direct welfare subsidies and supports to achieve distributional ends, rather than charging different prices to different consumer groups and distorting the prices for carbon and energy directly. However, energy prices are part of the reason for poverty; removing VAT from the standing charge is highly targeted at low income households and the distortion is minimal (charging different VAT rates according to amounts consumed would be Ramsey efficient).

<sup>30</sup> That energy is an ‘essential of life’ was an argument propounded by, for example, the Mirrlees Review of the tax system (a collaborative research venture led by the Institute for Fiscal Studies) in favour of goods such as domestic fuel facing lower rates of tax. Mirrlees, J., Adam, S., Besley, T., Blundell, R., Bond, S., Chote, R., Gammie, M., Johnson, P., Myles, G. and Poterba, J. (2011), *Tax By Design*, Oxford University Press pp. 156, 159. (<https://www.ifs.org.uk/docs/taxbydesign.pdf>)

<sup>31</sup> See Annex 2.

<sup>32</sup> The Office of Fair Trading’s call for evidence on home insulation in 2012 found that consumers sometimes didn’t receive the most suitable form of insulation – the incentive is to fit a certain number of measures rather than the most appropriate – and the quality of



burden on them. It would be more efficient for suppliers to fund a separate body to carry out this work.

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installations was not monitored effectively.  
([http://webarchive.nationalarchives.gov.uk/20140402182823/http://oft.gov.uk/shared\\_oft/markets-work/energy-efficiency/oft1433.pdf](http://webarchive.nationalarchives.gov.uk/20140402182823/http://oft.gov.uk/shared_oft/markets-work/energy-efficiency/oft1433.pdf))

**- What additional evidence should the Government consider to reduce the cost of electricity supply in the longer term?**

28. In gauging the likely effect of price caps on competition the Government should consider the effect of the introduction of the PPM price cap in April on suppliers' tariffs. Data on this could be obtained from Ofgem.
29. The Government should verify that EU rules allow the standing charge to be exempt from VAT<sup>33</sup>.
30. A cap on the standing charge could be set lower, in which case the benefits of a cap would be further enhanced, if Ofgem or the Minister took action to resolve competition problems in metering markets. This would reduce the costs suppliers incur in providing meters, which are passed through to customers. This issue is described in Annex 8.

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<sup>33</sup> See footnote 28 and Annex 7.

## Annex 1: Analysis of costs incurred by suppliers and the appropriate level of the standing charge

In 2012 Ofgem considered<sup>34</sup> which cost elements might be included in a fixed standing charge as part of its reforms aimed at simplifying tariffs<sup>35</sup>. It consulted on whether to adopt a narrow or wide definition of a standardised standing charge and assessed costs incurred by suppliers according to whether they varied with energy consumption.

Whether the various cost elements relate to the amount of energy consumed or are incremental costs of serving customers determines whether they should be recovered through the unit rate or standing charge, respectively. Ofgem's quantification of the various costs enables estimation of the appropriate level of the standing charge.

Ofgem said that under a 'narrow' definition the standing charge would include only network costs<sup>36</sup>. It estimated those costs that might be included under the widest definition of the standing charge<sup>37</sup> as shown in the following table<sup>38</sup>:-

TABLE 1  
Ofgem's estimate of costs to be included in the standing charge

		Illustrative annual cost for average consumer (£)	Recovered through	
			standing charge	unit rate
Network costs:	Gas transmission	6	X	✓
	Gas distribution	122	X	✓
	Electricity transmission	19	X	✓
	Electricity distribution	81	✓(£13) <sup>d</sup>	✓(£68)
Policy costs:	Energy Co. Obligation	29 (gas), 29 (elec)	✓	X
	Warm Home Discount*	7 (gas), 7 (elec)	✓	X
Metering costs*		23 (gas), 15 (elec)	✓	X
Other supplier fixed costs*		25 (gas), 25 (elec)	✓	X

\* Not included under a narrow definition of the standing charge

<sup>m</sup> Metering costs estimates were based on traditional meters, not smart meters

<sup>d</sup> The Distribution Use of System (DUoS) fixed charge

Source: *The Standardised Element of Standard Tariffs under the Retail Market Review* (February 2012) Ofgem (Table 2.1 p.11).

However, Ofgem did not conclude on whether to adopt a narrow or wide definition as it decided against fixing the standing charge<sup>39</sup>.

<sup>34</sup> Standardised Element document.

<sup>35</sup> Ofgem had sought to make it easier for customers to understand and compare the tariffs on offer when it introduced its Retail Market Review reforms in 2014. These banned complex tariffs and limited suppliers to offering four of them. This was intended to improve customer engagement and thereby enhance the competitive constraint provided by customer switching.

<sup>36</sup> Standardised Element document Appendix 1 paragraph 1.2.

<sup>37</sup> Standardised Element document paragraph 2.10 p.10.

<sup>38</sup> Standardised Element document table 2.1, p.11.

<sup>39</sup> As part of its Retail Market Review reforms Ofgem had notably considered fixing the standing charge (Standardised Element document p.1). It decided against doing this apparently because respondents to its consultation were concerned that this would prevent

Considering the possible elements of a fixed standing charge:-

(i) Network (transmission and distribution) costs

Ofgem determined that the bulk of the charges incurred by suppliers for use of the transmission and distribution networks should be recovered through the unit rate as they varied with the amount of energy consumed. Just a small element of electricity distribution costs were to be included in the standing charge<sup>40</sup>.

The CMA went further. In setting the PPM price cap for nil consumption at the average standing charge of the Big Six energy firms' PPM tariffs it broke the standing charge down into its components. It stated that "the value of the price cap at nil consumption does not include, nor need to include, network costs since these are volume driven"<sup>41</sup>. It said that the network charging statements of the network companies defined 'use of system' charges to be nil at nil consumption<sup>42</sup>.

Thus it is acknowledged that almost all (if not all) network costs should be recovered through the unit rate.

(ii) Costs of government policies: the Energy Company Obligation (ECO), Feed-in tariffs (FITs), the Warm Home Discount and the Renewables Obligation (RO).

These are all aimed at reducing carbon emissions and/or tackling fuel poverty. How suppliers are charged for each of these policies is described in Annex 2, along with an assessment of how these costs should be recovered.

The costs that suppliers incur under three of the four (ECO, FITs and RO) depend on the amount of energy supplied rather than the number of customers served. The charges under only the Warm Homes Discount related to the number of customers served. However, it is in any case counter-productive for the costs of measures aimed at reducing fuel poverty or emissions to be included in the standing charge rather than the unit rate. This itself makes energy less affordable for low income households while incentivising higher consumption and emissions overall.

Thus it is clearly inappropriate for these policy costs to be recovered through the standing charge.

(iii) Metering costs

The costs incurred in providing meters clearly relate to serving customers so are appropriately recovered through the standing charge. The cost suppliers incur for providing domestic gas meters is regulated by a price cap, which is set at £15.93 p.a. for 2017-18<sup>43</sup>. Electricity meters appear to be cheaper to provide: they are

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suppliers reflecting their fixed costs in the standing charge and offering tariffs with low or zero standing charges (*The Retail Market Review – Updated domestic proposals* October 2012 Ofgem. Paragraph 3.11.). In fact there is no reason why setting a standing charge should mean that fixed costs couldn't be recovered but note that in any case neither of these objections would apply with a standing charge cap.

<sup>40</sup> Standardised Element document Appendix 1 paragraphs 1.7-1.11.

<sup>41</sup> CMA final report footnote 59 p.962.

<sup>42</sup> CMA final report paragraph 14.144.

<sup>43</sup> *Metering charges from 1 April 2017* National Grid p.6.

(<http://www2.nationalgrid.com/UK/Services/Metering/Publications/Metering-Charges/>).

less sophisticated than gas meters, which involve a hazardous substance, and the CMA allowed less for electricity meters when it set the PPM price cap<sup>44</sup>.

Suppliers also need to pay for the smart meter rollout. The cost of this has been estimated at £1.50 per customer per year<sup>45</sup>.

Metering costs are considered further in Annex 8.

(iv) Other fixed costs

Ofgem calculated these simply by subtracting the above costs from the typical standing charge levied by suppliers<sup>46</sup>. Given the lack of constraint on the amounts suppliers levy as standing charges<sup>47</sup>, this estimate is not meaningful and is liable to be a significant over-estimate.

Ofgem has said separately that suppliers' other operating costs include the costs associated with billing, bad debt and costs associated with depreciation and amortisation<sup>48</sup>. It is not possible in this short paper to quantify all such factors and assess what proportion of them might be attributable to the standing charge. However, billing costs undoubtedly would be, while bad debt might be mainly attributable to charges for energy consumed, especially following a standing charge cap, as charges for energy supplied account for the bulk of energy bills.

Meter reading costs form another category of costs that are clearly attributable to the standing charge. However, the rollout of smart meters will reduce this and the costs of serving customers generally<sup>49</sup>.

Ofgem said suppliers earn a margin on their sales of energy too<sup>50</sup>. It does not seem appropriate for suppliers to earn a margin on the standing charge given that this merely enables a customer to receive supply of energy and does not itself confer benefit to consumers.

Thus metering costs appear to be the main category of costs that do not vary with the level of consumption so are justifiably recouped through the standing charge. Other elements may be (possibly) a small element of electricity distribution costs; meter reading costs; billing costs; and some fraction of other overheads / other fixed costs.

Of the costs in Table 1 above, the only ones that are rightfully included in the standing charge are:-

- a. (possibly) electricity distribution costs (£13)

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<sup>44</sup> CMA final report paragraph 14.122.

<sup>45</sup> CMA final report paragraph 14.238.

<sup>46</sup> Standardised Element document Appendix 1 paragraph 1.47.

<sup>47</sup> Suppliers are able to levy excessive amounts (see paragraph 16) because those people who might be most averse to increases in the standing charge (those for whom it forms a significant part of their overall energy bill) are those who consume the smallest amounts. These (low income) households are the least likely to switch tariff or supplier because their relatively small bills mean the gains from switching are less and they are also the least engaged consumers (see Annex 4).

<sup>48</sup> *Retail Energy Markets in 2016* Ofgem p.31.

<sup>49</sup> CMA final report paragraph 14.119 and paragraph 3 of Appendix 9.8.

<sup>50</sup> *Retail Energy Markets in 2016* Ofgem p.31.

- b. some proportion of metering costs (£38, although note that this may be an over-estimate given the amounts cited in section (iii) above) and
- c. some fraction of other fixed costs (£50).

This suggests that the appropriate level of the dual fuel standing charge for non-PPM customers is of the order of £50-60 (say £60 including VAT).

That the average SVT standing charge currently levied of £156 p.a. (see paragraph 16 and Annex 6) is excessive can also be judged by inspection of the components of the PPM cap at zero consumption. As calculated by Ofgem for winter 2017-18 according to the methodology set by the CMA, these are:-

TABLE 2  
Components of the PPM cap at zero consumption

£ (excl. VAT)	Electricity	Gas
Network	0.00	0.00
Policy	37.20	8.70
Other	29.80	44.80
PPM uplift	24.70	40.20
Headroom	3.90	3.30
Total	95.50	96.90

Source: Ofgem<sup>51</sup>

Subtracting the PPM uplift, headroom (included by the CMA in order to allow suppliers to price below the cap) and policy costs (which we have shown should be recovered through the unit rate) leaves just 'other costs', which total £78.33 (£74.60 plus VAT). This may be an over-estimate given Ofgem's previous estimate of these, as summarised in b. and c. above.

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<sup>51</sup> <https://www.ofgem.gov.uk/publications-and-updates/prepayment-price-cap-1-october-2017-31-march-2018>

## **Annex 2: How suppliers are charged for the costs of government social and environmental policies and assessment of how these costs should be recovered**

Each of these policies is assessed below according to whether suppliers are charged according to the number of customers they serve or the amount of energy they supply. This affects whether suppliers should recover these costs from customers through the standing charge or the unit rate, respectively.

Smaller suppliers are exempt from the costs of three of the four policies below (ECO, FITs and WHD). Thus there is no justification for smaller suppliers' standing charges to reflect these costs given their exemption from them. Ofgem offered the justification for small suppliers' standing charges nevertheless including these costs that it would enable the smaller suppliers to recover their higher than average fixed costs.<sup>52</sup> However, it is not reasonable to require low consumption / low income households to shoulder the burden of rectifying that problem.

The policies in question are:-

### **Feed-in tariffs (FITs)<sup>53</sup>**

These encourage small-scale, low carbon generation. Large suppliers (more than 250,000 domestic customers) are required to make payments to individuals and organisations for both generating and exporting low carbon electricity. The costs of the FIT scheme are spread across all electricity suppliers according to each supplier's share of the electricity market in terms of the amount of electricity supplied (taking into account FIT payments they have already made)<sup>54</sup>.

Thus suppliers' FIT costs clearly vary not with the number of customers they serve (except at the point at which this reaches 250,000) but with the amount of energy supplied. Thus these costs should be recovered through the unit rate.

### **Renewables Obligation (RO)**

This requires suppliers to source a specified proportion of their electricity from eligible renewable sources or pay a penalty. This is clearly a cost of the energy they supply so should be recovered through the unit rate.

### **The Energy Company Obligation (ECO)<sup>55</sup>**

This aims to reduce carbon emissions and tackle fuel poverty. It requires large energy suppliers (more than 250,000 domestic customers) to install energy efficiency measures such as insulation. Each supplier's obligation is determined according to how much gas and electricity it supplies to its customers<sup>56</sup>.

Thus suppliers' ECO costs clearly vary with the amount of energy supplied. Note that Ofgem had said previously that if ECO obligations were to be allocated on the basis

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<sup>52</sup> Standardised Element document paragraph 1.36 of Appendix 1.

<sup>53</sup> CMA final report paragraphs 3, 21-23, 26-28 of Appendix 8.1.

<sup>54</sup> *Feed-in Tariff Annual Report 2015-16* (Dec. 2016) Ofgem p.5 and *Feed-in Tariff: Guidance for Licensed Electricity Suppliers (Version 8.1)* (May 2016) Ofgem chapter 9.

<sup>55</sup> CMA final report paragraphs 3, 6-20 of Appendix 8.1.

<sup>56</sup> CMA final report paragraphs 11-14 of Appendix 8.1.

of consumption rather than the number of customers it would not expect it to fall within the scope of the standing charge<sup>57</sup>.

### **The Warm Home Discount<sup>58</sup>**

This requires large suppliers (more than 250,000 domestic customers) to provide support, primarily through bill rebates, to customers who are in or at risk of fuel poverty.<sup>59</sup> Each supplier's costs are liable to vary with the number of its customers so Ofgem considered there would be merit in this cost being recovered through the standing charge.<sup>60</sup> However, as noted elsewhere (paragraph 20 and Annex 1 section (ii)), it is counter-productive for a measure aimed at assisting fuel poor consumers to be recouped through the standing charge given that this adversely affects low income households disproportionately.

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<sup>57</sup> Standardised Element document footnote 16 of Appendix 1.

<sup>58</sup> CMA final report paragraphs 3, 24-27, 29 of Appendix 8.1 of and Standardised Element document paragraphs 1.31-1.36.

<sup>59</sup> Those on the Guarantee Credit element of Pension Credit receive automatic rebates. (In winter 2017-18 these are for £140 off electricity bills.) Energy companies can set their own rules about which other vulnerable groups can apply for a rebate, typically those on means-tested benefits with young children or a disabled member. (CMA final report paragraph 2.108).

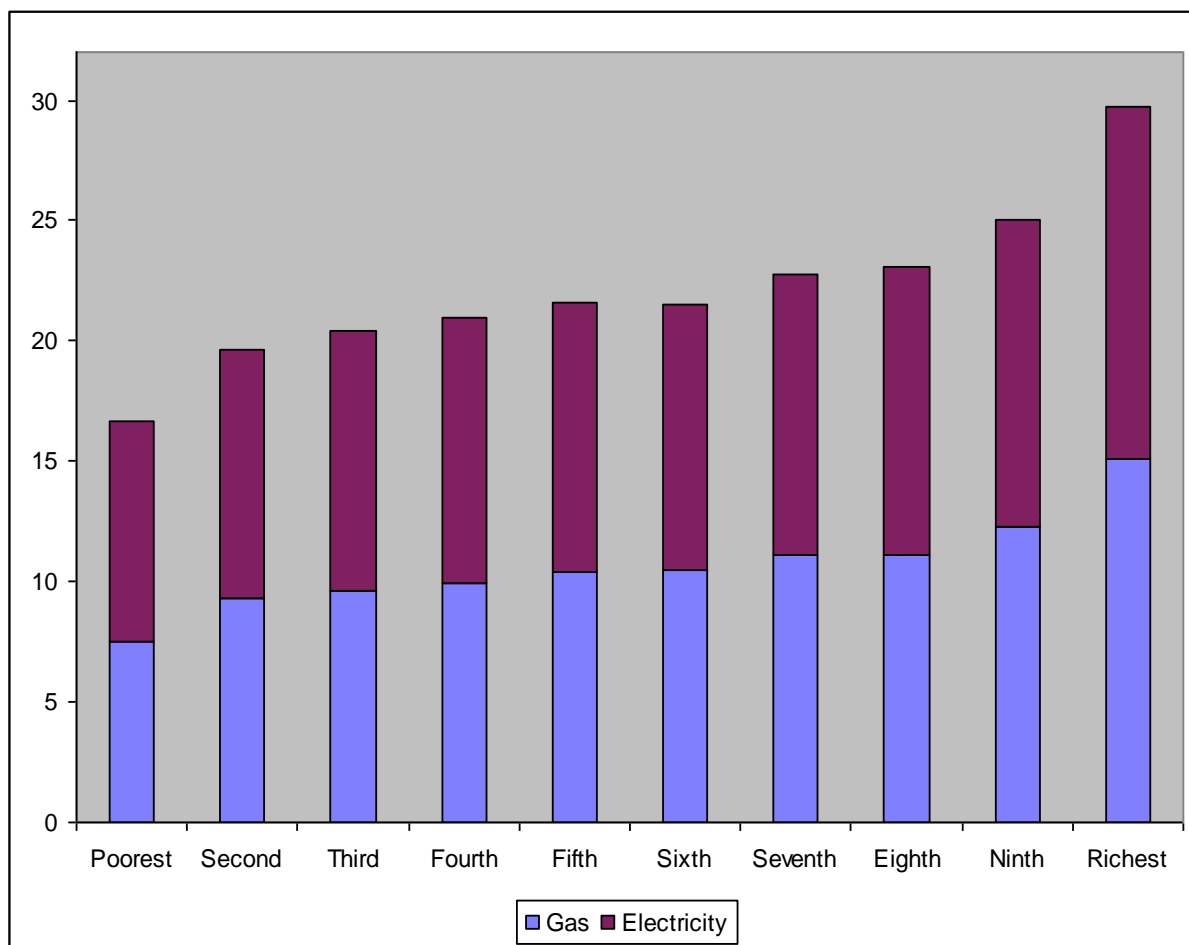
<sup>60</sup> Standardised Element document paragraphs 1.34-1.35.



### Annex 3: The link between households' income and energy consumption

2. The following graph demonstrates the strong link between household income and energy consumption. It can be seen that low income households consume less energy than other households.

FIGURE 1  
Household expenditure on gas and electricity (£ per week) by disposable income decile



Source: *Family Spending 2016* Office for National Statistics (Table A6)

## Annex 4: How households' own-price elasticity of demand for energy varies with their income level (and energy consumption)

The Institute for Fiscal Studies estimated the change in energy consumption that would have resulted from the imposition of VAT on domestic energy at 15 per cent for each income decile. The results and the implied own-price elasticities were:-

TABLE 3  
Own-price elasticity of demand for energy by income decile

Decile	Change in fuel consumption (%)	Implied own-price elasticity
Lowest	-9.61	-0.64
2	-9.50	-0.63
3	-8.26	-0.55
4	-6.83	-0.46
5	-4.84	-0.32
6	-4.11	-0.27
7	-3.43	-0.23
8	-1.97	-0.13
9	-0.06	-0.00
Highest	1.09	0.07
Average	-4.12	-0.27

Source: Johnson, P., McKay, S. and Smith, S. (1990), *The Distributional Consequences of Environmental Taxes*, Institute for Fiscal Studies pp. 8-16.

Another study when VAT was first introduced on domestic fuel suggested that a VAT rate of 17.5 per cent would reduce energy consumption among the poorest fifth of households by around 9.2 per cent, compared with a reduction of just 1.1 per cent among the richest fifth of households.<sup>61</sup>

Similarly, the price elasticity of demand for energy has been observed to decrease generally with the level of expenditure on a group of commodities including fuel, as shown in Table 2. This, too, suggests that the demand for energy of low income households (who consume less energy than high income households) is more price responsive.

<sup>61</sup> Crawford, I., Smith, S. and Webb, S. (1993), *VAT on Domestic Energy*, Institute for Fiscal Studies, Commentary no. 39.

TABLE 4  
Own-price elasticity of demand for energy according to level of expenditure on energy (and other commodities)

Total expenditure*	Own-price elasticity (with standard error in parentheses)
low 5 per cent	-0.680 (0.020)
6-10 per cent	-0.641 (0.034)
11-25 per cent	-0.599 (0.027)
middle 50 per cent	-0.486 (0.026)
76-90 per cent	-0.369 (0.082)
top 10 per cent	-0.425 (0.159)
all	-0.479 (0.025)

\* 'Total expenditure' is expenditure on food, clothing, services, fuel (household energy), alcohol, transport and other non-durables. Data are drawn from the annual British Family Expenditure Survey (FES) 1970-84.

Source: Blundell, R.W., Pashardes, P., and Weber, G. (1993), 'What do we Learn About Consumer Demand Patterns from Micro Data?', *The American Economic Review* vol. 83, no.3, pp. 570-97. Table 3 Part D p.582.

## Annex 5: The consumers most in need of protection from high energy costs

Low income households pay the highest prices for energy and are most likely to be fuel poor<sup>62</sup>.

Low income households pay the most per unit of energy because their low levels of consumption (see Annex 3) means the standing charge forms a large proportion of their total bill.

They are also most likely to be on suppliers' SVTs and the worst value tariffs generally. Indeed a large majority (75%) of low income consumers are on SVTs. Those were findings of the CMA domestic customer survey<sup>63</sup>. Ofgem's consumer survey similarly found that low income, disadvantaged and financially struggling consumers were most likely to be on SVTs<sup>64</sup>.

Low income households are most likely to be on SVTs because:-

- (i) Their lower consumption and relatively small bills mean the potential gains from switching are less.

Both the CMA and Ofgem used survey evidence to estimate the amounts consumers need to save in order for switching to be deemed worthwhile<sup>65</sup>.

- (ii) They are the least engaged consumers.

The CMA domestic customer survey showed that those with household incomes below £18,000 a year are significantly less engaged. They are less likely to have ever considered switching supplier in the past; to have shopped around in the last three years; to have switched supplier in the last three years or to consider switching in the next three years.<sup>66</sup>

Ofgem's survey of consumer engagement also detailed the link with income. Those with incomes below £16,000 a year are significantly less likely to have switched supplier; changed tariff with their existing supplier; compared tariffs and to say they have time for switching energy supplier.<sup>67</sup>

<sup>62</sup> A household is considered to be fuel poor if: they have required fuel costs that are above average (the national median level); and, were they to spend that amount, they would be left with a residual income below the official poverty line.

<sup>63</sup> CMA final report paragraphs 9.14 and 9.21-9.22. Thus the CMA domestic customer survey revealed that the proportion of consumers on SVTs is highest (75%) among those whose income is below £18k pa (CMA final report paragraph 9.14 and Appendix 9.1 paragraph 251).

<sup>64</sup> Ofgem survey report p.77 and Table 12 of data tables.

<sup>65</sup> See footnote 5 above.

<sup>66</sup> CMA final report paragraphs 9.9-9.11 and Appendix 9.1 paragraph 7 p.3 and paragraph 64 p.17. For example, 20% of those whose household incomes were below £18,000 had switched supplier in the last three years, compared with 35% of those whose household incomes were above £36,000 (CMA final report Appendix 9.1 Figure 2 and paragraph 83 p.24).

<sup>67</sup>

TABLE 5  
Ofgem survey results for how measures of consumer engagement differ according to income

%	Annual income
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- (iii) According to the CMA they find it more difficult to make value for money assessments of available tariff options.

The CMA listed the groups of customers that lack the capability to search and consider options fully as those with low levels of education or income; the elderly and/or those without access to the internet<sup>68</sup>.

Along with energy costs, income is a key determinant of fuel poverty<sup>69</sup>. The median level of income for fuel poor households is £10,118 p.a. whereas the median for all households is £21,333 and for non-fuel poor households is £23,147. 78% of households that are classed as fuel poor are situated in the first or second income deciles. and virtually all are within the first three income deciles.<sup>70</sup>

	Below £16k	£16k or more
Switched supplier in last 12 months <sup>a</sup>		
Gas	11	17
Electricity	11	17
Ever switched supplier (not last 12 months) <sup>b</sup>		
Gas	33	47
Electricity	39	52
Changed tariff with existing supplier in last 12 months <sup>c</sup>		
Gas	8	15
Electricity	9	18
Compared tariff with own supplier in last 12 months <sup>d</sup>		
Gas	14	28
Electricity	12	27
Compared tariff with other suppliers in last 12 months <sup>e</sup>		
Gas	14	29
Electricity	14	29
Strongly agree or tend to agree with the statement about energy suppliers "Switching is a hassle that I've not got time for" <sup>f</sup>		
	52	44

Source: Consumer Engagement Survey 2016 (Ofgem) (see Ofgem survey report)

<sup>a</sup> Q.18, 19 and Tables 23, 24 of survey data tables

<sup>b</sup> Q.20 and Table 25 of survey data tables

<sup>c</sup> Q.35, 36 and Tables 46, 52 of survey data tables

<sup>d</sup> Q.43, 44 and Tables 50, 56 of survey data tables

<sup>e</sup> Q.41, 42 and Tables 48, 54 of survey data tables

<sup>f</sup> Q121 and Table 162 of survey data tables

<sup>68</sup> CMA final report paragraph 9.563(b)(i).

<sup>69</sup> The drivers of fuel poverty are income, energy costs and the energy efficiency of dwellings.

<sup>70</sup> *Annual Fuel Poverty Statistics Report, 2017* (2015 data) (June 2017) BEIS (Department for Business, Energy and Industrial Strategy) p.4, p.26 & Table 28 of *Fuel Poverty Detailed Tables 2017*.

## Annex 6: The average non-PPM SVT standing charge

The average standing charge is calculated according to the standing charges in the non-PPM SVTs of the 10 suppliers with more than 250,000 non-PPM customers in September 2017. These are weighted by the number of customers on each of these suppliers' SVTs (source: Ofgem).

TABLE 6  
Large suppliers' non-PPM SVT standing charges and calculation of the average

Supplier	Name of SVT (direct debit)	Daily stg. charge (p) <sup>a</sup>		Total p.a. (£) <sup>b</sup>	No. of non-PPM SVT customers <sup>c</sup>
		Gas	Elec.		
British Gas	Standard - Paper and Paperless	26.0	26.0	189.87	4,847,737
E.ON	E.ON Energy Plan (fixed dir. debit)	21.9	16.4	119.89	2,248,613
EDF Energy	Standard (Variable)	26.3	18.9	164.80	1,557,526
Npower	Standard - Paper and Paperless	15.8	15.8	115.51	1,246,569
Scottish Power	Standard	27.4	27.4	189.45	1,034,426
SSE	Standard (paper billing)	16.5	16.5	120.09	2,497,297
OVO Energy	Simpler Energy Paper & Paperless	28.8	28.8	210.02	148,294
Utility Warehouse	Gold and Double Gold	21.6	22.4	160.65	248,859
Co-operative Energy	Green Pioneer Paper & Paperless	20.0	20.0	146.00	92,296
First Utility	First Variable - Paperless	27.5	5.0	118.63	155,129
		Total			14,076,746
		Average		155.54	

<sup>a</sup> Including VAT

<sup>b</sup> Adjusted for dual fuel discounts (i.e. offered by suppliers to customers who take both gas and electricity from it).

<sup>c</sup> As of April 2017. Source: Ofgem website (in September 2017).

## **Annex 7: EU rules on reduced rates of VAT**

EU directives constrain the application of reduced rates of VAT. They permit no more than two different reduced rates (each of no less than 5 per cent) that can apply to a restricted set of goods and services<sup>71</sup>. However, there are exceptions whereby EU members are allowed to charge ‘special rates’ of VAT – reduced rates for additional goods and services and reduced rates under 5 per cent (including zero rates). They are allowed to apply a reduced rate to the supply of natural gas, electricity and district heating.<sup>72</sup>

Moreover items not subject to VAT prior to the introduction of the EU Single Market in 1992 may continue to be zero-rated where the exemptions have “been adopted for clearly defined social reasons and for the benefit of the final consumer”.<sup>73</sup> It is thought that this means the standing charge could be zero-rated as energy bills (including the standing charge) were zero-rated prior to 1992.

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<sup>71</sup> Article 98 of the EU VAT Directive (*Council Directive 2006/112/EC of 28 November 2006 on the common system of value added tax*) (<http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32006L0112>). The categories of goods or services to which the reduced rates may apply are listed in Annex III of the Directive.

<sup>72</sup> Article 102 of the EU VAT Directive.

<sup>73</sup> Article 110 of the EU VAT Directive.

## Annex 8: Metering costs

A standing charge cap could be set lower, in which case the benefits of a cap would be further enhanced, if Ofgem or the Business Secretary took action to resolve competition problems in metering markets. This would reduce the costs suppliers incur in providing meters, which are passed through to customers.

A report published by Ofgem last year<sup>74</sup> expressed concern that competition in the provision of gas metering products and services at non-domestic premises was not as effective as it should be<sup>75</sup>.

In particular, gas suppliers incur significant costs when they switch meter provider. Incoming providers appointed by suppliers are not generally able to adopt meter assets in situ so must replace them<sup>76</sup>. These switching costs weaken competitive constraints on metering providers and form a barrier to entry<sup>77</sup>. The limited competition, costs incurred in replacing meters and raised financing costs for meter provision (as shorter asset life means riskier investment) result in higher meter rental charges to suppliers. These are likely to feed through to end customers in their energy bills.<sup>78</sup>

The rental charges on gas meters provided at domestic premises are regulated, although the report included evidence which might indicate that meter providers' margins on domestic-size meters are actually higher than for other meters.<sup>79</sup>

The same issues affecting suppliers' metering costs may apply in relation to electricity meters and to smart meters once they are installed.

Dermot Nolan (Ofgem's Chief Executive) gave a commitment to the Public Accounts Committee in June 2014 (in relation to smart meters) that there should be a requirement (as opposed to just a commercial incentive) for suppliers to use the same physical metering equipment when a customer changes supplier<sup>80</sup>. Note that this concerns the transfer of metering equipment between providers rather than whether smart meters are interoperable, which merely refers to whether different companies would be *able* to operate meters (if given permission by the meter owners).

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<sup>74</sup> *Review of the non-domestic gas metering market* (March 2016) Ofgem (hereafter referred to as '**Market review report**').

([https://www.ofgem.gov.uk/system/files/docs/2016/03/market\\_review\\_report\\_final.pdf](https://www.ofgem.gov.uk/system/files/docs/2016/03/market_review_report_final.pdf)).

<sup>75</sup> Market review report p.4.

<sup>76</sup> Market review report p.4.

<sup>77</sup> Market review report chapter summary p.18.

<sup>78</sup> Market review report p.30.

<sup>79</sup> It said analysis of one meter provider's costs and prices (which appeared to be representative of the industry) suggested that additional mark-ups that were unrelated to costs were being added to what were already comfortable rates of return net of inflation. (Market review report p.30.) These mark-ups were 20% for domestic-size meters and 15% for other meters (market review report footnote 43 p.30).

<sup>80</sup> Stephen Lovegrove, Permanent Secretary at the Department for Energy and Climate Change (now BEIS, the Department for Business, Energy and Industrial Strategy), gave a similar commitment.

(<http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/public-accounts-committee/smart-meters-followup/oral/10401.html> Qs.68-73, 76).



Ofgem said in the report that it intended to take a number of actions to address its concerns<sup>81</sup> such as exploring the scope for encouraging meter providers to sell or rent meters in situ to incoming providers<sup>82</sup>. It said that in due course it would review progress and the effect of its actions on the state of competition in the market. If progress was not evident it would consider whether it might be appropriate to take other actions, including consulting on a market investigation reference to the CMA<sup>83</sup>.

However, it is not known what Ofgem has done with regard to these various commitments.

It is also possible for the Minister to make a market investigation reference to the CMA.

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<sup>81</sup> Market review report p.32.

<sup>82</sup> Market review report p.33.

<sup>83</sup> Market review report p.37.