

Energy tariff options for consumers in vulnerable situations

Final report to Citizens Advice, May 2015

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help people change the way they
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Abbreviations

Abbreviation	Definition
CMA	Competition and Markets Authority
CSE	Centre for Sustainable Energy
CWP	Cold Weather Payment
DCLG	Department for Communities and Local Government
DECC	Department for Energy and Climate Change
DIMPISA	Distributional Impacts Model for Policy Scenario Analysis
DWP	Department for Work and Pensions
ECO	Energy Company Obligation
EMR	Electricity Market Reform
ESA	Employment and Support Allowance
EWA	Excess winter admissions
EWD	Excess winter deaths
FIT	Feed-in Tariff
FPI	Fuel Price Inquiry
GER	Government Electricity Rebate
IPPR	Institute for Public Policy Research
IFS	Institute for Fiscal Studies
JSA	Jobseeker's Allowance
LIHC	Low income, high cost
Ofgem	Office of Gas and Electricity Markets
PoLR	Provider of last resort
QEP	Quarterly Energy Prices
RBT	Rising block tariff
RHI	Renewable Heat Incentive
RLA	Residential Landlords Association
RMR	Retail Market Review
SoLR	Supplier of last resort
SVT	Standard variable tariff
TCR	Tariff comparison rate
WFP	Winter Fuel Payment
WHD	Warm Home Discount

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Executive summary

About Citizens Advice

Citizens Advice, including Citizens Advice Scotland, provides free, confidential and impartial advice to help people resolve their problems. As the UK's largest advice provider, Citizens Advice is equipped to deal with any issue, from anyone, spanning debt and employment to housing and immigration plus everything in between. We value diversity, promote equality and challenge discrimination.

Citizens Advice represents consumers across essential regulated markets. We are the statutory consumer advocate for energy and postal services in Great Britain, and for water in Scotland. We use compelling evidence and expert analysis to put consumer interests at the heart of policy-making and market behaviour. We have a number of responsibilities, including unique powers to require private and public bodies to disclose information.

We tackle issues that matter to consumers, working with people and a range of different organisations to champion creative solutions that make a difference to consumers' lives.

About the Centre for Sustainable Energy

The Centre for Sustainable Energy (CSE) is an independent national charity, established in 1979, that works to tackle climate change and end the misery of cold homes. We undertake practical work to support households and communities to take action on energy, alongside original research and analysis to inform energy policy.

CSE has a research team of 13 staff who routinely design and deliver qualitative and quantitative research (including literature reviews, rapid evidence assessment, questionnaires, focus groups, interviews, policy modelling and statistical analysis). We have a national reputation for our fuel poverty research work. In May 2014, CSE was awarded the prestigious national Ashden Award for Alleviation of Fuel Poverty – recognising both our practical achievements in helping tens of thousands of fuel-poor households, as well as our policy and research work and its national impact.

About the research

This study aims to provide researchers, policy makers and energy market stakeholders with a better understanding of options to ensure that disengaged vulnerable consumers are not penalised by higher tariffs.

The research is structured into two main phases:

1. An initial review of ten tariff options, drawing on both existing evidence and expert stakeholder opinion
2. Modelling and analysis to explore the potential distributional impacts of options deemed worthy of further exploration, following the analysis in Phase 1

The analysis in Phase 1 consisted of the following tasks:

- Development and use of a tariff assessment matrix. Drawing on discussion from an internal workshop and evidence collated through the review, CSE developed a matrix against which each tariff option was assessed.

- External stakeholder workshop. In collaboration with Citizens Advice, an external workshop was held with expert stakeholders to present the tariff options and the tariff assessment matrix. This provided an opportunity for key policy and industry stakeholders to feed back on the design of the matrix, and also to use the matrix to assess some of the options. The outputs were as follows:
 - A refined tariff assessment matrix. In light of discussions and suggestions from the external stakeholder workshop, the matrix was streamlined and the importance of each evaluation category weighted.
 - External evaluation of the tariff options by stakeholders. Stakeholders were assigned a selection of the tariff options and, facilitated by members of the project team, were asked to assess each one using the tariff assessment matrix.
- Final tariff evaluation. The evidence and analysis from Phase 1 assessments were brought together to produce a final evaluation of each tariff option.

The categories used to evaluate each tariff option in the tariff assessment matrix were as follows:

- Energy market regulatory implications
- Government spend (tax) implications
- Administration implications (such as set up, data matching and delivery)
- Cost-reflective pricing implications
- Implications for market engagement
- Impact on/implications for competitive market
- Impact on bills of specific target group
- Distributional impacts on all energy consumers
- Impact on existing social tariffs or policies
- Carbon emissions implications

Phase 1: Analysing the tariff options

The ten tariff options analysed during the study are described below, with a summary of the assessment results and whether the option was selected for further modelling as part of Phase 2. Tariffs were selected based on the outcomes from Phase 1 and discussion between Citizens Advice and CSE. Modelling was limited to four options due to time and resource constraints.

Introduction of a backstop tariff

Description: This is a low-priced tariff, to which eligible customers would be transferred automatically.

Assessment: The introduction of this tariff would require fairly significant regulatory change. It could lead to a reduction in competition in the retail energy market and perhaps to increases in all tariffs. It is likely to have a fairly high positive impact on the bills of the target group – the second highest of all options analysed. **Selected for further modelling.**

Provider of last resort

Description: The Provider of Last Resort would be a publicly funded, not-for-profit organisation supplying energy to a subset of the population. Consumers would be transferred to this organisation

if they met certain eligibility criteria, which could include identifying those consumers who had not switched tariff for a certain period of time.

Assessment: This option would require significant regulatory change and fairly significant government spending, as well as having relatively high administration requirements. It would also lead to a reduction in competition in the retail energy market, and the movement of a proportion of customers out of the competitive market to a publicly-owned supplier. **Not selected for further modelling.**

Moving environmental and social policy levies from customer bills to general taxation

Description: The costs of environmental and social policies such as the Energy Company Obligation (ECO), the Feed-in Tariff (FIT) and the Warm Home Discount (WHD) make up around 6 per cent of domestic gas prices and 11 per cent of electricity prices.¹ Under this option, these levies are removed from energy bills and funded by taxation instead.

Assessment: This would require quite a significant increase in government spending. However, it would address the current situation whereby low-income households pay towards the costs of fuel poverty measures through their bills. **Selected for further modelling (with changes so that the only an initial energy consumption block of consumption is exempt from environmental and social policy levies).**

Exemption from environmental and social policy levies for some consumers

Description: This is similar to the above option but the levy is only removed from the bills of vulnerable consumers, and costs would be recovered through increases in the bills of other customers rather than a shift to taxation.

Assessment: Under this option there would be no additional government spending; instead, the bills of non-vulnerable households would increase slightly to make up for the fact that the levy was not charged to vulnerable consumers. However, there are additional administrative requirements in order to do this, and this option would require fairly significant additional regulation. This option has a positive impact on the energy bills of the target group but has negative distributional impacts on other customers. **Selected for further modelling (with changes so that the exemption only applies to an initial block of energy consumption for vulnerable consumers).**

Revision of the WHD/fuel price support

Description: Refinement of the WHD could take several forms, for example, extending eligibility to more households, increasing the payment or funding the payment through taxation instead of through energy bills.

Assessment: This option has the highest positive impact on the target group's energy bills; however, an extension to the scheme could have high administrative costs. Distributional impacts are complicated if the WHD continues to be funded through energy bills, as bills for non-target households will increase while the WHD payment will reduce energy costs for target households. **Selected for further modelling.**

¹ House of Commons Library Note: Bolton (2014), 'Components Of An Energy Bill'

Revision or extension to direct financial support (WFP/CWP)

Description: Two government policies currently offer direct financial support to assist householders in paying their energy bills, namely: the Winter Fuel Payment (WFP) and Cold Weather Payment (CWP). This option considers changes to these policies, by extending or changing eligibility and/or changing the amount of the payment.

Assessment: This option has some administrative cost implications, but also has positive distributional impacts. Re-directing the WFP would be politically difficult as it is currently viewed as a supplement to the state pension. This option has the disadvantage that it is a subsidy from Government to energy suppliers and does nothing to reduce tariffs themselves. **Not selected for further modelling.**

Cap on permitted spread between suppliers' cheapest and most expensive offers

Description: This option involves setting maximum limit on the range between each supplier's lowest and most expensive tariff.

Assessment: This option would have quite high regulatory implications and a negative effect on competition. It would have a positive impact on the bills of the target group, as long as suppliers lower their highest prices rather than just raising their lowest prices. **Not selected for further modelling.**

Changes to standing charges (abolition of standing charge, introduction of uniform national charge)

Description: Under this option, the standing charge is either removed to leave each tariff as simply one rate per kWh, or fixed so that all suppliers must charge the same standing charge across all tariffs.

Assessment - abolishing the standing charge: This option would have negative implications for competition in the market, negative effects on the bills of the target group, and negative distributional impacts across all energy consumers. It would have positive implications for market engagement as it would make tariffs easier to compare. **Not selected for further modelling.**

Assessment – uniform national standing charge: This option would require regulatory changes, and would not have an impact on the bills of the target group. It would have positive implications for market engagement as it would make tariffs easier to compare. **Not selected for further modelling.**

Introduction of rising block tariffs (RBTs)

Description: An RBT applies different and increasing unit rates for defined blocks of energy consumption. For example, a lower price per kWh for the first 500 kWh (about one-quarter of annual electricity use in a low-use household; or one-eighth (12.5 per cent) of average household electricity consumption) in a set period, followed by a higher per kWh price for further units consumed in the same period (and potentially even higher prices as consumption increases).

Assessment: This option had negative scores across all aspects of the tariff assessment matrix, apart from government spend implications and impact on existing policies, where it had neither negative nor positive scores. Under the current system of metering, RBT would be hard to implement. Smart metering would make implementation of RBT easier, but is more likely to favour 'time of use' tariffs,

which are fundamentally different to RBT as they consist of different rates at different times of day. **Not selected for further modelling.**

Abolition of price differentials between different methods of payment

Description: Currently, suppliers may only charge different prices for different methods of payment if this reflects the cost to them of operating the payment method (and so prepayment meters are more expensive). Under this option, no price differentials between different methods of payment would be allowed, not even where this is reflective of costs.

Assessment: This option would have a beneficial impact on a subsection of the bills of the target group, although the majority of households in this group don't use prepayment meters, which typically incur the highest tariffs of all methods. A response could be that other tariffs increase with a negative consequence to other households. Furthermore, it would go against the principle of cost-reflective pricing and would have a negative impact on competition. **Not selected for further modelling.**

Additional option for modelling – free initial block of energy

Following the analysis, another option was added for modelling. This option came out of the discussion of removing levies for an initial block of consumption, and looks at what would happen if there was a free initial block of energy. **Selected for further modelling.**

Determining the target group

In order to explore distributional impacts on household energy bills, assumptions have to be made about which households would be targeted to receive the special tariff offers. This is examined in Section 5. The research found that the target group should be modelled as those receiving CWP. An analysis was undertaken using a socio-demographically representative dataset of households in Great Britain, derived from the ONS Living Costs and Food Survey (LCFS)². Overall, the analysis showed that:

- 69 per cent of the CWP target group is (at least one of) either disabled or elderly
- 90 per cent of the CWP target group is (at least one of) either disabled, elderly or in the poorest 20 per cent of households
- 96 per cent of the CWP target group is (at least one of) either disabled, elderly, in the poorest 20 per cent of households or never switched energy supplier.

These results suggest that targeting a special energy tariff at the CWP-eligible group provides an equitable approach to targeting potentially vulnerable and disengaged consumers, who are at risk of being penalised by the energy market with higher fuel prices.

There are some limitations in using benefits eligibility as a proxy for the preferred target group. For example, there is under-claiming of benefits and for some benefits there is significant 'churn' (the

² www.ons.gov.uk/ons/about-ons/get-involved/taking-part-in-a-survey/information-for-households/a-to-z-of-household-and-individual-surveys/living-costs-and-food-survey/index.html

The LCFS dataset is administered by ONS. Those who carried out the original collection and analysis of the LCFS data bear no responsibility for their further analysis or interpretation.

frequency with which individuals move on and off particular benefits). However, benefits eligibility is commonly used in this way due to the absence of realistic alternatives.

Phase 2: Modelling the tariff options

Modelling was undertaken using CSE's dataset that underpins its Distributional Impacts Model for Policy Scenario Analysis (DIMPSA) and up-to-date variations in unit fuel prices, using fuel prices statistics from the Department of Energy and Climate Change (DECC). In the model dataset, the CWP eligibility criteria were used to identify the target group as described above. Baseline tariffs were applied to different households, based on a selection of socio-economic characteristics of households and a switching behaviour prediction model. The switching model details are provided in Annex I, and further details of the allocation of fuel tariffs can be found in Annex IV.

Table E1 shows the tariff options that were modelled, along with the target group and how revenue neutrality was ensured in each scenario.

Table E1: Summary of tariff options modelled

Tariff option	Description	Target group	Ensuring revenue neutrality
Backstop tariff: Option 1	The lowest tariff available for their fuel type and payment method in their region ³	CWP-eligible customers only	Tariffs for all non-eligible customers increased
Backstop tariff: Option 2	The lowest tariff available for their fuel type in their region, irrespective of payment method	CWP-eligible customers only	Tariffs for all non-eligible customers increased
Backstop tariff: Option 3	As per Option 1, but only non-switchers are moved to the lowest tariff available for their fuel type and payment method in their region	CWP-eligible and non-switcher customers only	Tariffs for all non-eligible customers increased
Backstop tariff: Option 4	As per Option 1 (the lowest tariff available for their fuel type and payment method in their region or devolved nation) but with all tariffs adjusted to ensure revenue neutrality (including the backstop tariff)	CWP-eligible customers only	Tariffs for all customers increased
Levies removed: Option 1	Energy policy levies removed from an initial block of consumption	All customers	Unit rate increases for higher block of consumption for all customers
Levies removed: Option 2	Energy policy levies removed from an initial block of consumption	CWP-eligible customers only	Unit rate increases for higher block of consumption for all customers
Free block: Option 1	Initial block of energy consumption free	All customers	Unit rate increases for higher block of consumption for all customers
Free block: Option 2	Initial block of energy consumption free	CWP-eligible customers only	Unit rate increases for higher block of consumption for all customers
Extension to WHD	WHD rebate extended to CWP-eligible customers and all energy suppliers ⁴	CWP-eligible customers only	Additional cost on bills of all customers to pay increase in WHD allocation

³ In theory, the backstop tariff would involve transfer of customers to the lowest tariff available from the same supplier; however, information about energy supplier is not available in the data. There is data available for maximum, minimum and average regional fuel prices, and so what is modelled here is transfer of customers to the minimum regional fuel price. This is a limitation in the modelling.

Overall, the impact of each tariff option was examined through analysis of the fate of the targeted vulnerable group and the population as a whole, including analysis by income decile. Where applicable, and in order to interpret one possible dynamic response from energy companies, the modelling has ensured that total energy bill revenues are maintained to the levels before each intervention was modelled – a ‘revenue neutral’ approach.⁵ This has involved increasing some tariffs for certain households, with the result that energy bills for some consumers increase slightly as a result of particular tariff options.

Impact on bills of eligible and non-eligible households

The graph in Figure E1 shows the average impact of each scenario for the eligible and non-eligible groups.

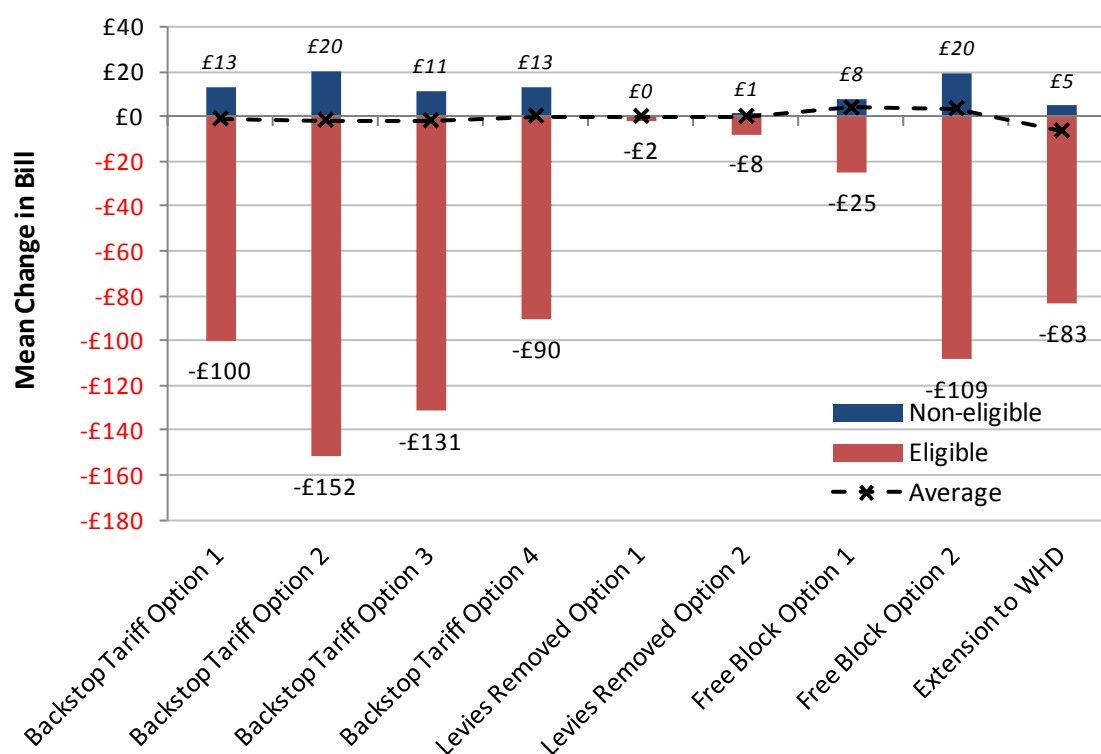


Figure E1: Average impact of tariff options on all eligible and non-eligible households

The backstop tariff options 1 to 4 offer a potential average reduction in bills of the targeted eligible group of between around £90 and £150, while the cost of supporting the backstop tariff results in all other households paying, on average, an additional £11 to £20 a year.

Removing energy policy levies from an initial block of energy consumption (Option 1) for all households has very little effect on the bills of the target group, offering an average annual saving of

⁴ The data used in the modelling does not contain information on energy suppliers. By default, modelling this tariff therefore effectively assumes the WHD is extended to all suppliers, as the scenario applies the rebate to anyone meeting the CWP eligibility criteria (which includes the current WHD criteria of all those on pension credit).

⁵ This does not include any administrative costs.

just £2. Removing energy policy costs from an initial block of consumption *for the target group only* (Option 2) still has fairly limited impact on the bills of the target group, with an average saving of £8, and adds only £1 on average to the bills of all other households.

Implementing a **free block** of initial consumption would appear to be much less administratively demanding than removing levies. It offers greater potential savings on average to the target group, particularly if this free block is offered only to the target group (Option 2). The implications for the rest of the population are not insignificant, however, adding £20 on average.

Extending the WHD to include all CWP-eligible households results in an average reduction of £83 for the target group, with all consumers paying £5 a year towards the cost of this policy.

Impact on bills of ‘winners’ and ‘losers’

In most cases, the eligible households will be ‘winners’, while the non-eligible households will be ‘losers’. However, under some scenarios this may not be the case (e.g. there may be some eligible households who are worse off). Results for winning and losing groups are therefore described separately from impacts on eligible and non-eligible households.

For all options, across the population as a whole, more households experience bill increases than bill reductions (the number of ‘losers’ exceeds the number of ‘winners’).

However, the increase in bills experienced by these losing households is less than or equal to £20 a year, on average. Under the backstop tariff, the extended WHD scenarios modelled and the targeted free block of energy, winners experience an average decrease of over £100, on average. In contrast, the removal of levies from an initial block (options 1 and 2) has a smaller impact on both bill increases and bill reductions – on average, the maximum bill increases are no more than £4 with bills reducing by approximately £8.

The graph in Figure E2 shows the proportions of the eligible and non-eligible households that are better off under each option. Under the **backstop tariff** (options 1 and 2), as well as ‘**Levies removed Option 2**’ and ‘**Free block Option 2**’, all eligible households are better off. Under the other scenarios, at least 66 per cent of eligible households are better off. Under ‘Levies removed Option 1’ and ‘Free block Option 1’, 57 per cent and 48 per cent of non-eligible households are also better off.

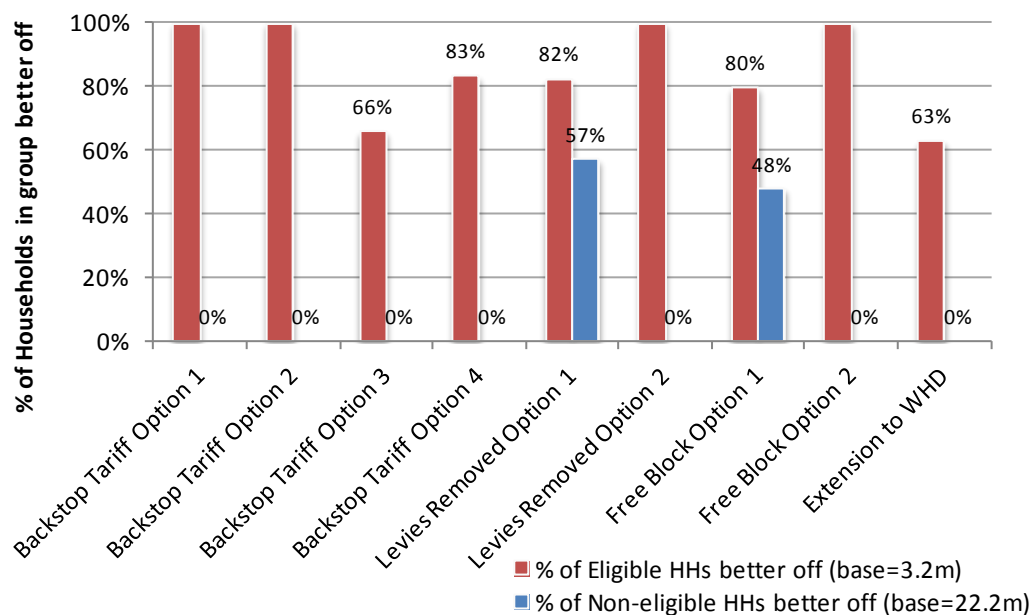


Figure E2: Proportion of households better off as a result of tariff options, by eligible and non-eligible group

Distributional impacts by income band

As a result of the targeting criteria (using CWP eligibility, which targets those on certain benefits), all options result in an average decrease in bills for lower-income households (bottom two income quintiles, with the poorest 20 per cent of households seeing the greatest reduction), while middle income group (quintile 3), on average, experience marginal change and the highest earners (income quintiles 4 and 5) see their bills increase the most. Whilst, on average, lower-income households appear better off under all tariff options modelled, this average impact across income bands masks within-quintile variation, driven by whether or not the household falls into the target group and/or its level of energy consumption. For example, under all of the options for the backstop tariff, eligible households in the poorest 20 per cent stand to gain from all options, with an average bill saving of between £95 and £152 a year, while households in the same income band who are not eligible for the tariff could see their bill increase by between £10 and £16 a year.

Changes as a proportion of income

For all households, for all **backstop** options and in terms of the bill change as a proportion of disposable income, the positive experience of the targeted group is always greater than the negative experience of the non-targeted group. For the non-targeted group the bill increase never represents more than 0.2 per cent of their annual disposable income.

The **removal of energy levies** from an initial block of consumption has little impact on average annual household energy bills, which translates to a negligible impact when expressed as a proportion of income. Offering an initial block of energy free to all households has a slightly larger impact, although this is still relatively small in comparison with the other initiatives.

For the **revised WHD** initiative, all households who do not receive the payment experience a £5 bill increase. The net benefit of the payment to the target group is greater for the poorest households, representing 0.8 per cent of the disposable income of the poorest 20 per cent and just 0.2 per cent of the richest 20 per cent.

Impact on fuel poverty

While it is not possible to categorically reach a conclusion on the impact of the tariff options on fuel poverty levels, it is possible to make a comparison to the average bill reductions likely to result from the tariff options and the average fuel poverty gap experienced by CWP-eligible, fuel-poor households.

The energy bill reductions that would result from a **backstop tariff** represent more than half of the average fuel poverty gap of the bottom three income deciles, and appear likely to make the most significant impact on fuel poverty levels. Across the bottom five income deciles, the extended WHD option could reduce the average fuel poverty gap of CWP-eligible, fuel-poor households by between 17 per cent and 32 per cent.⁶

The **energy levies exemption options** would reduce bills by £3 to £8 on average for the bottom three deciles, representing between 1-3 per cent of the average fuel poverty gap of these households.

Providing a **free block of energy** to households was shown to have a bigger impact. Where this option is provided to all households, the bill reductions represent approximately 10-13 per cent of the bottom three income deciles fuel poverty gap. When this option is specifically targeted at the CWP group, the average bill reduction represents 38-46 per cent of the fuel poverty gap for fuel-poor CWP-eligible households.

Wider impacts on health and wellbeing

A significant proportion of households targeted by these options are the poorest in our society, while simultaneously being on some of the most expensive energy tariffs on the market. As a result, many of these households are likely to under-heat their properties in winter. Living in cold homes with unaffordable energy bills is well known to translate into adverse impacts on physical and mental health, and social wellbeing. These are outlined in Section 7.2.7. Paying less for energy means that many individuals will be able to afford to heat their home to a higher temperature for the same cost, and thus help to alleviate some of the physical and mental health consequences of living in a cold home.

Conclusions

The analysis has not sought to quantify the impact of the different options on fuel poverty levels – the methodology for producing fuel poverty statistics means that, for most of the options, there would likely be little discernible impact.⁷ Nor has it tried to determine how far they will go in reducing the numbers of households living in cold homes or suffering the physical and mental

⁶ However, as currently measured, the refined WHD option would be the only option to actually reduce fuel poverty energy bills, due to the way fuel bills are currently calculated.

⁷ The fuel poverty calculation uses modelled estimates of energy required to maintain a satisfactory level of warmth in the home, combined with average fuel prices by region and method of payment.

consequences of unaffordable energy bills. However, the results clearly show that the backstop tariff and extended WHD options could be very effective at significantly reducing fuel bills for eligible households, while simultaneously requiring small – and in some cases negligible – increases in the bills of other households to ensure ‘revenue neutrality’ or cover the additional costs of a more broadly targeted fuel price discount. For the backstop tariff options, the maximum non-eligible bill increase represents just 0.2 per cent of disposable income. For the extended WHD discount option, it is less than 0.1 per cent.

Of these two options worthy of continued investigation, the extended WHD option is likely to be easier to implement and is likely to represent a smaller administrative burden to energy companies. While this option also offers a guaranteed fixed reduction in energy bills, irrespective of energy consumption levels, one major negative aspect is that it does not transfer vulnerable households to cheaper tariffs.

A backstop tariff would transfer customers to cheaper tariffs and has the potential to reduce energy bills by a more significant amount than a fixed fuel price discount. However, it is likely to be more complex to implement in practice. It is also more difficult to determine exactly how energy companies and the energy market as a whole would respond.

Nevertheless, both these options could play a very important role in reducing the energy bills of those struggling to heat and power their homes, with positive consequences on the health and wellbeing for millions of households.

1 Introduction

With fuel prices having risen at rates consistently above inflation over the last decade, consumers are facing unprecedented and increasingly high energy costs. Citizens Advice and Citizens Advice Scotland (hereafter referred to as Citizens Advice) represent the interests of domestic energy consumers and campaigns for change to help consumers take control of their energy use and improve affordability.

Market reforms, such as the Retail Market Review (RMR) and Electricity Market Reform (EMR) have gone some way to increasing competition and transparency in the market. There is evidence to suggest that, as a result, certain groups of consumers, who are willing and able to engage with the energy market, are in a stronger position to access the best deals from energy suppliers. However, lack of engagement remains a significant problem. So-called 'sticky' customers are penalised with higher energy tariffs, thus further exacerbating the issue of energy affordability. This is demonstrated by recent figures showing that over 95 per cent of dual-fuel customers could have saved if they'd switched tariff or supplier.⁸

Since 2009, Citizens Advice has delivered a programme – 'Energy Best Deal' – to encourage and support switching in the energy market. Whilst this programme has had some success in engaging people in the market, it also highlights the ongoing reality that some consumers remain highly unlikely to ever switch supplier. The energy market in which these groups of consumers operate therefore lacks competitive pressure and prices remain higher than average.

Acknowledging that simply encouraging switching is not a viable solution for these consumers, Citizens Advice commissioned the Centre for Sustainable Energy (CSE) to undertake research to identify and critically assess possible alternatives to ensure consumers who are currently disadvantaged by and disengaged from the energy market are not penalised by higher tariff costs. The project forms part of a wider body of work that will help inform Citizens Advice's input into the Competition and Markets Authority's (CMA) current energy market inquiry. It is a timely and important opportunity to review weaknesses in how the energy market delivers for vulnerable consumers and to present robust, well-evidenced options to address these.

1.1 Research aims and objectives

The overall aim of this study is to provide researchers, policy makers and energy market stakeholders with a better understanding of the opportunities and options to ensure those consumers least well served by the existing market arrangements are not penalised by higher tariffs.

The study seeks to deliver this by addressing the following key objectives:

- 1 Identify different options to address or mitigate inequalities in the energy market that currently affect disengaged and vulnerable consumer group(s).
- 2 Critically appraise and assess the options identified, reviewing each along several key dimensions, including (but not limited to) consideration of: distributional impacts (winners and losers); policy costs and net benefits; political acceptability; industry admissibility; practical feasibility.
- 3 Examine options for a suitable proxy group to identify a 'vulnerable' group of consumers.

⁸ CMA (2015), 'Energy Market Investigation, Updated Issues Statement'

- 4 Undertake modelling work to further explore the potential costs and benefits (distributional impacts) of options, where considered appropriate, relevant and the data exists to do so.
- 5 Present robust evidence on the potential for each option to succeed in ensuring that the target group, in spite of a lack of engagement, would have access to more affordable energy and tariff options, framed within the regulatory context of Great Britain's current energy market and political climate.

1.2 Approach

The research is structured into two main phases: an initial review of options that draws on existing evidence and expert stakeholder opinion, covering research objectives 1 and 2 above; followed by a second phase of modelling and analysis to explore the potential distributional impacts of a selection of options, covering research objectives 3, 4 and 5 above.

1.2.1 Phase 1: Review of options

The initial phase of the project paves the way for Phase 2, in which detailed modelling and analysis will be undertaken to explore the implications of a selection of tariff options. Phase 1 therefore encompasses:

- a qualitative review of different tariff options, including the development and implementation of a tariff assessment matrix and drawing on both existing evidence and expert stakeholder opinion
- exploratory analysis of the implications of the proposed group at whom the tariff options should be targeted.

Box 1.1: Stages in the qualitative review of tariff options

- 1 **Identify options for review** through consultation with Citizens Advice.
- 2 **Internal workshop with key members of CSE staff to review strengths and weaknesses of each option.** To take full advantage of this valuable in-house resource, a workshop was held with six members of CSE staff, including the Chief Executive, the Head of Household Energy Services, two energy advisors and two members of the research team. Each tariff option was presented and discussed, including consideration of any potential practical issues associated with implementation and the main strengths and weaknesses of each approach.
- 3 **Evidence review.** In parallel with the internal workshop, a literature review and evidence assessment was undertaken to provide vital context on the current regulatory framework underpinning Great Britain's energy market, and to collate evidence from abroad to provide case study examples of the different options.
- 4 **Assess options against a tariff assessment matrix.** Drawing on discussion from the internal workshop and evidence collated through the review, CSE developed a matrix against which each tariff option was assessed.
- 5 **External stakeholder workshop.** In collaboration with Citizens Advice, an external workshop was held with expert stakeholders to present the tariff options and the tariff assessment matrix. This provided an opportunity for key policy and industry stakeholders to feedback on the design of the matrix and also to use the matrix to assess some of the options. The outputs were as follows:
 - a. **A refined tariff assessment matrix.** In light of discussions and suggestions from the expert stakeholder workshop, the matrix was streamlined and the importance of each evaluation category weighted.
 - b. **External evaluation of the tariff options by stakeholders.** Stakeholders were assigned a selection of the tariff options and, facilitated by members of the project team, were asked to assess each one using the tariff assessment matrix.
- 6 **Final tariff evaluation.** Using the refined matrix from step 5a above, the findings of steps 4 and 5b were combined to produce a final evaluation of each tariff option.

The outcomes from Phase 1 facilitated evidence-based recommendations for the tariffs to be modelled in Phase 2, and the approach to targeting these tariffs.

This work is predominantly focused on identifying solutions that reduce the energy bills of a vulnerable group of consumers. The final stage of Phase 1 was to examine a selection of benefits to use as proxies for vulnerability, and define and justify eligibility criteria for the targeted group.

1.2.2 Phase 2: Modelling tariff options

The second phase of the study considers a selection of the tariff options reviewed in Phase 1 in further detail. This includes modelling and analysis to explore potential distributional impacts of tariff options on different groups of consumers, using the approach for targeting (the eligibility criteria) identified through Phase 1.

1.2.3 Phase 2: Modelling methodology

Modelling was undertaken using the Distributional Impacts Model for Policy Scenario Analysis (DIMPSA) and up-to-date variations in fuel prices, using domestic fuel price statistics from the Department of Energy and Climate Change (DECC).

In the model dataset, the eligibility criteria were used to identify the targeted vulnerable group. A variety of tariffs were then applied to different households, based on a selection of socio-economic characteristics of households and a switching behaviour prediction model. The fuel prices used in the modelling included a single unit rate that accounts for standing charges. The switching model details are provided in Annex I, and further details of the allocation of fuel tariffs can be found in Annex IV. It should be noted that the eligibility criteria were not used as proxies for cheap or expensive tariffs.

Four different tariff options were then modelled. Some of these were targeted at the vulnerable group while others were applied to the whole population. Following this, the impact of each tariff option was examined through analysis of the fate of the targeted vulnerable group and the population as a whole, including analysis by income decile.

1.3 Report structure

This report is structured around the two distinct but interconnected phases, with some initial background information to provide further context to the study as a whole.

We begin with an overview of the energy market in Great Britain, specifically looking at the issue of consumer engagement and switching activity (Section 2). Understanding the drivers behind, and link between, lack of engagement and customers being unduly disadvantaged by higher prices in the market provides rationale for interventions needed to support specific vulnerable and disengaged groups.

The report is then split into two parts, representing the two phases of the project. Section 3 introduces Phase 1, and includes an outline of the design of the assessment and the evaluation methodology. The full range of tariffs being considered in this study are then presented and evaluated in Section 4. This includes information about what the option entails and case study examples where available, as well as the results of an exercise to assess each tariff option against a range of criteria, using the tariff assessment matrix. This was presented at an external stakeholder

workshop, in which delegates were given the opportunity to comment on and refine/develop the matrix and use it to assess a selection of the tariff options being considered.

Section 5 considers the issue of targeting. Analysis was undertaken to show the implications of the proposed target group to receive the tariffs. Phase 1 then concludes with Section 6, which makes recommendations about targeting and the final tariff options to model in the second phase of the project.

Phase 2 begins with Section 7, which presents the results from modelling three of the tariff options. This includes distributional analysis of the implications of the different options for household energy bills, including some case studies looking at the impacts on different consumer groups.

Finally, Section 8 brings the results from the tariff assessment and modelling together to present some overall conclusions and recommendations for options to address the issue of disengaged vulnerable households being penalised by the energy market through higher tariffs.

2 Background and context: Great Britain's energy market

Despite continual attempts to improve competition, transparency and fairness in Great Britain's energy market over recent years, there remains a significant group of consumers who are poorly served. Some continue to be unfairly penalised with higher energy prices, such as those who use prepayment meters and those who have never switched energy supplier. This significant minority is being systematically disadvantaged by the competitive market, exacerbating problems of energy affordability, fuel poverty and undermining any benefits of reduced costs delivered by energy efficiency programmes.

The group of sticky customers, who are unable or unwilling to engage in the energy market, remain a concern. Their lack of engagement not only limits the extent to which the market can be considered competitive, but inevitably results in these customers being charged unduly high prices for their energy in comparison to households that participate in the market. Despite stakeholder initiatives to encourage switching, such as Citizens Advice's 'Energy Best Deal' programme, and wider regulatory attempts to simplify tariff options and improve consumer confidence, such as the RMR and EMR, 2013 saw the second lowest number of annual switches since 2003.⁹

Citizens Advice is increasingly of the view that switching is simply not a viable option to address energy affordability for these particular consumers. Whether due to a lack of trust or an inability to engage, some customers will remain excluded from accessing the best deals that arise from market competition and engagement. This is the premise for the research presented in this report. Before moving on to discuss and review different options for this group of consumers, the next section provides some important context and background, exploring the history and evolution of Great Britain's energy market, tariff options past and present, and the current regulatory framework within which any options considered will be required to operate.

2.1 Evolution of Great Britain's energy market

The evolution of the energy market into its present form began in the 1980s with the privatisation of Great Britain's gas and electricity industry. This moved control of the market out of the hands of Government and into the private sector. The Office of Gas and Electricity Markets (Ofgem) was formed and entrusted with the role of regulating the market in order to ensure competition and protect consumer interests. Initially, price controls were in place to encourage innovation and keep costs down. In 2002, Ofgem removed these price controls completely and the fully liberated market, as it remains today, was launched.

Over the last couple of decades, a number of interventions and measures have been made in an attempt to protect the most vulnerable customers from unaffordable energy bills and the harmful effects of living in cold homes. Fuel poverty levels did show some evidence of decline between 1996 and 2003,¹⁰ during which time Great Britain's energy market was undergoing change to a liberalised, open market. However, this trend has since reversed; rises in wholesale costs have continued to push up domestic retail prices and successive Governments have remained reluctant to intervene, maintaining a belief that a competitive, open market will deliver the best value for consumers.

⁹ OVO Energy (2014), 'Two Million Might Have Switched, But That Should Be Just The Beginning'

¹⁰ Baker (2006), 'Social Tariffs – A Solution To Fuel Poverty?'. Report to Unison.

2.2 Consumer engagement and switching

When the energy market was fully liberalised in 2002, it was hoped that a competitive market would emerge; one in which customers frequently shopped around for the best deal and changed supplier in reaction to price signals. In response, energy companies would be under pressure to provide the best service at the lowest cost in order to both retain and gain customers. However, 12 years on from liberalisation, approximately 92 per cent of customers are supplied by one of the ‘Big 6’ energy suppliers,¹¹ and it remains very difficult for new suppliers to break into the market. This has led to the Big 6 being described as an “oligopoly with a veneer of competition”¹², with a market dominance that enables them to make pricing decisions with little concern about threat to their stronghold.

Whilst opportunity does exist to ‘play the market’ and search out the best energy deals, many customers remain reticent to engage. In 2013, the number of customers switching supplier stood at 13 per cent for both electricity and gas, bringing the total proportion of households who have ever switched to 42 per cent for gas and 39 per cent for electricity.¹³ Switching rates have been on the decline since 2008 (Figure 2.1) and while there is evidence of a small recovery in November 2013 (which may reflect a knee-jerk response to increases in energy prices at the time), projections for 2014 suggest that the downward trend is continuing, with switching rates in 2014 set to be the lowest ever.¹⁴

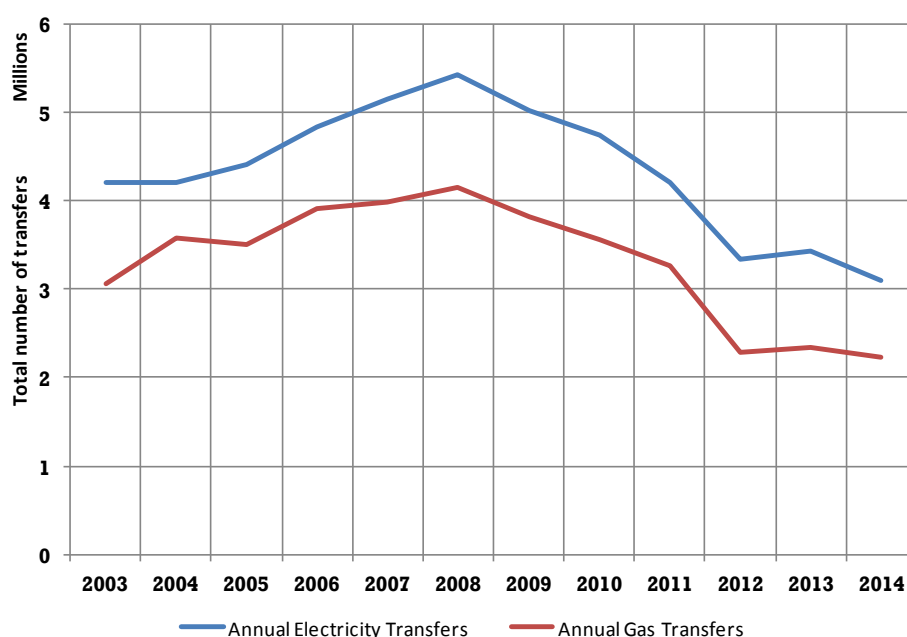


Figure 2.1: Numbers of gas and electricity consumers switching suppliers between 2003 and 2014.

(For electricity, switching levels cover all suppliers. From January 2014, gas switching levels were also reported on the same basis. Prior to this, gas switching levels only covered the main six suppliers)^{15, 16}.

¹¹ Ofgem (2014), ‘Incumbency In The Retail Energy Market’. Submission to the CMA.

¹² Baker (2006), ‘Social Tariffs – A Solution To Fuel Poverty?’. Report to Unison.

¹³ Ipsos MORI (2014), ‘Customer Engagement With The Energy Market: Tracking Survey’. Report for Ofgem. Available at: <https://www.ofgem.gov.uk/publications-and-updates/customer-engagement-energy-market-tracking-survey-2014>

¹⁴ It should be noted that intra-supplier switching levels have risen over this time period; Ofgem are collecting data on this but findings have not yet been published.

¹⁵ DECC (2014), ‘Quarterly Domestic Energy Switching Statistics’

2.2.1 Price differentials: switchers versus sticky customers

With only a minority of customers being actively engaged, this presents an opportunity for energy suppliers to compete for this share of the market with lower tariff offers while maintaining higher prices for non-switching customers, and thereby protecting revenues.

Thus, while a minority of 'savvy' consumers benefit from a competitive market in which suppliers seek to undercut one another, the majority of customers continue to pay higher prices. Pricing tactics in the competitive element of the market may be such that tariffs are 'loss leading' – that is, consumers are paying *less* than the market price for their energy, so effectively being subsidised by the higher prices paid by the non-switching majority.

Price differentials between the two are not inconsequential. Analysis by the Institute for Public Policy Research (IPPR) found differences between the fuel bills of active and sticky customers of up to £330 per annum, due simply to differences in tariff.¹⁷ The average differential in bills in 2013 for those who have never switched supplier since the market was opened to competition, compared to those who had switched, was £27 higher for electricity and £76 higher for gas. The analysis from IPPR also suggested the differential in gas bills between those who have and have not switched has trebled since 2010.

In February 2015, the CMA published an updated issues statement,¹⁸ which looked at the potential savings that could have been obtained by inactive customers, having conducted analysis of data supplied by energy companies. The CMA found that, from the first quarter of 2012 to the fourth quarter of 2014, over 95 per cent of dual fuel customers with the Big 6 could have saved by switching tariff and/or supplier. The average saving available was between £158 and £234 a year. Restricting the analysis to switching between the same type of tariff, the average savings that could have been achieved were still substantial, at between £111 and £153 annually. Although the review is not yet complete, the CMA statement suggests that energy companies are routinely overcharging inactive customers in order to subsidise and offer lower tariffs to active customers. In some instances, these offers are also undercutting smaller energy suppliers and increasing their barriers to market entry. Ofgem's January 2015 submission to the CMA presented evidence of the detrimental impacts that the prevalence of sticky customers with incumbent suppliers is having on the energy market.¹⁹ This highlights the fact that, although inactive customers are not unusual in markets, the uneven distribution in the energy market, with the majority of sticky customers still with their ex-monopoly suppliers, is not normal. The result of this is that incumbent suppliers face weaker competitive pressure to offer better deals; it is harder for new suppliers to break into the market, as they are only able to compete for active customers; and that incumbents can segment the market easily, providing competitive tariffs to active customers and leaving sticky customers on unattractive deals in the knowledge they will remain on them without question.

¹⁶ Energy UK (2015), 'Three Million Customers Switch Electricity Supplier'. Press release. Available at: <http://www.energy-uk.org.uk/press-releases/22-2015/4984-three-million-customers-switch-electricity-supplier.html>

¹⁷ Powell (2012), 'You're Subsidising Your Neighbour's Bills!'. Online. Available at:

<https://www.lovemoney.com/news/14868/youre-subsidising-your-neighbours-energy-bills>

¹⁸ CMA (2015), 'Energy Market Investigation, Updated Issues Statement'

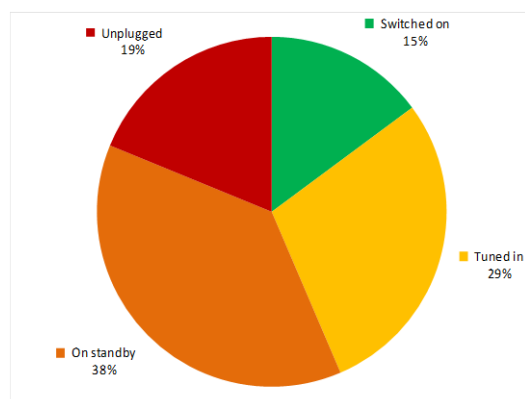
¹⁹ Ofgem (2015), 'Submission To The CMA: Incumbency In The Retail Energy Market'

2.2.2 Who does and does not switch supplier?

As part of the RMR, Ofgem commissioned a national survey to explore the tendency of customers to switch supplier.²⁰ The results identified four distinct levels of engagement amongst consumers, classified as: ‘switched on’; ‘tuned in’; ‘on standby’ and ‘unplugged’. Each of these is described further in Box 2.1.

Box 2.1: Index of consumer engagement in the energy market (Ofgem, 2014)

- The most active customers – the **switched-on** segment – are likely to be knowledgeable about their own energy usage, make regular use of the internet, be active switchers in other markets and as a result are likely to have switched energy provider in the last year.
- The **tuned-in** group are also likely to be aware of their switching options, but are slightly less interested in actually following up their switching options.
- The **on-standby** segment is still aware that there is an option to switch, but are unlikely to have actually done so in the last year, or indeed ever.
- At the bottom of the pile are the **unplugged** customers, who may have glanced at their bills but are unlikely to understand their energy consumption or whether switching could actually save them money.



The largest proportion of the population appears in the on-standby group, while the smallest segment is the switched-on group (Box 2.1).

The unplugged segment represents the least engaged – those who have never switched nor are likely to anytime soon. Key defining socio-demographic characteristics of this group include: social grade D or E; aged over 65; living in rented accommodation; using a prepayment meter or payment card for their bills. These characteristics suggest that those who are paying the highest tariffs due to inactivity in the energy market are also some of the most vulnerable and least able-to-pay consumers.

The research found that in the switched-on group, 37 per cent had switched supplier and 62 per cent had changed tariff over the course of the previous year. These figures dropped substantially for the less-engaged groups: only 5 per cent of the on-standby group had switched supplier and just 2 per cent had changed tariff over the last 12 months; while none of the unplugged group had been involved in either activity.

²⁰ TNS BMRB (2014), ‘Retail Market Review Baseline Survey’

The results from the survey also showed that the proportion of customers claiming to have never switched supplier is 10 per cent higher in social grades D and E compared to the average;²¹ or rather, the lower social grade groups appear less engaged than other groups of consumers (Figure 2.2). This is somewhat contrary to behaviour and activity in other markets, in which low-income households often appear well practiced in searching out the best deals. Qualitative research into the coping strategies of low-income households provides further evidence of this: for commodities such as food, interviewees expressed a willingness to shop around for the best deal, perhaps compromising on quality, but when it came to fuel the only perceived option to reduce expenditure was to ration on quantity.²²

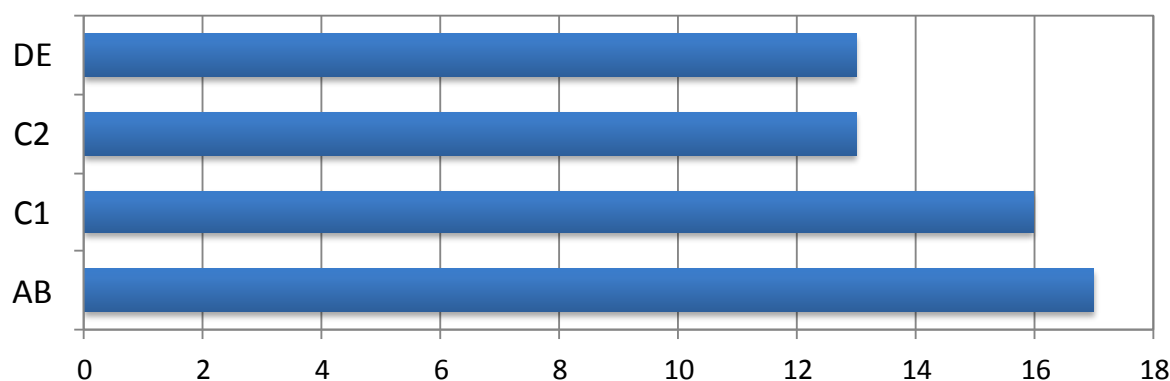


Figure 2.2: Switching rates by social group – percentage successfully switching over the previous 12 months²³

There are a number of possible explanations as to why these otherwise savvy consumers are failing to engage with the energy market. One commonly cited reason is the number and complexity of tariffs available. However, the RMR has reduced the permitted number of tariffs for each fuel type and method of payment to four. Furthermore, there are now regulations in place to transfer consumers away from old evergreen tariffs²⁴ (the impact of the RMR is discussed in more detail in Section 2.3). As a result, these figures are likely to represent a peak and there are now likely to be fewer tariffs in the market.

Nevertheless, the complexity of the market resulting from the high number of tariffs has clearly been a major disincentive for market engagement in the past, and is likely to continue to be a factor in consumer disengagement in the future. A 2008 survey of domestic energy consumers showed that 70 per cent of respondents were confused by the high number of tariff options available.²⁵ Five years on, results from Ofgem’s 2013 *‘Customer Engagement in the Energy Market: Tracking Survey’* show

²¹ Energy and Climate Change Committee (2013): Written evidence submitted by the Department of Energy and Climate Change. Available at:

<http://www.publications.parliament.uk/pa/cm201314/cmselect/cmenergy/108/108we17.htm>

²² Anderson, White and Finney (2010), ‘You Just Have To Get By’. Report to Eaga Charitable Trust by CSE.

²³ Consumer Focus (2013), ‘Switched On? Consumer Experiences Of Energy Switching’

²⁴ Ofgem refers to a supplier’s standard default domestic tariff (that does not require contract renewal and will vary in rate with the market) as the “evergreen” tariff.

²⁵ Ofgem (2013), ‘The Retail Market Review – Final Domestic Proposals’

little improvement,²⁶ with nearly two-thirds of people considering there to be too many tariffs on offer. Previously, before the impact of the RMR, this profusion of tariffs rendered the energy market too “complex, opaque and untrustworthy”²² to navigate, for many.

Indeed, the decision to not engage in the market is perhaps wise; figures of between 20 per cent²⁷ and 40 per cent²⁸ have been quoted for the proportion of customers who end up on a *worse* deal as a result of switching. This translates into a perception of inherent risk in switching and acts as a further deterrent, particularly to low-income households on highly constrained budgets, who simply cannot afford to risk ending up with higher bills. The energy market is also one of the least trusted, with only a fifth of people confident that their supplier is charging fairly and working to provide them with the cheapest deal.²⁹ Additionally, there is a lack of self-trust and an issue of ‘learned-helplessness’.³⁰ Consumers past experiences with switching result in the perception that engagement with the market is futile and so have become passive and disengaged.

The CMA analysis noted that, in general, customers on the Standard Variable Tariffs (SVTs) offered by energy companies were typically non-switchers. Furthermore, they were more likely to be with “an ex-incumbent supplier and to think switching is a hassle, that there are no real differences between suppliers and that something may go wrong if they switch”³¹.

Thus, in the energy market consumers generally operate according to the ‘status quo bias’: they are unlikely to make a move unless there are very strong reasons for doing so. This problem is further exacerbated with 73 per cent of customers being on standard evergreen tariffs. On these tariffs, the only trigger to prompt customers to engage with the market is the annual statement, which can be considered only a very weak stimulus.³²

2.3 Tariffs and market reforms: past and present

Over the past few years, the energy market has been subjected to a range of interventions that have sought to enhance consumer power, or to reduce the impacts of high bills on certain vulnerable households through social tariffs. These are reviewed below.

2.3.1 Social tariffs

The introduction of ‘social price supports’ for vulnerable customers represented an attempt by Government to protect the poorest consumers from fuel price rises without the need to interfere in the market or invest excessive amounts of public money.³³ Previously, tariffs have been offered at a rate at least as good as the supplier’s standard direct debit offer, thereby aiming to protect customers such as those on prepayment meters from unfair price differentials. The Warm Homes and Conservation Act of 2000 introduced the obligation on suppliers to offer social tariffs to those in fuel poverty. By the end of March 2008, just over 200,000 customers were on social tariffs for

²⁶ Ipsos MORI (2013), ‘Customer Engagement In The Energy Market: Tracking Survey’

²⁷ Wilson and Waddams Price (2007), ‘Do Consumers Switch To The Best Supplier?’

²⁸ House of Commons, Energy and Climate Change Committee (2012), ‘Consumer Engagement With Energy Markets: Fifth Report Of Session 2012-2013’

²⁹ Which? (2014), ‘Which? Calls For Fair Energy Prices’. Online. Available at:

<http://press.which.co.uk/whichpressreleases/which-calls-for-fair-energy-prices/>

³⁰ Ofgem (2014), ‘The changing consumer empowerment landscape’. Report prepared for Ofgem by Ctrl-Shift.

³¹ CMA (2015), ‘Energy Market Investigation, Updated Issues Statement’

³² Ipsos MORI (2013), ‘Customer Engagement In The Energy Market: Tracking Survey’, p.40-42

³³ Baker (2006), ‘Social Tariffs – A Solution To Fuel Poverty?’

electricity and just over 250,000 for gas.³⁴ The success of social price supports was, however, limited and by 2011, such schemes had been largely replaced by the Warm Home Discount (WHD). Social tariffs were found to be poorly targeted, with the implementation method left to the individual supplier's discretion. An impact assessment by CSE found that, while social tariffs generally resulted in beneficiaries being better off, many customers on the tariff were still paying more than direct debit customers with the same company. It also found that many would have been better off switching to the standard tariff provided by other companies.³⁵

In 2011, the WHD was introduced as a replacement to voluntary social tariffs, and remains in place today. It offers a fixed rate rebate (£140 in 2014/15 and 2015/16) to a core group of consumers, made up of those receiving pension credit. Others may also qualify as part of the broader group, eligibility for which can be partly determined by individual energy suppliers participating in the scheme. As well as variable eligibility, it is important to note that each supplier has a limited fixed sum it is obliged to offer through the broader group, so even if households do qualify they will not necessarily receive the discount (further information on the impacts of the WHD can be found in Section 4.5).

2.3.2 Tariff and market reforms 2008-2014

Attempts to make the energy market more transparent, competitive and fair have been underway for a number of years, with varying degrees of success. This section presents a brief summary of relevant reforms since 2008.

2.3.2.1 Energy supply probe (2008)

In 2008, Ofgem published a report highlighting the lack of transparency in the energy market and the unfair disparity that exists across different pricing and payment arrangements. Attempts to increase transparency and fairness resulted in the following:

- **Annual energy statements:** to provide customers with information on their current tariff, their annual energy consumption (with the intention that this could be used on price comparison websites) and a reminder that cheaper tariffs might be available through switching.
- **Reduction in 'unjustifiable' price differentials between methods of payments.** A difference in tariffs for direct debit, standard credit and prepayment meter tariff is still permitted, but only providing this differential can be justified.

2.3.2.2 Political commitments (2011-2012)

In 2011, Ofgem was given increased powers to force energy companies to signpost their customers to cheaper tariffs if they were not already on the lowest tariff offered by their existing supplier. At the time, the intention was to provide this information to customers on their energy bills. However, in 2012, the Secretary of State for Energy and Climate Change, Ed Davey, announced an extension to this through a new agreement with energy companies whereby any customers contacting their supplier would have to be offered the cheapest tariffs available. Later, in October 2012, the Prime Minister declared new legislation would force energy companies to transfer customers to their

³⁴ House of Commons Library (2009), 'Fuel Poverty Bill: Bill 11 of 2008-09'

³⁵ Baker (2006), 'Social Tariffs – A Solution To Fuel Poverty?'

cheapest tariff, and that this requirement would be included in the 2012 Energy Bill,³⁶ but this requirement never transitioned into statute.

2.3.2.3 RMR (2011-2014)

Meanwhile, in 2011, Ofgem published a series of proposals to simplify the energy market. A key aim of the RMR was to understand the barriers to consumer engagement in the energy market. The mantra of “simpler, clearer, fairer”³⁷ emerged in response to findings that tariff options were considered too complex; information provided to customers by their supplier was of poor quality; and there was a low level of consumer trust in suppliers.

Following consultation, Ofgem initiated several reforms through RMR, including the following:

- Energy companies would be limited to offering four core tariffs based on energy meter type and method of payment.
- All tariffs to be expressed as a standing charge and single unit rate.
- All tariffs to have a tariff comparison rate (TCR).

The implementation of the reforms began in August 2013.

2.3.2.4 Impact of the RMR

The RMR has resulted in new requirements on suppliers to provide additional information on bills, aiming to improve customer understanding and engagement with the market. Separately, the energy supplier probe removed unjustified payment differentials between payment types.

However, shortfalls remain. There has been little overall change to the market structure and complexity continues to be a driving force behind low consumer engagement. While the number of tariffs on offer has reduced, there is speculation that prices have now converged at a higher level and the limitation to four tariffs per fuel and payment type has resulted in the disappearance of some of the cheapest tariffs on the market.³⁸ One exception to this is the current intense competition for acquisition-style direct debit tariffs amongst small suppliers and Big 6, albeit aimed at the most active consumers.³⁹

Regardless of the range and spread of tariffs on offer, a significant proportion of consumers remain disengaged from the energy market, including some vulnerable households who are paying over the odds and for whom switching is simply not a viable solution.

2.3.3 CMA: Energy market investigation (2014-2015)

Through discussions with the Office of Fair Trading and the CMA, and following a public consultation, Ofgem announced its decision to refer the energy market to the CMA for a full investigation in June 2014. As part of the CMA investigation, four ‘theories of harm’ are being reviewed:

³⁶ Commons Library Standard Note (2014), ‘Simplifying Energy Tariffs’

³⁷ Ofgem (2014), ‘A Simpler, Clearer, And Fairer Energy Market For Consumers’. Factsheet.

³⁸ Littlechild (2013), ‘Defective Regulations Are Pushing Up Energy Prices As Competition Suffers’

³⁹ CMA (2015), ‘Energy Market Investigation, Updated Issues Statement’ Published February 2015.

1. Opaque prices and low levels of liquidity in wholesale electricity markets create barriers to entry in retail and generation, perverse incentives for generators and/or other inefficiencies in market functioning.⁴⁰
2. Vertically integrated electricity companies harm the competitive position of non-integrated firms to the detriment of customers, either by increasing the costs of non-integrated energy suppliers or reducing the sales of non-integrated companies.
3. Market power in generation leads to higher market prices.
4. Energy suppliers face weak incentives to compete on price and non-price factors in retail markets, due in particular to inactive customers, supplier behaviour and/or regulatory interventions.

The final conclusions of the inquiry are expected to be reported no later than December 2015. However, at the time of writing, the CMA had published an updated issues statement with details of the progress made and interim findings of the investigation as it nears the halfway point. Many of the findings in that statement are pertinent to this research and have been highlighted where relevant.

2.3.4 Summary

Despite the introduction of social tariffs, energy supply probes and market reforms, many failings still exist in the market and many poor and vulnerable households continue to suffer unnecessarily from high fuel bills. In particular, Ofgem have conceded that information remedies, which describe many of the actions thus far taken, are not sufficient alone to address the low levels of active consumer engagement in the energy market. In light of this, the rest of the report explores a range of options that could help either remove vulnerable households from high energy tariffs or reduce their fuel bills, or both. These moves go further than providing information, and actually transfer vulnerable customers onto better tariffs.

⁴⁰ Liquidity is a measure of the availability of products that market participants wish to trade. A product can be considered to be liquid if it is possible to buy it without causing a significant change in its price. Poor liquidity could distort competition, particularly if it benefits vertically integrated firms (those that engage in both generation and supply of electricity and/or gas) at the expense of other firms.

**PHASE 1: ASSESSMENT OF TARIFF OPTIONS AND
IDENTIFICATION OF A VULNERABLE TARGET GROUP**

3 Assessment methodology

3.1 Options for review

As outlined above, regardless of tariff offers available on the market and attempts to increase competition, transparency and fairness, there remains a group of vulnerable consumers who are disengaged from the market and for whom switching is not a realistic option. As a result, this group risk continuing to be penalised with higher energy prices. The CMA inquiry presents a timely opportunity to review possible options that could be implemented to address this.

To be a success, there needs to be little, if any, action required on behalf of the consumer. ‘Automatic switching’ has been considered in the past; in 2012, Labour Shadow Energy Secretary Caroline Flint proposed a policy that would require energy companies to move households containing people aged over 75 to their cheapest tariffs. This was put forward as part of the opposition’s amendments to the Energy Bill 2012, but was defeated and omitted from the final version.

Citizens Advice identified a total of 10 different possible solutions to ensure that vulnerable households currently disadvantaged by the energy market are offered a fair price on energy (Box 3.1). Each of these is described and analysed below.

Box 3.1: Options being considered as part of this review

- 1. Introduction of backstop tariff**
- 2. Provider of last resort (PoLR)**
- 3. Moving environmental and social policy levies from customer bills to general taxation**
- 4. Exemption from environmental and social policy levies for some consumers**
- 5. Revision of the WHD/fuel price support**
- 6. Revision or extension to direct financial support (WFP/CWP)**
- 7. Cap on permitted spread between suppliers’ cheapest and most expensive offers**
- 8. Changes to standing charges (abolition of standing charge; introduction of uniform national charge)**
- 9. Introduction of rising block tariffs (RBTs)**
- 10. Abolition of price differentials between different methods of payment**

At this point, it should be acknowledged that there are further robust methods and approaches to reduce the energy bills of vulnerable consumers, most obviously through the targeted improvement of housing stock. Energy efficiency measures such as fabric insulation, heating system upgrades and the installation of renewable energy technologies are a key part of ensuring the housing stock is brought up to a reasonable standard, and that homes are both comfortable and warm. Whilst pursuing improvements in energy efficiency remains a key aspect of the work undertaken by Citizens Advice and CSE, investigating those options is seen as beyond the scope of this project. Other specific research projects have recently or are currently looking at longer-term options for national energy efficiency policies and programmes.

High energy bills are the result of two key factors: high energy consumption and high prices paid for energy. While measures to improve the energy efficiency of the housing stock will reduce energy consumption, this project is concerned with addressing the unnecessarily high prices paid for energy

by a section of the population whose welfare and wellbeing would be significantly improved by entitlement to more socially progressive energy prices.

3.2 Assessing the tariffs

Each of the tariffs set out above has been assessed using a specifically designed matrix. The evaluation process using this matrix considers how the tariff might work: its likely financial, administrative, regulatory and legislative requirements (where applicable); its potential to impact on the desired target group; plus its wider distributional impacts and how it might impact on engagement and competition in the energy market.

The tariff assessment matrix was developed following an internal workshop held with key members of staff from the research and analysis and household energy services of CSE, including staff directly involved in providing advice, conducting home visits and assisting households in applying for schemes such as the WHD and managing fuel debts. The internal CSE workshop then used this version of the matrix to perform an initial assessment of the tariffs.

The tariff assessment matrix was then put to stakeholders as part of a workshop. Participants were asked to review and refine the matrix before using it to assess a selection of the tariff options. The stakeholder workshop and the tariff assessment matrix are discussed in the following sections.

3.2.1 Stakeholder workshop

The stakeholder workshop was held in January 2015 and involved participants from energy companies, government departments and third-sector organisations. The following organisations were represented:

- Age UK
- British Gas
- Citizens Advice Scotland
- CMA
- Co-operative Energy
- DECC
- E.ON
- Ecorys
- Energy UK
- First Utility
- Joseph Rowntree Foundation
- National Energy Action
- Ofgem
- RWE nPower
- Scottish Power

Members of the project team from Citizens Advice and CSE were also in attendance.

The workshop had two key activities: an evaluation of the tariff assessment matrix and assessment of several of the tariffs using the refined tariff assessment matrix. As part of evaluation of the tariff, the individual categories in the matrix were assessed for their level of importance. The resulting level of importance was used to weight scores for different categories from each assessment.

The objectives of the stakeholder workshop were twofold. Firstly, to have key expert stakeholders shape the method of evaluating the research through feedback on the tariff assessment matrix, and secondly, to have representatives from energy companies, government departments and third-sector organisations assess the tariff options.

3.2.2 Tariff matrix

In order to evaluate each option, CSE designed a tariff assessment matrix. This was used to conduct a preliminary assessment of each tariff, and was refined during the stakeholder workshop. The final list of categories used to assess each tariff is set out in Table 3.1.

In total there are ten assessment categories. Each one has been assessed on a sliding scale from major negative impacts to major positive impacts. It is worth noting that this range is not applicable to all the criteria used. For example, none of the options are likely to reduce administrative costs, so the lowest score a tariff could have is 'no administrative cost implications', whereas the impact on bills of the specific target group might range from 'substantially reduce' to 'substantially increase'.

Table 3.1: Categories used to evaluate each tariff option in the tariff assessment matrix

CATEGORY	Explanation of category	Explanation of scale (criteria)
Energy market regulatory implications	Would the proposed option require changes in energy market regulation, and how significant would these be in light of the ongoing RMR reforms?	New regulation is classified as negative because it would require additional negotiation, costs and lengthy timescales to deliver. No new legislation can have a neutral impact where there are no negative impacts (i.e. a new tariff would not reduce regulation).
Government spend (tax) implications	Would the proposal require additional spending from the Government that would have to be sourced through increased taxation? How significant an amount would this be?	Assumption that raising taxes is politically unpopular and that increased government spending during austerity is likely to prove difficult.
Admin implications (e.g. set up, data matching, delivery)	New proposals could have significant administrative implications, such as increased targeting through the use of additional benefit data and data matching.	High administrative costs considered negative, no additional administrative costs deemed to have a neutral impact.
Cost-reflective pricing implications	Generally, the more energy that is produced, the cheaper it is to produce, and charging people accordingly would be categorised as cost-reflective pricing. In addition there are fixed costs associated with the production and supply of electricity that are unrelated to energy consumption.	Pricing that is cost reflective is regarded as a positive aspect of a proposal, while moving away from cost-reflective pricing scores more negatively.
Implications for market engagement	Increasing awareness of lower tariffs, making the market more transparent, better to understand and easier to use, are likely to increase engagement. However, creating an impression of automatic movement to a cheaper tariff without having to engage in the market might further reduce already low engagement.	Reducing engagement is regarded as a negative impact; however, increasing engagement is classed as a positive outcome.

CATEGORY	Explanation of category	Explanation of scale (criteria)
Impact on/implications for a competitive market	Increasing the competitiveness of the market should engage the more savvy customers, while reducing the competitive market further influences views that the energy market is difficult to navigate and understand how to find a cheaper deal.	Reducing competitiveness is regarded as a negative impact; however, increasing competitiveness is classed as a positive outcome.
Impact on bills of specific target group	Primarily what the tariff is aiming to achieve, although some proposals may impact a wider group and others may not be targeted at all. Some are likely to have a mixed impact.	Substantially reducing the bills of the majority or the entire target group is considered a major positive impact, while substantially increasing is clearly a major negative impact.
Distributional impacts on all energy consumers	How would the costs of the tariff or policy impact on consumers at each end of the income spectrum? Would low-income consumers experience disproportionately higher increases in their energy bills, or would it impact uniformly across all households? Would taxation recuperation mean that low-income houses would contribute less and high-income households more, and therefore be more progressive than the current situation?	Detrimentially impacting on low-income households is considered negative, whereas a system where richer households contribute more to the cost of a policy or mainly only low-income households see a reduction in their outgoings through targeted approaches would score positively.
Impact on existing social tariffs or policies	Could being placed on a newly proposed tariff exempt households currently eligible for policies such as the WHD, and therefore potentially make them worse off (depending on the net change in circumstance)?	No impact is the most positive impact, albeit neutral, while any detrimental impact is scored as negative.
Carbon emissions implications	Some tariffs may result in an increase in energy consumption due to comfort taking, while others may raise awareness of energy consumption or penalise high consumers, thereby potentially reducing energy consumption.	Reducing carbon emissions is scored positively; increasing carbon emissions scores negatively.

An example of the tariff matrix is provided in Annex II.

During the stakeholder workshop, participants were also asked to consider the importance that should be assigned to each category, rating them low, medium or high. These findings were then considered by the team at CSE and the final 'importance weighting' values are listed below in Table 3.2. The categories that were given the highest importance were those that determined the impacts of each option on the specific target group as well as wider distributional impacts, the government spending implications, the energy market regulatory implications and the wider impacts on a functioning competitive market. The unweighted score for each category was multiplied by its importance weighting to arrive at a final categorical score.

Table 3.2: Importance weighting of categories in the tariff assessment matrix

Matrix assessment category	Importance level	Importance weighting
Distributional impacts on all energy consumers	High	3
Energy market regulatory implications	High	3
Government spend (tax) implications	High	3
Impact on/implications for competitive market	High	3
Impact on bills of specific target group	High	3
Administrative cost implications (e.g. set up, data matching, delivery)	Medium	2
Cost-reflective pricing implications	Medium	2
Implications for market engagement	Medium	2
Carbon emissions implications	Low	1
Impact on existing social tariffs or policies	Low	1

4 Assessment of tariff options

Each tariff has been researched and evaluated separately, and presented here is a description of each tariff, a suitable case study where available and the final assessment of the tariff. Ten tariffs have been assessed in all and each tariff is discussed separately. For each tariff, a visualisation of the tariff assessment from the matrix is provided using the final weighted scores. Negative impacts are represented by red bars and positive impacts by green bars. The highest negative impact score achievable is ‘-6’ while the highest positive impact score obtainable is ‘+6’.

The final evaluation is the result of internal discussions, including an internal CSE workshop, plus an extensive literature review and an expert workshop (as described in Section 1.2.1). In some cases, simple calculations have been conducted to illustrate possible changes to energy bills that may result from using the proposed tariffs. These have been done using the average energy consumption of different ‘consumer archetypes’, which are described in more detail in Annex III. These are illustrations, not full analyses. Full analysis was later carried out on a selection of the tariffs (reasons for selection are given in Section 6.1) and this is detailed in Section 7. (Note that later in the report, the modelling work covers variations of the tariffs assessed in this section, and so the modelled tariff details are not all exactly the same as the versions assessed in this section.)

4.1 Backstop tariff

4.1.1 What is it?

A backstop tariff represents a special tariff priced in relation to the selection of tariffs already on the market. Customers who meet the relevant eligibility criteria will be automatically transferred on to this tariff. In this sense it is very similar to a social tariff, with the added dimension of a lack of switching in defining the target group.

The tariff could be set to reflect an average unit rate or alternatively the cheapest unit rate. While the cheapest rate provides maximum savings to vulnerable customers, the average rate might demonstrate the potential for saving and encourage customers to go out and seek further savings themselves. Despite concerns that the cheapest tariff option might remove any remaining incentives

for switching, it is concluded that the transparency and simplicity of this option is still favourable, and it is the transfer to the *cheapest* rate that is considered in this analysis.

Several nuances to explore in this scenario are whether this is the lowest tariff available for the particular method of payment (that is, standard credit, direct debit or prepayment meter) or whether it should be for that particular fuel type, irrespective of method of payment. This will be considered in the modelling phase. How the backstop tariff is priced is also a fundamental question; it could be universal, with one backstop tariff covering the whole market, or it could be set by each supplier. In addition, the time period of inactivity at which point a switch to the backstop tariff is triggered; how long households remain on that tariff and how frequently the tariff is reviewed (reset) must be addressed.

4.1.2 Case study example

In the US, under deregulation of state electricity markets, former local electric utilities are normally required to offer a default tariff, or 'standard offer service'. Amongst the US states that have competitive retail electricity markets, only one does not provide some sort of default service.⁴¹ This service has been compared to a backstop tariff,⁴² but could also be described as a PoLR – an option that is discussed in Section 4.2. The crucial difference between the US case and the tariff option proposed here is that the US standard offer service, although it is a price regulated by the state that the former state utility is required to offer, is not targeted at vulnerable consumers and is not the cheapest price available. Rather, it is a price that the former local electric utilities must offer to all customers (both domestic and commercial). Customers can choose this or another tariff from another supplier; therefore it is not the lowest price on the market as other suppliers offer lower tariffs to be competitive.

4.1.3 Assessment: Backstop tariff

The backstop tariff that has been evaluated below is one whereby consumers would be transferred on to the cheapest available tariff with their current supplier, with the primary goal being to reduce the bills of the target group (notably, in the modelling stage, it was the transfer of consumers to the cheapest available tariff in their region that was modelled, due to limitations in the data preventing analysis of the option assessed here).

⁴¹ Mitchell (2014), 'Lessons From America: Customer Default Service With Competitive Retail – Is This The Way Forward In GB?'. Online. Available at: <http://projects.exeter.ac.uk/igov/lessons-from-america-customer-default-service-with-competitive-retail-is-this-the-way-forward-in-gb/>

⁴² Ibid

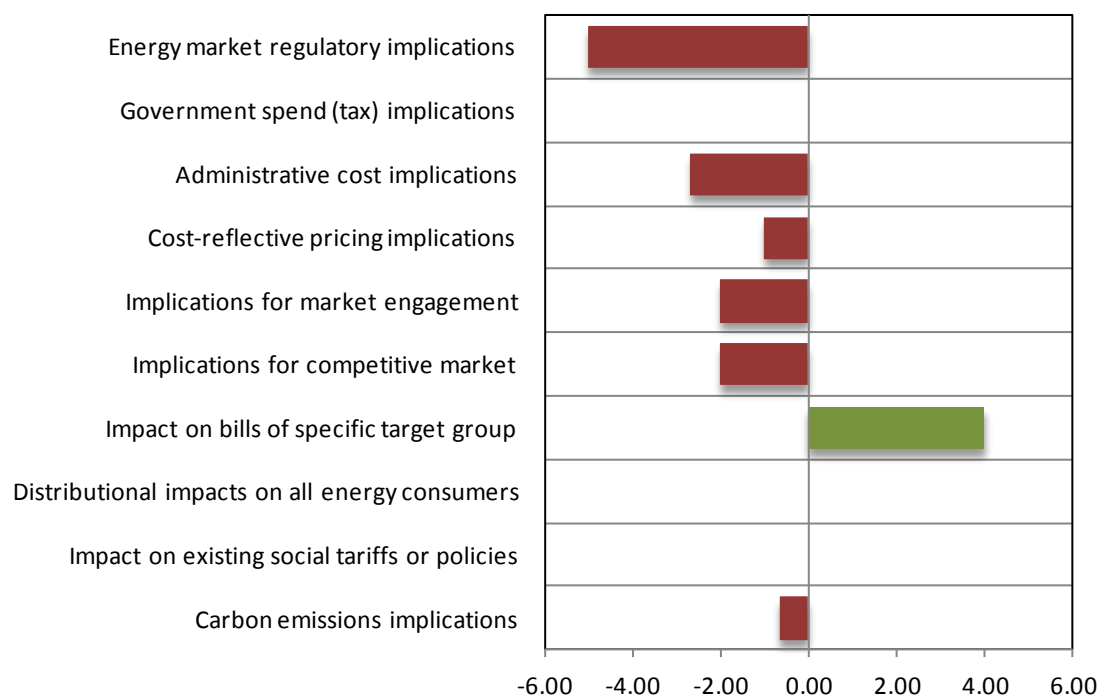


Figure 4.1: Matrix assessment of a backstop tariff

The matrix assessment highlights the energy market regulatory implications. Despite a precedent being set for transferring customers to cheap tariffs following the RMR reforms and the attempts to shift people off discontinued evergreen tariffs, the creation of a backstop tariff would still require a specific piece of regulatory change. This might represent a continuation of the RMR and could be prescribed by Ofgem, and it has been suggested that a backstop tariff might be proposed as part of the CMA recommendations.⁴³

A backstop tariff is unlikely to involve any additional government spending. The bulk of the costs required to perform this transfer are likely to be borne by energy companies. As with most tariff options, targeting a specific group of vulnerable customers through means-tested eligibility criteria using benefit proxies will require some additional data matching,⁴⁴ incurring some additional administrative costs. Such a system of automatic matching has already been successfully implemented through the WHD scheme. This system would need to be copied and expanded to include wider eligibility criteria (including not having switched for a set length of time), and possibly a more regular check to ensure that households are still in receipt of the eligible benefits (as discussed in Section 5.4, there is likely to be a higher rate of ‘churn’ of recipients for some of the CWP-eligible benefits, in contrast to pension credit recipients).

In terms of market competition and engagement, a backstop tariff could potentially lead to a perception that doing nothing (that is, disengagement from and inactivity in the market) could result

⁴³ Webb, T. (2014), ‘CMA Considers Automatic Switch Plan For ‘Sticky’ Energy Customers’. The Times, online. Available at: <http://www.thetimes.co.uk/tto/business/industries/utilities/article4306559.ece>

⁴⁴ The data matching referred to throughout this section is work carried out by the Government to match the energy suppliers’ customer datasets with DWP data on benefits recipients, to identify customers who are eligible for the WHD. This could be extended if required for other schemes.

in being switched to the cheapest tariff. However, there is strong evidence to suggest that a majority of the vulnerable group concerned is already fully disincentivised.

Nevertheless, overall competition could be slightly reduced and there is a real possibility that energy companies could increase the price of all tariffs in a bid to reduce the loss of revenue from moving people off more expensive tariffs to their cheaper ones.⁴⁵ There is also a concern that the shift of customers onto a protected tariff, and the removal of these customers from the competitive markets, will reduce the strength of competition and in the long run might lead to prices that are higher on average.⁴⁶ Alternatively, there will be an increase in pressure on other areas of the market as there are fewer customers remaining to compete for.

Despite this, if a backstop tariff is well targeted, then although the remaining population may see some increase in tariff rates as a result and the cheapest tariffs may increase to cover lost revenue and maintain profit margins, the vulnerable low-income households should all still see a very real reduction in their bills. This active removal of low-income and other vulnerable consumers from poor-value tariffs to some of the cheapest on the market is the most advantageous aspect of a backstop tariff.

4.2 Supplier of last resort (SoLR)/ Provider of Last Resort (PoLR)

4.2.1 What is it?

Currently, the SoLR is appointed by Ofgem and required to provide energy, usually at a set rate, to customers of any supplier that goes bankrupt. In the context of this research, it is proposed that a Provider of Last Resort (PoLR) is established. This would be a publicly funded, not-for-profit organisation that would supply energy to customers meeting the required eligibility criteria and who had not changed tariff for a certain period of time, or who are on expensive tariffs. This would effectively remove these customers from the competitive market and ensure that they could not be charged unduly high prices for their energy. This approach has the potential to incentivise energy suppliers to engage with their customers and encourage tariff switching, in order to prevent loss of customers to the PoLR. This could be a perverse incentive, however, with switches that offer little financial gain but are enough to prevent loss of customers to the PoLR.

Defining the period of time of inactivity before transfer and what constitutes an acceptable switch would also have to be defined.

4.2.2 Case study example

There are no current examples of a PoLR of the format described here, although the US system of a standard offer service, described in Section 4.1.3, is similar in some ways.

⁴⁵ Littlechild (2012), 'Ofgem And The Philosopher's Stone'

⁴⁶ Oxera (2012), 'Economic Appraisal Of Ofgem's Domestic Tariff Proposals: An Appropriate Intervention To Increase Consumer Engagement?'

4.2.3 Assessment: PoLR

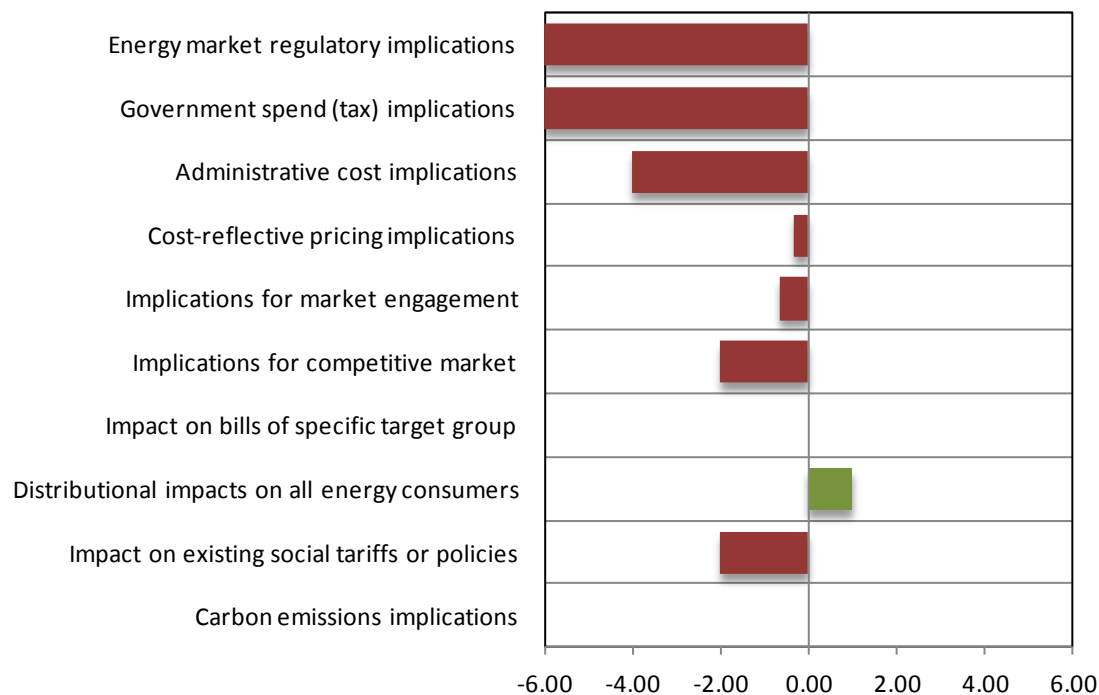


Figure 4.2: Tariff assessment for the PoLR

The visual assessment of the PoLR in Figure 4.2 highlights a number of points of concern and potentially large barriers to its successful establishment as an option in the current energy market.

If the PoLR service is to be provided by a public entity and not by an existing energy company, then a large amount of public money would have to be used to set up this service, not to mention the negotiation of trading contracts and arrangement of a long-term supply of energy, an effective business model (including a known customer base), customer services and many other peripheral aspects associated with an energy company. If the PoLR was to keep to its original aim of providing energy at a cheaper rate because of these requirements, continued subsidy would also be likely to be required. This would run counter to the principles of cost-reflective pricing, with energy being supplied for less than its real cost.

Aside from costs, the existence of a PoLR and the resultant removal of customers from the market would have implications for competition. If the tariff offered by the PoLR was the lowest across the market then there would be no incentive to switch back to a standard supplier, and the progressive removal of customers to them would effectively end up in the re-nationalisation of the retail energy market. Therefore, the qualification criteria would need to be fairly stringent and tested regularly. Receipt of energy from the PoLR might have to represent a temporary measure.

Energy companies with large loyal customer bases would be set to lose these customers, and all companies would be set to experience a fall in revenue. Making transfer to the PoLR on an 'opt-in' rather than an 'opt-out' basis would allay energy company concerns; however, it would then require engagement of consumers and thus be ineffectual at achieving the primary objective.

A further concern for customers is that an automatic transfer to this public body and away from a current supplier, or not a supplier of their choosing, may result in loss of the WHD, leaving them financially worse off than before. This option would therefore require a refinement of the WHD from its current form to a policy that would work alongside this intervention.

In addition to this, and because of the high government spending and administration requirements, there is no certainty that this will result in any reduction in the bills of the vulnerable group being targeted. A redeeming feature of this option is that if costs were recovered through taxes then this would be a progressive measure with positive distributional impacts. Low-income households would be contributing the least through taxes but reaping the most rewards through lowered energy bills.

4.3 Moving energy sector levies from bills to taxation

4.3.1 What is it?

The costs of environmental and social policies such as the Energy Company Obligation (ECO), Feed-in Tariff (FIT) and WHD make up around 6 per cent of domestic gas prices and 11 per cent of electricity prices.⁴⁷ Whilst this is a relatively small proportion of the total household energy bill (compared to, for example, wholesale energy and support costs and profit margins, which together account for some 67 per cent of gas and 58 per cent of electricity costs), there are valid arguments for transferring some of these levies away from energy bills and onto general taxation. In the context of certain policies, such as the FIT, lower-income households stand to benefit the least but still pay towards the cost of the policy.⁴⁸ Recovering costs through taxation, specifically income tax, is generally considered more progressive because those with higher incomes pay more income tax. Furthermore there is a clear contradiction in implementing policies designed to reduce the energy bills of low-income vulnerable households, if these same households then pay towards this policy through their bill.

4.3.2 Case study example

The UK Government's original proposals for the Renewable Heat Incentive cited powers within the Energy Act 2008 that would enable the introduction of a new levy on suppliers of fossil fuels to consumers for the purpose of generating heat.⁴⁹ Further consultation, modelling and distributional impact assessment (including by DECC and CSE, using DIMPSA)⁵⁰ highlighted the potentially highly regressive nature of this approach: low-income consumers were considered less likely to be able to take advantage of the offer (that is, take up renewable heating measures) but would be paying significantly towards the cost, while households on a higher income stood more chance of benefitting. It was therefore decided and confirmed in the 2010 Spending Review that this policy would be funded through taxation instead.⁵¹

⁴⁷ House of Commons Library Note: Bolton (2014), 'Components Of An Energy Bill'

⁴⁸ Preston et al (2013), 'Distribution Of Carbon Emissions In The UK: Implications For Domestic Energy Policy'

⁴⁹ Renewable Heat Incentive Consultation (2010). Available at:

<http://www.rhincentive.co.uk/rhi/regulation/legislative/consultation/>

⁵⁰ Preston and White (2010), 'Distributional Impacts Of UK Climate Change Policies'

⁵¹ Renewable Heat Incentive Consultation (2010). Available at:

<http://www.rhincentive.co.uk/rhi/regulation/legislative/consultation/>

Another example is the Government Electricity Rebate (GER), which is a payment from Government (from taxation) paid to domestic customers via electricity suppliers in England, Scotland and Wales. It is a £12 rebate paid annually for two years from October 2014, as a partial refund of the costs of environmental policies.⁵²

4.3.3 Assessment: Moving energy levies to general taxation

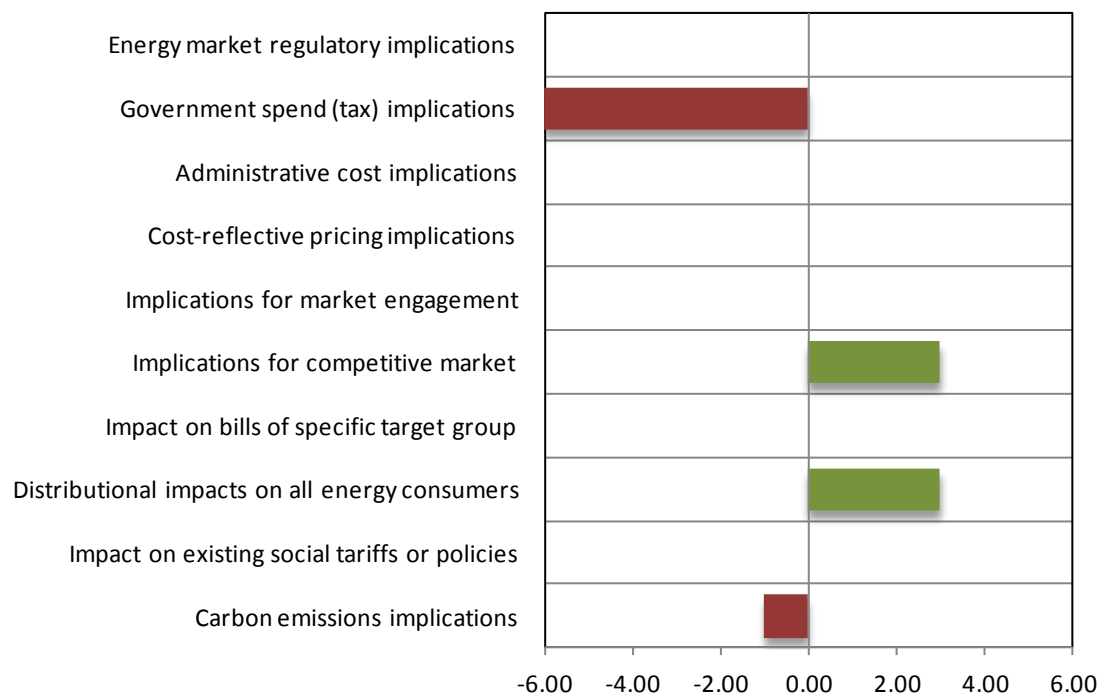


Figure 4.3: Tariff assessment for moving energy sector levies from bills to taxation

There are a number of nuanced points to consider in reference to the idea of moving energy sector levies to general taxation, and the visual assessment in Figure 4.3 highlights some of these. The effect on tax would clearly be significant. In order to facilitate this option, either spending would have to be reduced elsewhere or more money would have to be collected through taxation.

One potential benefit of this move is that it could make fuel prices better reflect the cost of providing energy. Currently, some energy suppliers are required to pay levies that others are not, or they pass the costs on to consumers at different rates; this measure would level the playing field between different suppliers and remove this extra layer of confusion. In addition, competition between suppliers would be likely to increase, although smaller suppliers that do not have to pay some levies would lose this competitive advantage. Suppliers are also likely to be in favour of a move that makes their prices look cheaper, without much administrative burden. However, suppliers would still be free to offer loss-leading tariffs to some customers while cross-subsidising this by charging more to those who are less likely to switch, and so this option may make little difference to the tariffs of these consumers.

⁵² Ofgem (2015), 'Government Electricity Rebate (GER)'. Online. Available at: <https://www.ofgem.gov.uk/environmental-programmes/electricity-rebate-programmes/government-electricity-rebate-ger>

A move to taxation would be more progressive, with higher earners paying the burden of the costs, rather than low users, who often also have low income. Electricity is subject to more levies than gas, and so those off-gas households using it as their main heating fuel would also benefit if the costs of levies were moved to taxation.

Although this option could make the price of energy more reflective of direct costs, the purpose of environmental levies is to internalise the external costs of energy production and they are used specifically for carbon mitigation. It could also be argued that moving environmental levies to taxation could attract more political attention to these levies. This could result in a reduction in energy efficiency and carbon mitigation measures due to pressure to cut government spending, or alternatively it could lead to an increase in funding for energy efficiency measures, due to more money being channelled into energy efficiency measures from taxation than was the case through energy bills.

4.4 Exemption from energy sector levies for certain households

4.4.1 What is it?

The principle behind this option is to create a tariff exempt from any of the environmental and social policy costs currently passed on to energy bills (that is, removing the 6 per cent and 11 per cent of gas and electricity prices respectively that are made up of these costs) and presenting it as a new tariff offer to the target group of households. The costs removed from these tariffs would then be socialised over the remaining customer base.

4.4.2 Case study example

There are few examples of schemes where some domestic customers are exempted from energy sector levies completely, although there are examples of schemes that have the beginnings of such an idea.

However, there are examples where some industrial customers have been exempted from certain energy sector levies. Many industrial companies based in Germany are exempted from paying the surcharge associated with the Renewable Energy Act (an environmental taxation on electricity, known as the EEG surcharge (Erneuerbare-Energien-Gesetz). There, some concerns have been raised about the fairness of exempting industrial companies from charges that domestic consumers are obliged to pay.⁵³

4.4.3 Assessment: Exception from energy sector levies for certain households

The main advantage of this option is that it addresses the counterproductive nature of funding a policy that aims to reduce the bills of low-income households (the 'Affordable Warmth' strand of the ECO) through energy bills, which has the effect of increasing bills for everyone, including low-income households. There is also evidence that low-income or vulnerable households benefit the least from these policies: according to an IPPR report, 80 per cent of the ECO budget is being used to fund measures in households that are not fuel poor (although it should be noted that not all of ECO is aimed at low-income households).⁵⁴ Removing these costs from the bills of low-income households would reduce the unit price they pay and present a potentially fairer approach.

⁵³ IEA (2013), 'Energy Policies Of IEA Countries – Germany: 2013 Review'

⁵⁴ IPPR (2013), '1.3m Households In Fuel Poverty Get No Help With Insulation Or Boiler Replacement'

In practice, however, removing these elements of bills for only a subset of the population is an administratively difficult and expensive process. Determining and agreeing on the share of the bill that is due to policy costs would be complex, as the policies are designed so that suppliers are not obliged to spend set amounts of money but rather must meet targets in whatever way they think best. This means that exact policy costs paid by each supplier are not known, and therefore the exact proportion of energy bills that they make up is not known. It would also go against Ofgem's prevailing movement towards a simplification of the tariffs on the market, as it would effectively require a doubling of the tariff options in order to provide a 'levy-free' variety of each.

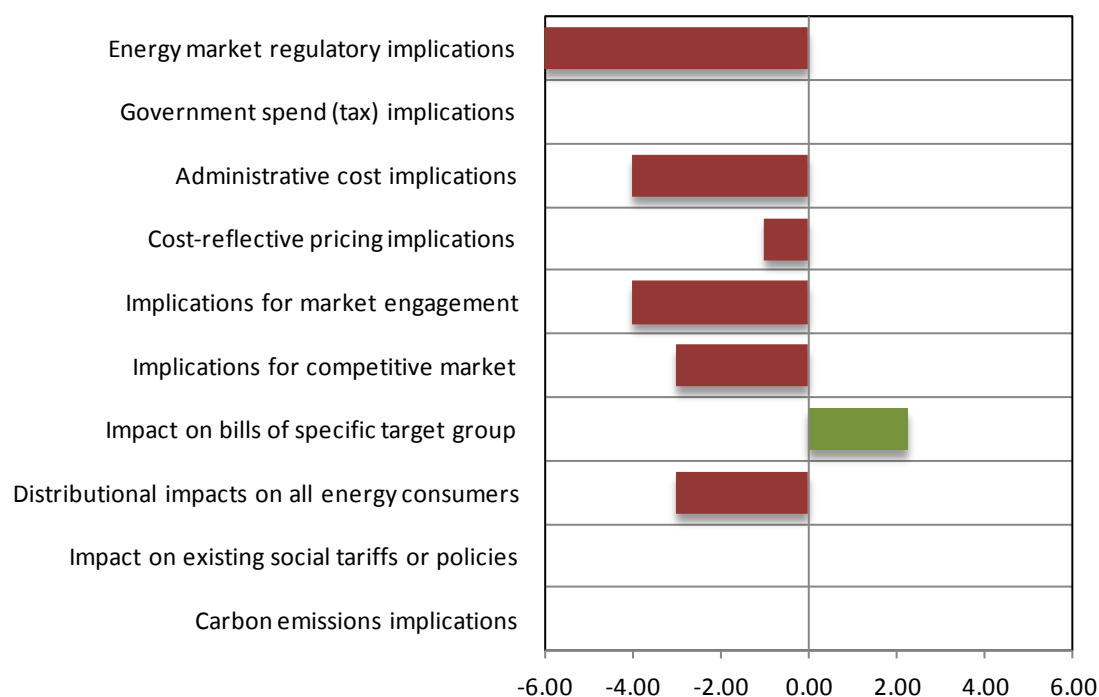


Figure 4.4: Tariff assessment for exempting social and environmental costs for certain households

There would also be significant implications for competition, as supply licenses stipulate that companies are not allowed to turn down low-value customers. Suppliers free from the obligations of certain environmental levies would be advantaged, as those suppliers who were obligated would have to increase prices to recover the policy costs over a smaller customer base. This is amplified by the fact that, as the static, disengaged customer base is largely with the largest six energy companies,⁵⁵ these companies would have a higher proportion of customers from whom environmental levies had to be removed, making their other customers' bills higher, relative to smaller energy companies that have lower policy costs because they are exempt from ECO. More engaged customers might thus be tempted to move to an ECO-exempt supplier. Alternatively, if the supplier does not increase costs over their other tariffs then they risk losing revenue.

On the other hand, such a move would have positive implications for a significant proportion of vulnerable households; low-income households would receive lower bills and higher-income households would experience increases in their fuel costs. Although this is progressive, there may be

⁵⁵ Ofgem (2015), 'Submission To The CMA: Incumbency In The Retail Energy Market'

households that have quite low income but do not qualify for the lower tariffs, and would find themselves disadvantaged by being required to pay higher prices for their energy.

Environmental levies account for a relatively small proportion of total energy bill costs, and so the lower tariff may not be much lower than the normal tariff. In addition, if customers were expected to switch to this tariff themselves, the target group would be unlikely to do this. They could be offered the tariff instead, which would require data matching to identify eligible customers.

4.5 Refinement of WHD/fuel price support

4.5.1 What is it?

The WHD, introduced in 2011 to replace the earlier system of supplier-led, voluntary social tariffs, offers a reduction on electricity bills for recipients. A core group of customers, made up of those in receipt of pension credit, receive this rebate automatically, while the individual energy companies define the eligibility criteria for a broader group. Although this is set to change next year with the introduction of standard criteria, there will still remain issues with uptake of the benefit. Only suppliers with over 250,000 customers are obliged to take part in the scheme.⁵⁶

There are currently 2 million people receiving the WHD, twice as many as in 2011 when it was first launched.⁵⁷ Whilst the WHD can in many ways be considered a progressive and successful policy – in that it addresses the issue of affordable warmth by directly reducing energy bills for customers within the core group without the need for the customer to act – however, there are some strong arguments for reviewing it. For example, the lack of consistent criteria for the broader group introduces a level of complexity to switching supplier, as differing eligibility criteria or the timing of their switch may mean that customers lose the WHD payment for that year. The option considered here, therefore, builds on the recent announcement of uniform criteria for the broader group,⁵⁸ and suggests an automatic discount on bills applied to all those found to be eligible through data matching.

4.5.2 Case study example

In Belgium, certain customers are assigned ‘protected customer’ status, which enables them access to a range of benefits including a social tariff and tailored energy efficiency advice. Protected customer status is assigned annually to those currently in receipt of any form of support included on the eligibility list. Each of the three regions (Flanders, Brussels-Capital and Wallonia) has a different set of eligibility criteria.⁵⁹

⁵⁶ House of Commons Library Note: Hough et al (2014), ‘The Warm Home Discount Scheme’

⁵⁷ Kubiak (2014), ‘More Pensioners Now Claim The Warm Home Discount’. Online. Available at: <http://www.moneysavingexpert.com/news/utilities/2014/10/more-pensioners-can-now-claim-the-warm-home-discount>

⁵⁸ DECC (2015), ‘2 Million Families And Pensioners To Get Money Off Of Their Energy Bill’. Online. Available at: <https://www.gov.uk/government/news/2-million-families-and-pensioners-to-get-money-off-energy-bills>

⁵⁹ Flemish Government (2015), ‘Benefits And Premiums For Electricity, Gas And Water For Protected Customers’ [translated]. Online. Available at: <http://www.vlaanderen.be/nl/bouwen-wonen-en-energie/elektriciteit-en-aardgas/voordelen-en-premies-voor-elektriciteit-aardgas-en-water-voor-beschermde-klanten#>

4.5.3 Assessment: Refinement of WHD scheme

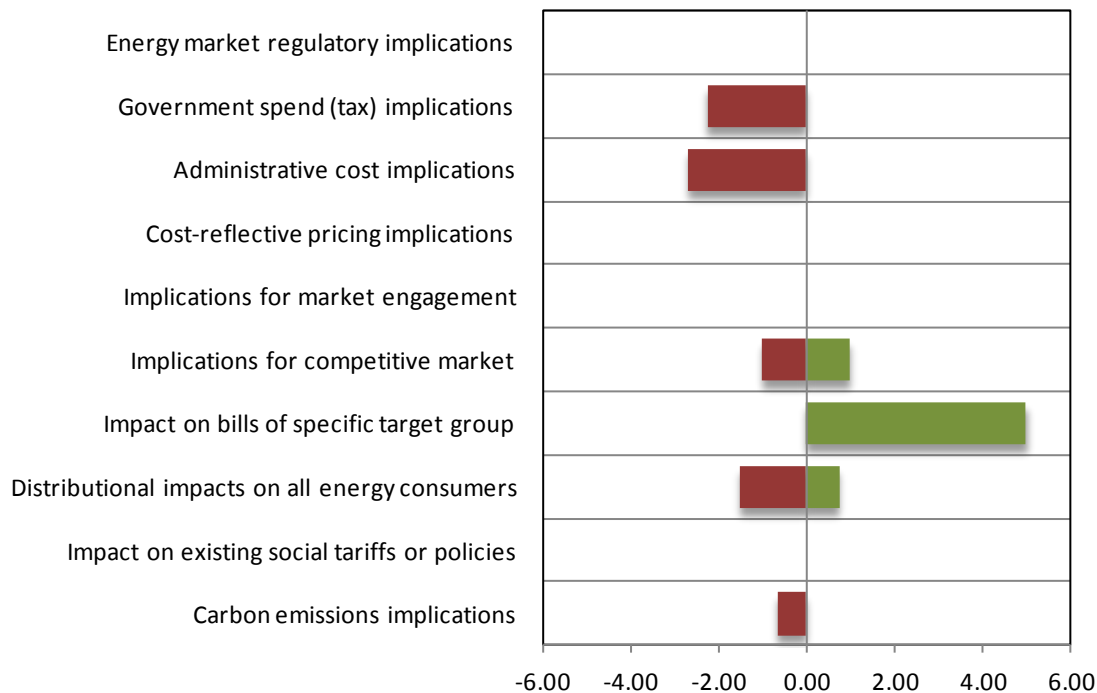


Figure 4.5: Tariff assessment for refinement of WHD/social price support

Figure 4.5 demonstrates that there are a number of potential positive and negative implications of refining or extending the existing WHD scheme. In summary, the WHD is effective at targeting financial support to those most in need, but does nothing to deal with the failings of the competitive market and the positioning of many of the poorest people on the worst value tariffs.

In its current form, the WHD is funded by energy suppliers who recoup the costs of provision through increases in their prices. This measure, therefore, comes at zero net cost to suppliers and has small administrative costs (data matching and provision of a call centre) to the Government. Arguably, however, it would be more progressive to fund this scheme through taxation as currently those who receive the payment are also paying for it through their bills. Particularly problematic is that those households that are ineligible for benefits but still considered vulnerable are made to pay for the scheme through increases in their bills.

To date, the WHD has been a very successful scheme, and in 2015/16 it is expected to reduce the number of households in fuel poverty by 30,000.⁶⁰ This is largely because it uses simple and reliable targeting criteria for a core group and involves a direct reduction in bill prices. Extending the criteria for the scheme, and in particular making the criteria for the broader group uniform, would extend the scope further. However, some customers currently in the broader group of their existing energy supplier could lose out if the revised eligibility criteria exclude them. It is also important to note that the success of any policy targeted at groups of households in receipt of certain benefits will be

⁶⁰ DECC (2015), 'Warm Home Discount Extension Impact Assessment'

limited by systemic shortcomings, such as under-claiming of benefits (as discussed in Section 5). Additionally, the overlap of means-tested benefits with fuel poverty is unlikely to be foolproof.

Problematically, the existence of the WHD can currently confuse the switching process; customers from the broader group must work out whether they are going to lose the WHD when they switch, and the effect this will have on their overall savings from switching energy supplier. They must consider the time of year to make the switch as the lag time between applying for the WHD and it being paid might mean they lose out. If the scheme was refined with uniform criteria to include all those currently eligible under the broader group criteria, then this problem would be resolved.

Mandating that all companies must offer the discount would also help to resolve the current situation whereby some suppliers do not offer the rebate and can thus charge lower prices, skewing competition in their favour.

The potential benefits of an extension to this scheme must be offset against the expected high costs of administering it. To ensure eligible households in the broader group receive the discount automatically, a process of data matching, using information from the Department for Work and Pensions (DWP) on benefits recipients would be required. Whilst entirely feasible, and currently used to administer payment to the core group,⁶¹ this does have significant potential cost implications for taxpayers. Currently, the data matching process costs the DWP between £0.91 million and £0.98 million.⁶² In addition, if the scheme continues to represent an obligation on energy suppliers, this translates into a cost for the energy consumer as suppliers will seek to recover these costs through fuel bills.⁶¹ There is a risk that increasing the WHD to encompass a larger group of customers could actually result in more households being pushed into fuel poverty, as a result of increases in fuel prices. In 2011, the WHD was estimated to represent a cost to the consumer of £10 on the typical combined annual electricity and gas bill (of £1,260).⁶¹ However, while an estimated 74,000 households became fuel poor in 2014/15 as a result of (the cost of) the WHD, some 172,000 are also estimated to have been lifted out of fuel poverty as a result of the policy, giving a 'net benefit' of 98,000 being moved out of fuel poverty as a result of the scheme.⁶¹

4.6 Reform/extend direct financial support from Government

4.6.1 What is it?

Two government policies currently offer direct financial support to assist householders in paying their energy bills, namely: the Winter Fuel Payment (WFP) and Cold Weather Payment (CWP). The WFP credits all state pensioners automatically every winter with a payment of between £100-300. The CWP offers £25 to low-income households (see Box 5.1, page 56, for the full list of eligibility criteria) for each seven-day period recorded at sub-zero temperatures.

The WFP has been widely criticised for its broad-brush nature. It is, in effect, a universal benefit that boosts the national state pension, which is fairly low in other comparison to European countries.⁶³

⁶¹ House of Commons Library Note: Hough et al (2014), 'The Warm Home Discount Scheme'

⁶² DECC (2015), 'Warm Home Discount Extension Impact Assessment'

⁶³ Adams (2013), 'How Does The UK State Pension Compare Worldwide'. Online. Available at: <http://conversation.which.co.uk/money/uk-state-pension-comparison-serps/>

Only 12 per cent of those in receipt of the benefit are fuel poor.⁶⁴ The scheme came in at a cost of £2.1 billion in winter 2013/14,⁶⁵ and controversially, £21.76 million was spent on payments to people living outside the UK,⁶⁶ including those living in countries with milder climates where cold winters are less of a problem (although the Government plans to scrap this for UK pensioners living in Portugal, Spain, Greece, France, Gibraltar, Malta and Cyprus from next winter).

Whilst the WFP (and CWP) are credited automatically to eligible households, there is no guarantee that the money will be spent on energy bills or used to target affordable energy. A study by the Institute for Fiscal Studies (IFS) found that, on average, 41 per cent of the WFP is spent on heating,⁶⁷ which is a fairly high proportion considering there is no obligation to do so, but this leaves 59 per cent of the payment not being used for its intended purpose. To put this in context, while the poorest pensioners still have to choose between heating and eating during cold weather,⁶⁸ an estimated 1.2 billion (59 per cent of 2.1 billion) of the WFP is not spent on fuel. This annual 'wasted' WFP is almost equal to the estimated cost of ECO over three years; there has been considerable political pressure to reduce the costs of ECO but the WFP has received little attention.

The option proposed here, therefore, stipulates refining the eligibility criteria to limit the WFP to only those in receipt of certain benefits. In theory, this could enable a higher proportion of low-income, vulnerable customers to receive it (that is, extend eligibility beyond pensioners while removing the benefit for well-off pensioners), and/or increase the level of support offered without the need to increase the spending pot (that is, fewer recipients receive more each).

4.6.2 Case study example

The Surviving Winter campaign supports vulnerable households during the winter months using donations principally from un-needed WFPs. There are 38 community foundations across the UK participating in the campaign, which has raised £5.2 million for vulnerable households since November 2011.⁶⁹ There are a number of other, more regionally based, campaigns founded on a similar principle. The indication is that some households show both capacity and willingness to give up the WFP.

4.6.3 Assessment: Reform direct financial support from Government

The option suggested here, to redistribute the WFP, is not directly related to tariffs and exists outside of the energy market. An alternative option is to maintain the WFP as a tax-funded policy but have energy suppliers administer it through direct rebates on the bills of eligible households. To negate the administrative implications of this option, it has been suggested that the Government would continue to administer the scheme but to offer vouchers, redeemable with any energy supplier, instead of monetary payments. There is a risk in this approach of the vouchers going unspent.

⁶⁴ Altmann (2013), 'Should Better-Off Pensioners Sacrifice Their Winter Fuel Allowance?'. Online. Available at: <http://www.moneywise.co.uk/newsletter-item/15725>

⁶⁵ DWP (2014), 'Winter Fuel Payment: Caseload And Household Figures 2013-2014'

⁶⁶ Ibid

⁶⁷ IFS: Blow et al (2011), 'Labelling Matters: Households Spend 40% Of Winter Fuel Payment On Fuel. But Poor Pensioners Still Cut Back On Food In Cold Weather.'

⁶⁸ Ibid

⁶⁹ UK Community Foundations (2015), 'Surviving Winter'. Online. Available at: http://ukcommunityfoundations.org/programmes/surviving_winter/

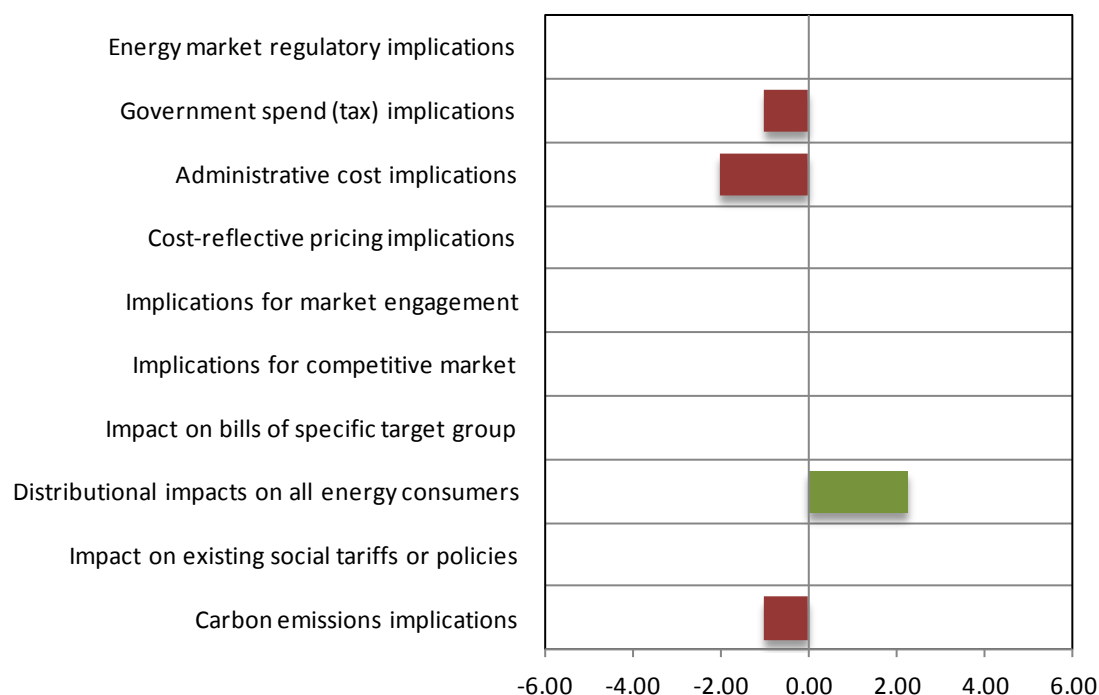


Figure 4.6: Tariff assessment for direct financial support from Government

The existence of the WFP is politically sensitive as many view it as a top-up to the state pension. Therefore, removing it or refining the criteria is likely to impact political support for the Government from pensioners. If the level of payment or scope of the scheme were extended, this would also have large ramifications for government expenditure. If the payments were extended, the implications for tax could be significant, but as the scheme operates entirely outside of the energy market there would be few other negative implications. It is unlikely that there would be any effect on competition, consumer engagement or cost-reflective pricing, and there would be no need for new energy market regulation.

Currently, the WFP is not targeted to a vulnerable group, and so all pensioners, regardless of vulnerability, gain the same advantage (but with higher payments for older pensioners). The introduction of a means-tested payment would mean that the same pot of money that is currently available would be distributed to a smaller number of households, and so those most in need would end up benefiting more.

Means-testing the WFP would incur a cost (related to data matching). However, the IFS have refuted the claim that a targeted approach would increase costs, estimating that linking the WFP to those receiving pension credit would save the treasury at least £1.5 billion a year.⁷⁰

Like several other options, this approach does not address the fact that some vulnerable households' fuel bills are unreasonably high due to expensive tariffs. Arguably, government money could be better targeted into helping find a fairer fuel price for these customers, many of whom are not pensioners, rather than subsidising expensive tariffs.

⁷⁰ Centre Forum: Burstow (2013), 'Delivering Dilnot: Paying For Elderly Care'

4.7 Capping the spread between the cheapest and most expensive tariff offers

4.7.1 What is it?

Despite efforts to increase fairness in the energy market, there remains a real differential in prices between the cheapest and most expensive tariffs available (as recently reported by the CMA). In particular, rates vary across different payment methods and in different areas. Whilst some regions may have a higher cost to serve, pricing is in practice far more complex than this. Historically, suppliers have charged higher rates in areas where they have market dominance and offer lower rates in areas where they are trying to undercut and compete with others, in order to break into a new market area.⁷¹ Many suppliers have also previously offered or currently offer what appear to be loss-leading acquisition tariffs. These are usually fixed-term, fixed-price direct debit tariffs that are significantly cheaper than their standard variable direct debit tariff price. The existence of this practice was recognised by Dermot Nolan, Chief Executive of Ofgem, who said he had no problems with energy companies using profits from power stations to subsidise loss-leading tariffs in the supply side of their business.⁷² Indeed, Ofgem's RMR made no attempts to deal with this behaviour, despite fears from other suppliers that it acts as a barrier for entry and reduces competition in the energy market.⁷³

In 2009, Ofgem introduced regulations requiring any differences in prices to be justified. The option considered here goes further, suggesting regulation could be introduced to limit the range allowed between the cheapest and most expensive tariffs offered by suppliers. Whilst this approach applies to the whole market and so does not include any element of direct targeting at disengaged and vulnerable customers, as reported elsewhere it is typically these customers who are on the most expensive tariffs. Furthermore, this approach negates any requirement for action on behalf of the consumer and is not targeted, requiring no additional eligibility checks.

4.7.2 Case study example

No previous examples of a regulatory intervention along these lines could be found, although the recent reforms from Ofgem's RMR that limit suppliers to offering no more than four tariffs has some similarities.

One example where parallels can be drawn is the regulation of prices in the Australian energy market. In the past, in New South Wales, the Independent Pricing and Regulatory Tribunal (IPART) published frequent issues of a 'Draft Determination Report',⁷⁴ which proposed the prices that regulated electricity retailers should be charging in each area. These prices were set in relation to the defined 'efficient market price', and were calculated in reference to prices that were achievable by the mass market incumbents. This price setting made it challenging for new entrants to the market to compete, and led to some retailers withdrawing from the market in certain areas

⁷¹ Oxera (2012), 'Ofgem's Anti-Competitive Practice'

⁷² Webb (2014), 'Selling Power At A Loss Is OK With Us, Says Ofgem'. Online. Available at: <http://www.thetimes.co.uk/tto/business/industries/utilities/article4289423.ece>

⁷³ Stephen Fitzpatrick (2012), 'Ref: Ovo Energy Consultation Responses – Retail Market Review (RMR)'. Letter to Ofgem, online. Available at: <https://www.ofgem.gov.uk/ofgem-publications/39576/ovo-energy-response.pdf>

⁷⁴ Murray et al (2013), 'Review Of Competition In The Retail Electricity And Natural Gas Markets In New South Wales – Report Of Interviews With Energy Retailers'

completely, claiming that that the minimum prices they had to charge were prohibitively low to turn profits. Both Victoria and New South Wales have moved away from a situation where energy prices are regulated and now energy companies are free to set their own prices. Reports have concluded that price regulation stifles innovation and that price regulation is not an effective means of controlling the market.⁷⁵

4.7.3 Assessment: Capping the spread between the cheapest and most expensive tariff offers

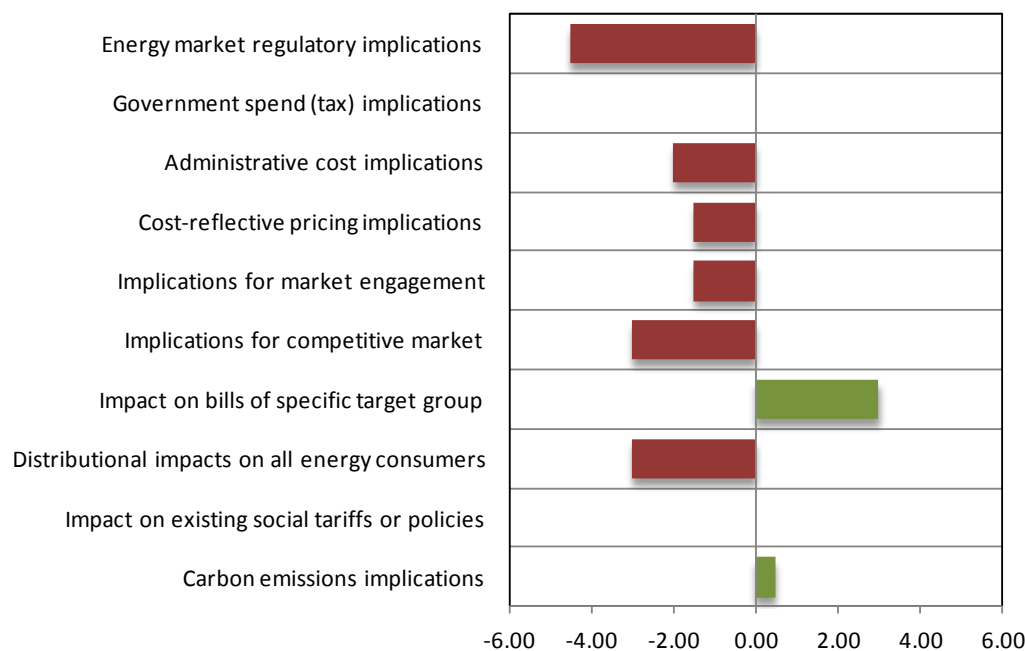


Figure 4.7: Matrix assessment of capping the permitted spread between the cheapest and most expensive tariff offers

Capping the spread of tariffs is unlikely to conflict with the RMR or the EMR, and may represent an extension of the reforms; however, additional regulation would be required to set caps. There are no additional public expenditure or tax implications but it would be considered a government intervention in the market so there is likely to be some resistance.

At the extreme end of the spectrum, there are likely to be some conflicts with cost-reflective pricing, with suppliers arguing that higher tariff prices reflect certain higher costs to serve. How the range is set will clearly be important in determining the effects on supplier revenue. Energy companies are also likely to argue that their ability to undercut other competitors and attract new customers would be reduced, as the distribution of tariff prices would be squeezed.

From the consumer perspective there would be a reduced range of tariff options, which may reduce complexity in switching, but in some sense it could also reduce transparency as the best deals may

⁷⁵ See footnote 70

not be quite so apparent, and customers may feel confused by a profusion of very similarly priced deals, with the winner being perhaps even less obvious.⁷⁶

The introduction of SLC 25 A⁷⁷, ‘The Undue Discrimination Prohibition License’, also demonstrates the potential unintended consequences of trying to unitise prices; this measure attempted to address price differentials between different areas but instead of achieving averaged-out, reasonable prices, prices were increased across the board to match those that were highest originally.⁷⁸

Whilst this approach enforces a cap on price levels, which should in theory translate into a reduction in costs for those currently on the most expensive tariffs, it does mean that these households will likely still remain on the highest tariff offers and remain the most disadvantaged by the energy market. It may also result in suppliers simply increasing the price of their lowest tariffs. Furthermore, it does nothing to address price differentials between different methods of payment.

4.8 Standing charge reform

4.8.1 What is it?

Under Ofgem’s most recent regulations, it is obligatory for suppliers to price their tariffs in terms of a unit price and a fixed standing charge. However, suppliers can apply different standing charges on different tariffs (although some have pledged to only have one single standing charge). There are two proposed means of counteracting this issue:

Option A: Abolition of standing charges

All tariffs would be priced in terms of one variable unit rate. This rate is likely to be higher than it is now to allow suppliers to recover the costs lost from the lack of standing charge.

Option B: Fixed, nationwide standing charge

The pricing system would remain the same, with a fixed standing charge and a variable unit rate. Under this option, however, the standing charge would be fixed and constant across all tariffs and all suppliers. This would allow for safe recovery of costs, but would remove a layer of complexity from the pricing system.

4.8.2 Case study example

A 2002 study aimed to reveal whether the introduction of tariffs without a standing charge had truly benefitted the fuel-poor customers it had targeted.⁷⁹ They looked at a standing charge-free gas tariff introduced in 2000, which used a two-tiered unit rate with higher prices charged for the first block of

⁷⁶ Ofcom (2013), ‘A Review Of Consumer Information Remedies’

⁷⁷ Standard Licence Condition 25A (“SLC 25A”) was introduced in September 2009 and required suppliers to ensure that tariffs offered did not discriminate between certain groups of domestic customers. SLC 25A was primarily introduced to prevent suppliers from charging higher prices for their incumbent customers, compared to their non-incumbent customers without objective justification.

⁷⁸ Littlechild (2012), ‘Ofgem’s Anti-Competitive Practice’

⁷⁹ Bennett, Cooke and Waddams-Price (2002), ‘Left Out In The Cold? New Energy Tariffs, Low-Income Households And The Fuel Poor.’

consumption. The report found that, despite low-income groups benefitting more than most groups from the removal of the standing charge, 76 per cent of the poorest decile were still worse off as a result of the move. Levels of consumption were crucial, with only those who used less than 4,500 kWh per annum benefitting. Despite some low-income consumers fitting into this bracket, low-income higher users would be disadvantaged in this situation.

In addition, although suppliers are now required by law to display their energy price as a standing charge and a single unit rate, they are allowed to set the standing charge to zero. Several energy companies now offer a zero standing charge tariff, including Ebico, Utilita, Economy Energy and new supplier 'E'.

4.8.3 Assessment: Abolition of standing charge

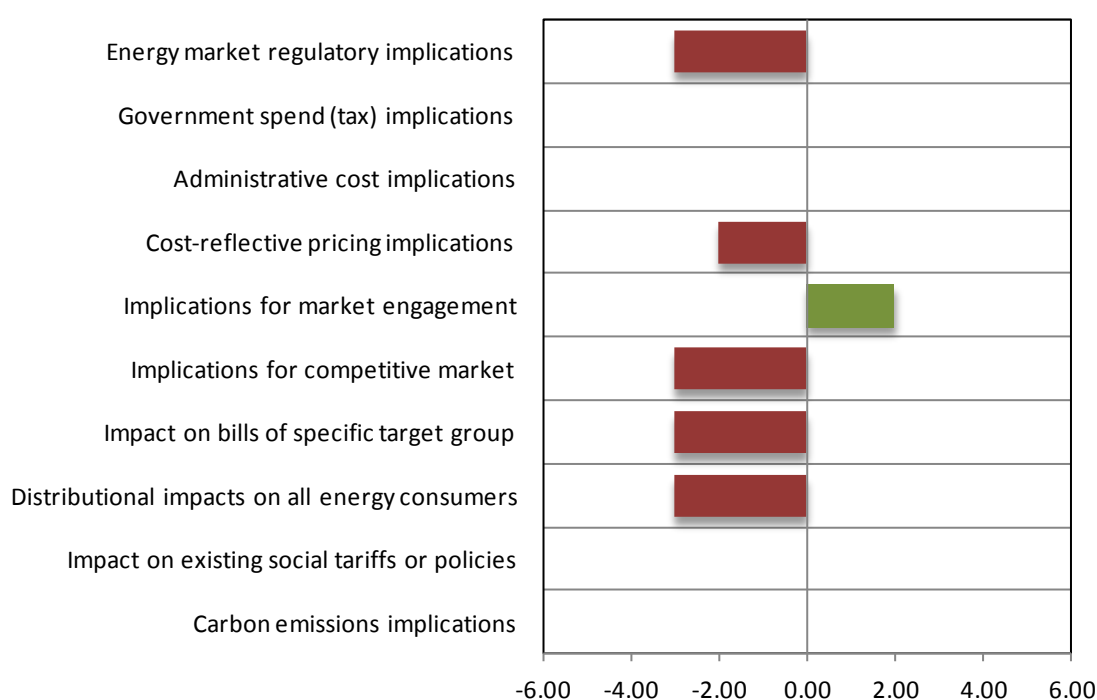


Figure 4.8: Matrix assessment of the 'abolition of standing charges' option

Removal of the standing charge aligns with the general concept of the RMR and the desire to simplify tariffs; however, it goes against the finer detail of the RMR, which mandated the use of a charging structure based upon one unit price and one standing charge. Removal of the standing charge is therefore likely to require some additional regulatory changes on top of the current reforms. Ofgem has set a precedent with the recent (January 2015) temporary derogation from standard license conditions it gave to British Gas. The derogation was granted from Standard License Condition 22B⁸⁰, which prevents suppliers from making any cash discounts to their customers; British

⁸⁰ Standard License Conditions (SLC) apply to electricity licencees and gas licencees. SLC 22B covers restrictions on tariff numbers and tariff simplification.

Gas will now be able to refund the full annual cost of the standing charge to any customers who are both 'financially vulnerable' and who use less than 1,500 kWh of gas a year.⁸¹

Removing standing charges from tariffs would simplify the market but, like the RMR, it would also reduce the ability of suppliers to offer a wider range of tariffs. The difference in tariffs would simply be in the unit rate. As such, this option would help to engage people through more directly comparable tariffs, while at the same time reducing competition across the market through a smaller permitted variety of tariffs.

Energy companies may not be in favour of removing the standing charge from bills. The use of a two-tiered pricing system, with a statically priced standing charge and variable unit rate, is traditional in the GB energy market. Before market liberalisation in 1989, there was some consumer pressure for tariffs without standing charges; however, the use of the two-tiered tariff system was almost universal.⁸² The monopoly suppliers preferred the greater flexibility in cost recovery it brought, and it wasn't until the emergence of the free market that a wider range of tariff options, including those free from standing charges, emerged. Removal of standing charges adds financial uncertainty for companies, as it does not allow them to recoup fixed costs and removes their guaranteed fixed revenue. Additionally, large companies will be more able to absorb the greater risk presented by the removal of standing charges, whereas smaller companies may struggle more with balancing their cost recovery. Work by The Centre for Competition Policy has refuted the importance of this point, claiming that standing charges are not really used for risk-free cost recovery in the way that suppliers claim they are.⁸³ Their research concluded that there was no evidence that variations in tariff structures reflected different fixed costs, and that instead they were being used as a means of segmenting the market in terms of consumers' energy usage.

The distributional impacts of removing the standing charge would be complex. The removal of standing charges would be of particular benefit to low-income consumers with low levels of consumption, who end up paying a proportionally higher rate for their energy use. This would apply to, for example, the some 320,000 households who have been identified as having a gas meter but consuming zero gas. These households would still be charged the standing charge, despite zero consumption. Information provided by the larger suppliers suggests that at least 4,500 customers in this group are considered vulnerable.⁸⁴

Removing the standing charge would also benefit some prepayment meter customers with standing charge tariffs, who use and pay for gas over the winter months only but incur costs on their meters over summer. The Residential Landlords Association (RLA) has suggested that suppliers should be required to offer one tariff free from standing charges, to cater for these customers.

The distributional impacts of a standing charge-free tariff have been analysed in reference to the 12 consumer archetypes previously defined by CSE in a report to Ofgem.⁸⁵ Further details on these

⁸¹ Ofgem (January 2015), 'Decision On British Gas Trading Limited Request For A Temporary Derogation From Certain Standard Licence Conditions Of Its Gas Supply Licence In Respect Of Its Standing Charge Rebate'

⁸² Salies and Waddams-Price (2003), 'Pricing Structures In The Deregulated UK Electricity Market'

⁸³ Davies et al (2012), 'Nonlinear Pricing And Tariff Differentiation'

⁸⁴ Ofgem (2014), 'Open Letter – Treatment Of Low And Zero Consumers Of Gas'

⁸⁵ White et al (2012), 'Beyond Average Consumption: Development Of A Framework For Assessing Impacts Of Policy Proposals On Different Consumer Groups'

archetypes are included in Annex III and in Section 7.2.5. The results suggest that only the very lowest use consumers – those using less than 2,800 kWh for electricity and 6,000 kWh for gas – benefit from the loss of the standing charge, with just 3 of the 12 archetypes benefitting. Therefore, abolishing the standing charge risks adversely impacting on a subset of vulnerable ‘low-income high users’ who are currently on standing charge tariffs with resulting lower unit rates in comparison to standing charge-free tariffs.

4.8.4 Assessment: Uniform national standing charge

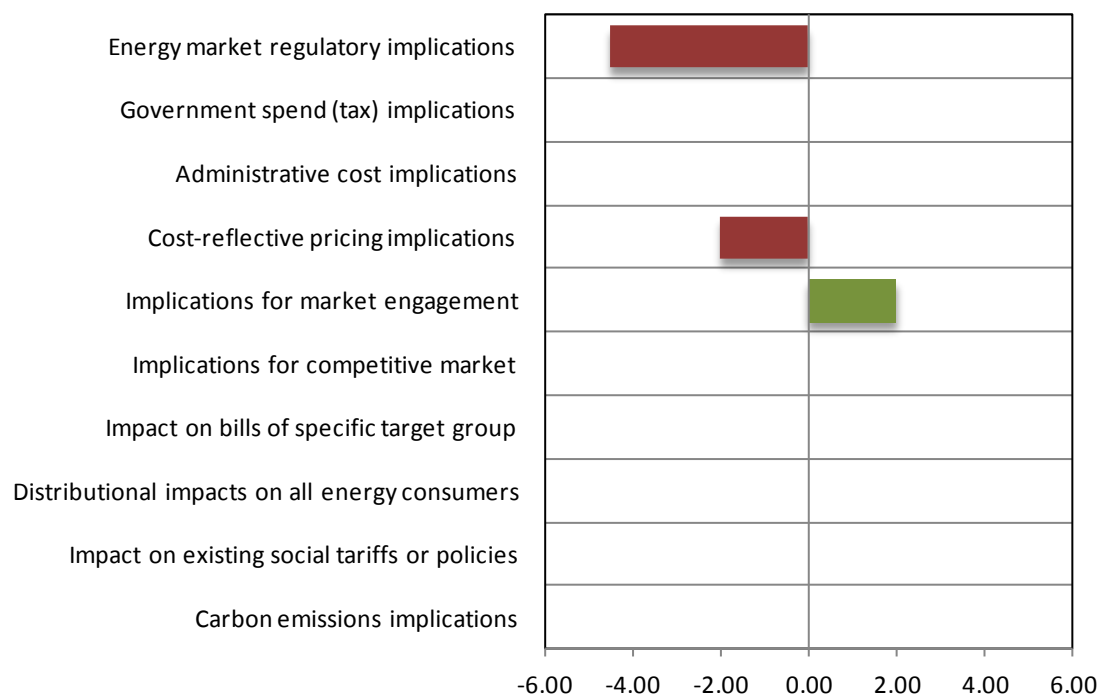


Figure 4.9: Matrix assessment of a uniform standing charge option

Many of the implications of a uniform standing charge are similar to those of a complete abolition of a standing charge in the pricing system.

One of the main criticisms levelled at standing charges is that they complicate the switching process; instilling a uniform rate across all suppliers will be helpful in facilitating ‘at-a-glance’ comparisons between tariffs. Currently, standing charges come in a confusing array of forms, with the average difference in the standing charge annual price offered on different tariffs by one supplier being £68.⁸⁶ A study by Which? found that only 8 per cent of people could correctly identify the cheapest of 6 tariff options when a combination of standing charges and unit rates were used, increasing to 89 per cent when tariffs were presented with a simple, unit price.⁸⁷ Research by Ofgem has also shown that a uniform standing charge would ‘increase consumer trust in their tariffs and the energy market more generally’.⁸⁸ There is uncertainty, however, as to whether ‘at-a-glance’ tariff comparisons

⁸⁶ Uswitch (2013), ‘Ofgem Urged To Clear Standing Charge Minefield Facing Consumers’

⁸⁷ Hunt (2012), ‘Ofgem’s RMR – Final Domestic Proposals, Consultation Response’. Response from Which?.

⁸⁸ Parliamentary note (2012): Consumer engagement with energy markets – written evidence submitted by Which?

would be made easier by this pricing system, or whether there would remain a need for pricing information to be presented to customers in the form of a yearly cost, put into direct comparison with previous amounts paid for the same service.⁸⁹ There does seem to be significant public support for the introduction of a uniform standing charge. A recent Omnibus survey for Citizens Advice, found 62 per cent of people to be in favour of the measure (see Figure 4.10).⁹⁰

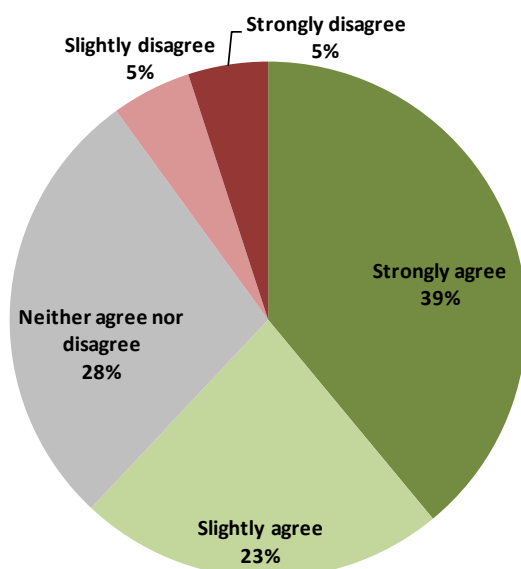


Figure 4.10: Opinions on whether the standing charge should be fixed across all energy tariffs and suppliers (Omnibus survey for Citizens Advice, conducted by GfK).

The levelling of the standing charge nationally was suggested in February 2012, as part of an early iteration of the RMR. By December, Ofgem had removed the idea completely following concerns that it would harm a ‘particular group of consumers’ and that there would be ‘practical difficulties in implementing the policy’.⁹¹ Although Ofgem did not expand on this statement any further, it is clear that setting a standing charge on a nationwide basis would be logistically challenging. The costs to supply do vary in different regions and over different timescales; cross-subsidy will be inevitable and this is likely to distort the market. Another issue is that some of the distribution and transmission charges are flat rate and fixed while other charges are consumption based. In order to have stable pricing, it is likely that a system without standing charges would need to alter the structure of distribution charges and how these are charged to suppliers. One option to do this could be through the Ofgem-run clearing house model. No public papers have been published on this idea; however, EDF Energy has done some research.⁹² The favoured model involves Ofgem running a central clearing house in order to ensure that regional price differences can be eliminated.

⁸⁹ Centre for Competition Policy: Ball et al (2011), ‘The Retail Market Review – Findings And Initial Proposals (RMR)’

⁹⁰ Walker-Nolan (2015), ‘Bill Busters’

⁹¹ Ofgem (2012), ‘The Retail Market Review – Updated Domestic Proposals’

⁹² Utility Week (2013), ‘EDF Energy Backs Single Unit Price Proposals’

4.9 Introduction of RBTs

4.9.1 What is it?

An RBT applies different and increasing unit rates for defined blocks of energy consumption. This approach aligns with the ‘polluter pays’ principle (the more you use, the more pay), provides a price signal to incentivise demand reduction and should benefit low-income households who typically have lower energy consumption.

4.9.2 Case study example

In developing and emerging market economies there is a high incidence of a particular type of RBT, called ‘lifeline tariffs’. In this tariff structure, the first block of energy – the ‘lifeline’ block required for basic needs – is subsidised and charged at a low cost. This system is also in place in some developed countries: in Flanders, Belgium, the first 100 kWh is provided for free with an additional free 100 kWh for every extra person in the household.⁹³ However, a recent European survey by Ecorys for Citizens Advice suggests that this tariff is to be cancelled, due to its high costs.⁹⁴

Albania also operates a two-block tariff system, with the first 300 kWh charged at a lower rate than all additional units.⁹⁵ There is a similar system in Serbia, with three defined bands of consumption.

4.9.3 Assessment: RBTs

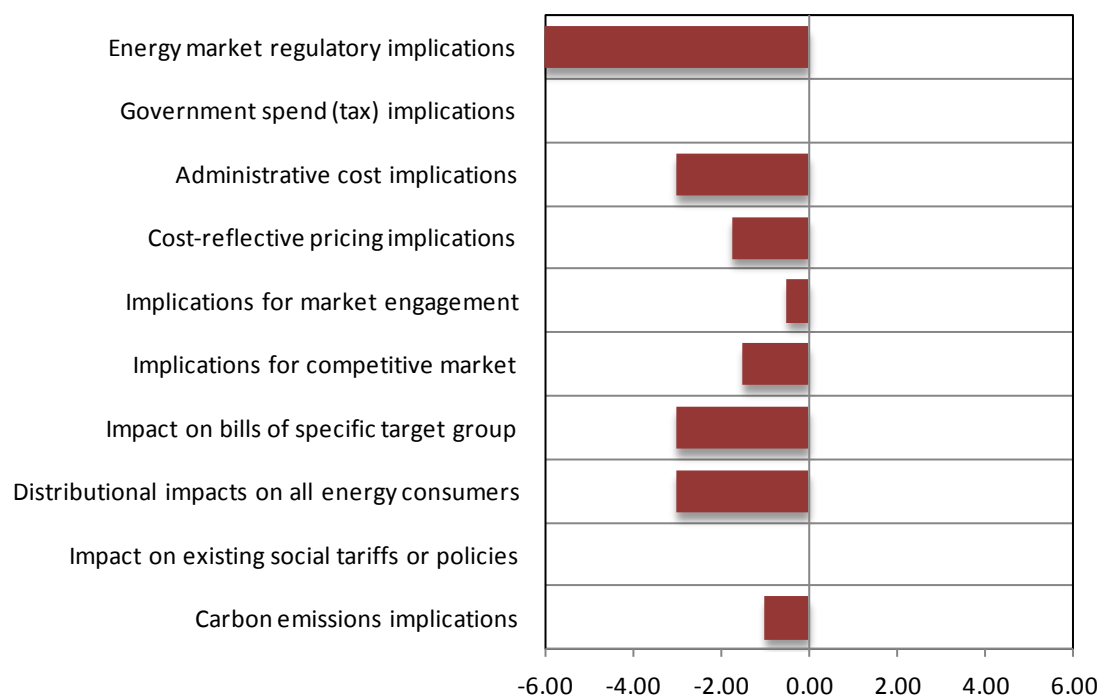


Figure 4.11: Matrix assessment of RBTs

⁹³ Ofgem (2009), ‘Can Energy Charges Encourage Energy Efficiency? A Discussion Paper To Prompt Debate’

⁹⁴ Ecorys (April 2015), report for Citizens Advice

⁹⁵ Republic of Albania, Ministry of Economy, Trade and Energy National Natural Resources Agency (2008-2020), ‘National Strategy Of Energy’

In order for RBTs to be implemented, they would have to be made mandatory for all suppliers. A question remains as to whether these could function in a market where non-RBTs also still exist. Establishing this would require a major new piece of regulation that does not fit with existing reforms. RBTs could also be more suitable in future years when the smart meter rollout has reached a significant number of Great British households. Smart metering would reduce the significant administrative burden that energy companies would face in implementing RBTs, which are charged according to the kWh that the customer has already consumed in a set period.

Increasing the price of energy for increasing levels of consumption goes directly against cost-reflective pricing; in reality, increased efficiencies in generation and delivery at high volumes mean that, at high consumption levels, prices are lower. This measure will also impact on competition: it is a distinct possibility that suppliers with large numbers of low-use customers would see revenues fall, and those with high-use customers would see increased revenues. An alternative approach that would avoid this is to increase the VAT rate for higher consumption, rather than requiring suppliers to charge more.

The design of one or more RBT structures is complex. Significant issues to address include the level the bands should be set at and the unit cost multipliers for prices to be applied to each band. Accurate and fair determination of these is likely to require considerable research. Furthermore, in order to maintain consistent or predictable income for suppliers and not unfairly disadvantage those living in inefficient homes, some seasonable variation adjustments should be considered, adding further complication to the tariff design. This could be made simpler using smart meter data, once widely available.

The complexity, administrative burden, lack of cost-reflective pricing and less predictable revenues associated with this tariff mean energy companies are unlikely to be in favour of the implementation of such a tariff.

This option has not been evaluated as one that is specifically targeted at the vulnerable group, because it is envisaged that implementing an RBT system would require all consumers to be on this system. There will be mixed impacts across vulnerable households. Whilst 85 per cent of low-income households use less energy than the average consumer,⁹⁶ and therefore could be better off financially under this system, it poses risks for low-income high users and those with high energy needs. There is also a very real risk of households self-rationing to avoid consumption levels edging into the higher rate blocks, and risking unhealthy cold living conditions in winter months. Ultimately, in order to budget effectively and understand expenditure on an RBT, customers need better access to energy consumption information. Although the introduction of smart meters could help with energy consumption data, there will be some vulnerable consumers who will not find it easy to make sense of this data, for example, very elderly people.

The average bills resulting from applying a previous proposed RBT tariff structure⁹⁷ were calculated for the twelve Ofgem consumer archetypes and the results compared with the effects of applying no-standing charge tariff with one unit rate (further details on the archetypes are included in Annex

⁹⁶ Smedley (2014), 'Derek Lickorish: Political Mood Not Geared Up To Eradicate Fuel Poverty'. Article in the Guardian.

⁹⁷ CSE (2007), 'Energy Tariffs For Sustainability'. Report to WWF UK.

III and in Section 7.2.5). With the RBT, most of the low-energy consumer archetypes experience a reduction in their overall energy bills, but the high-energy consumers see increases, some substantial. Of particular note are the high gas consumers and electrically heated dwellings.

4.10 Abolish price differentials between different methods of payment

4.10.1 What is it?

Currently, there is significant disparity between the ways that tariffs with different payment methods are priced. Recently, Ofgem banned unfair price differentials between payment methods, and differences must now be justified based on cost to serve. The introduction of this ban reduced the difference in cost between a prepayment meter and a direct debit customer from around £140 in 2009 to around £80 now.⁹⁸ Energy companies can still justify higher prices for prepayment meter tariffs on the grounds that it costs more to provide energy on this basis. The measure assessed here proposes to go further and instigate uniformity in prices across all payment methods.

4.10.2 Case study example

There are no current comparable examples of tariffs where the price differential between different payment methods has been abolished.

4.10.3 Assessment: Abolishing price differentials between payment methods

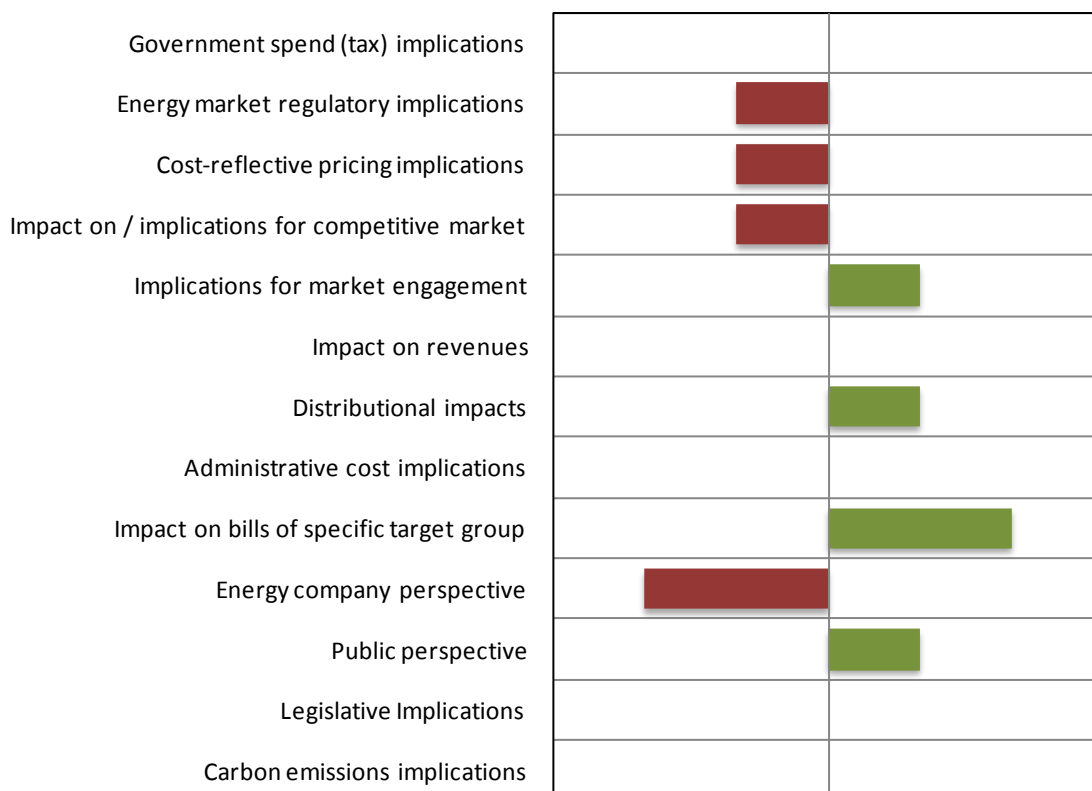


Figure 4.12: Matrix assessment of abolishing price differentials

⁹⁸ Littlechild (2014), 'There Is A Problem In The UK's Energy Market – But It's The Regulator's Fault'

Introducing a uniform rate for all methods of payment would fit in with current regulatory movements in the energy markets, particularly those moving towards simplification of comparisons between tariffs. This option would go directly against cost-reflective pricing, as different payment methods do have different costs to serve. It is therefore unlikely that energy companies would be supportive of this option. In addition (and also linked to the cost-reflective pricing issue) it is likely that tariffs would converge as suppliers seek to recover the costs-to-serve of the more expensive options through other tariffs. The potential to offer cost savings to the target group and the wider distributional implications are therefore somewhat of an unknown. Whilst prices for the more expensive payment options (that is, prepayment meters) could be expected to fall, other tariffs may increase as a result. Whilst in general, prepayment meter users tend to be from low-income groups, almost half of those defined as being in fuel poverty pay for their electricity by direct debit,⁹⁹ and 40 per cent pay for their mains gas by direct debit (Table 4.1). These households would likely be worse off under this option.

From the customer perspective, this option would make comparisons between different tariff options easier and thus is likely to be favoured by consumers, or at least by those who are not cross-subsidising others (or who do not realise they are doing so).

Table 4.1: Percentage of households in fuel poverty (low-income high cost (LIHC) definition) in England by method of payment for electricity and mains gas¹⁰⁰

Fuel	Method of payment	Households in fuel poverty (%)	Average fuel poverty gap (£)
Electricity	Direct debit	48%	£489
	Standard credit	25%	£459
	Prepayment meter	27%	£347
Mains gas	Direct debit	40%	£377
	Standard credit	20%	£403
	Prepayment meter	22%	£309
	No gas	18%	£795

Although this option would reduce some of the cost to prepayment meter users, they would still have a limited range of tariffs compared to users of other payment methods. Furthermore, this option does nothing to address the issue of the most vulnerable and sticky customers being on the least competitive tariffs.

The existence of one uniform rate for all payment methods could reduce competition between suppliers, as it would further limit the range of tariffs they can offer. Currently energy companies are

⁹⁹ Littlechild (2014), 'There Is A Problem In The UK's Energy Market – But It's The Regulator's Fault'

¹⁰⁰ English Housing Survey (2012). The UK's first Fuel Poverty Strategy (2001) formally adopted a measure of fuel poverty, whereby a household is defined as 'fuel poor' if it needs to spend more than 10 per cent of its income on fuel to maintain a satisfactory heating regime. Following a detailed review in 2011 of the fuel poverty definition, a new LIHC indicator was proposed. This applies thresholds to income and fuel costs such that a household is defined as fuel poor if its income is below the poverty line (taking into account energy costs) and its energy costs are higher than is typical for their household type. The LIHC definition was adopted by DECC in 2013 for measuring fuel poverty in England, while the devolved nations continue to use the original 10 per cent definition.

limited to having four tariffs open to new customers at any one time (however, each tariff can differ by payment method, meaning there can be up to 20 options offered per supplier per fuel). Suppliers would also lose the ability to target a particular segment of the market by offering tariffs tailored to particular payment methods.

5 Determining the target group

This study explores the potential for different tariff options to support a specific group of consumers considered vulnerable and disadvantaged by the energy market. The second phase of the study involves modelling a selection of tariff options to explore distributional impacts on household energy bills. In order to do this, assumptions have to be made about which households would be targeted to receive the special tariff offers. This section therefore presents some analysis and discussion of the implications of different targeting approaches. The results are used to inform the design of the approach applied in the modelling phase to target households.

5.1 Who are the most disadvantaged by the energy market?

This research is based on the premise that there is a group of consumers who are poorly served by the energy market and being penalised with higher prices as a result. Within this group of disadvantaged energy consumers, Citizens Advice is principally concerned with those who may be considered vulnerable. The approach to defining, identifying and targeting disadvantaged and vulnerable customers has major implications for policy, not least in terms of the potential distributional impacts, relative success and policy costs.

The initial proposal for this research stipulated using the eligibility criteria of the CWP to identify the target group for the tariff options. The CWP targets those currently receiving pension credit, income support, income-based jobseeker's allowance (JSA), income-related employment and support allowance (ESA), and universal credit (typically with an additional qualifier for disability and/or the presence of young children – see Box 5.1).

Box 5.1: Eligibility criteria for the CWP¹⁰¹

- Pension credit
- Income support or income-based JSA **and** one of the following:
 - A disability or pensioner premium
 - The disability or severe disability element of child tax credit
 - A child who is disabled in the household
 - A child under 5 in the household
- Income-related ESA **and** one of the following:
 - The support or work-related component of ESA
 - A severe or enhanced disability premium
 - A pensioner premium
 - The disability or severe disability element of child tax credit
 - A child who is disabled in the household
 - A child under 5 in the household

As with any approach to targeting vulnerable households using proxy (benefits) measures, there are risks that some of the target audience may be overlooked, such as those who are not in receipt of qualifying benefits. This study is principally concerned with identifying and targeting consumers who struggle to affordably heat their home, are vulnerable for other reasons (such as ill health or a

¹⁰¹ www.gov.uk/cold-weather-payment/overview (2014), 'Cold Weather Payment'

disability that increases their heating needs), and are disadvantaged by the energy market due to lack of engagement (never switched).

Recent findings from the CMA's energy market investigation suggest that the group of consumers most disadvantaged by the current market structure are more likely to be:

"...less educated, less well-off, more likely to describe themselves as struggling financially, less likely to own their own home, less likely to have internet access, more likely to be disabled or a single parent."¹⁰²

A recent survey for Ofgem also found that those with a long term disability are less likely to switch supplier compared to the rest of the population, and that 33 per cent of those with a disability rate their understanding of the range of tariffs available as 'not at all' (compared to 19 per cent across all energy consumers).¹⁰³ Households with a disabled occupant account for 34 per cent of fuel-poor households; they are also more likely to have increased energy needs, as a result of reduced mobility and spending longer periods of time at home, and may need a higher ambient temperature.¹⁰⁴

5.2 Who should receive a special cheaper tariff?

An Omnibus survey conducted for Citizens Advice in November 2014 explored the views and experiences of energy consumers.¹⁰⁵ The survey covered a range of topics, including support offered to vulnerable households, with a question specifically asking respondents: "Which group or groups of people do you think should be entitled to receive a special cheaper tariff price?" The three most frequent selections were: pensioners; those on disability benefits; and families on low incomes (Figure 5.1). There is considerable overlap between these and the eligibility criteria for CWP (Box 5.1). This suggests that targeting special tariffs at those who are CWP-eligible would have overall support from the public. However, the issue remains with households that may be vulnerable and/or have high energy needs and are disadvantaged by the market, but who are not in receipt of the right benefits to meet the CWP eligibility criteria.

¹⁰² CMA (2015), 'Energy Market Investigation, Updated Issues Statement'

¹⁰³ Ofgem (2013), 'Customer Engagement With The Energy Market: Tracking Survey'

^G George et al (2013), 'The Energy Penalty: Disabled People And Fuel Poverty'

¹⁰⁵ The survey included 15 questions undertaken as part of an Omnibus survey by GfK for Citizens Advice. Fieldwork was carried out in November 2014 (unpublished). Sample size 8,000.

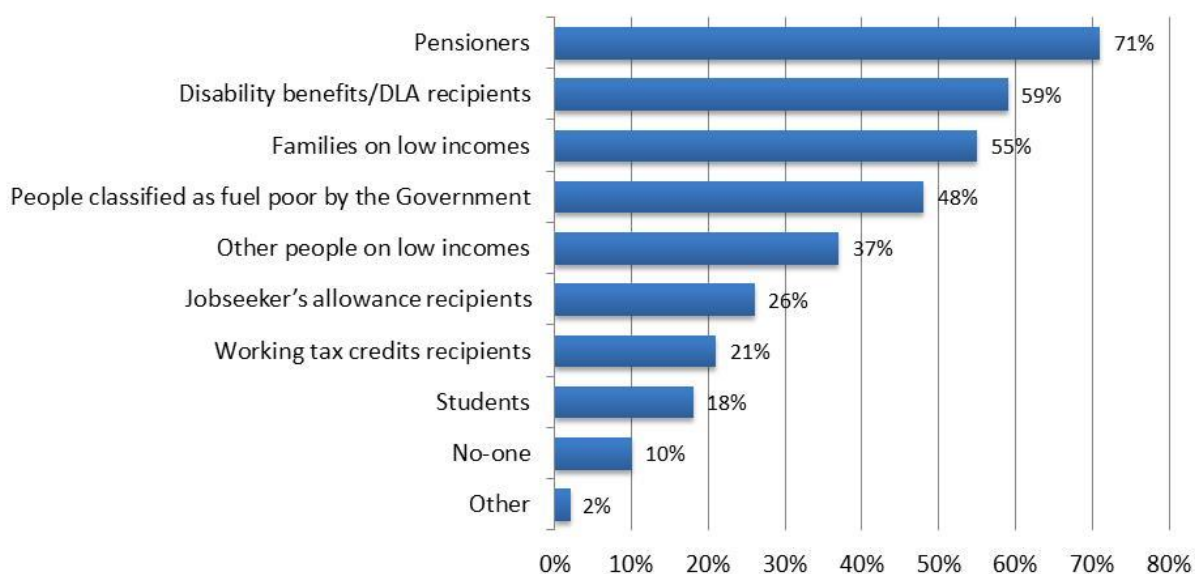


Figure 5.1: Groups of people believed to be most entitled to receive a special cheaper tariff price

(Source: Consumer Futures/Citizens Advice Omnibus Survey (2014); multiple answers allowed, hence total exceeds 100 per cent).

5.3 Defining the target group for tariff modelling

The results of the survey discussed above suggest that there may be grounds for moving beyond the CWP-eligible group to include a larger group of disabled households and low-income families. These could be identified using the proxy measures defined below (Table 5.1). To further understand the implications of adopting the CWP criteria, analysis was undertaken to explore the overlap between the CWP-eligible group, other socio-demographic variables and an indicator of household engagement with the energy market.

Table 5.1. Alternative eligibility criteria for the target group

Target group	Eligibility criteria – household in receipt of:
Low-income pensioners	Pension credit
Disabled	Disability or pensioner premium Severe or enhanced disability premium Disability or severe disability element of child tax credit Disability living allowance
Low-income families	Income-related ESA; OR Income support or income-based JSA and one of the following: <ul style="list-style-type: none"> • A child under 16 (or under 20 if in approved education or training) who is disabled in the household • A child under 5 in the household

The analysis presented below uses a socio-demographically representative dataset of households in Great Britain, derived from the ONS Living Costs and Food Survey (LCFS – see Box 5.2). LCFS data¹⁰⁶ on welfare benefits received was used to create a proxy group of CWP-eligible households

¹⁰⁶ For the purpose of this study, data from two survey years (2009-2011) has been combined to increase the sample size and align with years when the CWP was in effect.

(replicating the criteria defined in Box 5.1 as closely and accurately as possible using variables available in the survey).

Just over **3.2 million households (12 per cent) in the LCFS dataset (2009-11) were identified as eligible for the CWP** using this approach. Whilst this figure is slightly lower than the DWP's most recent estimates of the number of CWP-eligible recipients (estimated to be 3.8 million in 2014/15^{107]}), the two are not directly comparable due to:

(a) different reporting years (the LCFS covers 2009-11, while the DWP's latest estimates are for 2014-15 CWP season); (b) DWP estimates refer to eligible recipients (individuals on the qualifying benefits) while the 3.2 million identified in this study relate to numbers of households. As noted by DWP, the number of eligible recipients is not necessarily the total number of individuals benefitting from a CWP, as any individuals making a joint claim for one of the qualifying benefits, such as a couple living together, will receive one payment between them rather than one payment each. Hence CWP eligibility has been modelled at the household rather than individual level for the purpose of this study. There are also likely to be some data limitations (such as under-reporting on benefits status in the LCFS) that prevent perfect matching of the CWP eligibility criteria, which accounts for the difference between DWP estimates and the number identified in the LCFS dataset.

Box 5.2: The LCFS dataset

The LCFS is an annual rolling survey of households in the UK that collects detailed data on all household expenditure and socio-demographic information. CSE has developed a robust methodology for deriving estimates of household energy consumption (kWh) from LCFS data on household expenditure on all household fuels (mains gas, electricity and non-metered). The resulting dataset has been widely used for analysing the distributional impacts of policies on household energy bills, including by the Government and Ofgem.

Additional modelling was undertaken to identify the likelihood of households to have switched energy supplier, using data on consumer switching behaviour collected by Ipsos MORI and Ofgem in the 2014 *Customer Engagement With The Energy Market: Tracking Survey*¹⁰⁸ (see Annex I for further details on this modelling).

The analysis below explores the overlap between the eligibility criteria for CWP (using the proxy group); the likelihood to have never switched energy supplier; and the broader vulnerability/eligibility criteria defined in Table 5.1 (households with an elderly occupant (over 70); a disabled occupant; or low income (poorest 20 per cent of households)).

¹⁰⁷ DWP (2015), 'Social Fund Cold Weather Payments For Great Britain'

¹⁰⁸ Ipsos MORI (2014), 'Customer Engagement With The Energy Market: Tracking Survey'. Report for Ofgem. Available at: <https://www.ofgem.gov.uk/publications-and-updates/customer-engagement-energy-market-tracking-survey-2014> (the complete survey dataset was obtained from the Ipsos MORI/Ofgem to facilitate the modelling).

5.3.1 Results

Switching and CWP

The results from the latest Ipsos MORI/Ofgem consumer tracker survey show some 57 per cent of consumers have never switched their gas or electricity supplier (Figure 5.2; and see Annex I for further details).¹⁰⁹

A model was developed using this latest survey data to estimate the likelihood of households in the LCFS dataset to have switched energy supplier. The results show the model slightly overestimates switching in the LCFS, with 52 per cent of households flagged as ‘non-switchers’ (compared to 57 per cent in the tracker survey). See Annex I for further discussion around this modelling process.

As noted above, just over 12 per cent of households (3.2 million) in the LCFS dataset (2009-11) were identified as eligible for the CWP, using proxy measures. Of these, **two-thirds (66 per cent) are predicted to be ‘non-switchers’** (that is, to have never changed their energy supplier). This is higher than for the non-CWP eligible group (50 per cent identified as never switched) and across all households (the average switching rate at 48 per cent). This suggests that targeting CWP households would effectively target a group of households disengaged from the energy market.

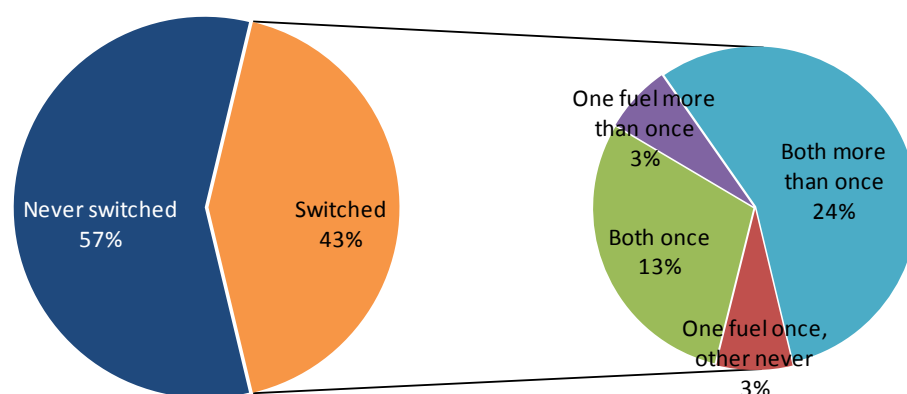


Figure 5.2: Consuming switching behaviour
(Data source: Ipsos MORI Ofgem consumer tracking survey 2014)

Table 5.2: Predicted switching activity by eligibility for CWP (based on proxy measures)

	Non-switcher	Switcher	Total (count in 000s)
Eligible for CWP	66%	34%	3,200
Not eligible CWP	50%	50%	22,200
Total (count in 000s)	13,100 (~52%)	12,300 (~50%)	25,400

Table notes. Source: Derived by CSE using data in the ONS LCFS dataset, 2009-11 and switching model based on Ipsos MORI/Ofgem survey 2014.

¹⁰⁹ Of those that did report having switched at some time in the past, 16 per cent had done so only once. Whilst not explicit in the data, it is likely that these one-time switchers represent the ‘classic non-switchers’, that is those who have switched once to either a dual-fuel electricity deal with an existing gas supplier or a dual-fuel gas deal with an existing electricity supplier.

Switching, CWP and other socio-demographics

Whilst the majority of CWP-eligible households are predicted to have never switched supplier, these account for just 16 per cent of the total number of households predicted to be 'non-switchers'. A number of these non-switchers will be more affluent households, but there is a risk that there will be others in this group who may be considered vulnerable and are not picked up through targeting CWP households.

Further analysis, presented below, explores other socio-demographic characteristics (age, disability and income) and CWP eligibility and switching activity, to determine the extent of this risk.

Age: A fifth (21 per cent, 5.3 million) of households in Great Britain have an occupant over the age of 70. Propensity to switch amongst this group appears lower than average, with **60 per cent** identified as **non-switchers** (Figure 5.3).

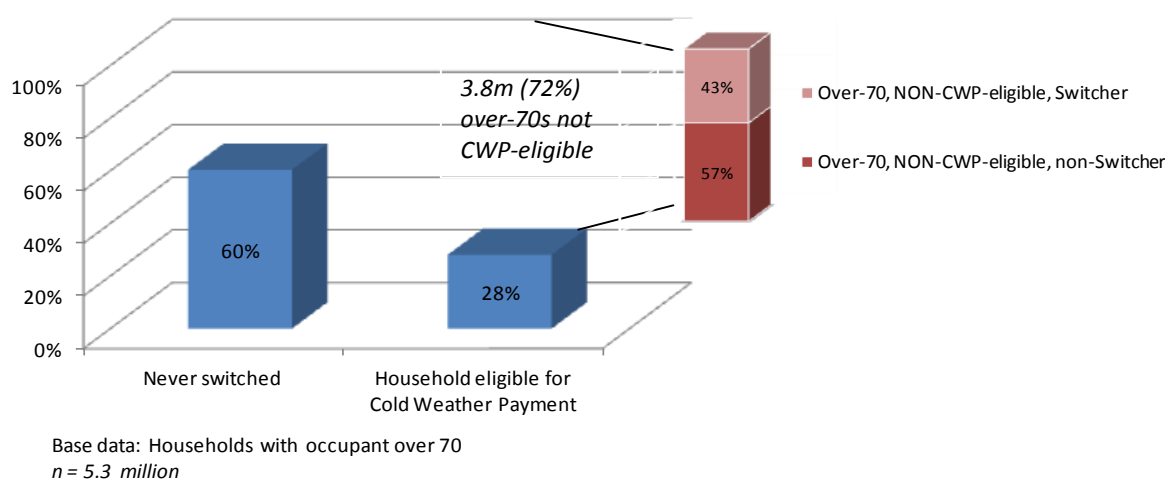


Figure 5.3: CWP eligibility and switching activity of households with an occupant over 70

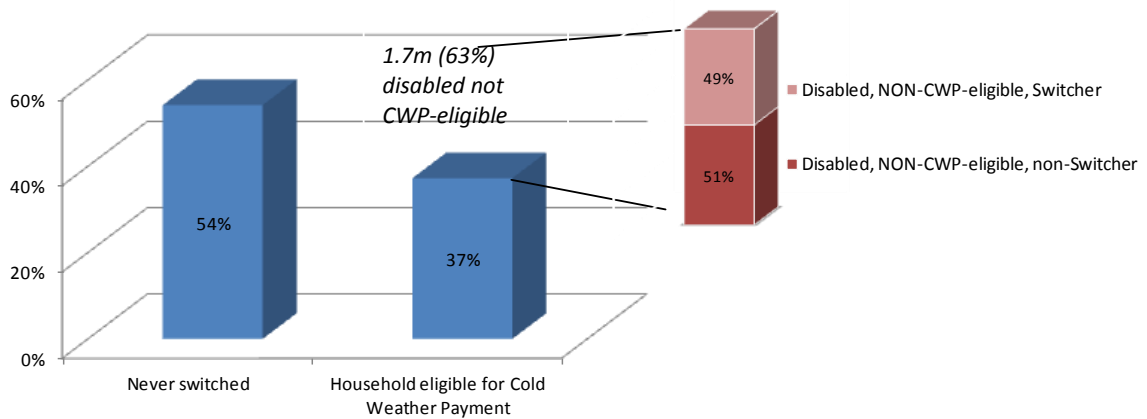
Just over one-quarter (28 per cent) of the group of elderly households are flagged as eligible for the CWP (Figure 5.3). Amongst the remaining 72 per cent (some 3.8 million non-CWP eligible, over-70 households), 57 per cent are predicted to have never switched energy supplier. This equates to some **2.2 million households with an occupant over 70 that are expected to have never switched energy supplier and are not picked up in the CWP-eligible group**. Whilst this represents a potentially vulnerable group of customers at risk of being penalised by higher energy prices, the average income of this group is not notably low, being around average for all households with an occupant over 70 (~£18,000).

Disability: Some 2.7 million households (11 per cent) receive a disability benefit, based on the 2009-11 LCFS dataset. Switching activity amongst this group appears only just below average, with 54 per cent of this group of households predicted to have never switched, compared to 52 per cent across the population as a whole (Figure 5.3). Only 37 per cent of disabled households are flagged as eligible for the CWP, leaving some 1.7 million potentially vulnerable households overlooked by using the CWP criteria for targeting. Amongst these 1.7million, around half (51 per cent) are predicted to have never switched energy supplier (that is, fewer than 900,000 fall into the group of disabled, non-

CWP eligible and non-switchers). The average income of these households is not notably low (~£23k, higher than the average income of all disabled households (~£22.5k).

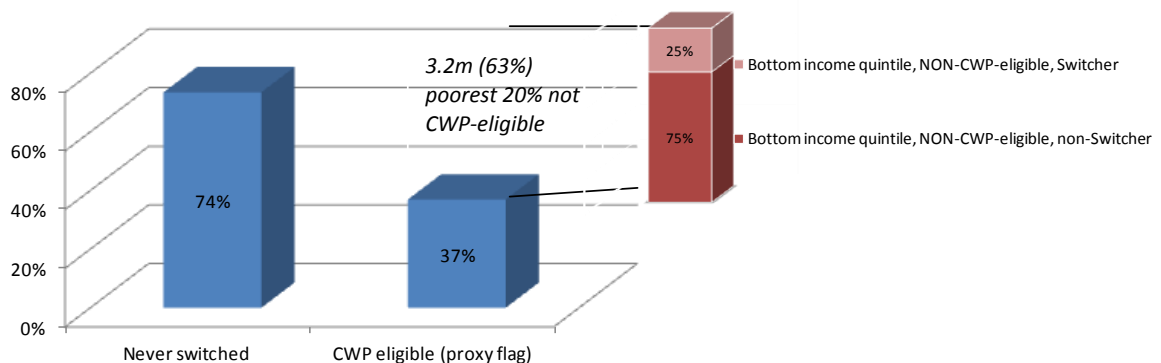
Income: Targeting policies solely on income is generally impractical as this level of data is not easily obtainable. However, it is still useful to understand the potential overlap in low-income status and any proxy measures used. Analysis of the 2009-11 LCFS dataset suggests that the majority of the bottom income quintile is predicted to be disengaged from the market (74 per cent identified as ‘non-switchers’; Figure 5.5).

Nearly two fifths (37 per cent) of the bottom income bracket are flagged as eligible for the CWP (Figure 5.5). This leaves some 3.2 million households in the bottom income quintile who are not picked up through the CWP criteria; amongst these, three-quarters (75 per cent, 2.4m households) are predicted to have never switched energy supplier.



Base data: Households receiving disability benefit
n = 2.7 million

Figure 5.4: CWP eligibility and switching activity of households with a disabled occupant



Base data: Bottom disposable income decile
n = 5.1 million

Figure 5.5: CWP eligibility and switching activity of households in the lowest income quintile

While only 15 per cent of *all* households predicted to be non-switchers fall into the CWP-eligible group, a high proportion of the remainder are higher income and less likely to be considered vulnerable, and therefore deemed suitable to receive a special tariff (Figure 5.6).

Targeting CWP-eligible households does overlook some 2.4 million low-income (bottom income quintile) households, who are predicted to have never switched energy supplier (47 per cent of the bottom income quintile, Figure 5.7) and are therefore at risk of being penalised by higher energy prices. This is an inevitable consequence of any approach to targeting vulnerable households that relies on proxy measures to identify low-income status; for any targeted approach there will always be some low-income households that are disadvantaged. However, and as the summary information below illustrates, using a proxy based on the CWP eligibility criteria does appear to be effective at including low-income groups who are also vulnerable through having a disability, or with young children or elderly persons in the household, or a combination of these characteristics.

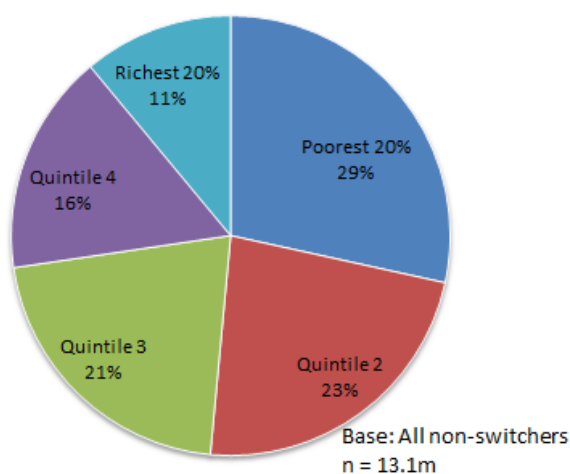


Figure 5.6: Income distribution of non-switchers

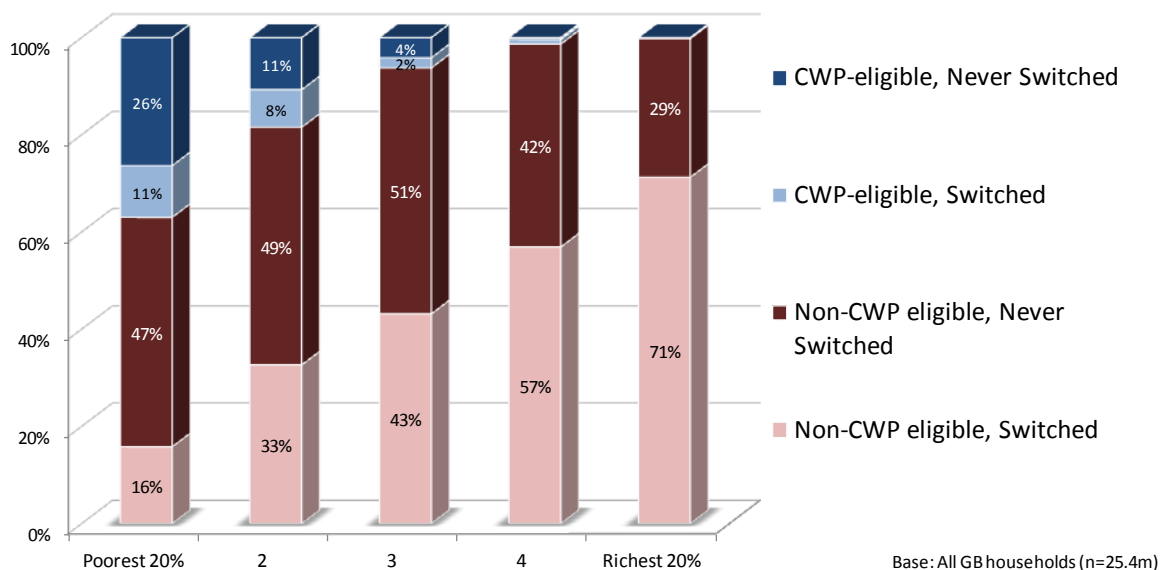


Figure 5.7: Switching activity and CWP eligibility by income quintile

Whilst targeting CWP-eligible customers does not capture all low-income households, it is relatively effective in *not* capturing households in higher income brackets or switchers: of the CWP-eligible group, 59 per cent is in the poorest 20 per cent of the population and 66 per cent is predicted to have never switched (Figure 5.8).

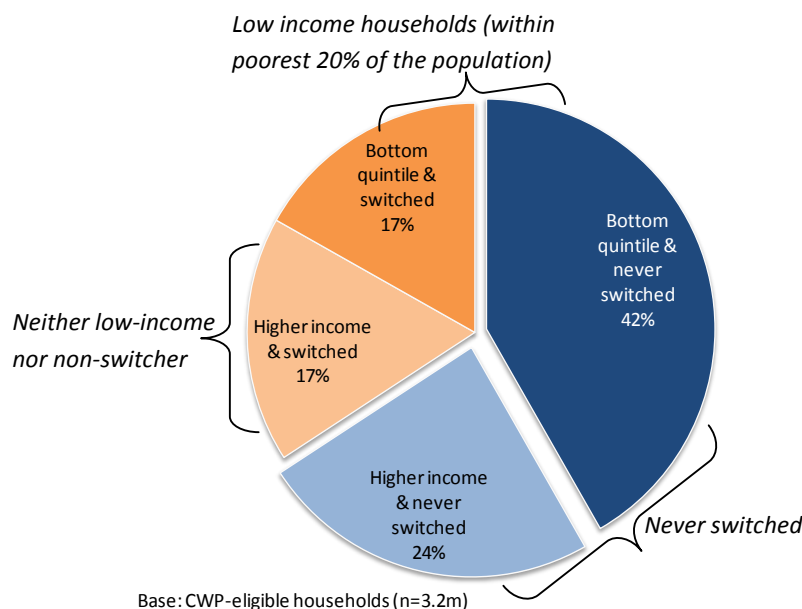


Figure 5.8: Switching activity and income of the CWP-eligible group ('higher income' includes all households not in the poorest 20 per cent)

5.3.2 Summary

Figure 5.9 summarises the results above, with some additional information to show the overlap between the CWP group and the other variables (socio-demographic and switching indicators) in combination. This shows that, overall:

- 69 per cent of the CWP target group is (at least one of) either disabled or elderly
- 90 per cent of the CWP target group is (at least one of) either disabled, elderly or in the poorest 20 per cent of households
- 96 per cent of the CWP target group is (at least one of) either disabled, elderly, in the poorest 20 per cent of households or never switched energy supplier.

These results suggest that targeting a special energy tariff at the CWP-eligible group provides an equitable approach to targeting potentially vulnerable and disengaged consumers at risk of being penalised by the energy market with higher fuel prices.

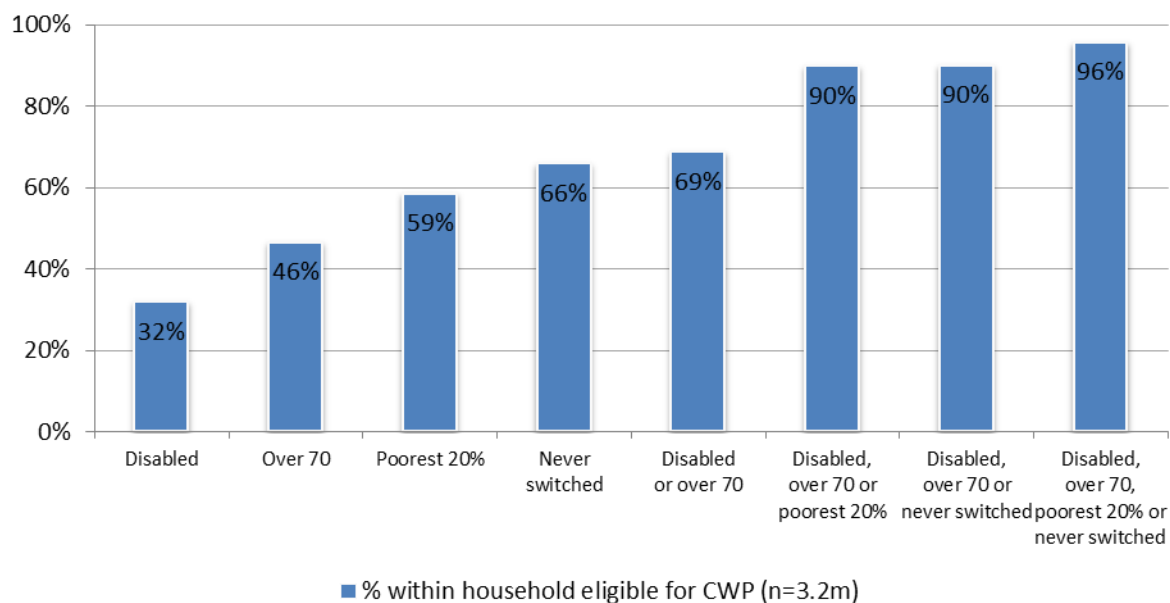


Figure 5.9: Summary of overlap between CWP eligibility, switching activity and other socio-demographics (count in '000s)

5.4 Transience of target group

Despite simplification of the target group to those in receipt of CWP, it is important to recognise that defining this group of people is still complicated. Membership of the group receiving the CWP is fairly transient, with individuals frequently falling in and out of the eligibility criteria for the various benefits that entitle payment. In 2014/15 there were some 3.8 million benefits claimants falling into the CWP group.¹¹⁰ Whilst this figure is similar in number to previous years, individuals who actually make up this group are likely to have changed over time.

The British Household Panel Survey followed the same group of individuals from 1991 to 2009, aiming to develop understanding of various facets of social and economic change. This included looking at 'benefit churn' – the frequency with which individuals move on and off particular benefits. The findings report on the numbers of individuals found to be in receipt of the same benefit over three years. Table 5.3 shows that levels of churn vary substantially by different benefits. For example, 80 per cent of individuals receiving pension credit were expected to be still receiving the benefit three years later, compared to only 40 per cent of those on child tax credit.

The DWP also monitors numbers on and off benefits, and reports similar statistics for ESA and JSA, with some 47 per cent of those receiving ESA in December 2011 still in receipt of this benefit 66 weeks later, while only 10 per cent of those on income-based JSA at the start of 2012 were still receiving this benefit a year later (Table 5.3).

Similarly, research by the Joseph Rowntree Foundation found that, while the number claiming JSA between 2010 and 2012 remained fairly stable at some 1.6 million, the number of different

¹¹⁰ DWP (2015), 'Social Fund Cold Weather Payments For Great Britain'

individuals who had actually claimed the benefit during that period was substantially higher at 4.8 million.¹¹¹

The ability of different policy approaches aimed at supporting vulnerable consumers to operate effectively within this dynamism of receipt and non-receipt of benefits is a key consideration for the tariff options where support is offered only to the target group. Whilst targeting does present a challenge and has cost implications, it is more politically and socially acceptable. The use of data matching, while representing additional cost, is an effective approach to ensure households in receipt of qualifying benefits automatically receive support, rather than having to apply for it themselves, which requires an awareness of the availability of support and how to go about accessing it.

Table 5.3: Uptake levels of benefits (2009-10) and numbers remaining on these benefits long term

Benefit	Uptake level	Churn
Income support/ESA	77-89%	47% who started receiving the benefit between October and December 2011 were still receiving it 66 weeks later ¹¹²
Pension credit	62-68%	80% receiving it now will still be receiving in 3 years ¹¹³
Income-based JSA	60-67%	10% of those receiving it between January and March 2012 were still receiving it a year later ¹¹⁴
Child tax credit	No statistics	40% receiving it now will still be receiving it in 3 years ¹¹⁵
Disability living allowance/attendance allowance	No statistics	70% receiving it now will still be receiving it in 3 years ¹¹⁶

5.4.1 Issues with benefits uptake

Implementing a process of data matching and automatic allocation of support ensures those on the qualifying benefit(s) are provided for. However, this relies on individuals taking up the benefits for which they are eligible.

DWP estimates for 2009-10 suggest only around two-thirds of those eligible for pension credit took up the benefit, with similar estimates for income-based JSA (Table 5.3). This issue of uptake and using benefits status for targeting support at vulnerable customers is a broader issue, not unique to the tariff options considered in this study.

6 Recommendations for tariff modelling (Phase 2)

Phase 1 of this study involved a comprehensive review and assessment of various tariff options designed to address the issue of vulnerable and disengaged consumers being penalised by the energy market through higher prices. This assessment used a tariff assessment matrix and expert input from a wide range of stakeholders to provide a robust and objective assessment of the different options.

¹¹¹ Aldridge et al (2012), 'Monitoring Poverty And Social Exclusion'

¹¹² DWP (2013), 'Rates Of People Moving From Out Of Work Benefits – DWP Equality Information 2013 (Data)'

¹¹³ DWP (2012), 'Income Related Benefits: Estimates Of Take-Up In 2009-10.'

¹¹⁴ See footnote 104

¹¹⁵ See footnote 105

¹¹⁶ Ibid.

In addition, analysis was undertaken to explore the implications of adopting the CWP eligibility criteria for targeting the tariff options.

The results of this phase of the study provide a firm grounding for the next stage, in which a selection of tariffs are modelled and the impact on the target group and distributional implications are explored. Below, we present the basis for recommendations for the modelling phase, in terms of both the tariffs to be modelled and the approach to identifying the target group.

6.1 Selected tariffs to model

All the tariff options considered in this study have several hurdles, barriers and risks; some significant in nature. Whilst these have been taken into consideration in selecting tariffs for modelling in Phase 2 of the project, the primary concern is the tariff's potential to reduce the bills of the vulnerable targeted group. Five tariffs were shortlisted as having potential to reduce target group bills:

- Backstop tariff
- Extension of WHD
- Cap spread of tariffs
- No difference in charge by payment method
- Exemption from levies for certain households

After further consideration, the following were excluded from the quantitative modelling:

- Capping spread of tariffs – this option has a high requirement for new regulation, a high negative impact on competition, and would be complicated to calculate and administer.
- No difference in charge by payment method – similar to the above but with the additional limitations that this solution goes against cross-reflective pricing and its impact (on the target group and wider distributional implications) is highly dependent upon how suppliers respond.

The backstop tariff and extension of the WHD also had negative aspects, but were considered to offer the greatest potential for reducing the bills of the target group, and so were retained for the modelling.

Levies on energy bills have been a subject of considerable public debate in recent years, principally being the subject of criticism in the context of rising fuel prices. However, implementing a tariff exempt from levies for the vulnerable group only scored relatively low in the overall tariff assessment process. In consultation with Citizens Advice, it was therefore decided that a third regulatory intervention option would be included in the modelling that combined the 'Exception from energy sector levies for certain households' tariff and the introduction of an RBT. The final option was a tariff structure whereby a block of energy would be exempt from energy and social levies for all households. This was on the premise that low-income households, typically having lower than average consumption, may stand to benefit the most.

The final tariff options selected for modelling were as follows:

- Backstop tariff (targeted at the CWP-eligible group)
- Extension of WHD (targeted at the CWP-eligible group)

- Exemption from levies for an initial block of energy (including an option targeted at the CWP-eligible group only and a non-targeted, blanket approach)

In modelling the third option, an additional variation was also included that simply offered a free block of energy to households. This was identified through researching European initiatives and was included to represent an option that was similar to the 'exemption from levies for an initial block of energy' options, but is potentially simpler to administer.

The next chapter presents the detailed modelling results for these three interventions, including the distributional impacts on all consumers, as well as a breakdown by 'winners' and 'losers' and different consumer archetypes.

6.2 Target group

From the evidence presented in Section 5, it has been confirmed that the selection of the CWP eligibility criteria offers a good approach to targeting low-income and vulnerable households who are likely to be disengaged from the energy market and, as a result, paying a higher-than-average unit cost for their energy.

The CWP eligibility criteria include low-income pensioners and low-income families with young or disabled children. This aligns with the general public view that these household types are amongst the most worthy to receive special tariffs (see Section 5.2, page 57). Furthermore, analysis suggests a significant proportion of this group (66 per cent) are likely to have never switched energy supplier (higher than the modelled average rate of non-switching at 50 per cent - see Table 5.2), and as a result, many are likely to be on some of the most expensive tariffs in the market.

However, it is important to recognise that the CWP eligibility criteria do exclude a number of other low-income and/or vulnerable households, including some with members who are over 70 as well as a broader disabled group. This has implications for the distributional impacts of the tariffs, which will be explored through the analysis in Phase 2.

Reliance on proxy measures inevitably prevents 'perfect targeting'. Broadening the criteria to include a larger proportion of the population could pick up a higher proportion of the preferred target group, but could also arguably be considered impractical and infeasible. Particularly in the context of this project, changing market conditions for a significant proportion of customers will have implications for the market as a whole.

Therefore, while acknowledging that there are some limitations in this approach, the use of CWP eligibility criteria has been deemed to be a useful method to identify low-income, vulnerable households. It has therefore been applied in the modelled targeting and assessment of the impacts of options in Phase 2 of this study.

PHASE 2: TARIFF MODELLING AND IMPACT ASSESSMENT

7 Modelling tariff options

This section presents an overview of the approach used to model each tariff option and the headline results in terms of impacts on the bills of the target group and population as a whole. Section 7.1 summarises the modelling approach for each of the three tariff options and the source and allocation of fuel prices used in the modelling. Section 7.2 summarises the results of the modelling and looks at the impacts of all the options modelled, including a breakdown of the impacts on different income deciles and the experience of different low-income Ofgem archetypes. Section 7.2.6 provides a discussion on the possible impact on fuel poverty, while Section 7.2.7 concludes the section with a discussion about the wider health benefits of reducing energy bills for vulnerable households.

7.1 Summary of options and modelling approach

Table 7.1 summarises each tariff option; whether it applies only to the target group or to all customers and the implications for unit costs of other tariffs on the market. The modelling details of each option are summarised in the sub-sections below, and further details are provided in Annex V.

Table 7.1: Summary of tariff options modelled

Tariff option	Description	Target group	Ensuring revenue neutrality
Backstop tariff: Option 1	The lowest tariff available for their fuel type and payment method in their region	CWP-eligible customers only	Tariffs for all non-eligible customers increased
Backstop tariff: Option 2	The lowest tariff available for their fuel type in their region, irrespective of payment method	CWP-eligible customers only	Tariffs for all non-eligible customers increased
Backstop tariff: Option 3	As per Option 1, but only non-switchers are moved to the lowest tariff available for their fuel type and payment method in their region	CWP-eligible and non-switcher customers only	Tariffs for all non-eligible customers increased
Backstop tariff: Option 4	As per Option 1 (the lowest tariff available for their fuel type and payment method in their region or devolved nation) but with all tariffs adjusted to ensure revenue neutrality (including the backstop tariff)	CWP-eligible customers only	Tariffs for all customers increased
Levies removed: Option 1	Energy policy levies removed from an initial block of consumption	All customers	Unit rate increases for higher block of consumption for all customers
Levies removed: Option 2	Energy policy levies removed from an initial block of consumption	CWP-eligible customers only	Unit rate increases for higher block of consumption for all customers
Free block: Option 1	Initial block of energy consumption free	All customers	Unit rate increases for higher block of consumption for all customers
Free block: Option 2	Initial block of energy consumption free	CWP-eligible customers only	Unit rate increases for higher block of consumption for all customers
Extension to WHD	WHD rebate extended to CWP-eligible customers and all energy suppliers ¹¹⁷	CWP-eligible customers only	Additional cost on bills of all customers to pay increase in WHD allocation

¹¹⁷ The data used in the modelling does not contain information on energy supplier. By default, modelling this tariff therefore effectively assumes the WHD is extended to all suppliers, as the scenario applies the rebate to

Where applicable, and in order to interpret one possible dynamic response from energy companies, the modelling has ensured that total energy bill revenues are maintained to the levels before each intervention was modelled – a ‘revenue neutral’ approach.¹¹⁸ This has involved increasing some tariffs for certain households, with the result that energy bills for some consumers increase slightly as a result of particular tariff options.

7.1.1 Setting baseline energy tariffs

The fuel prices used in the modelling are based on DECC national fuel price statistics for 2014.¹¹⁹ This series provides the minimum, maximum and average unit costs of metered fuels by regions and devolved nations in the UK.¹²⁰ These unit rates provided by DECC account for standing charges and represent a single unit rate that accommodates the fixed costs of supplying electricity in that region, representing typical tariffs that include standing charges.

These were allocated to different households in the DIMPSA dataset to produce baseline energy bills. The tariff levels were allocated according to two key indicators: switching behaviour and households’ access to the internet via home computers (as reported in the LCFS – see Box 5.2). It was assumed that households with access to the internet at home who have been predicted to have switched supplier in the past are likely to be on cheaper tariffs, having been able to use comparison sites to find a cheap deal. In contrast, those without access to the internet and who have been predicted to have never switched are the most likely to be on the most expensive tariffs. All other households were allocated an average tariff for their fuel and method of payment in their region.

7.1.2 Modelling a backstop tariff

Investigating the backstop tariff option involved four different scenarios. All of these options shift a target group to the lowest tariff available. Options 1, 3 and 4 transferred consumers to the lowest tariff available for their fuel and their method of payment in their region, while Option 2 sought to find consumers the lowest tariff across all methods of payment in their region (typically, shifting consumers to a tariff in line with a direct debit unit cost).

For three of these options (Options 1, 2 and 4), the target group have all been CWP-eligible households regardless of switching behaviour, while Option 3 sought to target only sticky or non-switching CWP-eligible households.

For Options 1, 2 and 3 the tariffs of the non-targeted households were adjusted to accommodate the reduction in energy company revenues. For Option 4, all tariffs for all households were increased to ensure revenue neutrality.

anyone meeting the CWP eligibility criteria (which includes the current WHD criteria of all those on pension credit).

¹¹⁸ This does not include any administrative costs.

¹¹⁹ <https://www.gov.uk/government/statistical-data-sets/annual-domestic-energy-price-statistics>

¹²⁰ Fuel price statistics are derived from the Domestic Fuel Inquiry survey, which records tariff information provided by suppliers. However, the raw data from these surveys is not made publicly available due to confidentiality and market sensitivity issues. Furthermore, the LCFS does not record information on households’ energy tariffs. The DECC fuel price statistics represent the best publicly available estimation of tariff variability.

7.1.3 Modelling a revised WHD scheme

The revised fuel price support option modelled a simplified version of the current WHD scheme that removed the broader group and its various eligibility criteria, and expanded the core group to include all CWP-eligible households. A further revision was to roll this out to all energy suppliers. From a consumer perspective, this will ensure that no household need be concerned about losing their WHD when switching supplier.

The modelling has assumed that there will be a transition to this newly proposed scheme from the existing scheme, with currently eligible households continuing to receive the WHD payment. For direct comparability, the payment has been maintained at the current level of £140. The modelling has also assumed that the funding for this policy will be as it is now; with levies placed on the bills of all consumers.

7.1.4 Modelling the exemption of energy levies from a proportion of energy consumption

This option investigated the impacts of an initial block of energy with a tariff that was exempt from environmental and social levies. The modelling removed levies from both electricity and gas bills, providing a 500 kWh block of electricity and a 1,000 kWh block of mains gas consumption that were free from recovering the costs of the following six policies:

- Renewables Obligation
- EU Emissions Trading Scheme and Carbon Price Floor (collectively referred to as carbon taxes)
- Feed-in Tariff
- Smart meter rollout
- WHD
- ECO

Some of these policies recover costs solely through electricity bills, while three (smart meter rollout, WHD and ECO) recover costs through both electricity and gas bills. Four of the policies have costs passed on to consumers through a fixed unit rate, while the costs of the WHD and ECO are passed on through fixed rate levies to all households. All levies were removed from tariffs for the initial block of energy, while the tariffs for the secondary block incorporated a new levy that maintained the same amount of total cost recovery for each policy.

Two options for removing these levies were considered: one that provided all households with an energy levy-free block, and a second option that targeted just the CWP-eligible group of households.

Finally, an alternative option was modelled that provided a free block of energy to either all households or the CWP-eligible households only, with the same energy consumption thresholds (500 kWh for electricity, 1,000 kWh for mains gas). This variation was considered to be administratively less complex and included to illustrate the impact of a comparable initiative.

7.2 Headline results

The overall effect of all options modelled on energy bills across all households is, on average, minimal to none (Annex Figure 9). This is due to the assumed revenue neutrality in the modelling: the bill savings for the eligible group (that is, loss of revenue to suppliers) are offset by bill increases for the rest of the population. However, this overall average net impact masks variation in distributional impacts across different consumer groups, driven principally by eligibility for the special tariff (in the case of options that are applied only to this group) and/or energy consumption levels.

7.2.1 Impact on bills of eligible and non-eligible households

Figure 7.1 shows the average impact of each option modelled on household energy bills of the CWP-eligible group (using the CWP-proxy group of some 3.2 million households), compared to the rest of the population.

Box 7.1: Backstop tariff Option 3 – targeting non-switchers only

Note that for backstop tariff Option 3, the target group is a subset of the eligible group targeted in all other options – backstop tariff Option 3 is offered only to those who are CWP-eligible and have never switched. This eliminates some 1.1 million CWP-eligible households from the target group.



Base = CWP-eligible (n = 3.2 m)

Options 1 to 3 of the **backstop tariff** offer a potential average reduction in bills of the targeted eligible group of between around £100 and £150, noting that the eligible group for backstop Option 3 is a subset of the eligible group for all other options (those who are CWP-eligible and have never switched – some 2.1m households). The cost of supporting the backstop tariff results in all other households paying an additional £11 to £20 a year on average. It is lowest for Option 3, as would be expected, as this option targets a smaller proportion of the population. If the backstop tariff itself also shares a proportion of the cost of implementation (Option 4), bill savings for the eligible group reduce to £90, while the increase in bills for all other households is little affected.



Figure 7.1: Average impact of tariff options on all eligible and non-eligible households

Removing energy policy levies from a block of energy consumption for all households has very little effect, on average, on the bills of the target group, offering an average annual saving of just £2 (Figure 7.1, 'Levies removed Option 1'). Removing energy policy costs from an initial block of consumption *for the target group only* (Option 2) still has fairly limited impact on the bills of the target group, with an average saving of £8, and adds only £1 on average to the bills of all other households. These tariff options would be administratively complex, challenging to communicate, and appear to offer little opportunity to reduce the bills of the target group of vulnerable customers currently disadvantaged by the market.

Implementing a **free block** of initial consumption offers a potentially far less administratively demanding approach than removing levies, and offers greater potential savings on average to the target group, particularly if this free block is offered only to the target group (Option 2). However, the implications for the rest of the population are not insignificant, adding £20 on average. This average increase in the bills of all other consumers is likely to mask wider distributional impacts, which are an important consideration here and are explored further below.

Extending the WHD to include all CWP-eligible households results in an average reduction of £83 for the target group, with all consumers paying £5 a year towards the cost of this policy. The average saving for the target group is lower than the £140 rebate due to (a) some of this group already receiving the WHD and (b) all paying £5 towards the cost of the policy.

7.2.2 Impact on bills of 'winners' and 'losers'

Figure 7.2 shows the proportion of households better or worse off overall as a result of each tariff (better-off, or 'winning', households are those experiencing a decrease in their annual energy bill

while worse-off, or 'losing', households see their bills increase). Across the population as a whole, the majority of households appear worse off (red bars, right-hand axis). However, the increase in bills experienced by these losing households is less than or equal to £20 a year on average (red line, left-hand axis). The free initial block of energy offered only to eligible households results in the greatest increase for losing households of £44 a year on average. The households that are better off (representing less than 15 per cent of the total population under most scenarios modelled) experience a decrease in annual bills of over £100 on average, under most of the tariff options, with the exception of the removal of levies from an initial block (Options 1 and 2) and a free initial block of energy offered to all (Option 1).

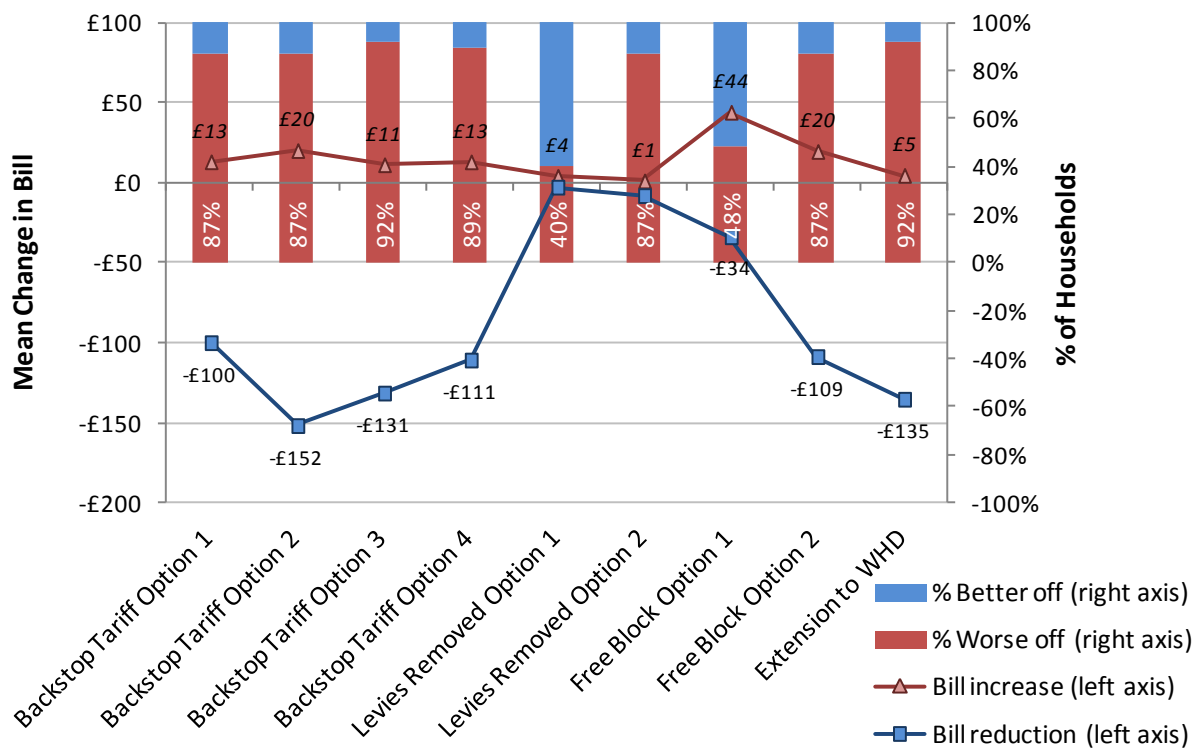


Figure 7.2: Average impact on bills by households better and worse off

In most cases, the better-off proportion of households (shown by the blue bars in Figure 7.2 above) aligns exactly with the proportion of the population specifically targeted to receive the tariff (that is, the CWP-eligible group, or in the case of backstop tariff Option 3, the CWP-eligible non-switchers).

Figure 7.3 below illustrates this, showing the proportion of households better off, split by CWP eligibility into an eligible group (3.2m) and a non-eligible group (22.2m). This shows that the majority of tariff options modelled result in *all CWP-eligible households* (represented by the red bars in Figure 7.3) being better off while none of the rest of the population are better off (that is, all other households experience some increase in their energy bill). Backstop tariff Option 3 shows only 66 per cent of the CWP-eligible group being better off, which reflects the proportion of households receiving the tariff under this option – that is, only CWP-eligible households who have never switched supplier (see Box 7.1).

It is possible for an eligible household to experience an increase in bill (to be worse off) under certain options, due to the revenue-neutral/cost-recovery process assumed in the modelling. This

applies to the backstop tariff Option 4 (where 17 per cent of eligible households see their bills increase); removal of levies from an initial block of consumption (Option 1, 18 per cent of the eligible group are worse off); a free initial block of consumption offered to all (Option 1, 20 per cent of the eligible group are worse off); and extension of the WHD (37 per cent of the eligible group are worse off).

The latter represents the proportion of the group who were already receiving the WHD. Whilst they continue to receive the rebate under this policy scenario, they are also now paying more towards the cost of it, due to the increase in the number of households receiving it and the assumed cost-recovery process. These households are therefore marginally (£5) worse off (see Figure 7.1).

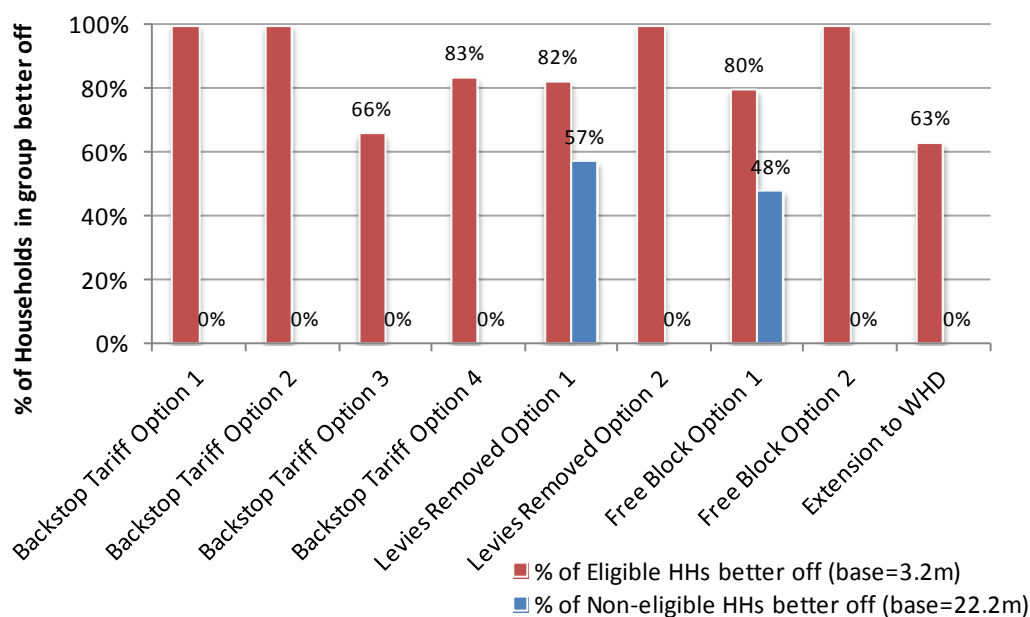


Figure 7.3: Proportion of households better off as a result of tariff options, by eligible and non-eligible group

The impact of the removal of levies from an initial block and allocation of a free block is related to energy consumption levels, which also explains why, under scenarios in which the tariff is offered to all households (that is, not limited to CWP-eligible households), there is potential for non-eligible households to appear better off. This only applies to two options modelled here: energy levies removed from an initial block of consumption (Option 1) and the free initial block of energy (Option 1), as shown by the blue bars on Figure 7.3. Under these tariff options, winning or losing status is driven by energy consumption levels. Figure 7.4 shows the mean annual change in energy bill by electricity consumption decile, for the two tariff options that were offered to all households – removal of levies from an initial block (Option 1) and a free initial block (Option 1). This shows that consumers with lower electricity consumption stand to benefit proportionally more from the reduced rate and free initial block, while higher-usage energy consumers see their bills increase on average, being forced to pay more as a result of the higher unit rate for the second block of consumption under this tariff structure (the second block of energy is charged at a higher unit rate to ensure full policy costs and revenue neutrality are maintained). Low-income households typically have lower consumption levels (the average income of each consumption decile is shown by the line

and right-hand axis on Figure 7.4 below), and therefore stand to benefit from this approach. However, there is a subset of low-income households with higher than average consumption who are at risk. The impact of tariff options by income band is explored further below.

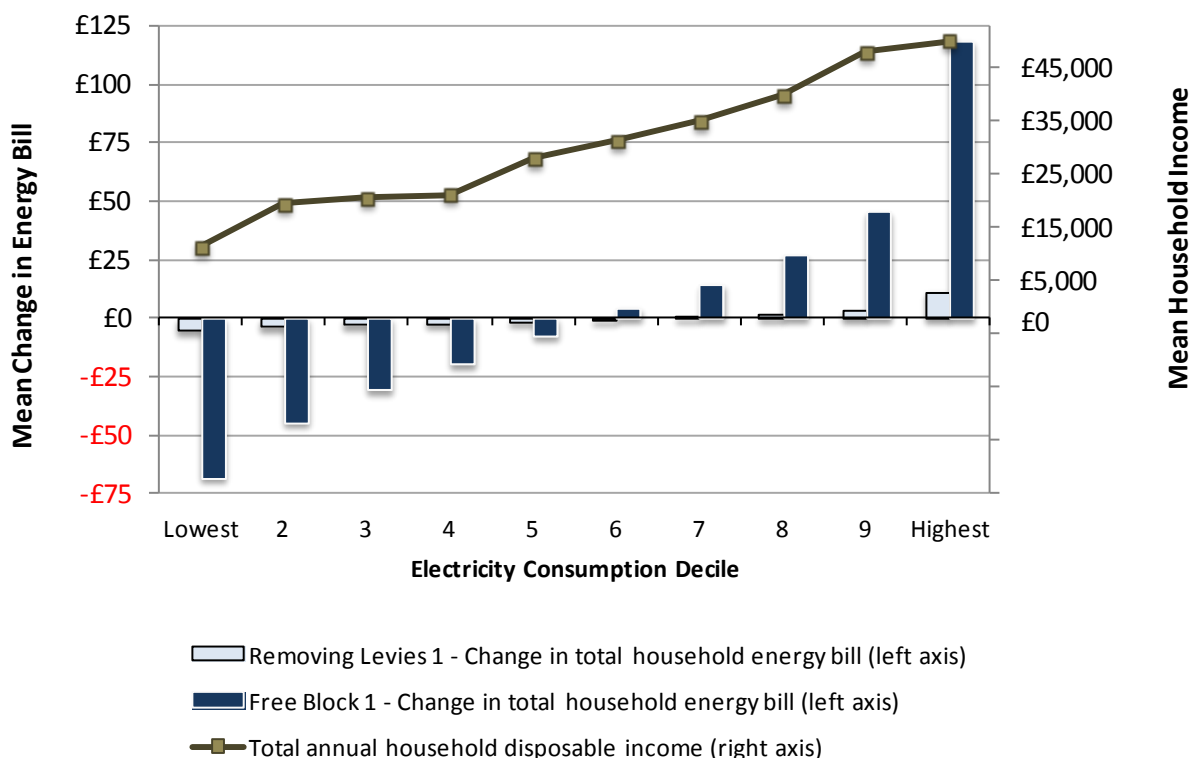


Figure 7.4: Mean change in annual energy bill (left axis) and average household income (right axis) by electricity consumption decile

7.2.3 Distributional impacts by income band

The results above show that all tariff options result in an *average* reduction in bills for the target group while the rest of the population experience some increase in bills. As a result of the targeting criteria (using CWP eligibility, which targets those on certain benefits), all options result in an average decrease in bills for lower-income households (bottom two income quintiles, with the poorest 20 per cent of households seeing the greatest reduction), while middle-income households (income quintile 3) experience marginal change on average, and the highest earners (quintiles 4 and 5) see their bills increase the most (Figure 7.5 to Figure 7.7, with each using the same scale axis for ease of comparison).

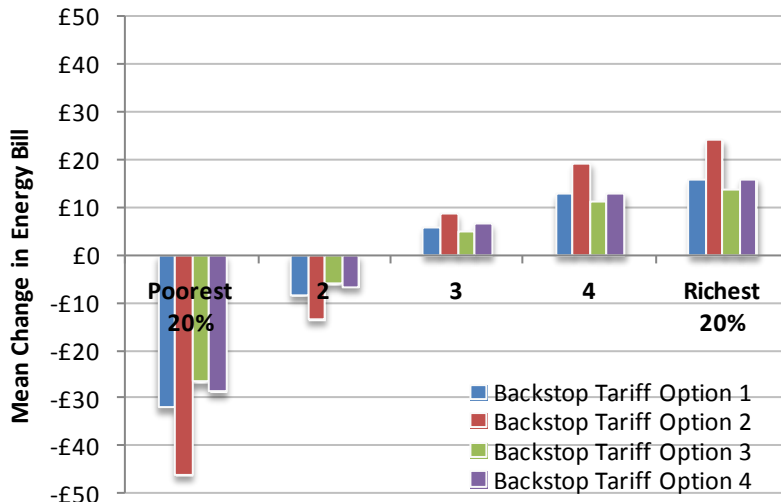


Figure 7.5: Average bill change resulting from backstop tariff options, by income quintile

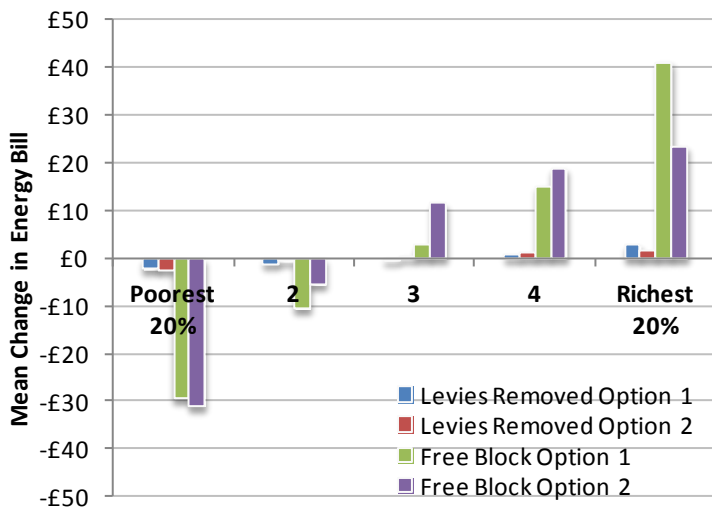


Figure 7.6: Average bill change resulting from removal of levies and a free initial block of energy, by income quintile

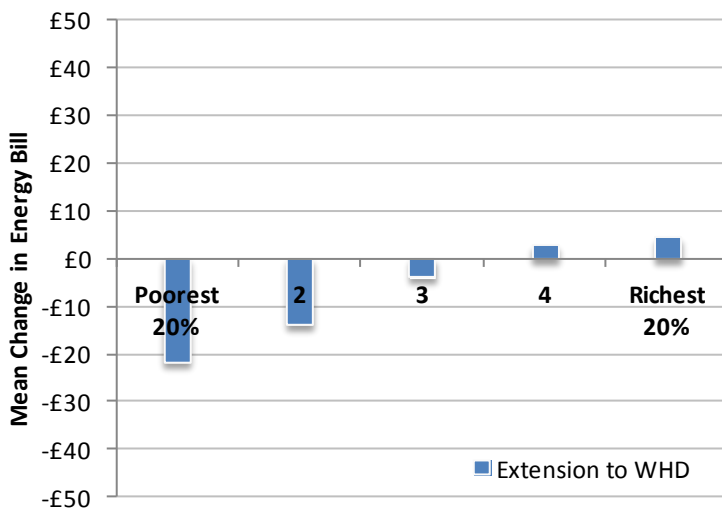
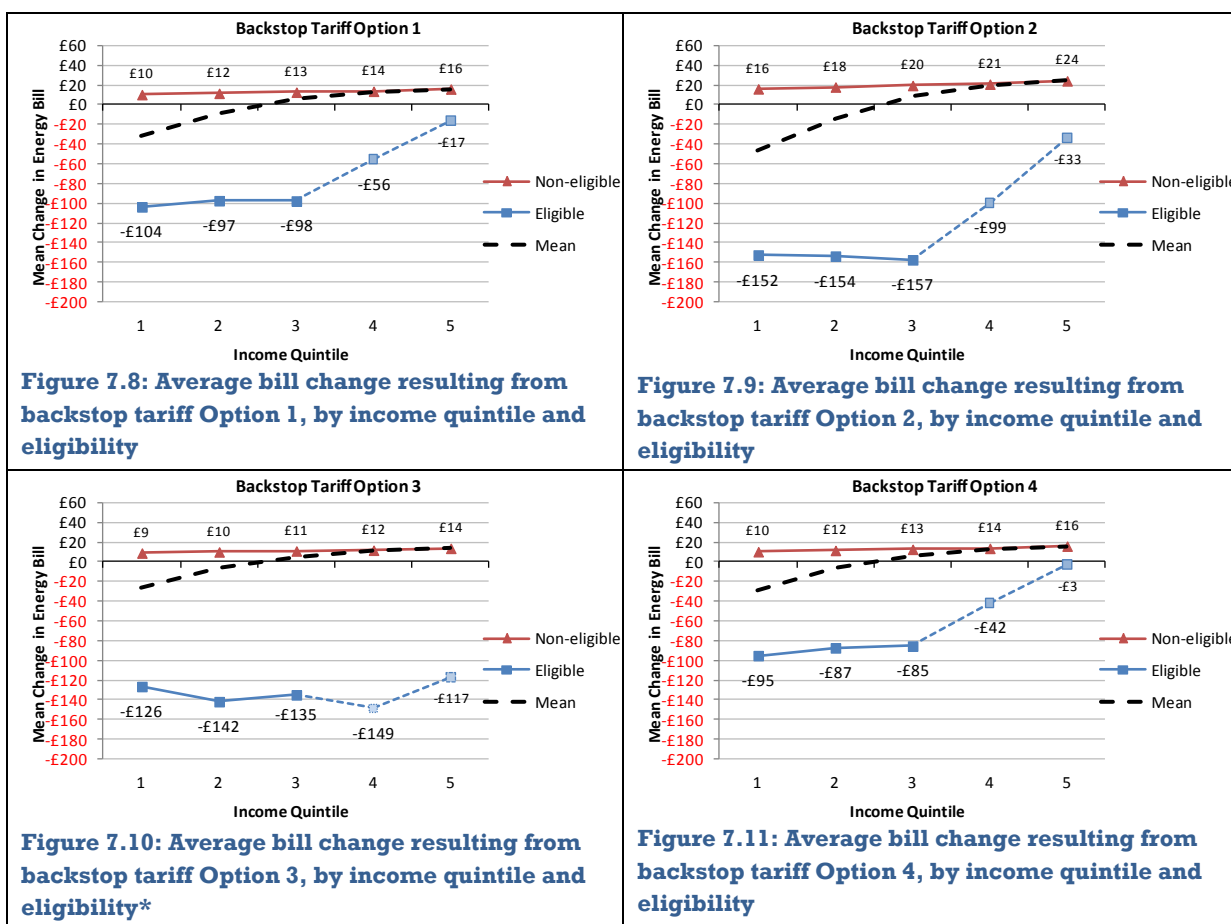


Figure 7.7: Average bill change resulting from extension of the WHD, by income quintile

Whilst on average, low-income households appear better off under all tariff options modelled, this average impact across income bands masks within-quintile variation, driven by whether or not the household falls into the target group and/or its level of energy consumption.

Figure 7.8 to Figure 7.11 show the average change in bill for eligible and non-eligible households under each of the backstop tariff options (note that all axes have the same scale for ease of comparison). For backstop tariff Option 3, the eligible group represents a subset of CWP-eligible households, to include only those who have never switched. This shows that eligible households in the poorest 20 per cent stand to gain from all options, with an average bill saving of between around £152 and £95 a year, while households in the same income band who are not eligible for the tariff risk seeing their bill increase by £10 to £16 a year. While the latter figure applies to a far greater number of households (63 per cent, or some 3.2 million households in the lowest income quintile not qualifying under the CWP eligibility criteria – see Section 5), it represents a relatively small increase of just over 35p a week, on average.



Notes: * Eligible households are CWP-group of non-switchers only (n = 2.1 million). Dashed lines indicate small sample size and figures should be treated with caution.

Figure 7.12 and Figure 7.15 show the average change in bill for eligible and non-eligible households under each of the ‘energy levies removed’ and ‘free block of energy’ options (note the different axis scale for the two tariff types). There is less difference in the average impact by eligibility under Option 1 of both these tariffs, as these were not limited to the eligible group but instead all

households received the initial lower rate/free block of energy. The pattern by income quintile is therefore driven instead by energy consumption. We still see the lowest-income households benefiting more than high-income households, on average, due to the association between income and energy consumption levels. The removal of energy levies from an initial block of consumption for all households has very little impact on average annual household energy bills, with a range of between -£3 and +£4. Even if only offered to eligible households, the impact is still relatively small, with a saving of just £8 on the average energy bill of an eligible household in the lowest income quintile.

Offering an initial block of energy free to all households offers a potential reduction of £26 to £35 for households in the lowest income quintile (again, the pattern across income quintiles here is being driven by energy consumption levels). If the free block is offered only to CWP-eligible households, qualifying households in the lowest income group stand to gain by over £100 on average, while households in this same income bracket but not qualifying are at risk of seeing their bills increase by £16 a year on average.

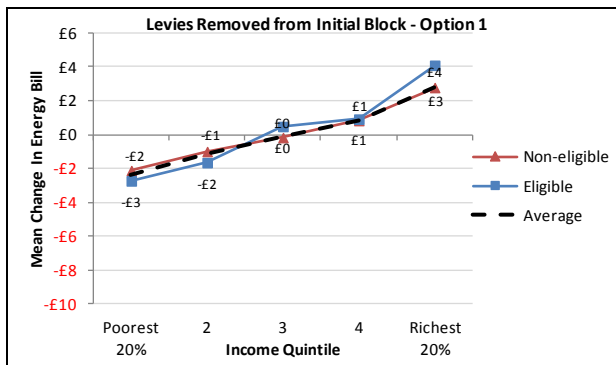


Figure 7.12: Average bill change resulting from levies removed from initial block Option 1, by income quintile and eligibility

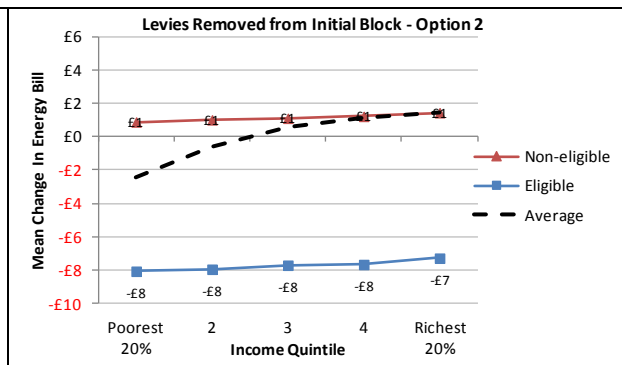


Figure 7.13: Average bill change resulting from levies removed from initial block Option 2, by income quintile and eligibility

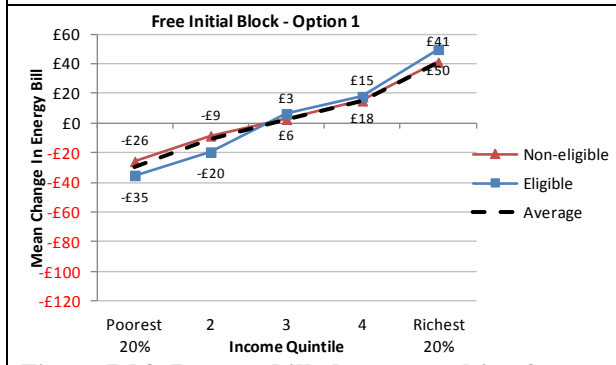


Figure 7.14: Average bill change resulting from free initial block Option 1, by income quintile and eligibility

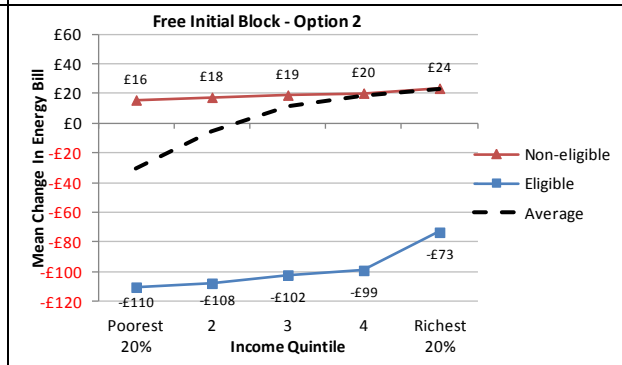


Figure 7.15: Average bill change resulting from free initial block Option 2, by income quintile and eligibility

Figure 7.16 shows the impact of extending the WHD to CWP-eligible households. All non-eligible households pay an additional £5 on their energy bills to cover the cost of the policy. Newly qualifying households (that is, CWP eligible but not currently WHD eligible) experience a net reduction of £135 a year; eligible households already in receipt of the WHD effectively also see their bills go up by £5, even though they continue to receive the rebate. This option appears particularly effective: just under 1 million households in the poorest 20 per cent of the population experience a fairly

substantial reduction in their energy bills, while the remainder of the population pay just £5 more a year.

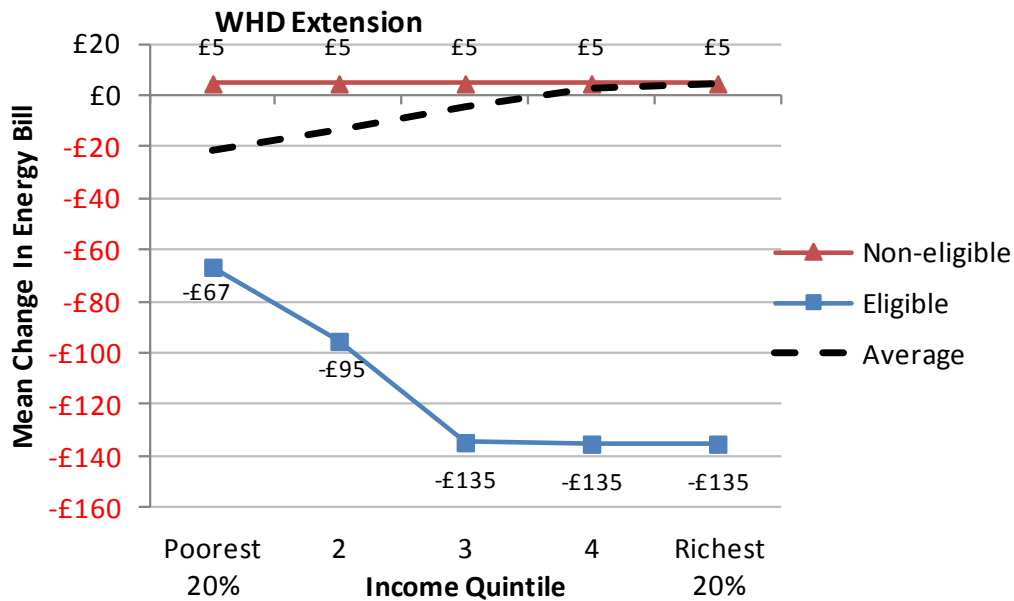


Figure 7.16: Average bill change resulting from WHD extension, by income quintile and eligibility

7.2.4 Change as proportion of income

The impact of bill changes as a proportion of disposable income have also been analysed and the results are presented here in a similar style to the previous section, showing the average change for all households, as well as a breakdown by CWP-eligible and non-CWP eligible households.

For the backstop tariff options, the bill changes have the most significant impact on the poorest households when expressed as a proportion of disposable income. Overall, the poorest 20 per cent of households experience an average bill reduction, representing between 0.3 per cent and 0.6 per cent of their disposable income depending on the backstop tariff option modelled. For the richest 20 per cent, this tends to 0 per cent. However, this masks the fact that a proportion of the bottom quintile experiences an increase in their bills, which translates to approximately 0.1 per cent of their disposable income, while the bill reduction experienced by the targeted households represents between 1.1 per cent and 1.8 per cent of their disposal income – a small but valuable increase for these households. For all households, for all backstop options, and in terms of the bill change as a proportion of disposable income, the positive experience of the targeted group is always greater than the negative experience of the non-targeted group. For the non-targeted group, the bill increase never represents more than 0.2 per cent of their disposable income.

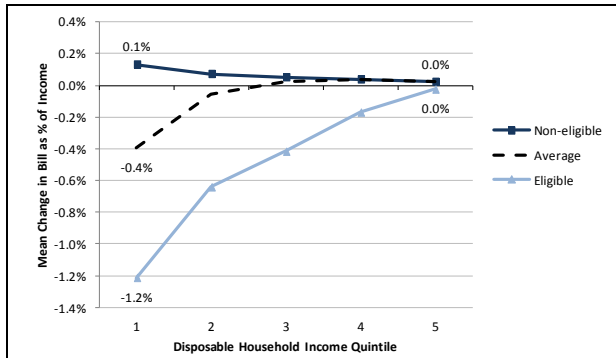


Figure 7.17: Average bill change resulting from backstop tariff Option 1, as a proportion of income by income quintile and eligibility

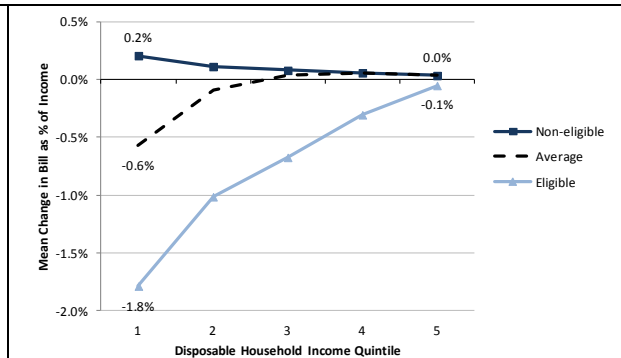


Figure 7.18: Average bill change resulting from backstop tariff Option 2, as a proportion of income by income quintile and eligibility

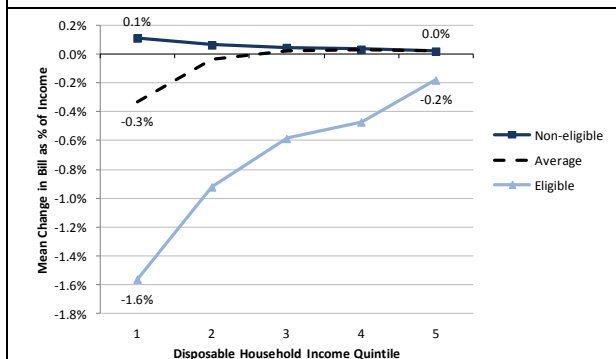


Figure 7.19: Average bill change resulting from backstop tariff Option 3, as a proportion of income by income quintile and eligibility*

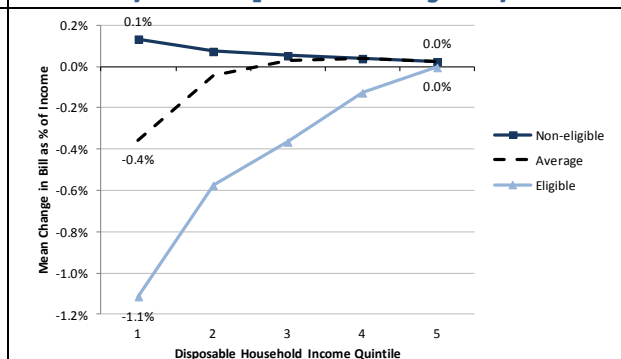


Figure 7.20: Average bill change resulting from backstop tariff Option 4, as a proportion of income by income quintile and eligibility

As reported above, the removal of energy levies from an initial block of consumption has little impact on average annual household energy bills. And this translates to a negligible impact when expressed as a proportion of income.

On average, for a non-targeted approach to this option, all of the poorest 40 per cent of households in both the eligible and non-eligible groups experience a bill reduction. However, these reductions represent between 0.01 per cent and 0.03 per cent of the disposable income of this group. When targeted, the impact is slightly increased for the poorest 20 per cent but still only represents around 0.09 per cent of their disposable income – less than 10 per cent of the impact of the backstop tariff.

Offering an initial block of energy free to all households has a slightly larger impact, although this is still relatively small in comparison to the other initiatives. This option has very similar distributional impacts to the removal of energy levies option for the targeted and non-targeted approach, with all low-income households (the poorest 40 per cent) being marginally better off under a non-targeted approach and only eligible households being better off under a targeted approach. Again, however, the bill increase experienced by the non-targeted group in the latter scenario is very small, representing just 0.01 per cent of the poorest households’ disposable income.

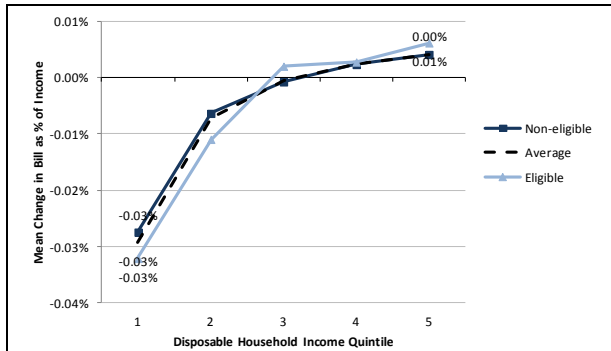


Figure 7.21: Average bill change resulting from levies removed from initial block Option 1, as a proportion of income by income quintile and eligibility

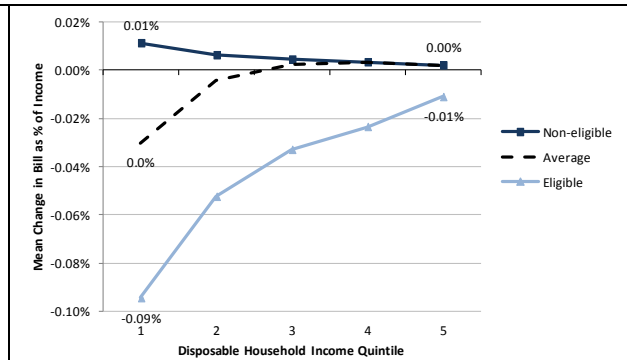


Figure 7.22: Average bill change resulting from levies removed from initial block Option 2, as a proportion of income by income quintile and eligibility

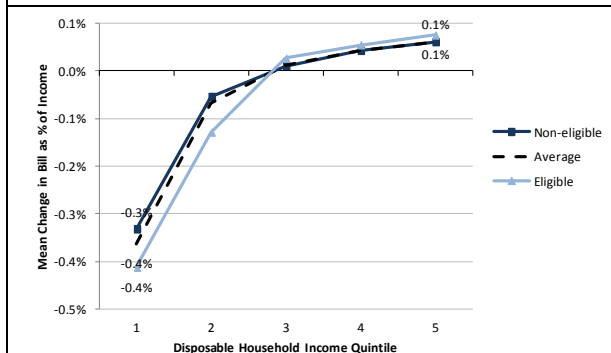


Figure 7.23: Average bill change resulting from free initial block Option 1, as a proportion of income by income quintile and eligibility

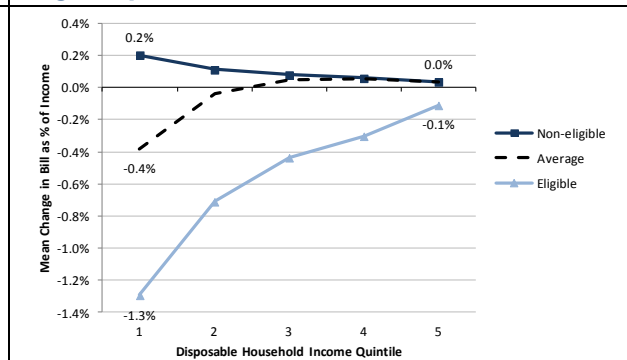


Figure 7.24: Average bill change resulting from free initial block Option 2, as a proportion of income by income quintile and eligibility

For the revised WHD initiative, all households who do not receive the payment experience a £5 bill increase, which represents a higher proportion of the poorest households' income but is still a negligible amount when considered over a 12-month period. The net benefit of the payment to the target group is greater for the poorest households, representing 0.8 per cent of the disposable income of the poorest 20 per cent, and just 0.2 per cent of the richest 20 per cent.

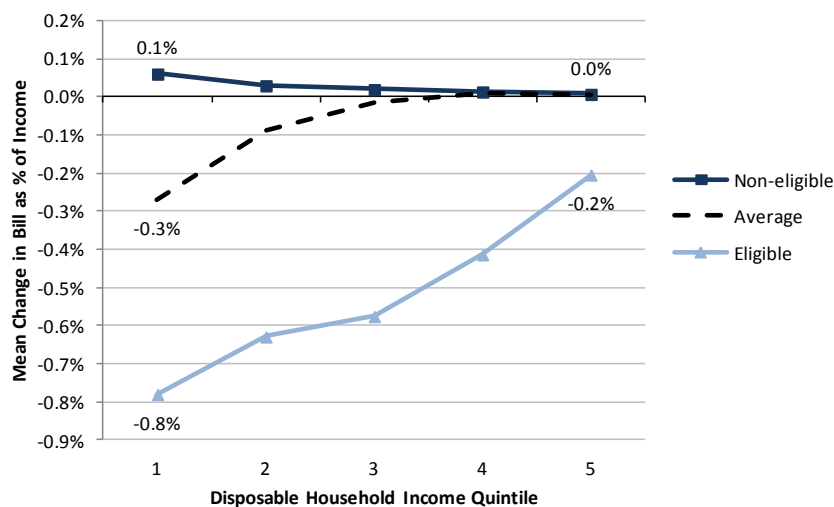


Figure 7.25: Average bill change resulting from WHD extension, as a proportion of income by income quintile and eligibility

7.2.5 Impact on different consumer groups (archetypes)

In 2012, CSE conducted some work for Ofgem that identified twelve different energy consumer archetypes, encompassing all households in Great Britain. This analysis was performed using the LCFS and was subsequently updated in 2014 to account for the latest datasets available.¹²¹ Summary background information regarding the Ofgem consumer archetypes is provided in Annex III.

Four of the archetypes represent households without mains gas heating. The remaining eight all have mains gas and one of these represents a significant proportion of the population, and therefore may be considered the 'average' gas consumer.

The archetypes provide a useful tool for exploring the impact of energy policies and tariffs on different consumer groups.

Five archetypes were selected to explore the impact of the tariff options modelled in this study. Four of these encompass predominantly low-income households. A fifth archetype was selected as it represents a specific group of (non-low income) households living in electrically heated dwellings. These are presented below by non-mains gas and mains gas heated archetypes, respectively.¹²²

7.2.5.1 Non-mains gas heated household archetypes

Archetype 1: Low-income, electrically-heated

Single adults without children, retired or not working, in small social rented flats

Number of households: 830,000

Proportion CWP-eligible: 40%

Proportion better off under different tariff options: 18% - 40%

Mean change in bill: £2 - £194

Mean annual electricity consumption: 5,966 kWh

Mean annual household disposable income: £7,602

Key characteristics:

- Disposable income quintile 1 (annual household income <£11,000)
- Mainly single adult households, half of whom are over the age of 60 and one-third 75 or over.
- A high proportion of social housing (46%) and flats (50%)
- Small (81% have 2 or fewer bedrooms)
- Higher-than-average use of prepayment meters (31%)
- Sticky customers
- 75% in urban areas

Archetype 1 represents approximately 830,000 low-income households living in electrically heated dwellings. Half of these households contain people over 60 and 80 per cent live in small, mostly

¹²¹ CSE (2012), 'Beyond Average Consumption: Development Of A Framework For Assessing Impacts Of Policy Proposals On Different Consumer Groups'. Report to Ofgem. Available at: <https://www.ofgem.gov.uk/publications-and-updates/beyond-average-consumption-development-framework-assessing-impact-policy-proposals-different-consumer-groups-report-ofgem-centre-sustainable-energy-updated-2014>

¹²² Note that the summary statistics on number of households, average income and consumption levels shown for the archetypes below will differ from those published in the original work for Ofgem due to different LCFS years used in the two studies.

urban homes with just one or two bedrooms. 40 per cent of this group are eligible for the CWP payment and typically this group are non-switchers.

As Figure 7.26 shows, for most of the options modelled, between 30 per cent and 40 per cent of this group are better off, and under the backstop tariffs the average bill reduction for this proportion of the group is between £130 and £194 (depending on the specific backstop tariff option). These reductions are higher than the average changes seen across all households (Figure 7.2). The households worse off under the backstop tariff options have an increase in bills of between £10 and £21 – comparable to the averages seen across all households. However, the tariff option that disproportionately increases the bills of this group is the non-targeted free block of energy (Option 1). As a result of this option, two-thirds of this group would see their bills increase by an average of £74, while the remaining third would only experience a bill reduction of £14.

More than half of this group are over 60, and being low income, many of them are likely to be receiving pension credit and receiving the WHD as part of the core group. As a result, only a further 18 per cent of the group would be added to the wider CWP-eligible core group of the extended WHD option. The remaining households, including current WHD recipients, would experience a bill increase of £5 to fund the policy.

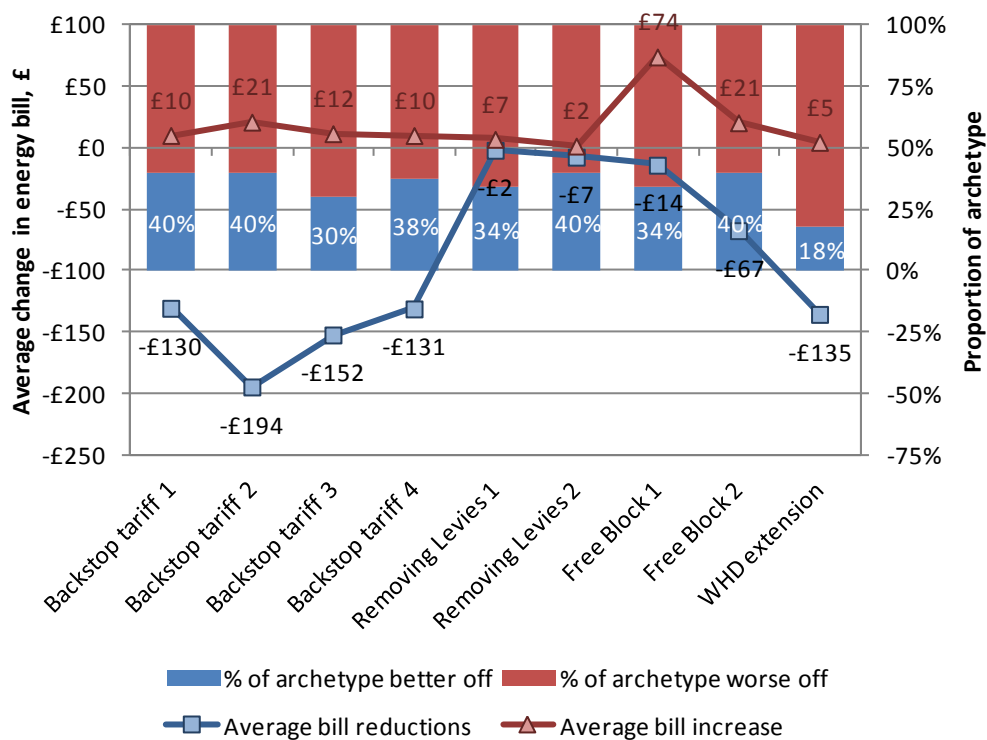


Figure 7.26: Average impact on bills of ‘low-income, electrically heated’ households (Archetype 1) that are better and worse off

Archetype 2: All other electrically heated households

Couples or younger single adults, in small owner-occupied or private rented houses or flats, in full-time employment

Number of households: 1,750,000

Proportion CWP-eligible: 10%

Proportion better off under tariff option: 4% - 10%

Mean change in bill: £2 - £223

Mean annual electricity consumption: 8,890 kWh

Mean annual household disposable income: £27,647

Key characteristics:

- Disposable income quintile 2 and above (mainly middle-income, quintile 2 and 3, annual disposable household income >£11,500)
- Mainly couples; one-fifth of households have children at home.
- Mixed age range, but over one-quarter under 35 (29%).
- Over half (51%) are in full-time employment and one-quarter (26%) retired.
- Mixed tenure but a high proportion owner-occupied (51%) and one-quarter (28%) private rented
- Small (67% have 2 or fewer bedrooms), purpose-built flats (42%) or terraced houses (21%)
- Pay mainly by direct debit (45%) or standard credit (37%)
- Some propensity for switching
- 71% in urban areas

Archetype 2 represents all other electrically heated homes and is therefore a more diverse group, containing more working, middle-income households and with fewer households (10 per cent) eligible for the CWP. These households pay for energy mainly using direct debit payments or standard credit and have a higher propensity to switch supplier or tariff than low-income, electrically heated households. They also, on average, consume more electricity than Archetype 1.

As Figure 7.27 shows, this higher level of electricity consumption amplifies the average bill changes of this group. Although less households are better off in this group, the 7-10 per cent of winners under the backstop tariff options experience average bill reductions of between £148 and £223. The remaining 90 per cent of households experience bills increases of between £14 and £28 for the backstop tariffs.

Once again, however, the non-targeted free block of energy (Option 1) significantly disadvantages this group, with 96 per cent of Archetype 2 seeing their bills increase by an average of £108 while the remaining 4 per cent would only experience a bill reduction of £13. This is predominantly a result of this group being some of the highest electricity consumers across all households. While on the whole, this group would be able to absorb bill increases better than other low-income groups, this nevertheless represents a significant increase in energy bills.

The higher-income status of these households and the lower levels of eligibility for the CWP mean that only 6 per cent of the group would be added to the wider CWP-eligible core group of the extended WHD option, and experience net bill reductions of £135.

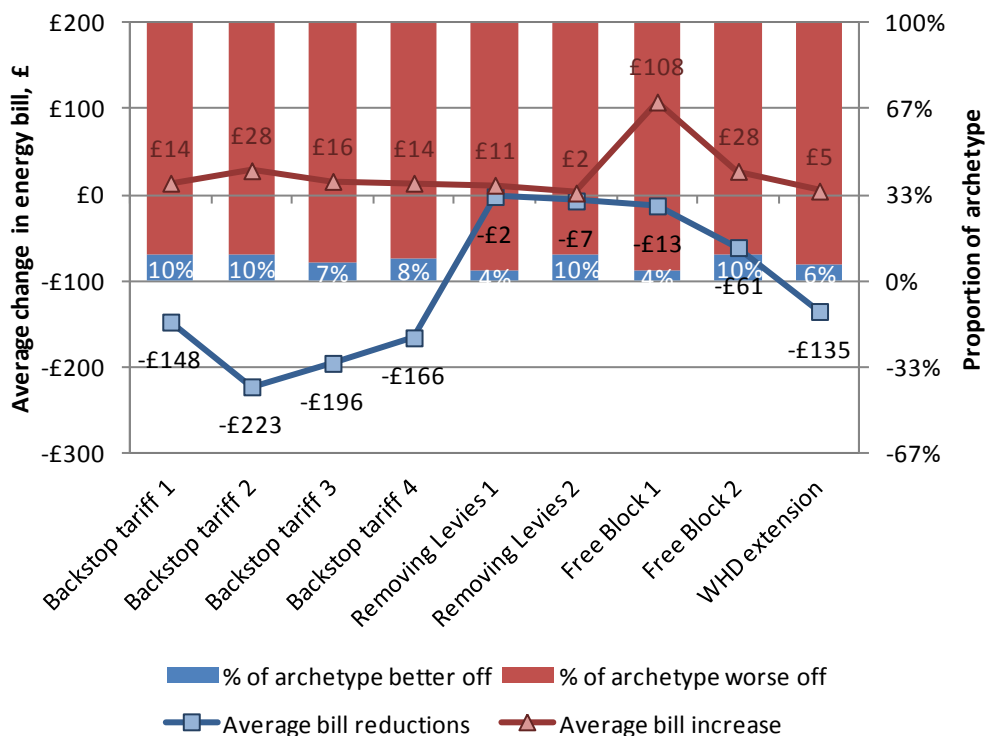


Figure 7.27: Average impact on bills of ‘all other electrically heated’ households (Archetype 2) that are better and worse off

Archetype 3: Low-income, non-metered, fuel-heated households Older people in detached houses in rural areas who own their home outright (low income but asset-rich)
Number of households: 540,000
Proportion CWP-eligible: 22.2%
Proportion better off under tariff option: 11% - 75%
Mean change in bill: £3 - £135
Mean annual electricity consumption: 3,387 kWh
Mean annual household disposable income: £12,301
Key characteristics: <ul style="list-style-type: none"> • Disposable income quintiles 1 and 2 (annual disposable household income <£19,000) • Mix of single adults and couples, but mainly over 60 (67%) and retired • Medium-size (2-3 bed), detached (45%) and semi-detached (24%) houses • Over half own outright (57%) • Sticky customers paying by standard credit (46%) • Rural (71% in villages and hamlets)

Archetype 3 is another low-income group that is not heated by mains gas – one of the cheapest heating fuels in the market. However, this group is different from Archetypes 1 and 2 in that these households use unmetered fuels (such as heating oil, LPG, coal and wood) to heat their homes. These fuels have not been subject to tariff changes in the modelling and, although these consumers will power their homes, their average electricity consumption is ~3,400 kWh, which is substantially

less than the previous two archetypes analysed. 22 per cent of these households are eligible for the CWP.

As a result, the extended WHD discount option results in the largest average bill reduction for this group (Figure 7.28). This option is not influenced by energy consumption levels and offers a fixed-rate discount on bills, so the 11 per cent of households in this group eligible for the extended WHD option would all experience net bill reductions of £135. The backstop tariff options and the targeted block of free energy (Option 2) still have the potential to reduce the bills of between 16 and 22 per cent of this group, but with average bill reductions of £61 to £90, this is significantly lower than other low-income groups and other better-off households.

As these households are generally lower consumers of electricity, three-quarters of the group would stand to gain from the non-targeted energy levy exemption option. However, on average, these consumers would see bills reduce by just £3 as a result of this option.

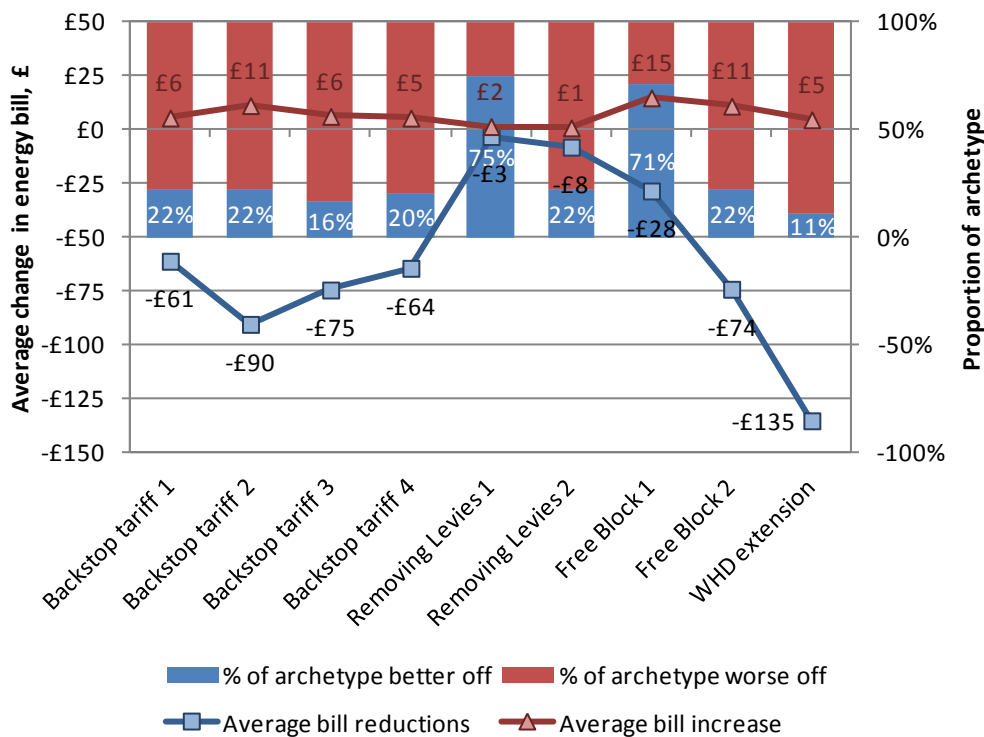


Figure 7.28: Average impact on bills of 'low-income, non-metered, fuel-heated' households (Archetype 3) that are better and worse off

7.2.5.2 Mains gas heated household archetypes

Archetype 5: Low-income, out-of-work single adults in small 1-bed social rented flats
Number of households: 870,000
Proportion CWP-eligible: 44%
Proportion better off under tariff option: 26% - 100%
Mean change in bill: £5 - £135
Mean annual gas consumption: 8,169 kWh
Mean annual electricity consumption: 2,017 kWh
Mean annual household disposable income: £7,125
Key characteristics: <ul style="list-style-type: none"> • Disposable income quintile 1 (annual household income <£11,500) • Mainly single, young adults (10% < 25) without children (though 13% lone parents), not working (41% + 14% unemployed) though one-third (32%) retired, being over 65. • Small (54% 1 bed) flats (100%) • Mainly social rented (82%) and a high proportion are in London (25%) • Higher proportion have prepayment meters (46% for electricity and 41% for gas) • Sticky customers

The two mains gas heated, low-income archetypes examined as part of the analysis comprised mostly single adult households. Archetype 5, which consists of low-income, out-of-work single adults in small social rented flats, represents approximately 870,000 households with an average annual disposable income of £7,125. This group also contains high numbers of households using prepayment meters and households who are unlikely to be engaged in the energy market. However, around 44 per cent of this group are eligible for the CWP.

Being lower energy consumers, some of the initiatives offer these households larger bill reductions compared to other groups, particularly for both of the free block of energy options. For the non-targeted free block of energy option (Option 1), all households in this archetype experience bill reductions, with the average bill being lower by around £74. For the targeted variation of this option (Option 2), fewer households are better off (44 per cent) but their bills reduce by £127 on average. This bill reduction is only bettered by the extended WHD, which reaches 26 per cent of the group.

However, the lower consumption levels of these households mean that, on average, the backstop tariffs have a slightly smaller impact than on other groups, although the high CWP eligibility rate means that a significant proportion of households experience bill reductions. Between 34 per cent and 44 per cent of households are better off under the backstop tariff options, with average bill reductions varying between £80 and £127. However, the other implication is that those households worse off under these options only experience bill increases of between £6 and £11, around half that experienced by the wider population on average.

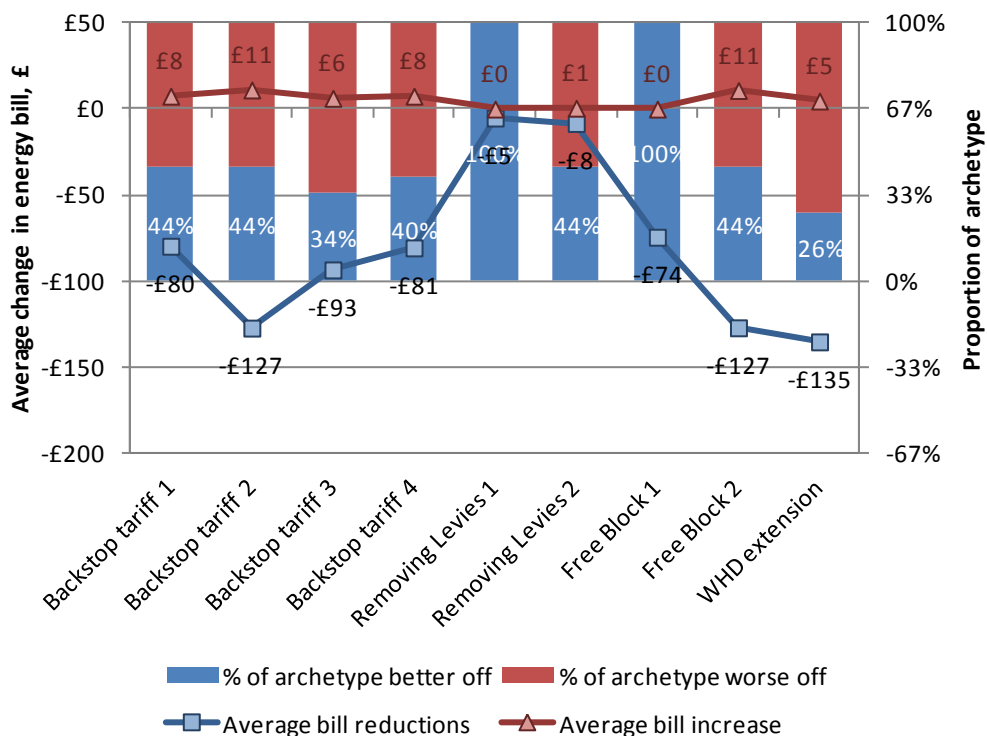


Figure 7.29: Average impact on bills of ‘low-income, out-of-work single adults in small social rented flats’ (Archetype 5)

Archetype 7: Low-income single adults (lone parents or elderly) in social rented houses
Number of households: 1,210,000
Proportion CWP-eligible: 45%
Proportion better off under tariff option: 26% - 98%
Mean change in bill: £4 - £144
Mean annual gas consumption: 10,959 kWh
Mean annual electricity consumption: 2,451 kWh
Mean annual household disposable income: £7,789
Key characteristics:
<ul style="list-style-type: none"> • Disposable income quintile 1 (annual household income <£11,500) • Mainly single adults (76%; 65% are women), some with children (hence 24% lone parents) but 39% over 60 • Either not working (39%) or retired (35%) • Small to medium-sized (83% 2-3 bed) terraced houses (57%) • All renting, mainly social rented (70%) • Higher proportion have prepayment meters (45% for electricity and 43% for gas) • Sticky customers

Low-income single adults (lone parents or elderly) in social rented houses represent over 1.2 million households, with an average annual disposable income of approximately £7,800. Around one-quarter of these households comprise lone parents with children. A significant proportion use

prepayment meters to pay for their gas and electricity, and there is a high level of disengagement from the energy market in this group. However, 44 per cent of these households are eligible for the CWP and therefore stand to benefit from the targeted interventions modelled here. As the majority of these households live in medium-size houses, their mains gas consumption (heating requirement) is higher than the previous archetype (5), who mainly live in smaller flats.

The higher energy consumption of this group means that the backstop tariff options have a large impact and, as Figure 7.30 shows, reduce the bills of 30 to 45 per cent of households by between £89 and £144. These reductions are comparable to the average bill reductions of the wider population for the backstop tariff options.

As with the previous archetype, the free block of energy initiatives offer these households significantly larger bill reductions than other groups. For the non-targeted free block of energy option (Option 1), 98 per cent of households in this archetype experience bill reductions of £55 on average. For the target variation of this option (Option 2), 45 per cent of the group would see their bills reduce by £124. In contrast, the extended WHD option would provide a bill reduction of £135 to 26 per cent of Archetype 7.

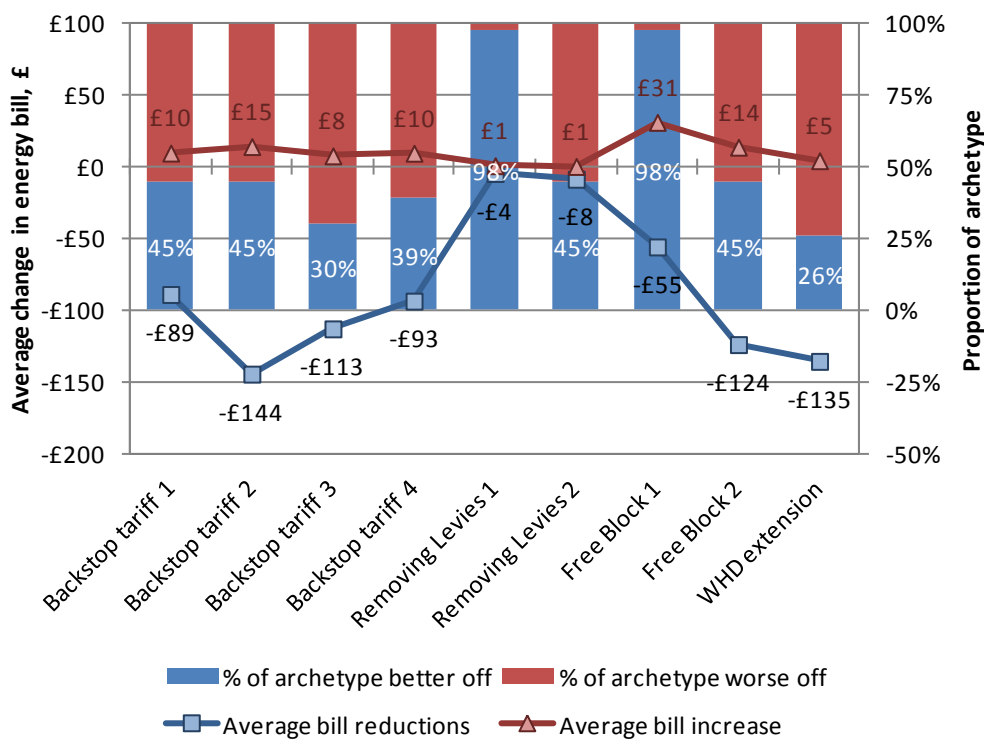


Figure 7.30: Average impact on bills of 'low-income single adults in social rented houses' (Archetype 7)

7.2.6 Impact on fuel poverty

Estimates of current fuel poverty levels across the UK nations (now based on different methodologies, since DECC adopted the LIHC measure for England while the devolved nations have maintained the original 10 per cent definition) principally use information collected through housing

condition surveys.¹²³ These surveys provide detailed data on the building fabric, heating systems and insulation levels in domestic properties, plus the number and types of inhabitants. This information is used to model the energy efficiency of each dwelling in the survey and the required energy consumption to heat and power the home to maintain an adequate level of warmth.¹²⁴ The housing surveys do not collect information regarding which energy tariffs households are on, and these are not considered when calculating fuel poverty bills. Instead, average fuel prices by region and method of payment are applied to the modelled energy consumption values to determine the 'required' spend on fuel for each household. Any fuel bill discounts, such as the WHD, are also considered when calculating a final fuel poverty energy bill.

Thus the calculation of fuel poverty is not based on households' actual expenditure on energy, but a theoretical minimum spend required to maintain healthy living conditions, nor is the expenditure based on the actual tariff paid by each household. Transferring households to lower energy tariffs will not, therefore, have an immediate, direct impact on their fuel costs applied during the fuel poverty calculation, which uses an average regional price.

Increasing the number of households receiving a rebate such as the WHD (or increasing the level of discount) will, however, directly affect the modelled required bill for recipient households, as such rebates are included in the fuel poverty calculation.

Table 7.2 shows the overlap between fuel-poor households and the CWP group, showing that for both the 10 per cent and LIHC definitions, the CWP represents 14 per cent of the total number of fuel-poor households.

Table 7.2: Overlap between the CWP group and all fuel-poor households by definition

Fuel poverty definition	CWP eligibility status	Number of households	Percentage of fuel-poor households	Average fuel poverty gap (LIHC only)
LIHC	Not eligible for CWP	1,954,837	86%	£463
	Eligible for CWP	327,742	14%	£327
10 per cent	Not eligible for CWP	2,613,863	86%	
	Eligible for CWP	439,730	14%	

In reality, reducing energy bills can make a significant difference to people's lives (see Section 7.2.7). While it is not possible to categorically reach a conclusion on the impact of these options on fuel poverty levels, it is possible to make a comparison of the average bill reductions likely to result from the tariff options and the average fuel poverty gap experienced by CWP-eligible fuel-poor households. It should be noted that the fuel poverty gap is technically only an applicable measure in England, where the LIHC definition has been adopted, and the gap is only relevant for fuel-poor households. Hence in the figures below, the average fuel poverty gap is shown for the CWP-eligible

¹²³ The English Housing Survey, Scottish Housing Condition Survey, Wales Fuel Poverty projection tool and Northern Ireland House Condition Survey.

¹²⁴ Currently defined as heating a home to 21°C in the living room and 18°C in the rest of the house, for 9 hours a day during weekdays and 16 hours a day at weekends, for a standard heating regime. For some households an extended heating regime is used, whereby these temperatures are maintained for 16 hours a day for both weekdays and weekends.

fuel-poor households only, that is, the 327,000 households shown in Table 7.2. There are no households in decile 7 and above in fuel poverty due to the nature of the LHC measure.

The average energy bill reductions by income decile are presented for the four backstop tariff options (Figure 7.31), the refined WHD payment (Figure 7.32) and the various energy levy exemption and free blocks of energy options (Figure 7.33).

Overall, the energy bill reductions that would result from a backstop tariff represent more than half the average fuel poverty gap of the bottom three income deciles, suggesting these options have the potential to make a significant impact on fuel poverty levels under the LHC definition. However, as noted above, the refined WHD option is the only option to actually directly impact on fuel poverty energy bills, as the rebate is taken into account in the calculation of fuel poverty. Across the bottom five income deciles, this option would reduce the average fuel poverty gap of the CWP-eligible fuel poor by between 17 and 32 per cent.

As reported earlier, the options that provide energy levy exempt or free blocks of energy have varying impacts on average bill reduction. The energy levies exemption options would reduce bills by £3 to £8 on average for the bottom three deciles, representing between 1 to 3 per cent of the average fuel poverty gap of these households. Providing a free block of energy to households was shown to have a bigger impact. Where this option is provided to all households, the bill reductions represent approximately 10 to 13 per cent of the bottom three income deciles’ fuel poverty gap. When this option is specifically targeted at the CWP group, the average bill reductions represent 38 to 46 per cent of the fuel poverty gap for fuel-poor CWP-eligible households.

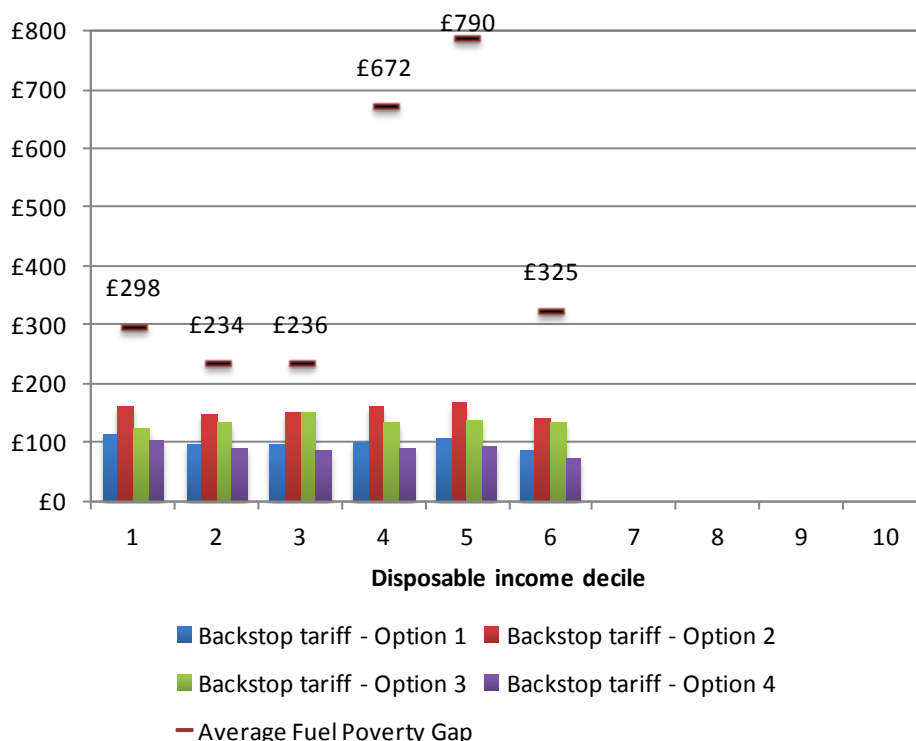


Figure 7.31: Average bill reduction of backstop tariffs and the average fuel poverty gap of the CWP-eligible group, by disposable income decile

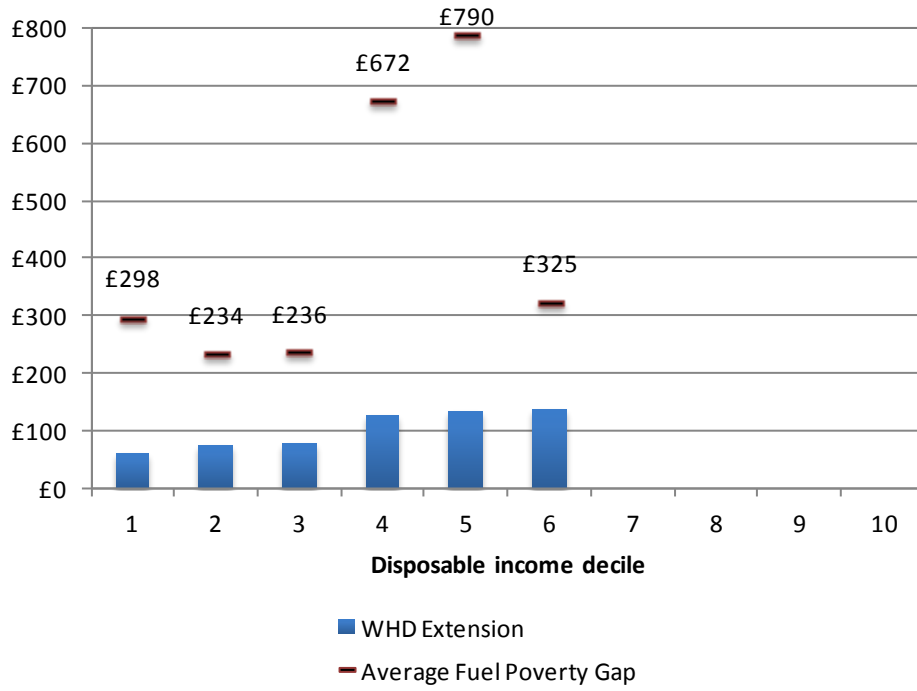


Figure 7.32: Average bill reduction of the revised WHD option and the average fuel poverty gap of the CWP-eligible group, by disposable income decile

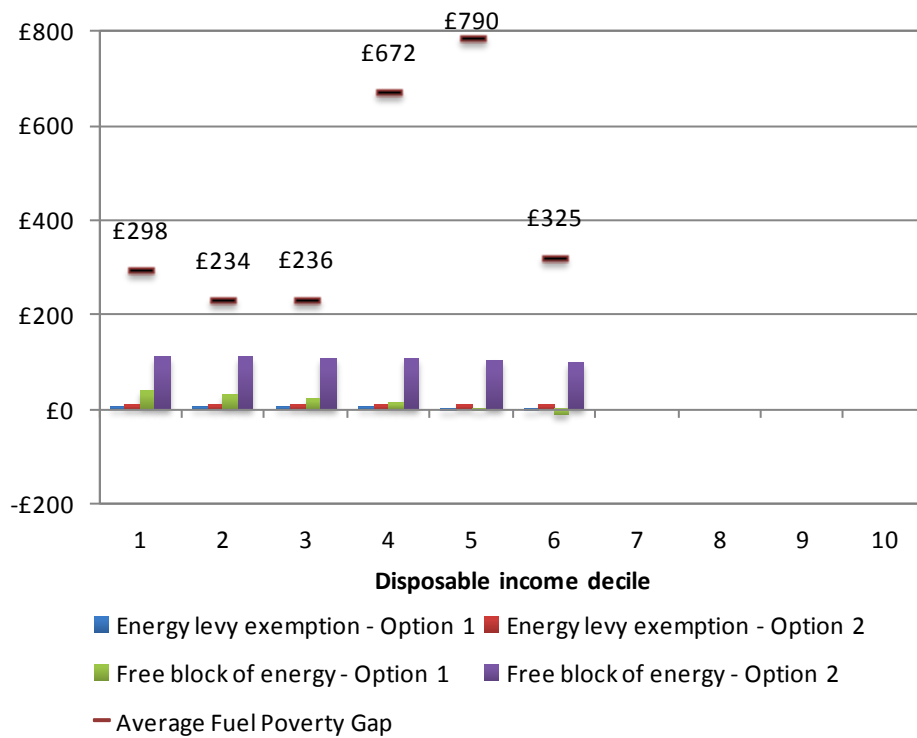


Figure 7.33: Average bill reduction of energy levies exemption and free block of energy options alongside the average fuel poverty gap of the CWP-eligible group, by disposable income decile

In contrast to those experiencing energy bill reductions, a section of the population will also experience some increases in their energy bills from these interventions. However, for the backstop tariff, the energy levies exemption and the free block of energy options, the highest average increase in energy bills for the poorest 60 per cent of households is under £20, while the losers in the revised WHD option only saw an increase of less than £5 on their bills. However, this masks the fact that, for households living in electrically heated dwellings, a free block of energy offered to all households could result in bill increases of £74 to £104 for up to 98 per cent of this group. These bill increases are likely to significantly impact on fuel poverty levels of low-income households living in electrically heated dwellings. This scenario is the exception though, and the net fuel poverty impact across all households is likely to be positive for the majority of options.

7.2.7 Wider impacts on health and wellbeing

A significant proportion of those households targeted by these options are the poorest in our society, while simultaneously being on some of the most expensive energy tariffs on the market. As a result, many of these households are likely to under-heat their properties in winter.

Living in cold homes with unaffordable energy bills is well known to translate into adverse impacts on physical and mental health, as well as social wellbeing. How different individuals and households are affected varies from case to case, depending on the severity of the cold experienced, the coping strategy adopted by the household and a host of other factors. For example, a household may opt to ration its fuel use in order to avoid costly bills and fuel debt while another may try to keep the heating on, but cut back on food expenditure instead. In the former case, the under-heated home will result in health issues, which generally principally relate to cardiovascular disease and respiratory illnesses; whereas in the latter case there may be longer-term impacts related to a poor diet with low nutritional value. In both cases, it is likely to be the young and elderly who are particularly susceptible, with long-term exposure to a cold home impacting on weight gain in young children and babies, and an increased prevalence of asthmatic symptoms.¹²⁵

Mental health problems and stress are also more likely to occur in households that are struggling to cope with paying the bills.¹²⁶ Relationships between those living in the home are more likely to be fraught, and households may also feel less able to invite people into their home if it is cold. This can further exacerbate mental health effects and result in feelings of social isolation, low self-esteem and depression.¹²⁶ A study by Barnardo's of its support services found that 94 per cent of respondents felt that high energy bills were impacting on the mental health of the families they work with.¹²⁷

Excess winter deaths (EWD) and excess winter admissions (EWA) are also often discussed in the context of cold homes. In 2008-2009, over 26,000 EWDs were reported in England, with the majority occurring in those over 65 years old.¹²⁸ An estimated 30-50 per cent of these EWDs have been linked

¹²⁵ Marmot Review Team (2011), 'The Health Impacts Of Cold Homes And Fuel Poverty'

¹²⁶ Gibbons and Singler (2008), 'Cold Comfort: A Review Of Coping Strategies Employed By Households In Fuel Poverty'. Online. Available at: http://www.infohub.moneyadvicetrust.org/content_files/files/cesi_cold_comfort_report.pdf

¹²⁷ Barnardo's (2012), 'Priced Out: The Plight Of Low-Income Families And Young People Living In Fuel Poverty'

¹²⁸ Tod, Lusambili, Homer et al. (2012), 'Understanding Factors Influencing Vulnerable Older People Keeping Warm And Well In Winter: A Qualitative Study Using Social Marketing Techniques'

to cold housing,¹²⁹ and the prevalence of fuel poverty across the UK has been linked to it having a higher rate of EWD than other European countries.¹²⁸

The health impacts of living in a cold home are complex, multi-faceted and not fully understood, and thus hard to quantify properly. The National Institute of Health and Care Excellence (NICE) has warned that literature on cold homes and health often has shortcomings that make it difficult to draw definite conclusions on any links existing between the two. Research has been done to try and draw a firm conclusion on this link between cold, damp homes and health. For instance, research has shown that reducing the stress associated with energy debt and increasing the thermal comfort of a home can result in significant mental health benefits.¹³⁰ The Warm Front Study Group reported that those who lived in better conditions and with lower energy costs saw improvements to their mental health, including lower stress levels.¹³¹ Statistical analysis of a cross-sectional survey of 2,685 low-income householders who participated in the Warm Front scheme, both before and after the intervention, showed self-reported mental health to be in direct association with the installation of Warm Front measures. In particular, levels of anxiety and depression reduced by almost 50 per cent following Warm Front improvements.¹³²

Although the benefits of the Warm Front scheme relate in particular to energy efficiency improvements, many of the advantages highlighted above are equally applicable to reducing the costs of energy through accessing a better tariff offer. Paying less for energy means that many individuals will be able to afford to heat their home to a higher temperature for the same cost, and thus help to alleviate some of the physical and mental health consequences of living in a cold home.

¹²⁹ Braubach, Jacobs. and Ormandy (2011), 'Environmental Burden Of Disease Associated With Inadequate Housing. Methods For Quantifying Health Impacts Of Selected Housing Risks In The WHO European Region.'

¹³⁰ Harris et al (2010), 'Health, Mental Health And Housing Conditions In England'

¹³¹ Green and Gilbertson (2008), 'Warm Front Better Health: Health Impact Evaluation Of The Warm Front Scheme'

¹³² Gilbertson, Grimsley and Green (2012), 'Psychosocial Routes From Housing Investment To Health: Evidence From England's Home Energy Efficiency Scheme'

8 Conclusions and recommendations

As regulator of the energy market, Ofgem's initial remit included protecting the interests of consumers by 'promoting effective competition'.¹³³ However, it is becoming increasingly evident and accepted that the market is failing for some customers, and their lack of willingness or ability to engage is resulting in them being penalised with higher energy prices. Amongst those disadvantaged by the market is a key group of vulnerable consumers who, faced with higher and increasing energy prices, are dealing with very real issues of unaffordable energy bills, resulting in the misery of cold homes. Increasing competition and the prospect of switching offers little solace for these households, and so further direct intervention of some form is required.

During Phase 1, this study considered ten options that could potentially help to address either the high prices paid for electricity and gas and/or the unnecessarily expensive energy bills experienced by these consumers. These ten original options have been assessed through an extensive literature review, by expert stakeholders and by examining national and international case studies where valid. The results of the study have also been considered in the context of recent reviews (such as RMR) and market investigations (such as CMA).

Following Phase 1, two of the options were recommended for more detailed examination and modelling using DIMPSA. The backstop tariff and the refinement of the WHD were assessed as being the mostly likely to reduce the energy bills of the targeted vulnerable group. A third option was identified that combined the 'exemption of levies from energy costs of the target group' and the introduction of RBTs (an exemption of levies from an initial block of energy – both electricity and gas). The three tariff options modelled therefore represented a market reform, a fiscal intervention and a regulatory intervention.

The eligibility criteria for the current CWP scheme was applied for the targeted options, and used as an evaluation metric for the wider assessment of all options. This group was considered in terms of overall switching behaviour, income levels, broader vulnerability status and public acceptability as a group to receive support. Overall, the analysis recognised that, while there are some shortcomings with the use of the CWP eligibility criteria, it nevertheless captures some 3.2 million households; the significant majority of which are low income. The nature of the criteria means that as well as being low income, households in the eligible group include pensioners, young children (under 5), disabled children or disabled adults. This group covers almost 60 per cent of the poorest 20 per cent of all households and overall, 66 per cent of the eligible group were predicted to have never switched supplier, in contrast to 50 per cent of the population as a whole.

Phase 2 involved the modelling of the following three tariffs:

- Backstop tariff
- Refinement of the WHD scheme (or other fuel price support)
- Exemption of energy and social levies from a block of energy

The modelling used electricity and gas tariff rates as published in fuel price statistics from DECC, and allocated cheap, average and expensive tariffs to different households based on their switching behaviour as well as other socio-demographic characteristics available.

¹³³ Ofgem (2005), 'Domestic Retail Market Report'

Modelling the backstop tariff involved switching eligible households from their current tariffs to the lowest tariff available. This included looking at the lowest tariff available regionally by fuel and method of payment (that is, households remain on direct debit, standard credit or prepayment tariffs) and examined two different approaches to maintain revenue neutrality for energy suppliers. In addition, two other options were examined: switching customers to the lowest tariff available regionally for any method of payment (in most cases a tariff that matched the direct debit tariff in each region); and only moving to the backstop tariff those who are both eligible **and** haven't switched supplier.

Modelling a revised WHD scheme considered a continuation of the current policy, with the broader group removed and the core group extended to include all CWP-eligible households.

Finally, the third option removed energy levies from an initial block of energy and then recalculated the unit costs of levies on the remaining block of energy consumed, in order to recover the same policy costs across consumers. This option was offered to all households and then targeted at just the CWP-eligible group to determine the different impacts. In addition, as part of investigating this option, the modelling analysed the impact of offering a free block of energy to consumers. Again this was offered to all households as well as being targeted to the CWP in a second model run.

The results of the modelling show that two of the options, the backstop tariff and a refinement of the current WHD scheme to a broader group of households, have the potential to significantly reduce the energy bills of the eligible group. The savings for the backstop tariff option range from £100 to £152, depending on the precise design of the transfer and final tariff. The refined WHD results in a reduction in bills for the previously non-eligible WHD households of £135. This group represents 63 per cent of the CWP group. Meanwhile, those remaining households who are automatically eligible for the current WHD (that is, in receipt of pension credit) experience a small bill increase (£5) to cover the additional costs of the policy. However, while this group appear worse off, when compared to a true counterfactual scenario (that is, where no WHD policy exists at all – which will be the case after 2015/16 if a successor is not developed), these households are still better off. In addition, it should be noted that these savings are fixed and guaranteed for this option. The amount of savings and future reductions in bills of the other approaches are dependent on the amount of energy consumed by households.

In contrast, removing social and environment levies has a much smaller impact on bills. When offered across all households, 82 per cent of the eligible group see an average reduction of just £4 on their energy bills. However, 570,000 (18 per cent) of the eligible group are worse off by £5. Overall, 60 per cent of the total population appear better off, but only by an average of £3. If this approach is targeted then all eligible households are better off by an average of £8, and this adds just over £1 to the remainder of the population.

An alternative approach for this option was examined: the provision of a free block of energy to households. If offered to all households, just over half (52 per cent) of the population would experience an average bill reduction of £34, while the remaining 48 per cent of households would see an average increase of £34 on their annual bills. Most of the eligible group experience bill reductions under this approach, but 3 per cent of eligible households would be worse off by £52 on average. If only offered to the CWP-eligible group, these 3.2 million households see an average saving of £109, while the rest of the population contribute an average of £20 to cover the costs.

However, further analysis showed that for several different consumer groups (Ofgem archetypes), several of the options were likely to significantly disadvantage some households. In particular, the targeted free block of energy (Option 2) was shown to increase bills for the majority of electrically heated properties by between £74 and £104.

The analysis presented in Section 7 has not sought to quantify the impact of the different options on fuel poverty levels (the methodology for producing national fuel poverty statistics across Great Britain means that for most of the options there would be no impact). Nor has it tried to determine how far they will go in reducing the numbers of households living in cold homes, or suffering the physical and mental consequences of unaffordable energy bills. However, from the results, it is clear that the backstop tariff and extended WHD options could be very effective at significantly reducing the fuel bills for eligible households, while simultaneously requiring small – and in some cases negligible – increases in the bills of other households to ensure ‘revenue neutrality’ or cover the additional costs of a more broadly targeted fuel price discount. For the backstop tariff options, the maximum non-eligible bill increase represents just 0.2 per cent of disposable income. For the extension to the WHD discount option it is less than 0.1 per cent.

The energy bill reductions that would result from a backstop tariff represent more than half the average fuel poverty gap of the bottom three income deciles, and appear likely to make the most significant impact on fuel poverty levels. For the extended WHD option, the energy bill reduction represents 17 to 32 per cent of the average fuel poverty gap experience by CWP-eligible fuel-poor households.

In contrast, the impacts of the energy levies exemption option were shown to be small in comparison and negligible for many consumers. Offering a free block of energy had a range of consequences: while it has the potential to significantly reduce the bills of some low energy consumers, its most noticeable impact was penalising high energy consumers and particularly low-income households in electricity-heated dwellings. Overall, these options were shown to compare much less favourably to the backstop tariff and extended WHD option.

Of these two options worthy of continued investigation, the extension to WHD option is likely to be easier to implement and likely to represent a smaller administrative burden to energy companies. Furthermore, the groundwork for such an intervention, including the use of data matching, has already been laid by the existing WHD scheme. While this option also offers a guaranteed fixed reduction in energy bills, irrespective of energy consumption levels, one major negative aspect is that it does not transfer vulnerable households to cheaper tariffs. As shown in the results from the backstop tariff modelling results, transferring customers to cheaper tariffs has the potential to reduce energy bills by a more significant amount than a fixed fuel price discount, particularly for high consumers and those on the most expensive tariffs.

However, a backstop tariff is likely to be more complex to implement in practice. It is also more difficult to determine exactly how energy companies and the energy market as a whole will respond. Finally, there remain some questions that need to be addressed: the period of time of inactivity that will trigger the backstop tariff, how long households remain on that tariff and how frequently the tariff is reviewed (reset) are all key points for further consideration.

Nevertheless, both these options could play a very important role in reducing the energy bills of those struggling to heat and power their homes, with positive consequences on the health and wellbeing of millions of households.

Annex I: Modelling household likelihood to switch

This analysis uses a socio-demographically representative dataset of households in Great Britain, derived from the Office for National Statistics Living Costs and Food Survey (LCFS). The LCFS is an annual rolling survey that collects detailed data on all household expenditure, including household fuels, along with socio-demographic information such as household income, welfare benefits received, household occupancy characteristics (for example, age of occupants) and some spatial indicators (region and urban/rural classification). For the purpose of the analysis below, data from two survey years (2009-2011) has been combined to increase the sample size and align with years when the Cold Weather Payment (CWP) was in effect.

The Centre for Sustainable Energy (CSE) has developed a robust methodology for deriving estimates of household energy consumption (kWh) from LCFS data on household expenditure on all household fuels (mains gas, electricity and non-metered). The resulting dataset has been widely used for analysing the distributional impacts of policies on household energy bills, including by the Government and Ofgem for their own analysis¹³⁴.

For the purpose of this study, additional modelling was undertaken to identify the likelihood of households in our LCFS dataset to have switched energy supplier, using the latest dataset on consumer switching behaviour collected by Ipsos MORI/ Ofgem in its 2014 'Customer Engagement With The Energy Market: Tracking Survey'.¹³⁵

The modelling uses a subset of the complete tracking survey dataset, to include only those cases where the household provided information about switching activity (that is, limited to cases where the survey respondent was responsible for household energy bills).

Analysis of switching activity recorded in the survey is shown below (Annex Table 1). This shows that 58 per cent of households with a mains gas supply had never switched supplier and 61 per cent of households had never switched electricity supplier. Around one-quarter of households had switched supplier more than once.

Annex Table 1: Number of times switched supplier, by fuel type (Source: Ipsos MORI/Ofgem customer tracking survey, 2014)

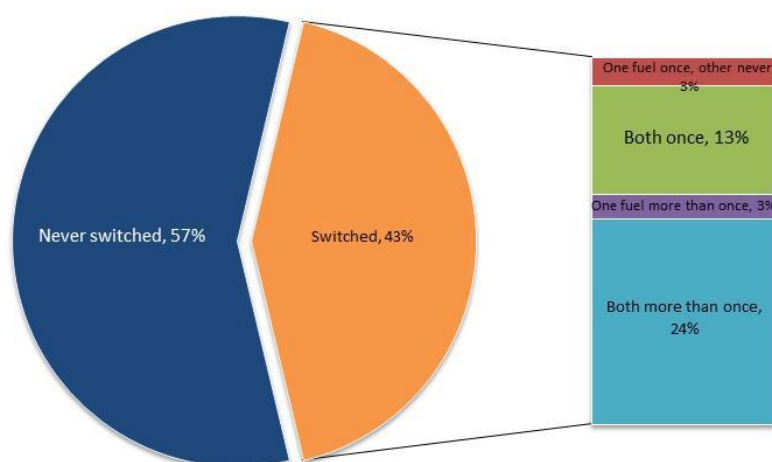
	Gas	Electricity
Never	58%	61%
Once	15%	14%
More than once	26%	25%
Total weighted base*	1,256	1,411

* Households with this fuel supply and where the survey respondent is responsible for energy bills

¹³⁴ The dataset underpins the Distributional Impacts Model for Policy Scenario Analysis (DIMPSA), which is used under licence by DECC. It was also used to develop the 'archetypes' of domestic energy consumers for Ofgem [CSE (2012), 'Beyond Average Consumption: Development Of A Framework For Assessing Impacts Of Policy Proposals On Different Consumer Groups'. Report to Ofgem.]

¹³⁵ Ipsos MORI (2014), 'Customer Engagement With The Energy Market: Tracking Survey'. Report for Ofgem. Available at: <https://www.ofgem.gov.uk/publications-and-updates/customer-engagement-energy-market-tracking-survey-2014> (the complete survey dataset was obtained from the Ipsos MORI/Ofgem to facilitate the modelling).

Combining results for electricity and gas switching activity shows that 57 per cent of households have *never* switched their gas (where applicable) or electricity supplier (Annex Figure 1). Of the 43 per cent of households that recorded some previous switching activity, most had switched both fuels. This suggests therefore that if a household does switch, it is likely to do so for electricity and gas at the same time, rather than one fuel in isolation (as would be expected, given that better deals are often offered on a dual-fuel basis).



Annex Figure 1: Supplier switching activity summary (Source: CSE analysis of Ipsos MORI/Ofgem customer tracking survey, 2014)

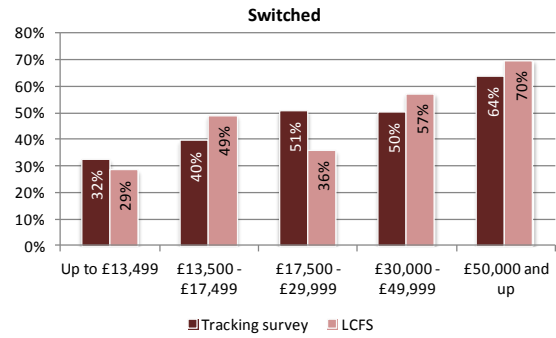
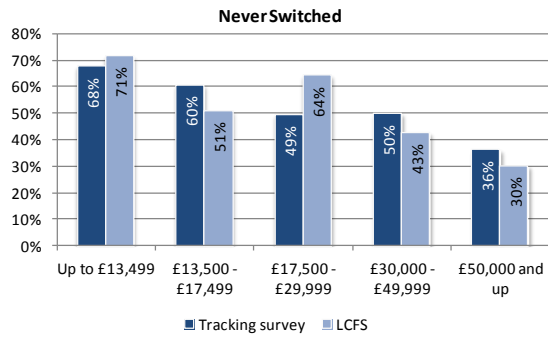
Using tracking survey data on consumer switching behaviour and socio-demographic variables common to both the tracking survey and LCFS, a model was developed to predict the likelihood of a household having switched. For the purpose of this modelling, a household was defined as a non-switcher if it had never switched supplier for either fuel (that is, the 57 per cent of households shown above).

The results (Annex Table 2) show the predictive model (trained on the tracking survey dataset and run on the LCFS dataset) slightly overestimates (by 5 per cent) the propensity to switch, identifying 48 per cent of households in the LCFS dataset as switchers. This is due to the fact that (a) it is a model and therefore imperfect; (b) despite both surveys being designed to represent households in Great Britain, there are some discrepancies in the representation of different household characteristics (the model predictor variables) between the two, which will affect the model's predictions.

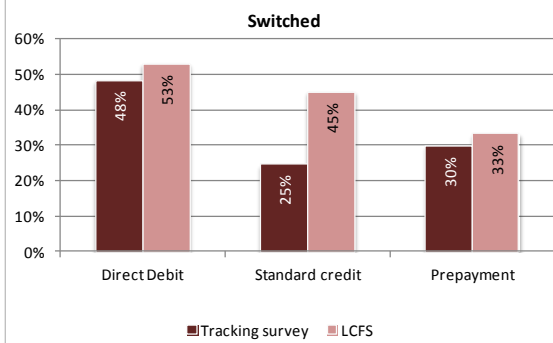
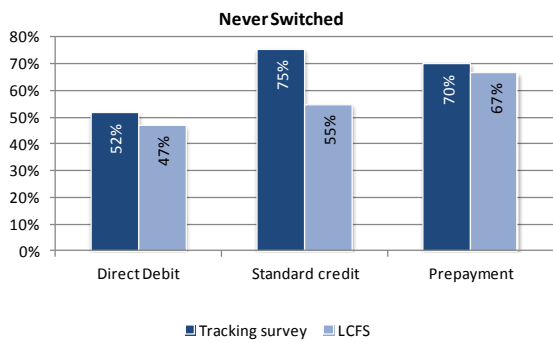
Annex Table 2: Modelling switching using the Ipsos MORI/Ofgem customer tracking survey (2014)

	Tracking survey 2014 results	Predicted results in LCFS dataset
Non-switcher (never switched)	57%	52%
Switcher (switched at least one fuel at least once)	43%	48%

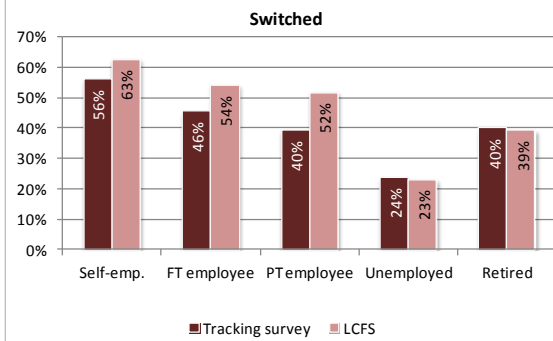
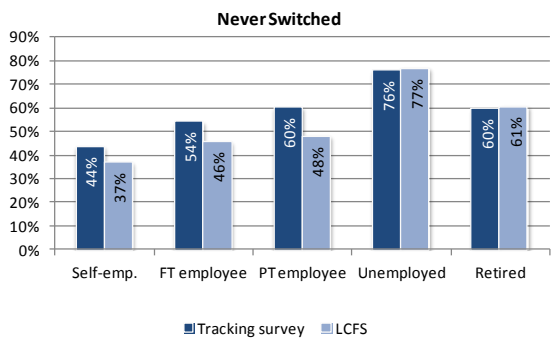
The analysis shown in Annex Figure 2 to Annex Figure 5 illustrates some of the key characteristics of switchers and non-switchers, as identified in the original tracking survey data and by the predictive model run on the LCFS dataset. These show that, compared to the actual tracker survey results, the predictive model identifies a higher propensity to switch (right-hand graphs) amongst wealthier households, standard credit customers, part-time employees and the private rented sector.



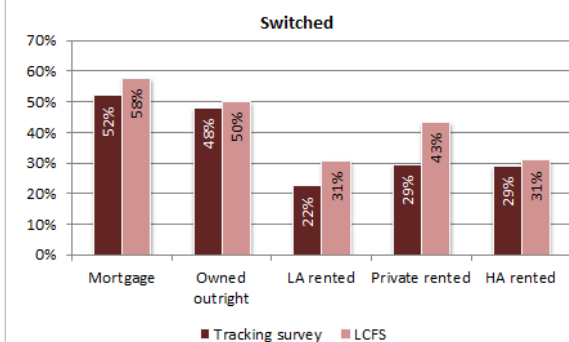
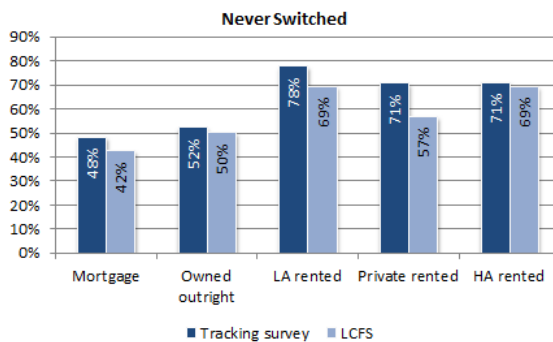
Annex Figure 2: Switching activity and income band



Annex Figure 3: Switching activity and electricity method of payment



Annex Figure 4: Switching activity and employment status of household reference person



Annex Figure 5: Switching activity and tenure

Annex II: Tariff assessment matrix

	IMPACTS OF TARIFFS				
	MAJOR NEGATIVE	MINOR NEGATIVE	NEUTRAL	MINOR POSITIVE	MAJOR POSITIVE
Energy market regulatory implications	MAJOR: new / change to regulations required	SOME: conflicts with some aspects of regulation in current energy market	NONE: fits with current energy market reform		
	-2	-1	0	1	2
Government spend (tax) implications	MAJOR: significant change to current Government spending; decision = major implications.	SOME: decision / change in Government spending but likely limited consequences or implications.	NONE		
	-2	-1	0	1	2
Administrative implications	SUBSTANTIAL: likely to be considered unacceptable / unmanageable	SOME: but arguably manageable / acceptable	NONE		
	-2	-1	0	1	2
Cost-reflective pricing implications	MAJOR: goes against principle of cost-reflective pricing	SOME: goes somewhat against cost-reflective pricing	NONE: aligns with principle of cost-reflective pricing		
	-2	-1	0	1	2
Implications for market engagement	MAJOR NEGATIVE: could significantly hinder / reduce level of engagement (removes all incentive to switch)	SOME NEGATIVE: could hinder / reduce level of engagement to some extent (removes some incentive to switch)	NONE: not expected to affect level of public engagement with the market	SOME POSITIVE: could improve / increase level of engagement to some extent (adds some incentive to switch)	MAJOR POSITIVE: could significantly increase / improve engagement (adds substantial/new incentive to switch)
	-2	-1	0	1	2
Impact on / implications for competitive market	MAJOR NEGATIVE: potential to significantly hinder / reduce level of competition	SOME NEGATIVE: potential to hinder / reduce level of competition to some extent	NONE: should not impact on current level of competition in the market	SOME POSITIVE: potential to improve / increase level of competition to some extent	MAJOR POSITIVE: potential to significantly improve / increase level of competition
	-2	-1	0	1	2
Impact on bills of specific target group	MAJOR NEGATIVE: potential to substantially increase bills of target group	SOME NEGATIVE: potential to increase bills of target group	NONE specific to target group - tariff option applies to all households	SOME POSITIVE: potential to reduce bills of target group	MAJOR POSITIVE: potential to substantially reduce bills of target group
	-2	-1	0	1	2
Distributional impacts on all energy consumers	"NEGATIVE" IMPLICATIONS: could unevenly burden / disadvantage lower income/vuln hhlds	MIXED: potential to benefit some low-income/vulnerable households, but an 'at risk' group remain	NONE: all consumers broadly affected in the same way	"POSITIVE" IMPLICATIONS: potential to mainly benefit lower income/ vulnerable hhlds	
	-2	-1	0	1	2
Impact on existing social tariffs or policies	MAJOR NEGATIVE: remove significant number of households	SOME NEGATIVE: remove some households	NONE		
	-2	-1	0	1	2
Carbon emissions implications	MAJOR INCREASE in emissions	MINOR INCREASE in emissions	None	MINOR REDUCTION in emissions	MAJOR REDUCTION in emissions
	-2	-1	0	1	2

Annex III: Ofgem consumer archetypes

In Phase 1, the likely impacts of standing charge options (Section 4.8) and RBTs (Section 4.9) were assessed using 12 different energy consumer archetypes (Annex Table 3). The archetypes were developed by CSE for Ofgem in a previous study.¹³⁶ They represent distinct groups of households, differentiated by household heating fuel, being either mains gas or non-mains gas (electric or non-metered fuel). The latter subset of households is further divided into four different archetypes, and the mains-gas heated households (representing over 80 per cent of households in Great Britain) are split into eight archetypal groups. Each group is assigned a predicted (modelled) estimate of annual electricity and, where relevant, gas consumption. Some of the low-income archetypes were used to explore the implications of different tariff options for these groups of consumers (Section 7.2.5).

Annex Table 3: Energy consumer archetypes in Great Britain; total numbers of households and proportion of the population with average electricity and mains gas energy consumption (kWh)

Archetype	Number of GB households (thousands)	% of GB population	Mean annual electricity kWh	Mean annual gas kWh
Archetype 1: Low-income, electrically-heated households	910	4%	6,130	-
Archetype 2: All other electrically-heated households	1,717	7%	8,912	-
Archetype 3: Low-income, non-metered, fuel-heated households	541	2%	3,383	-
Archetype 4: All other non-metered fuel-heated households	1,070	4%	4,814	-
Archetype 5: Low-income, out-of-work single adults in small 1-bed social rented flats (London)	937	4%	2,158	8,280
Archetype 6: Young working adults in rented flats (London)	1,143	5%	2,853	10,374
Archetype 7: Low-income single adults (lone parents or elderly) in social rented houses	1,266	5%	2,640	10,907
Archetype 8: Younger working families in medium-sized rented houses	2,777	11%	3,491	13,955
Archetype 9: 'Average mains gas-heated households'	8,242	33%	3,585	15,569
Archetype 10: Wealthy working families in 3-4 bed semis, owned with mortgage	2,332	9%	4,588	19,097
Archetype 11: Asset-rich, 'empty-nesters' in detached houses in less urban areas	2,580	10%	4,098	19,418
Archetype 12: Wealthy working families in larger detached houses in less urban areas	1,602	6%	5,306	23,138
TOTAL	25,118	100%	4,217	15,911

(Source: Ofgem, 2014)

¹³⁶ CSE (2012), 'Beyond Average Consumption: Development Of A Framework For Assessing Impacts Of Policy Proposals On Different Consumer Groups'. Report to Ofgem. Available at: <https://www.ofgem.gov.uk/publications-and-updates/beyond-average-consumption-development-framework-assessing-impact-policy-proposals-different-consumer-groups-report-ofgem-centre-sustainable-energy-updated-2014>

Annex IV: Assigning tariffs and modelling baseline energy bills in the Distributional Impacts Model for Policy Scenario Analysis (DIMPSA)

The fuel prices used in the modelling are based on national fuel price statistics from the Department for Energy and Climate Change (DECC).¹³⁷ The price data used to produce these statistics for the UK is collected directly from energy suppliers on a quarterly basis. The main survey used to collect data on domestic electricity and gas fuel prices and energy tariffs is the Domestic Fuel Inquiry survey. However, the data from these surveys is not made publicly available due to confidentiality and market sensitivity issues. Nevertheless, the derived Quarterly Energy Price (QEP) statistics and annual fuel prices published by DECC are based directly on tariff information provided by suppliers.

Up to 2013, these provided the minimum, maximum and average unit costs of metered fuels by regions and devolved nations in the UK. In 2014, the series was reduced and only average unit tariffs were made available. In order to determine the range of tariffs available in each region and devolved nation, the Centre for Sustainable Energy (CSE) therefore used the differential ratios from the 2013 data series and applied these to the 2014 annual fuel prices for 2014. The resulting statistics provided a maximum, minimum and average unit tariff, which were allocated to different households in the DIMPSA dataset to produce baseline energy bills.

The unit rates provided by DECC have accounted for standing charges and represent a single unit rate that accommodates the fixed costs of supplying electricity in that region. So, although single unit rates have been used across all the modelling, these represent typical tariffs that include standing charges.

The tariff levels were allocated according to two key indicators: switching behaviour and households' access to the internet via home computers (as reported in the LCFS). Annex Figure 6 and Annex Figure 7 below show the internet access and switching behaviour of households in each income decile, respectively.

The allocation of different tariffs for fuels was based on the theory that households with internet access at home, who have been predicted to have switched supplier in the past, are very likely to be on cheaper tariffs, having been able to use comparison sites to find a cheap deal. In addition, wealthier households on prepayment meters are also likely to have accessed some of the lowest tariffs available for their meters.

In contrast, those without internet access to the internet and who have been predicted never to have switched are the most likely to be on the most expensive tariffs. Furthermore, those on prepayment meters and with fuel debt are likely to be on the most expensive tariffs. These latter two groups were allocated high tariffs. Any households who did not fall into any of the groups mentioned above were allocated an average tariff for their fuel and method of payment in their region.

¹³⁷ <https://www.gov.uk/government/statistical-data-sets/annual-domestic-energy-price-statistics>

In summary, the cheap, expensive and average tariff levels have been assigned as follows:

- **Cheap tariffs:**
 - Households who have switched once or more (according to the model), and have internet access through a home computer.
 - Households in the top 40 per cent disposable income of all households and on prepayment meters.
- **Expensive tariffs:**
 - Households who have never switched (according to the model) and have no internet access at home.
 - Households on prepayment meters with fuel debt (using Fuel Direct payments as a proxy).¹³⁸
- **Average tariffs:**
 - All other households.

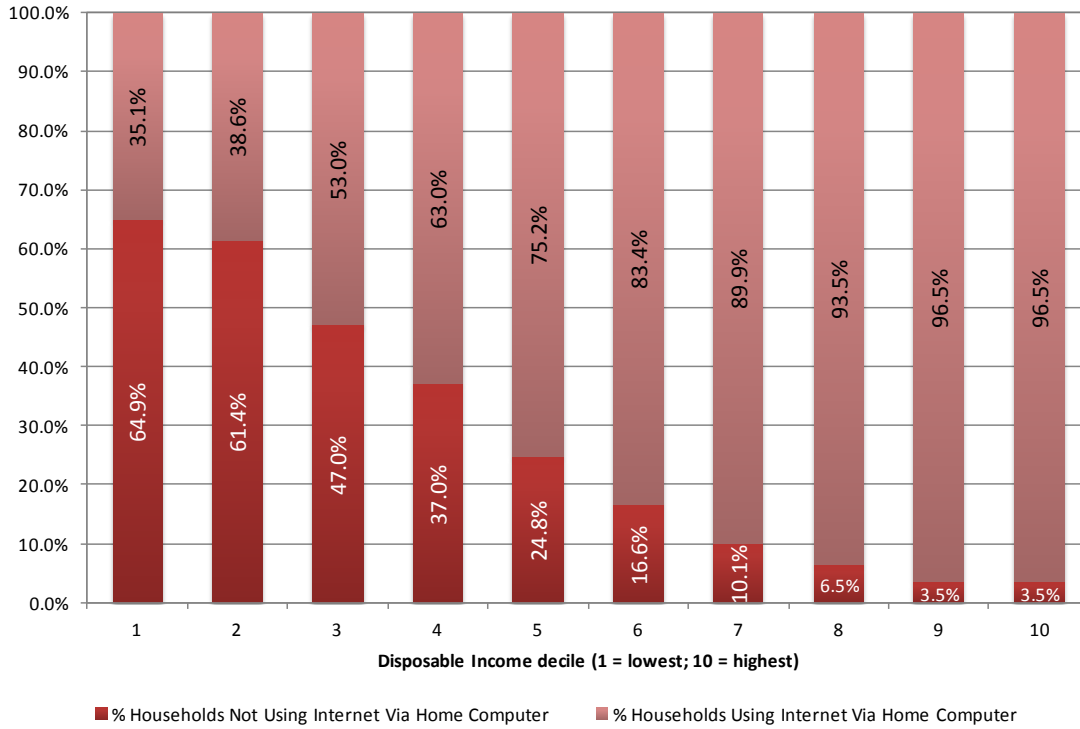
Annex Table 4 below shows the numbers of households on each tariff and the average unit price paid for each level of tariff in Great Britain. Annex Figure 8 shows the proportions of households on each tariff by income decile, illustrating that this method tends to allocate those on lower incomes with higher tariffs and vice versa.

Unmetered fuels (oil, LPG, biomass and house coal) do not have fluctuating tariffs other than by region, and customers in each region have not been given different tariff levels for these fuels. This work focuses on electricity and gas consumers only.

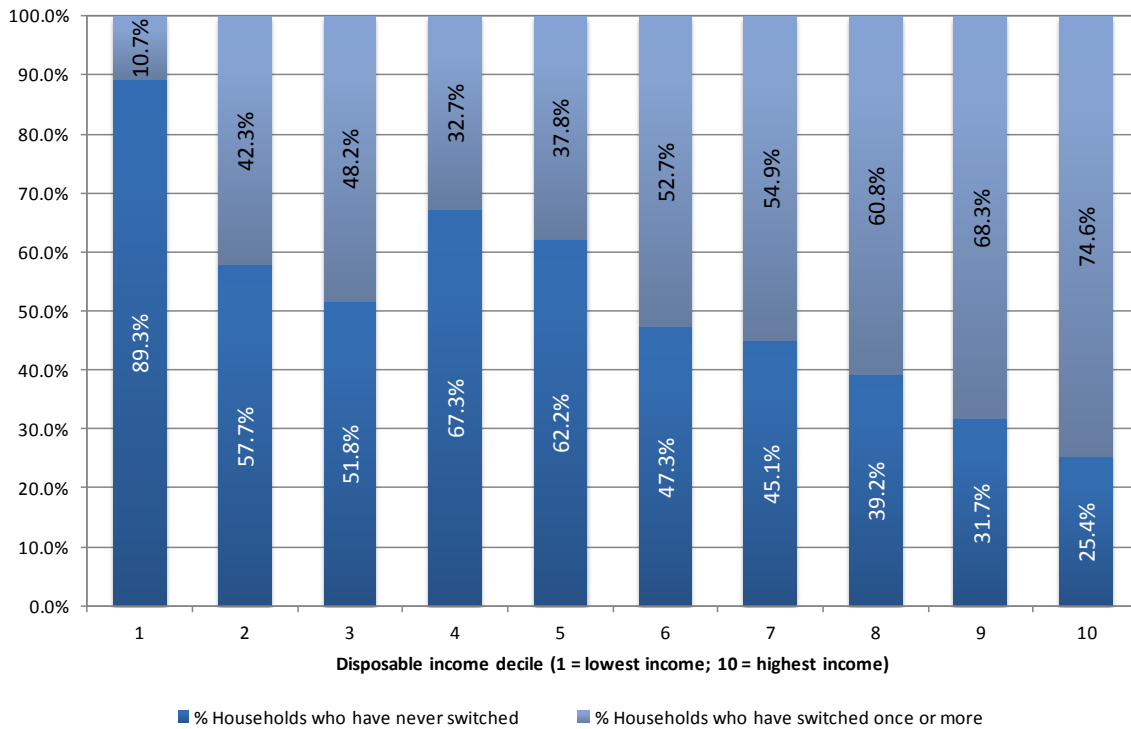
Annex Table 4: Numbers of households on different tariff rates and the average unit price in Great Britain

Tariff	Average electricity tariff (p/kWh)	Number of electricity consumers	Average gas tariff (p/kWh)	Number of gas consumers
Cheap tariff rate	13.75	10,352,698	4.68	8,915,433
Average tariff rate	15.45	10,209,661	4.96	8,523,275
High tariff rate	17.53	4,849,379	5.37	3,723,955

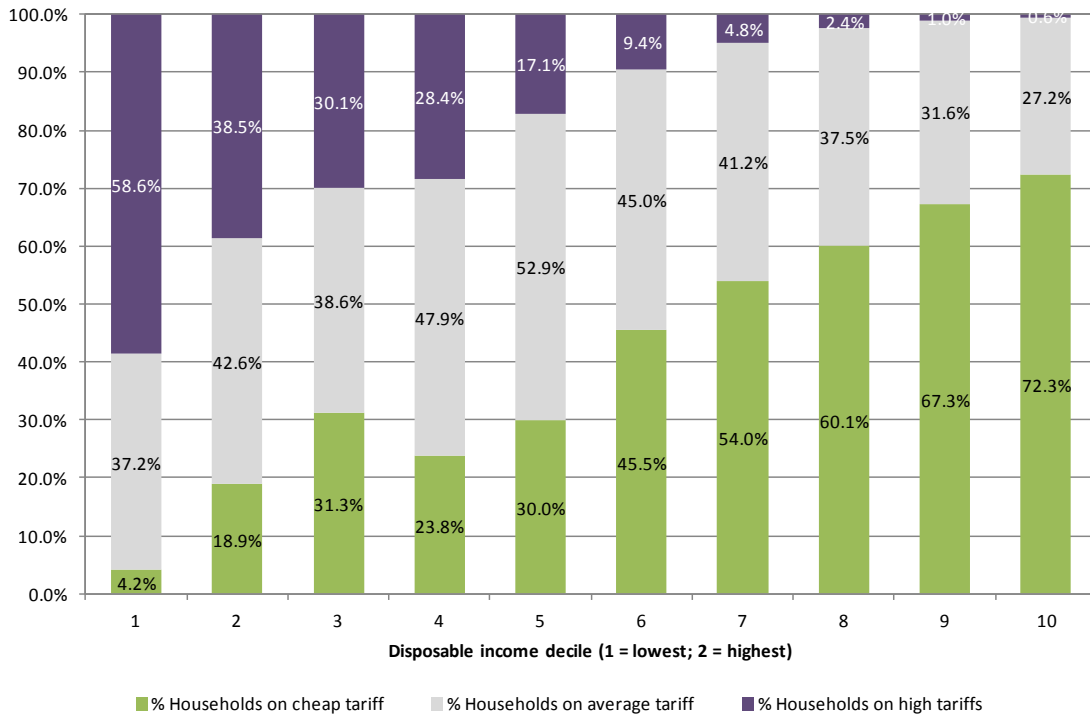
¹³⁸ Benefits payments can be used to help pay household bills (including rent, services charges, fuel or water bills). This is called ‘third party deductions,’ and sometimes Fuel Direct.



Annex Figure 6: Households’ access to the internet using a home computer, by disposable income decile – access to the internet was used as an indicator for assigning different levels of tariffs to households



Annex Figure 7: Switching behaviour by disposable income decile – switching behaviour was used as an indicator for assigning different levels of tariffs to households



Annex Figure 8: The proportion of households allocated cheap, average and expensive tariffs, by disposable income in the baseline modelling dataset

Annex V: Modelling tariff options in the Distributional Impacts Model for Policy Scenario Analysis (DIMPSA)

The main report contains a summary on the methodology used to model assumptions for the three different options (Section 7). Here, a more detailed explanation of the modelling methodology is provided.

Revenue neutral response

In several options, the mechanism of reducing the unit costs of some consumers will reduce total revenues for energy suppliers. It is difficult to precisely predict the dynamic reactive process from energy companies, when their revenues are reduced from transferring some consumers to lower tariffs or reducing their total bill. However, evidence suggests that tariffs for other consumers are likely to be increased to recover this loss. In modelling these options, the response to lost revenues has been to adjust tariffs for the remaining non-targeted consumers so that the total revenue across all electricity and gas bills, after the option has been modelled, is the same as before the intervention occurred. The adjustment to tariffs has been uniform across all consumers who have been selected to have price rises to compensate lost revenues.

Backstop tariff

Modelling the backstop tariff has been conducted using four variations on a similar theme. These are summarised below. Options 1, 2 and 4 target all CWP-eligible households regardless of switching behaviour, while Option 3 seeks to target only sticky CWP-eligible households – those who are eligible for CWP and have been predicted to have never switched.

Backstop tariff Option 1 has sought to find the lowest tariff available for eligible consumers in their respective regions and for their current method of payment. In this instance, direct debit customers will be transferred to the lowest tariff available for direct debit and, as a result, will have lower unit costs than targeted prepayment customers in the same region. All non-eligible households experience a small price rise in their tariff to ensure revenue neutrality.

Backstop tariff Option 2 has sought to find the lowest tariff available for eligible consumers in their respective regions, regardless of their current method of payment. In this instance, the direct debit tariff in each region is likely to be the lowest tariff available and targeted prepayment and standard credit customers will be switched to a tariff that matches this unit rate. All non-eligible households experience a small price rise in their tariff to ensure revenue neutrality.

Backstop tariff Option 3 is similar to Option 1 in that it has sought to find the lowest tariff available for eligible consumers in their respective regions and for their current method of payment. However, in this option, only non-switchers in the CWP-eligible group have been targeted. Energy companies will have information on how long consumers have been with them and how long they have been on their existing tariffs. So although this represents an additional data-matching step, it is feasible and readily achievable. All non-eligible households experience a small price rise in their tariff to ensure revenue neutrality.

Backstop tariff Option 4 is the same as Option 1 and has sought to find the lowest tariff available for eligible consumers in their respective regions and for their current method of payment. Where this option differs is that all households experience a small price rise in their tariff to ensure revenue

neutrality. In this case, those eligible households who are already on the lowest tariff available will experience a small price increase as part of balancing total energy bill revenues.

Annex Table 5: Backstop tariffs modelled

Tariff option	Description	Group option applies to	Ensuring revenue neutrality
Backstop tariff Option 1	The lowest tariff available for their fuel type and payment method in their region	Eligible customers only	Tariffs for all non-eligible customers increased
Backstop tariff Option 2	The lowest tariff available for their fuel type in their region, irrespective of payment method	Eligible customers only	Tariffs for all non-eligible customers increased
Backstop tariff Option 3	The lowest tariff available for their fuel type and payment method in their region	Eligible customers who are non-switchers only	Tariffs for all non-eligible customers, and eligible switchers, increased
Backstop tariff Option 4	As per Option 1 (lowest tariff available for fuel type and payment method in their region) but with all tariffs adjusted to ensure revenue neutrality (including the backstop tariff)	Eligible customers only	Tariffs for all customers increased

Extended Warm Home Discount (WHD)

In order to model an extended version of the WHD scheme to wider group of eligible households, several alterations to the existing mechanism were also modelled. Essentially, the proposed option modelled a simplified scheme whereby the broader group has been removed and the size of the core group increased by broadening the eligibility criteria. These core group, CWP-eligible households would be identified through automatic data matching, using benefit details and energy company records (mimicking the existing process of checking eligibility for the current WHD core group, using pension credit recipient data). In addition, the obligation to provide a WHD payment to customers has been broadened to all energy suppliers, regardless of the size of their customer base. From a consumer perspective, this will ensure that no household need be concerned about losing their WHD when switching supplier.

The modelling has assumed that there will be a transition to this newly proposed scheme from the existing scheme, with no break between the end of the current set up and the start of the new scheme. Therefore, there will be a group of households who are currently in the WHD core group who will continue to receive the WHD payment. For direct comparability, the payment has been maintained at the current level of £140. However, the modelling has also assumed that the funding for this policy will be as it is now; using levies placed on the bills of all consumers. The total costs of the WHD will increase as the payment is received by a large group of households. It is worth noting that the costs here will not increase in proportion with the increase in the number of eligible core group customers. The simplification of the scheme and the removal of the broader group will result in some savings. Nevertheless, the levy on bills will increase for all consumers, and therefore households already in receipt of the current WHD will experience a small bill increase as their WHD payment remains the same but the revised WHD levy increases slightly.

Annex Table 6: Backstop tariffs modelled

Tariff option	Description	Group option applies to	Ensuring revenue neutrality
Extension to WHD	WHD rebate extended to CWP-eligible customers and all energy companies	Eligible customers only	Additional cost on bills of all customers to pay increase in WHD allocation

For this option, only the levy and the payment of the WHD discount has changed or been applied to more households, but the actual revenue to energy companies from the sale of electricity and mains gas will remain at similar levels. Therefore, this option does not require the recalculation of tariffs to ensure energy revenue neutrality across all suppliers; energy tariffs remain the same after the intervention.

Providing a block of energy exempt from energy levies

The third tariff option examined the impact on consumer bills of exempting a block of energy from environmental and social levies. The levies considered in the model are detailed in Annex Table 7. Four of the policies have costs passed on to consumers through a fixed unit rate, while the costs of the WHD and ECO are passed on through fixed rate levies to all households. All the levies are included on electricity bills while only the costs of the smart meter rollout, WHD and Energy Company Obligation (ECO) are added to gas bills as well.

Annex Table 7: Social and environmental levies modelled in DIMPSA

Policy	Fuel type subject to costs	Approach to cost pass through	Total cost of policy (2014) ¹³⁹	Average costs to consumer ¹⁴⁰
Renewables Obligation	Electricity	Per unit	£932.4m	£36
EU Emissions Trading Scheme & Carbon Price Floor	Electricity	Per unit	£686.7m	£23
Feed-in Tariff	Electricity	Per unit	£157.5m	£9
Smart meters	Electricity & gas	Per unit	£36.95m	£3
WHD	Electricity & gas	Per customer	£226.8m	£13
ECO	Electricity & gas	Per customer	£1,092.6m	£36

When exempting the energy levies from consumer bills, two options were modelled. In both of these, two blocks of energy were allocated to households. The first block of electricity and (where applicable) mains gas was charged using unit rates that were free from levies. The second block was charged using a unit tariff that had been recalculated on the assumption that the same amount of policy revenue will need to be recovered across the population as a whole. For policies where the costs were reclaimed on a 'per unit' basis, the policy costs are collected on a smaller block of energy consumption and therefore increase on a per unit basis.

¹³⁹ CSE (2014), 'Fuel And Poverty: A Rapid Evidence Assessment For The Joseph Rowntree Foundation'

¹⁴⁰ DECC (2015), 'Policy Impacts On Prices And Bills'. Available at: <https://www.gov.uk/policy-impacts-on-prices-and-bills>

Two variations of this particular tariff option were modelled, with two further options examining an option of providing an initial free block of energy. The latter two were considered to be administratively less complex and included to illustrate the impact of a comparable initiative. For all tariff options, the initial block of electricity provided was 500 kWh, while for mains gas consumption the initial block was 1,000 kWh.

Energy levies exemption Option 1: Environmental and social levies removed from the first 500 kWh of electricity and the first 1,000 kWh of mains gas of all households' bills. This is a **non-targeted** option.

Energy levies exemption Option 2: Environmental and social levies removed from the first 500 kWh of electricity and the first 1,000 kWh of mains gas of the CWP-eligible households' bills only. This is a **targeted** option.

Free block of energy Option 1: All households awarded a free block of 500 kWh of electricity and 1,000 kWh of mains gas. This is a **non-targeted** option.

Free block of energy Option 2: CWP-eligible households only awarded a free block of 500 kWh of electricity and 1,000 kWh of mains gas. This is a **targeted** option.

For these tariff options, only the energy levies vary – the actual revenue received by energy companies will remain at similar levels. Therefore, this does not require the recalculation of tariffs to ensure energy revenue neutrality across all suppliers, just the recalculation of energy levies across different consumption bands.

Annex Table 8: Summary of the modelled energy levy exemption and free blocks of energy options

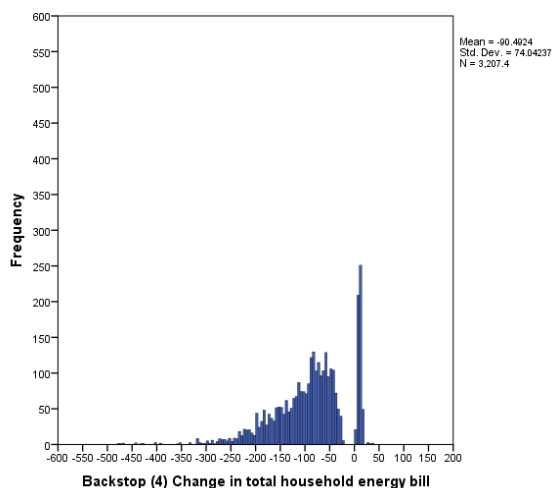
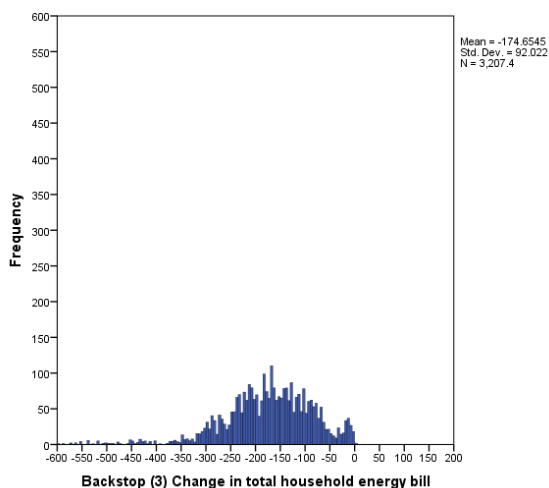
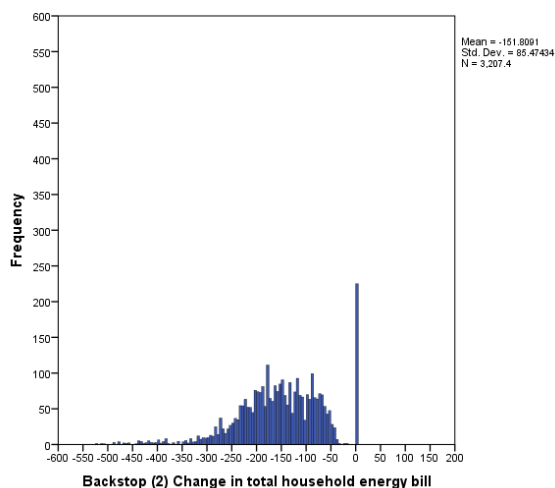
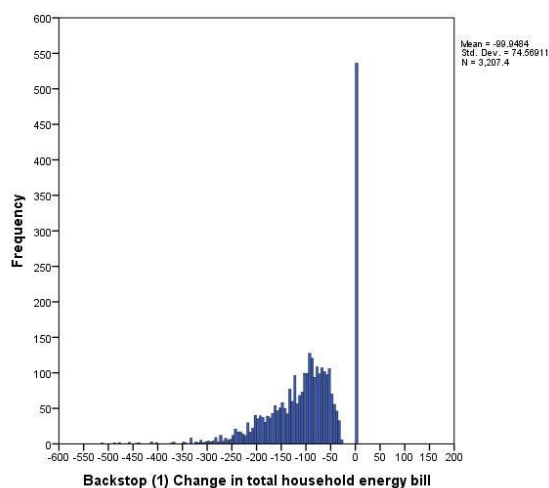
Tariff option	Description	Group option applies to	Ensuring revenue neutrality
Levies removed Option 1	Energy policy levies removed from an initial block of consumption	All customers	Unit rate increases for higher block of consumption for all customers
Levies removed Option 2	Energy policy levies removed from an initial block of consumption	Eligible customers only	Unit rate increases for higher block of consumption for all customers
Free block Option 1	Initial block of energy consumption free	All customers	Unit rate increases for higher block of consumption for all customers
Free block Option 2	Initial block of energy consumption free	Eligible customers only	Unit rate increases for higher block of consumption for all customers

Annex VI: Additional graphs

Distribution of change in bill for eligible households only

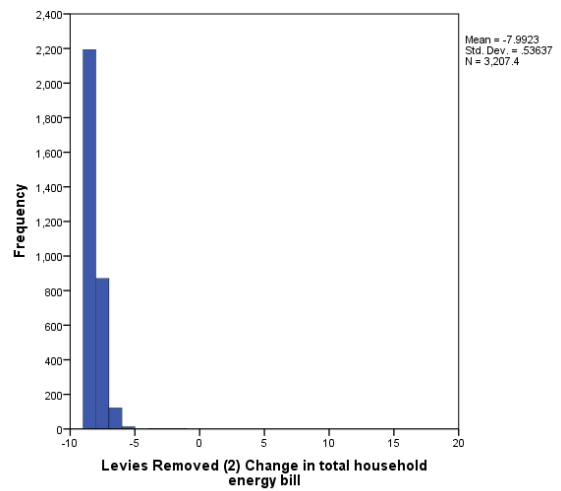
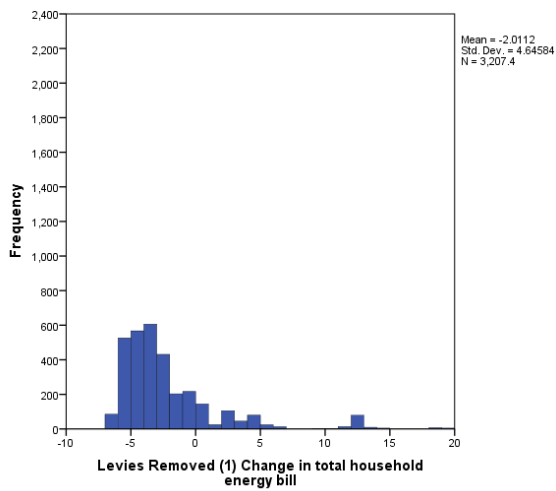
The figures below show the distribution of the change in bills for eligible households under each tariff option. The bin size (width of the bars) and axis have been held constant for each tariff option type, but vary between tariff types (i.e. all graphs for the backstop tariff have the same axis; the two graphs for levies removed have the same axis; and the two graphs for the free block tariff option likewise).

Backstop tariff (bin size = 5)¹⁴¹

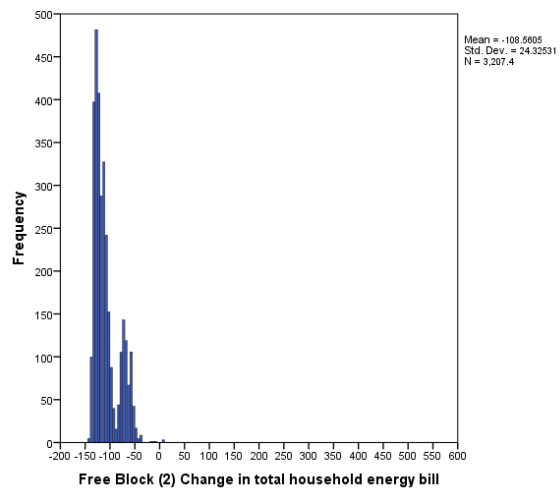
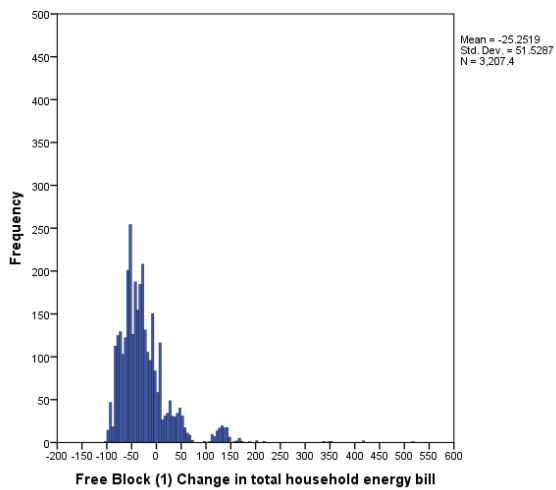


¹⁴¹ Bin size refers to the width of the bars measured on the x-axis scale.

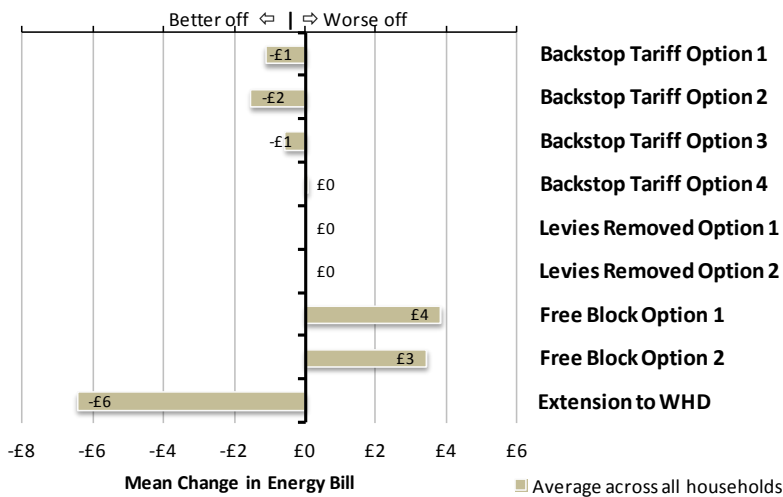
Levies removed (bin size = 1)



Free block (bin size = 5)



The figure below shows the overall average impact of each tariff on household energy bills.



Annex Figure 9: Mean impact of each tariff option on household energy bills