Fairer, warmer, cheaper

New energy bill support policies
to support British households
in an age of high prices

Amy Norman
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- Rob Halfon MP (*resigned October 2023 on appointment as a minster*)
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- David Linden MP
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- Adam Scorer, CEO of National Energy Action
- Dhara Vyas, Policy Director of Energy UK
- Guy Newey, CEO of Energy Systems Catapult

The panel met four times to discuss this work and saw a draft of the interim report to give feedback before its publication in December 2022. But the contents here – and all other publications arising from this project - are solely the work of the SMF and Public First – membership of the advisory panel cannot be taken as endorsement of any part of this document.

ABOUT THE AUTHORS

Amy Norman

Amy was a senior researcher at the SMF, working on public policy relating to energy and net zero, education and skills, and housing. She left the SMF in 2023.

Scott Corfe

Scott is a Director in the Data & Modelling team at Public First.

Daisy Powell-Chandler

Daisy is Head of Energy and Environment at Public First.

James Kirkup

James is Director of the Social Market Foundation.

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CONCLUSIONS AND RECOMMENDATIONS

1. The current system of policies supporting households with high energy bills is inadequate for an era of high energy bills. It should be replaced. A new policy framework should be in place by spring 2024 and form the basis of energy bill policy for the rest of this decade.
2. It should include a social tariff arrangement whereby households spending an excessive proportion of their income on energy bills should receive targeted financial support to reduce those bills.
3. Eligibility for the social tariff should be determined by the state without the need for active participation or application from households. It should then be delivered by energy suppliers.
4. Eligibility for the social tariff should be based on household income and household energy consumption. Receipt of means-tested benefits should be one qualifying condition, but not the only one. The significant number of households with low incomes who are not in receipt of benefits should also qualify for the social tariff.
5. To deliver the social tariff, central government should develop a new mechanism for identifying qualifying households. This mechanism should build on the current system for determining Warm Home Discount (WHD) eligibility in the first instance, but in the longer term, policymakers should consider transferring the job of identifying eligible households to an arms-length body with a remit to review the quality and availability of data needed for that identification, and make recommendations on its improvement.
6. The social tariff eligibility mechanism should be based on matching HMRC's Real Time Information (RTI) on taxpayer incomes with data from the energy industry on households' energy consumption. These sets of data should be shared with the Department for Energy Security and Net Zero (DESNZ) which would determine which households qualify for the social tariff and communicate that to suppliers.
7. We accept the limitations of HMRC RTI data in this context, largely arising from doubts about how accurate and timely the addresses reported for employees are. But we note that on RTI's own terms, employers should be providing up-to-date information on employee addresses in their RTI submissions. We also note that the current WHD eligibility mechanism makes use of HMRC incomes data, so this is not an untested approach. We also conclude that even an imperfect new system would be better than the status quo.
8. The precise form of the social tariff warrants further consideration by policymakers, but the analysis here suggests that the most progressive and fiscally efficient form would be a lump sum payment that varies according to a formula that takes into account household income and energy use. We recommend this option is carefully considered as the central pillar of energy bill support policy from 2024 onwards, although we acknowledge that some of the other policies modelled here also have merit.

9. The precise level and scale of support delivered via the social tariff should be determined according to prevailing market prices, household incomes and other economic factors. But drawing on our analysis of bills, incomes, public opinion and stakeholder views, we suggest that where annual bills are in the region of £3,000, the social tariff should deliver support of around £900 to the typical eligible household.
10. The case for this formula-based lump sum payment remains strong with energy bills at £2,500 a year, since the greatest share of public money spent via the policy still goes to households on lower incomes and payments to high-income households are avoided. On that basis, this policy should be the leading option for implementation, even if bills are £2,500 or less.
11. The current WHD scheme should be folded into the new social tariff mechanism, meaning WHD would cease to exist as a standalone policy.
12. Whatever level of support is delivered via the social tariff, funding should come from general taxation rather than levies applied to energy bills. This is an exercise of social policy rather than energy policy and should be funded by the state. Further, the level of funding required for a meaningful social tariff policy means that funding via on-bill levies would require such levies to be of a scale that is politically undesirable.
13. Energy efficiency improvement policies should prioritise addressing fuel poverty over overall reduction in aggregate. But demand reduction should remain a high priority of public policy more widely.
14. Using the enhanced targeting system recommended in this report, the scale and ambition of the ECO regime should be significantly expanded. Better targeting makes this feasible by reducing the search costs of energy suppliers. Instead of knocking on doors looking for eligible households, suppliers would start with an identified pool of high-consumption, low-income households. Adding the VOA data on property characteristics currently used for WHD eligibility would further enhance this process, though we note the limitations of EPC data and support its improvement.
15. Our primary recommendation on energy efficiency is therefore that the ECO regime be further enhanced with significantly wider ambitions. Such ambitions could encompass the aim of carrying out loft and cavity wall insulation improvements for all fuel-poor households. We estimate this would carry an aggregate capital cost of £1.1 billion and deliver average annual bill savings of more than £550 for a fuel-poor household where both loft and wall improvement is carried out, as well as reducing those households' need for bill support payments over time.
16. We do not argue for a fixed timetable for this ambition to be realised, but believe it can and should be delivered within the lifetime of a normal Parliament.
17. Funding for this expanded ECO regime should continue to be raised via on-bill levies, consistent with the current approach. Policymakers should engage more with public opinion to make the cases for this.

EXECUTIVE SUMMARY

The current position

Since the publication of our interim report in December 2022, long-term forecasts for UK household energy bills have reduced, but the prospect for households has actually worsened. At the time of that publication, government guarantees limited a household bill to the equivalent of £2,500 a year. In April 2023, that had been set to rise to £3,000. However, doubt has recently been cast on that plan, and this report analyses scenarios where bills are £3,000 and £2,500.

The consultation exercise after our interim report, as well as informal consultations with policymakers and stakeholders of all sorts, suggests a consensus of opinion that even if bills do soon fall from that £3,000 level, there is a significant need for a policy framework that can protect households from serious hardship where bills reach high levels – as they may well do in the years ahead.

Public concern about energy bills and living costs is high and widespread. Polling for this report found that the cost of living was the top issue for three-quarters of voters in November 2022, up 39 percentage points over the past 12 months. Fuel poverty is politically salient. Households in the so-called Red Wall seats were more likely to be in fuel poverty.

Official definitions of fuel poverty have varied over time and remain different in the nations of the UK. But on any measure, the problem is significant, with more than one in five households facing reductions in their condition of living in order to meet the cost of energy.

Modelling for this report shows that energy bills will continue to have a significant impact on household finances in future. With average bills at £3,000, households will still be exposed to spending over twice as much on energy compared to 2019/20. We calculate that 12 million households would spend over 10% of their income after housing costs on energy.

Those on the lowest incomes would be hit much harder, with energy comprising 62% of their total household income after accounting for housing costs, up from 34% in 2019/20.

With bills at £2,500, around 9.8 million households face spending over 10% of income after housing costs. In this scenario, the impact on those with the lowest incomes remains severe: they face spending just over two half (52%) of their income on energy.

The Warm Home Discount in its current form will be insufficient at protecting households from hardship and would only reduce after-housing-cost spending on energy bills by 1-2% for those in the lowest income decile.

Targeted support

There is broad consensus that, in principle, measures to address fuel poverty and to lower energy bills should be targeted at those most in-need. But in practice, targeting is extremely difficult. Existing systems are inadequate.

The social security system – encompassing benefits and the state pension – is currently being used to deliver help with energy bills. That system is incapable of reaching all those who might reasonably be considered in need of energy bill support. Using it to deliver that support means giving public money to those in less need.

With an average bill of £3,000, 12 million households would spend over 10% of their income after housing costs on energy. Targeting energy bill support at means-tested and disability benefit claimants would reach just 6 million households, missing out millions of other households that are in need.

Furthermore, not everyone who needs help is in the benefits system. With bills at £3,000, some 76% of households in the poorest decile face spending over 10% of their income on energy after accounting for housing costs. But only 45% of households in that income group claim means-tested and disability benefits.

Using state pensions to determine who gets help brings another 11 million households into scope. But this results in public money going to those who appear to have little need of it. Using the state pension as a criterion for energy bill help means around one in three households in the highest income decile would receive government support.

The UK needs a better mechanism for identifying and assessing household need over energy bills.

Our consultation exercise, including conversations with a range of government officials and suppliers, suggests that the central feature of an improved targeting regime should be better matching of existing data on household incomes and energy consumption levels.

Household income data is held by HMRC in its Real Time Information (RTI) dataset. Consumption levels are held by energy suppliers. These two sets of information should be pooled and matched to identify households in fuel poverty. This should be done by a public sector body. Sharing RTI data with suppliers, as some have suggested, would not command public trust or political confidence.

The new Department for Energy Security and Net Zero is the body best-placed to carry out this data matching. The new targeting regime should be built on the machinery that already exists to determine eligibility for WHD. That machinery makes some use of HMRC data on household incomes.

While there are questions about the accuracy of RTI data with relation to taxpayers' addresses, these can be addressed before full implementation of the new energy bill regime. The prospect of saving significant public money through the better targeting of public support gives HM Treasury a strong incentive to drive this improvement.

In the long-term, there may be a case for transferring this targeting and identification work to an arms-length body that could also offer ministers independent advice on the correct levels of bill support that should be provided at any given time and market condition.

Bill support policies

There is strong support from politicians, stakeholders and the public for giving financial support to households struggling with bills. 73% of the public support this, with only 9% opposed.

Voters are increasingly prepared to accept higher taxation to fund bill support. In July 2022, we found that 52% of people said they supported bill support policies "even if this means taxes rise as a result". In October 2022, this had risen to 64%.

In our first-stage discussions with stakeholders we identified four main options for delivering energy bill support:

- A fixed-value bill discount, akin to the existing WHD
- A discount applied to unit rates, making each unit of energy used cheaper
- A rising block tariff, where the price paid for each block of energy increases
- A real bill cap, where an absolute limit is put on the amount a household can pay for energy

These were analysed in our interim report, assuming energy bills at £3,000 and a policy objective of providing £900 worth of support for recipients.

On the basis that analysis and feedback from stakeholders, our final report here considers only the first of those two schemes to be viable policy options: **a fixed-value bill discount** and a **unit-rate discount.**

We reject a rising block tariff policies. Such approaches face serious problems because a household's energy usage is often very loosely related to that household's income. For reasons of health or housing type, high users can have very low incomes; and vice versa. A policy that *increases* energy costs for poor, sick people in cold homes while benefiting people on high incomes in cosy homes cannot be politically viable. We are unaware of any practical answer to these challenges, though were our recommended targeting mechanism to be put in place, there would be a case for revisiting the case for a rising block tariff.

We reject a real bill cap policy because it would be more costly than any other option modelled, while allocating the greatest share of public money spent to higher-income households which tend to have higher consumption. As well as reducing or removing any incentive for demand reduction, a real bill cap would struggle to command public or political confidence.

As well as our two retained options from the interim report, this report also introduces a third and novel approach to bill support: **a formula-based lump-sum payment**, with payments varying according to household income and energy usage.

Fixed payment discount:

Bill discounts create a risk of cliff-edges, where small changes in household circumstances mean losing large sums in energy support. This could be partly mitigated with a tiered approach to fixed payments, with higher payments for those on the lowest incomes. In a £3,000-bills scenario, we model a two-tier payment scheme where "core" recipients get £900 and low-income non-benefits households get £600.

A tiered fixed payment policy would cost a total of £6.7 billion for 8.3 million households, who would be those claiming benefits *and* those households not on benefits but with income of less than £25,000.

63% of recipients would be in the lowest three income deciles. Over half (58%) of the policy costs would be focused on benefiting the bottom three income deciles while 7% of policy costs would benefit the top three income deciles.

Unit rate discount:

Unit discounts also face the problem of cliff-edges, which again can be partly mitigated by tiering: 30% for those on the lowest incomes, 20% for the higher tier. Offering this support for benefits-recipient households and all others with incomes under £25,000 would benefit 8.3 million households at a cost of £6.7 billion.

63% of policy 'winner' households are in the bottom three income deciles. 52% of overall policy costs would go to help the bottom three income deciles. 9% of policy costs would go to the top three income deciles.

While unit discounts have a similar distributional profile to fixed payment discounts, they carry an additional challenge of reducing household incentives to reduce usage. They also expose taxpayers to an unknown and potentially uncontrollable cost.

Formula-based lump-sum payments:

This policy is only possible with a better mechanism for targeting bill support. It would deliver a payment between £0 and £1,500 dependent on a household's income and energy spending, with payments determined by a formula including an income multiplier and an expenditure multiplier.

We estimate that such a policy would cost £6.5 billion with and benefit 12.3 million households. This is the most progressive policy we modelled: 66% of households receiving lump sum payments would be in the bottom three income deciles. The average payment for beneficiary households in the lowest income decile would be £853, falling to £90 for those in the fifth income decile.

In all our scenarios, the reduction in energy bills experienced by recipients of help would be less than the cash value of the payments made, since those households would have a behavioural response, increasing energy use slightly in response to their energy becoming cheaper.

What if bills are £2,500?

As this report was being finalised for publication, it emerged that ministers were giving consideration to modifying plans for the Energy Price Guarantee such that bills would continue to be limited to £2,500 from April 2023. Movements in the wholesale energy market also suggested that bills of that order or even lower are possible later this year.

Modelling our policy options with assumed bills of £2,500 does not change our overall conclusions. A formula-based lump-sum remains the most progressive way to use public money to support households facing high energy bills.

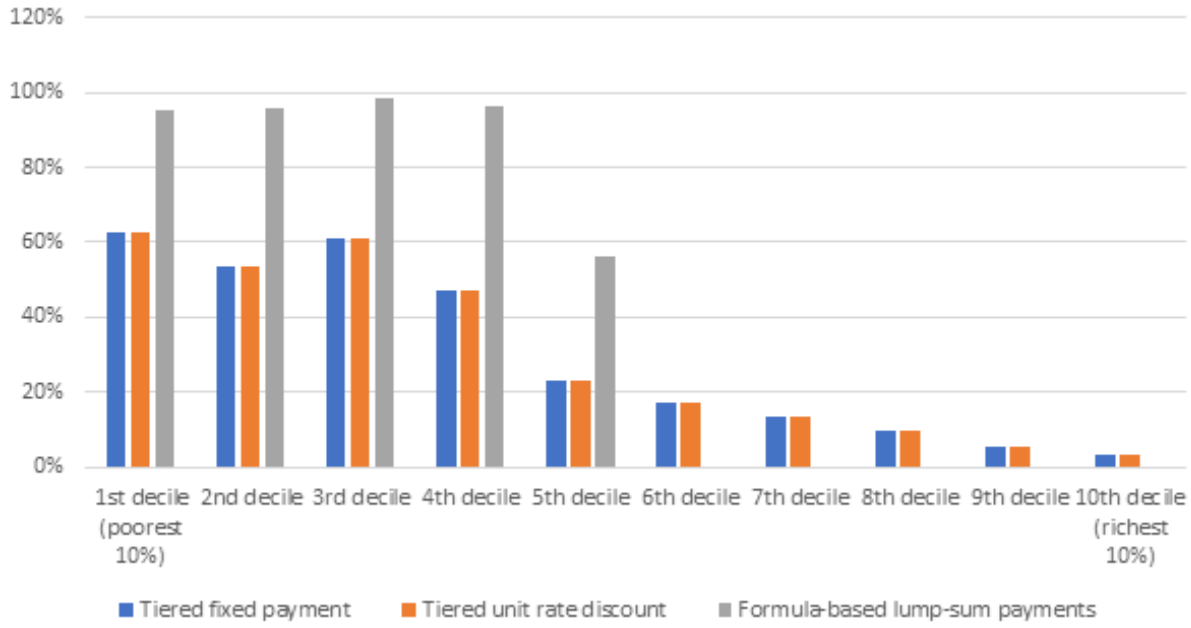
Summary of policy options' impact and costs under a £2,500 per annum average bill scenario

	Number of household policy 'winners'	Average reduction to energy bills for policy 'winners' (taking into account behavioural change)	Annual cost to the Exchequer
Tiered fixed payment	8.3 million	-£588	£5.7bn
Tiered unit discount rate	8.3 million	-£573	£5.9bn
Formula-based lump sum payment	12.3 million	-£381	£5.6bn

Source: SMF analysis of Living Costs and Food Survey 2019/20. Note: Assumes an average £2,500 energy bill. Assumes policies would be funded through general taxation.

Our formula-based lump sum is the only policy developed so far that delivers all public money spent to households in the lower half of the income distribution, and avoids handing financial gains to richer households.

Figure 1: Proportion of household 'winners' per policy option, by income decile



Source: SMF analysis of Living Costs and Food Survey 2019/20. Note: Assumes an average £2,500 energy bill.

A social tariff?

We consider that any of these three options can fairly be described as a social tariff. While that term is used increasingly loosely in debate around energy policy, we believe that all three meet the definition because they have the effect of ensuring that an eligible household pays less for a given quantity of energy than a non-eligible household would pay for the same quantity.

Funding bill support

Most stakeholders consulted for this report lean towards funding bill support through general taxation rather than on-bill levies. We support this approach. In principle, we argue that alleviating fuel poverty should be seen as an act of social policy, and thus a responsibility of the state. In practice, we do not consider that funding bill support on the scale modelled here via on-bill levies is viable. Such an approach would require adding several hundred pounds of levies to bills and we do not believe that any political party would seek or win consent for such an approach at an election.

In our polling we found that the public agreed that fuel poverty reduction work should be funded by taxpayers not billpayers. 38% agreed that financial support for energy bills should be paid for via taxation with only 12% preferring that it be funded through tariffs on bills.

Energy efficiency

The UK has the least well-insulated housing stock in Europe and the majority of homes do not reach a sufficient standard of efficiency. Less than half of homes in England (44%), Wales (38%) and Scotland (45%) qualify for an EPC rating of Band C or above.

Policy interventions to retrofit homes have been relatively limited compared to the scale of the challenge. While the ECO scheme has demonstrated success, our analysis finds that nearly 11 million homes rated EPC D or below in England would not be considered fuel poor and therefore ineligible for support.

There is a lack of consensus among observers and policymakers about the ultimate aim of energy efficiency policy. Should it seek the greatest possible alleviation of fuel poverty, or the greatest possible reduction aggregate energy use?

Based on our consultation, we conclude that energy efficiency policy, at least in the short-term, should target fuel poverty reduction. A demand-reduction approach could mean significant public resource going to those able to pay for their own efficiency work, which could potentially hamper the development of a sustainable 'able to pay' market and divert resources away from in-need households.

An efficiency policy that prioritised fuel poverty would – working on a "whole house" basis – seek to upgrade 3.2 million homes. The cost would be around £27 billion, delivering annual savings of £3 billion, for a payback period of 12 years.

A poverty-first approach which focuses on individual measures would vary in the cost and energy savings based on which were chosen. Insulating the lofts of the fuel-poor would cost £576 million, delivering savings to households that would match that cost in three years. Filling the cavity walls of the fuel poor would cost almost £585 million and take two years to realise matching savings.

This analysis does not take account of the savings that would consequently accrue to HM Treasury in the form of reduced financial support for high energy bills. As such, our "payback" figures are a significant *overestimate* of the time it would take for these policies to deliver savings (to either households or taxpayers) greater than the initial Exchequer cost.

Rather than facing supply-side obstacles, a key constraint on ECO-style schemes has been on the demand side, arising from the challenge of identifying eligible households. Our consultation exercise suggests that the logistical and financial challenges of searching for and finding potential ECO recipients are a major limiting factor. Several energy suppliers describe hiring staff to "walk the streets knocking on doors" in hopes of finding qualifying households.

The improved data-matching mechanism we recommend in this report could significantly reduce the challenge – and costs – of searching for the eligible. By better identifying high-use, low-income households, a poverty-first approach to energy efficiency support becomes cheaper and easier to deliver.

On this basis, we recommend a significant increase in the scale and ambition of the ECO scheme, which should aim for loft and cavity wall insulation improvements for all fuel-poor households. The aggregate capital cost would be £1.1 billion, which should be seen in the context of existing plans to spend £5 billion on ECO in the five years from 2022. It is possible our figure for the cost of this policy might be an over-estimate given the reduction in delivery costs we expect better targeting to deliver: every pound spent on the Enhanced ECO scheme should deliver a greater improvement in efficiency than previously.

When it comes to efficiency help for the "able to pay", we see merit in the ECO Plus scheme announced in November 2022. But we are concerned that the three-year timetable for the scheme is not long enough for the scheme to become familiar to households and to encourage industry participation.

Public information campaigns to persuade households of the case for more efficiency remain vital. A surprising 54% of homeowners do not believe they need (more) insulation. This is made up of 41% who think they have already had all the insulation measures they need fitted and 12% who have not had insulation fitted but still don't think they need it.

Funding energy efficiency

While the logic we applied to funding bill support payments would suggest that efficiency measures intended to address poverty should also be funded from taxation, we conclude that such measures should continue to be funded from on-bill levies. We found broad support for radical change on bill support, but no sign of consensus for such significant change on energy efficiency. But since our recommendation is to increase the size of ECO, with the implied consequences for on-bill levies, we recommend a significant effort by policymakers to demonstrate to the public that additional spending on energy efficiency will benefit taxpayers by reducing the need for public spending on bill support for the fuel-poor.

CHAPTER ONE – THE CURRENT POSITION

Public concern about energy bills and living costs is high and widespread. Polling for this report found that the cost of living was the top issue for three quarters of voters in November 2022, up 39 percentage points over the past 12 months.

In focus groups conducted for this project and others, we hear of little else. People are worried, frightened even. They talk about the changes they are already making in their day-to-day lives to cut their costs. Even groups of households with above-average earnings are anxious and have already cut their outgoings. We see a majority of households reporting an annual income over £60,000 saying they are cutting back. And in one poll we found 20% are eating less overall (not eating less of the luxuries – just eating less food overall).[1]

While the fundamental concept of energy bills having a negative impact on living standards is easy to grasp, defining "fuel poverty" in a way that can be used in policymaking is not straightforward. This complexity is demonstrated by the recent history of official definitions.

In 2011, the coalition government commissioned Professor John Hills, Director of the Centre for Analysis of Social Exclusion (CASE) at the London School of Economics, to undertake an independent review of the fuel poverty definition and target. This review started from first principles and argued that the '10%' measure of fuel poverty was flawed and should be replaced. Among the evidence cited for the need for a new methodology was media reports that the Queen could be in the fuel poverty statistics given the high cost of heating royal palaces.[2] Professor Hills proposed a new definition (known as "LIHC") which "would capture households where required spending is higher than the median (typical) required levels and where spending this amount would reduce household income below the poverty line".[3]

While the governments in Wales and Scotland continued to use the '10%' measure, the Department for Business, Energy & Industrial Strategy (BEIS) consulted in 2019 on a further change to the definition of fuel poverty. This identified a drawback in the LIHC measure in that the relative nature of the indicator means that the proportion of households in fuel poverty remains, overall, stable over time. It proposed (another) new measure where households would be classed as fuel poor if i) they lived in a property with an energy efficiency rating of Band D, E, F or G and ii) their disposable income (after housing costs and energy needs) would be below the poverty line. This new Low Income Low Energy Efficiency (LILEE) indicator was fully adopted in 2021.[4]

Before the recent sharp rises in energy prices, fuel poverty statistics in England had shown a gradual decline in recent years, with the proportion of households in fuel poverty under the LILEE measure falling from 22.1% in 2010 to 13.2% in 2020.[5]

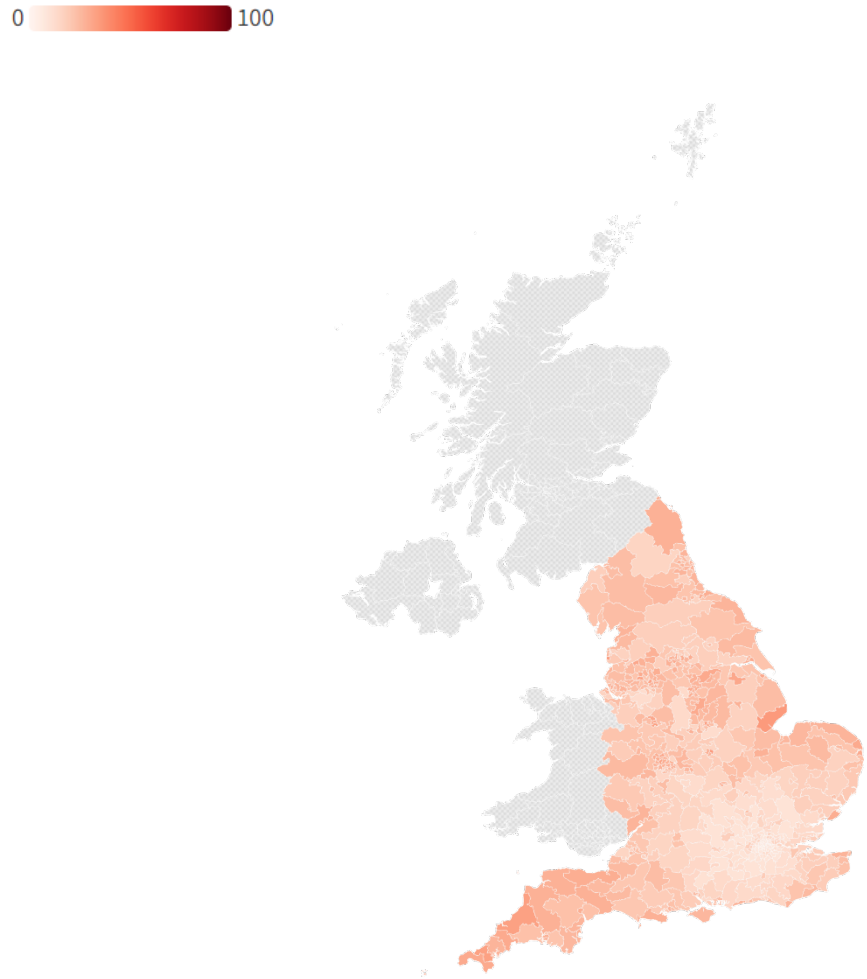
In Scotland, the specific version of the 10% measure of fuel poverty is as defined in The Fuel Poverty (Targets, Definition and Strategy) (Scotland) Act 2019. This establishes a two-part definition whereby a household is considered fuel poor if:

- after housing costs have been deducted, more than 10% (20% for extreme fuel poverty) of their net income is required to pay for their reasonable fuel needs
- after further adjustments are made to deduct childcare costs and any benefits received for a disability or care need, their remaining income is insufficient to maintain an acceptable standard of living, defined as being at least 90% of the UK Minimum Income Standard.

Scotland has not seen as significant a downward trend in fuel poverty as seen in England. The proportion of households in fuel poverty fell from 25.7% in 2016 to 24.6% in 2019.[6]

Fuel poverty interacts directly with electoral politics. Our analysis, based on publicly available datasets, finds that households in the so-called 'Red Wall' seats were more likely to be in fuel poverty.

Figure 2: Distribution of households in fuel poverty in Summer 2022 (modelled)



Source: Public First analysis

Current schemes to provide support to households

At least since the liberalisation of the retail energy supply market, there have been discussions about how to support those in need with their energy bills. These debates have led to a number of different, overlapping schemes being put in place. These typically have their own unique eligibility criteria and exemptions, and their own funding mechanism, making the landscape difficult for an individual household to navigate.

The Warm Home Discount (WHD)

A requirement since 2011 for energy companies to provide an energy bill rebate each winter. From winter 2022-23 the WHD will be worth £150 per eligible household. This is given as a discount from the electricity bill of low income pensioners and other low income households.

Eligibility for the WHD is split into three groups. The Core Group 1 and Core Group 2 are coordinated by BEIS. The third, called 'Industry Initiatives' is administered by Ofgem. Core Group 1 assists less well-off pensioners – most eligible pensioners are identified by their receipt of Pension Credit Guarantee Credit. Core Group 2 prioritises rebates to low-income households that are more likely to have high energy costs. Eligibility is determined by matching property data held by the Valuation Office Agency (VOA) with means-tested benefits and Tax Credit data held by DWP and HMRC. The Industry Initiatives element of the scheme allows retail energy suppliers to help fuel-poor customers through measures such as benefit entitlement checks, debt assistance, energy advice or smart meter advice.[7]

The value of this scheme to eligible households in 2022 is expected to be £506 million.[8]

The scheme is funded through energy bills, with suppliers recouping the total value of their obligation, plus any administrative costs they incur, through higher prices (which Ofgem accounts for when setting the price cap).[9] The WHD is expected to add around £19 to a typical energy bill in 2022/23.[10]

The Energy Company Obligation (ECO)

A requirement for larger domestic energy suppliers to install heating, insulation or other energy efficiency measures in the homes of people who are low income and vulnerable or fuel poor.

ECO has been responsible for the majority of home energy efficiency measures installed in the last decade. 3.5 million measures were installed into 2.4 million households between January 2013 and March 2022.[11]

The current iteration of the Energy Company Obligation (ECO4) will run from 2022-2026. The annual cost of the scheme has been increased to £1 billion per year from 2022-26; this is funded by a *de facto* levy on energy bills.

Winter Fuel Payments (WFP)

A benefits payment for pension-age individuals of between £250 and £600 to help with heating bills. Those in receipt of the State Pension (or certain other social security benefits) are automatically eligible and do not need to apply.

The Resolution Foundation has pointed out that 3.7 million pensioner households (~45%) are in the top half of the income distribution for the whole population[12] – meaning WFP is a poorly targeted benefit.

The WFP is funded by central government. At the time of writing, the Government expects to pay this benefit to over 11 million pensioners at a total annual cost of £2 billion.[13]

Cold Weather Payments (CWP)

This is a scheme to provide payments of £25 to recipients of certain benefits for each 7 day period of very cold weather between 1 November and 31 March annually. Recipients do not need to make a separate claim for Cold Weather Payments. The payment is made automatically into the same bank or building society account as other benefit payments.

Cold Weather Payments are funded by central government. The cost to the Exchequer on a yearly basis is unpredictable as it is based on weather and can vary heavily from year to year – In 2007-08 Cold Weather Payments totalled around £4 million, but during the cold winter of 2009-10 around £431 million was paid out.[14]

The future of energy bills

Modelling for this report shows that energy bills will continue to have a significant impact on household finances in future. Since the publication of our interim report in December 2022, there has been some easing in wholesale gas markets, raising hopes that UK energy bills will fall back below that £3,000 level during 2023. However, bills in the region of £2,500 would continue to put a significant and painful burden on households. With bills at £3,000, we calculate that 12 million households would spend over 10% of their income after housing costs on energy.

Those on the lowest incomes would be hit much harder, with energy comprising 62% of their total household income after accounting for housing costs, up from 34% in 2019/20.

With bills at £2,500, around 9.8 million households face spending over 10% of income after housing costs. In this scenario, the impact on those with the lowest incomes remains severe: they face spending just over two half (51%) of their income on energy.

The Warm Home Discount at its current level of £150 will be insufficient for the task of protecting households from hardship and would only reduce after housing cost spending on energy bills by 1-2% for those in the lowest income decile.

Even if bills do fall back to a level below the peak of the recent crisis, the fundamentals don't change: the UK's framework of policy for supporting households with high energy bills doesn't work and is not sustainable. This is demonstrated by the complicated and sometimes conflicting policies that have been put in place in a piecemeal fashion over several years in response to successive market fluctuations and political pressures.

At the time of writing, HM Treasury is preparing for the March 2023 Budget, where it is expected that the Government will provide an update on some of those emergency energy policies. This report does not seek to offer advice on what that Budget should say on energy. Its focus is on decisions that will be made at a later date. November 2022's Autumn Statement committed the Government to "develop a new approach to consumer protection in energy markets, which will apply from April 2024 onwards". This report is intended to inform the development of that approach and related policies, in the hope that those policies will prove durable over the rest of this decade.

Principles for future policy

This report considers two aspects of policy that affect energy bills:

1. Bill support schemes, that directly affect the sums that household pay for energy
2. Energy efficiency schemes, which affect the amount of energy households consume, and therefore spending

On the basis of our stakeholder engagement programme and consultation exercise, we concluded that future **energy bill support** schemes should, in principle, aim to:

- Target help at those in need without creating cliff-edges of eligibility, and minimising the public money given to households already able to pay energy bills without hardship
- Provide a direct reduction in bills rather than giving general income support
- Avoid putting the burden of uptake on households, by assessing and identifying eligible households without their active participation
- Fund help through transparent and progressive means
- Enable competitive market forces to drive costs down for households
- Take account of net zero and include incentives to reduce demand where possible

On **energy efficiency**, policy should be based on the following principles:

- Provide long-term certainty with limited political intervention
- Reductions in fuel poverty should be the primary aim of policy, taking precedence over aggregate demand reduction
- Eligibility criteria for targeted support might vary from those used for the price support
- Offer varying levels of support to meet up-front costs, to help stimulate the able-to-pay market
- Offer improved information, advice and guidance to better equip all households to take action

CHAPTER TWO – TARGETING SUPPORT

Measures to address fuel poverty and to lower energy bills should be targeted at those most in-need. But in practice, targeting is extremely difficult. Existing systems are inadequate.

The social security system – encompassing benefits and the state pension – is currently being used to deliver help with energy bills. That system is incapable of reaching all those who might reasonably be considered in need of energy bill support.

Not everyone who needs help is in the benefits system, yet current support mechanisms use benefits receipt as a proxy for low income. For instance the Core Group 2 WHD income eligibility criteria states: "A person must be in receipt of one of the qualifying means-tested benefits or, below an income threshold, Tax Credits."[15] But we calculate that 3 million households that do not claim benefits or a state pension would spend more than 10% of their after housing costs income on a £3,000 energy bill.

Using state pensions to determine who gets help brings more households into scope. But this results in public money going to those who appear to have little need of it. Using the state pension as a criterion for energy bill help means around one in three households in the highest income decile would receive government support.

Given that the current system isn't working, what are the options for making it better and delivering a system better able to target support on all of those who need it? Unfortunately, all the current tools available to policymakers have limitations and drawbacks.

There are significant limitations to existing analysis of fuel poverty. Using a "low income low energy efficiency" (LILEE) measurement of fuel poverty, we can be fairly confident that in 2020, there were 3.2 million English households in fuel poverty. But we do not know who or where they are.

HMRC incomes data is also has limitations, since it is largely based on individuals, not households. Meanwhile, Ofgem collects data on household consumption, but this alone is insufficient to gauge energy needs given that fuel-poor households may ration their energy use to cut costs; without reference to income levels, consumption data in isolation is of limited use. And, while energy efficiency data is more comprehensive – the Valuation Office Agency has issued EPCs for around 50-60% of households in England and Wales – EPCs are often criticised for being outdated[16] and inaccurate.[17] Conceding the need for significant reform, the Government in 2020 set out an "action plan" to address the flaws of EPCs.

Meanwhile, using the council tax system is flawed because its records are often inaccurate and council tax banding is a poor proxy for either income or energy use.

Targeting by welfare and social security

Given this patchy system of relevant data, existing targeted energy support schemes have primarily relied on the welfare and social security system for identifying and assessing households in need. Where government data falls short, energy suppliers have discretion to ensure missed households receive support. While this arrangement was imperfect, it went some way to providing support for around 2.2 million fuel poor households via the Warm Home Discount and 3.7 million pensioner households via the Winter Fuel Payment.[18] However, as our analysis below highlights, in the context of prolonged higher-than-average bills, continuing with this approach to targeting would be both insufficient and wasteful.

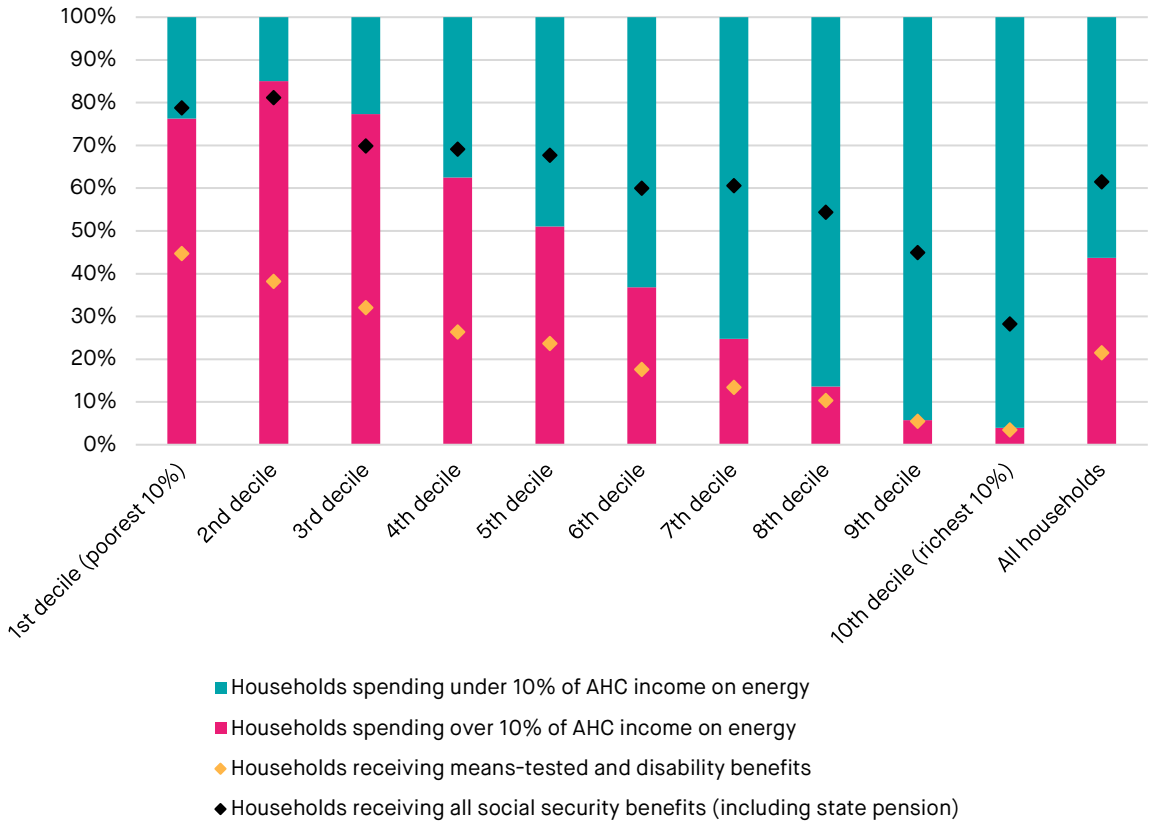
Targeting energy bill support towards all means-tested and disability benefit claimants irrespective of how much they spend on energy would benefit 6 million households. This is unlikely to be sufficient as millions more households not claiming benefits are likely to be in need. As set out earlier, our analysis finds that in the context of an average bill of £3,000, 12 million households would spend over 10% of their income after housing costs on energy; with bills of £2,500, the total is around 9.8 million households. This 10% figure was once the definition of 'fuel poverty' in the UK, however as noted measures now reflect the efficiency of the home as well. However, in lieu of this data for the UK, the 10% measure provides a useful picture.

Figure 3 illustrates what the picture of potential need and targeting could look like by income deciles. Using the illustrative scenario of bills at £3,000, our analysis shows households most likely to be missed by a means-tested and disability benefits approach to targeting are among the poorest income deciles after housing costs. Nearly half (45%) of households in the lowest income decile claim means-tested and disability benefits. By comparison the vast majority (76%) of the poorest households would face spending over 10% of their income on energy after accounting for housing costs. This is similarly the case in the poorest three income deciles where the proportion of households facing a significant hit to their disposable income more than doubles those that can be reached through the means-tested and disability benefits system.

Irrespective of the absolute level of bills, relying solely upon means-tested and disability benefits criteria for delivering targeted support would be clearly inadequate and, throughout years of higher-than-average bills, would have severe consequences for poverty and inequality.

Broadening eligibility could be possible through the wider social security and state pension system, by including the additional 11 million households claiming other social security benefits including the state pension, which is used as the qualifying criteria for the Winter Fuel Payment. This could increase the number of households that could be reached to a total of 17 million, including 79% of households in the lowest income decile. While this is much closer to addressing the scale of hardship for the poorest households, wealthier households would also disproportionately benefit. Under this broad-based approach, around one in three (61%) of households in the highest income decile would receive government support. This would likely be politically unfavourable and economically unsustainable.

Figure 3: Proportion of households spending over 10% of their income (after housing costs) on energy compared to proportion of households that can be targeted through the welfare and pensions system, by income decile



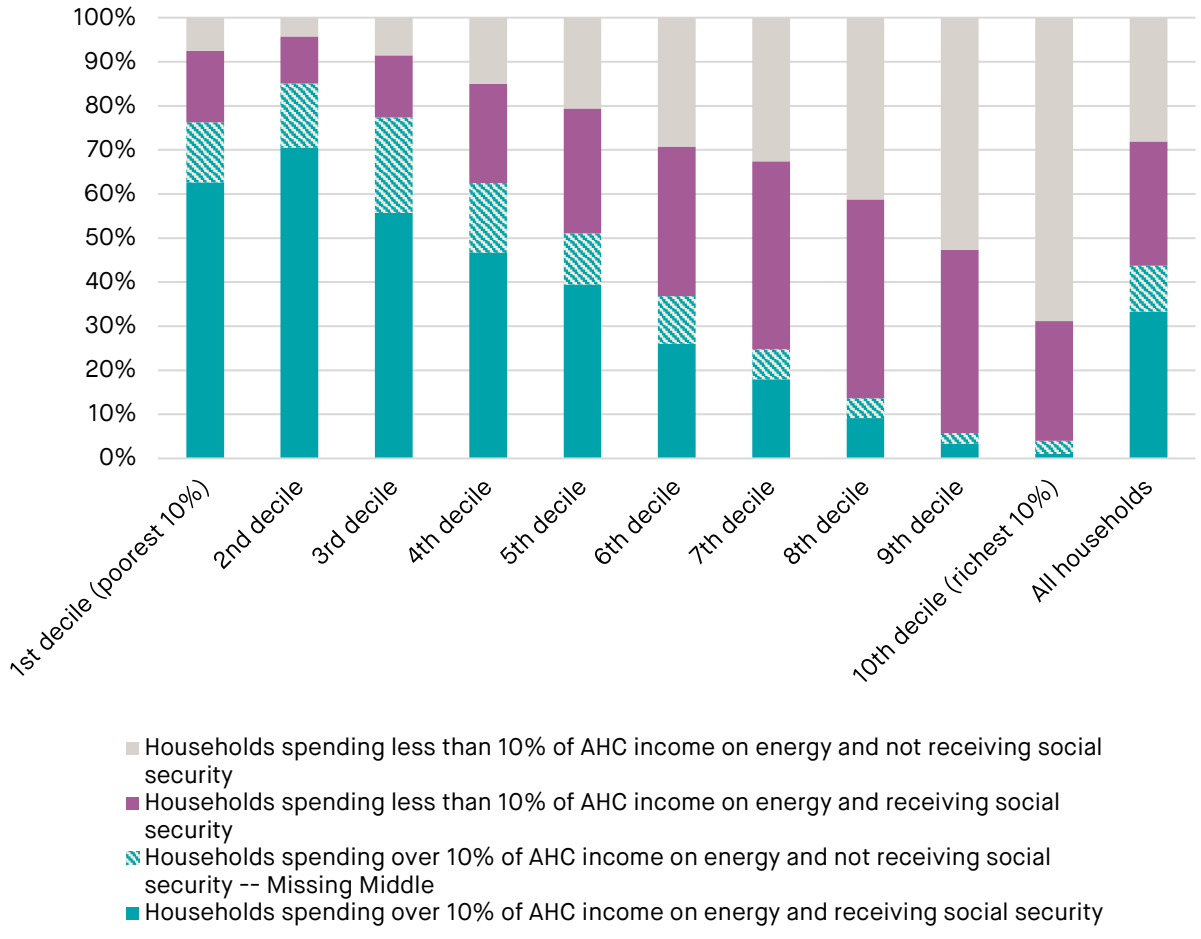
Source: SMF analysis of Living Costs and Food Survey. Assumes an average annual energy bill of £3,000. Note: The chart is illustrative of the total households in each category – for example, not all households receiving social security benefits in the second income decile would spend over 10% of AHC income on energy.

The missing middle

The chart above (Figure 3) provides a useful guide for the order of magnitude of households in need and that are able to be targeted. However, it does not clearly capture the extent to which these groups interact. For example, the chart would indicate that those in the second income decile are well targeted and supported, when in fact not all those receiving social security payments in this decile may also face spending over 10% of their income on energy. Below (Figure 4), we provide further analysis into these counterfactuals. As noted, we find that in the context of an average bill of £3,000, 12 million households would spend over 10% of their income after housing costs on energy. Using survey data we are better able to estimate how many of these 12 million households are also claiming social security (benefits and/or state pension). Our analysis finds that just over 9 million of these households are in receipt of social security payments. This means that nearly 3 million households across the UK would spend more than 10% of their after-housing-cost income on energy but would be ineligible for support as they do not claim benefits or a state pension. We designate this group the 'missing middle'. One in five (21%) of the 3 million 'missing middle' households are in the third income decile and 15% are in the fourth income decile.

We are also better able to identify where a targeting approach based on social security eligibility would potentially allocate public funding to those less in-need. Of the 17 million households that are in receipt of social security, nearly half (8 million) would not meet the 10% spending threshold – this equates to nearly one in three (28%) UK households. Where poor targeting leads to 'policy winners' in lower income deciles, policymakers may reasonably accept this imperfect allocation of funds. However in this case, excess funds are disproportionately allocated to *higher* income deciles, which raises questions about fairness and responsible use of public money.

Figure 4: Households spending over 10% of AHC income on energy, by social security eligibility and income decile



Source: SMF analysis of Living Costs and Food Survey. Assumes an average annual energy bill of £3,000.

Using the existing welfare and social security system is not a plausible targeting method for energy price support, leading to a situation where some people who need help don't get it, and some that don't need it do get it. We need a better system.

A better system

The UK needs a better mechanism for identifying and assessing household need over energy bills. That need should be based on both household income and household spending on energy.

There is a similar case for a better targeting mechanism in other sectors including water, financial services and telecommunications, but that is beyond the scope of this report.

A new mechanism for better directing help with energy bills should take an evidence-based and long-term approach to identifying households in need of help. It can be delivered without the need to collect new data on households. This is important for reasons of practicality: a new policy regime should be in place by the spring of 2024, and creating new datasets is infeasible in that timeframe. It is also important for reasons of practical politics: using existing data reduces the risk of "Big Brother" political narratives about state surveillance or intrusion.

Our consultation exercise, including conversations with a range of government officials and suppliers, suggests that the central feature of an improved targeting regime should be better matching of existing data on household incomes and energy consumption levels. The first set of data is held by HM Revenue and Customs, as part of its Real Time Information (RTI) scheme. The second set of data is held by energy suppliers.

Our consultations with suppliers suggests that there is both scope and willingness for energy companies to provide regular updates on customers' energy use to a public body administering a new bill support mechanism. We recommend that suppliers be required to provide such data on at least a quarterly basis, with frequency possibly increasing as more households adopt smart meters.

On the public sector side of this arrangement, sharing income data is more complex but still feasible. The Digital Economy Act 2017 allows HMRC's RTI data to be shared with outside organisations for public interest purposes. At least one trial of sharing RTI data has already taken place, where HMRC shared information about individuals' earnings with the Department for Education and three local authorities running a social impact bond trial.[19]

We do not suggest that RTI data be shared with energy suppliers, as has been recommended by the Resolution Foundation.[20] We believe that this approach runs a significant political risk: trust in commercial organisations is limited, and high energy prices have not raised the industry's popularity with the public. We are also open to arguments from energy suppliers that they are not the right organisations to administer what amounts to social policy.

Instead, **we recommend that usage data and income data are pooled and matched by a public sector body**. That body could be new Department for Energy Security and Net Zero (DESNZ), on the assumption that it inherits similar responsibilities for WHD administration from the old BEIS.

We are conscious that there are limitations to HMRC's income data, not least since tax records are not always updated to reflect taxpayers' current address. But we note that the WHD administrative system already manages to make some use of HMRC data showing households' incomes – albeit from the most recent past tax year and not based on RTI data – when considering eligibility based on tax credit receipts. (According to November 2023's *Warm Home Discount: Eligibility Statement:* "The most recent household income data available provided by HMRC for previous tax years will be used by the Secretary of State to determine whether a household is below the income threshold."[21])

We also note that RTI records *should* [22]contain taxpayer addresses that are up to date on at least a monthly basis, since employer RTI data submissions include employee addresses. On the timetable of implementing a new energy bill policy in 2024, we suggest that HMRC has a year to address issues relating to the accuracy address data supplied via RTI. Given that the more accurately the state can identify the fuel poor, the more efficiently it can allocate public money, we believe that HM Treasury has significant incentive to support such work.

We also note the reservations of some industry observers about the accuracy of suppliers' records on the occupants of the addresses to which they supply energy. Again, there is a case for improving the accuracy of these records, but here we note that this reservation can equally be raised over the WHD scheme, since it relies on those records. If WHD can function on the basis of existing supplier data, our proposed policy can too.

The relationship between our proposed targeting mechanism and the existing WHD machinery is of central importance to understanding our proposal. We are not recommending a radical departure from current structures, or the creation of any new machinery of government. We are proposing to significantly enhance the functionality of existing machinery.

While matching RTI data and household energy consumption data might be an imperfect answer to the need for better targeting of energy bill support, we consider it is still a better option than the status quo of some excessively narrowly targeted schemes and other excessively broad ones.

Meanwhile, we note that the WHD administration also attempts to assess property characteristics as they help to determine energy use. While those attempts are flawed, not least given the limitations of EPC data, they should be the basis for trying to incorporate energy efficiency considerations into this targeting. This will be discussed further in chapter five of this report.

As an alternative to this process happening within DESNZ, data pooling and matching could be done by HM Treasury, given that department's role in direct payment policy and the significant use of HMRC incomes data involved here. Or, eventually, it could be a new arms-length body that would not just carry out data matching but also offer ministers independent advice on the functioning of our new policy regime, the right level of household support and the outlook for support in future.

This novel body was discussed in our interim report and we believe it remains an idea worthy of long-term consideration. However, given the 2024 timetable**, we recommend that in the first instance, sharing and matching of RTI and energy-use data is done by the DESNZ based on the existing WHD architecture.** In the longer-term, policymakers should consider the long-term case for establishing an independent arms-length body.

The creation of a public body equipped with up-to-date information on households' income and energy use would allow the delivery of financial support with high energy bills on a targeted basis, meaning public money is used both progressively and prudently. Such a mechanism should also allow the delivery of support policies in such a way as to avoid sharp "cliff edges" where changes in income lead to disproportionate losses of benefits or support.

CHAPTER THREE – POLICY INTERVENTIONS FOR BILL SUPPORT

Much of the Government's emergency response to the energy price crisis has comprised short-term demand-side price support (e.g. £400 Energy Bills Support Scheme and the Energy Price Guarantee) and long-term supply-side reform on generation and pricing. However, there is a need to review what long-term demand-side price support could be available to households.

In our political and industry engagement we found a consensus that some financial support specific to energy bills should be provided. This was matched in our public polling. The idea of financial support for households who struggle to pay their energy bills was supported by 73%, with just 9% opposition. Younger respondents were more likely to be supportive and less likely to be opposed than older respondents.

Even when the suggestion that this support might require additional taxation is raised, there was still strong support. In our June opinion poll, we asked *"To what extent would you support or oppose the government providing direct financial support to help poorer households with their energy bills, such as an ongoing discount on their monthly bills, even if this means taxes rise as a result?"* We found 52% supportive and 22% opposed.

We repeated this question again in our October poll and found 64% supportive and 15% opposed. It is possible that the scale of recent energy bill increases has persuaded more people to see the benefit of providing financial support, even if that means higher taxes.

What is a social tariff?

In our industry stakeholder roundtables we heard broad agreement that this support should be a "social tariff"; that term is also used in the 2022 Autumn Statement's commitment to develop a "new approach" to bill policy. But it is striking that different participants in our engagement – and across the whole energy sector more widely – use this term to mean very different things.

Historically "social tariff" was most likely to refer to a different pricing schedule for a set of eligible customers. However, some stakeholders use the phrase to mean something closer to the current Warm Home Discount. Overall, the phrase "social tariff" seems to be increasingly used to mean simply that some sort of financial support should be given through energy bills. Our discussion of policy options below explores this seemingly elastic concept further.

Policy options

In our initial discussions with stakeholders we identified four main options for delivering energy bill support:

- **A fixed-value bill discount,** akin to the existing WHD
- **A discount applied to unit rates**
- **A rising block tariff**
- **A real bill cap**

This report offers detailed analysis of the first two options, as well as a short summary of our analysis of the latter two policies. Further detail was laid out in our interim report.

Additionally, we offer analysis of what we think could be the most promising policy option, a variation on cash-based bill discounts in which a formula-based mechanism varies payments according to household income and energy usage.

Analysis

Our analysis of these policy options includes estimated costs, distributional impacts on households, and their wider advantages and limitations. Our modelling of the policy options is based on analysis Living Costs and Food Survey data from 2019/20. The quantum of support modelled across the policy options is of similar value and is informed by desk research analysis, public polling, and stakeholder engagement. In percentage terms this is equal to a 30% reduction in bills. In cash terms, this equates to around £900 for an average annual household bill of nearly £3,000.

Our earlier analysis showed that with bills at £3,000, some 12 million homes will struggle with costs, a group much larger than the 6 million households in receipt of welfare payments. Here we model a number of policy options that would extend financial support beyond those 6 million welfare-recipient households. Two of those options would still not bring help to all 12 million. A new policy option introduced here would get help to all of those households, and at broadly similar cost to the other two.

In this exercise we are mindful of the fiscal cost and political practicality of energy policy. We model policies that would extend help to households with overall incomes below £25,000 who are not in receipt of benefits or the state pension. Some of our modelled policies based on that criteria would reach most but not all of the 12 million, at costs we think are likely to be considered reasonable by policymakers.

This analysis builds on the modelling in our interim report by adding estimated behavioural responses.

Changes in energy prices can result in behaviour change: when energy gets cheaper (as a share of income), at least some households will change their consumption of it. There is also good reason to believe that lower income households are particularly sensitive to changes in the price of energy and more likely to reduce their consumption of electricity and gas in response to rising prices.

Full details of our estimates of our approach to modelling behavioural change can be found in the annex on research methods.

Policy Option 1: Fixed payment discount

Perhaps the simplest model is one that gives a **cash discount** to eligible households. This is the model that has been used in the UK since the introduction of the Warm Home Discount (WHD) in April 2011. The WHD currently provides a £150 rebate to around 2.8 million lower-income and vulnerable households in England and Wales. The recent temporary £400 Energy Bills Support Scheme also uses this model. The advantages of this delivery model include its simplicity. In recent years government data matching has meant that the vast majority of 'Core Group' beneficiaries receive their rebate automatically and without having to apply for it.

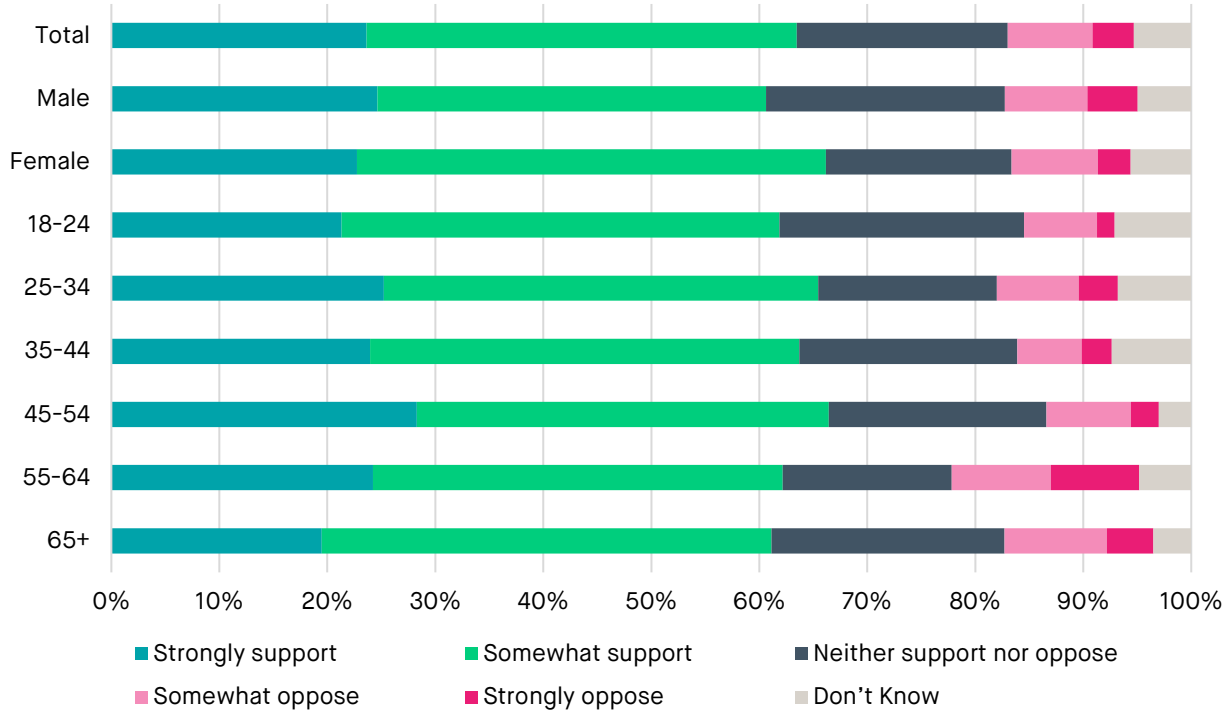
Unlike a per-unit percentage reduction which continually discounts all units consumed, a fixed payment has a clear 'endpoint'. As such, a fixed discount also does not blunt the incentive to reduce consumption. There is also a sense of fairness about all eligible customers receiving the same benefit.

However, there is a concern that this model comes with steep and high cliff edges. Two households could have weekly income that differed by just £1 and yet one would be eligible for a discount and the other not. Given the way WHD currently interacts with the benefit system, it would not be possible simply to taper the energy bill discount away with rising income. However, a different set of eligibility criteria could be designed that would allow some such smoothing. This variation on the cash discount policy is modelled below.

Fixed discounts also do not take account of whether an eligible household has specific needs, including, for example, disabilities or medical conditions, which could require them to use more energy. And this model does not reflect the energy efficiency of the home.

Our focus groups were in favour of financial support being in the form of a bill discount, which participants felt ensured the money really did go on energy rather than other priorities. Our polling found the public were supportive of this model of delivery, across demographic groups.

Figure 5: Support for a direct cash discount on bills



Source: Public First survey. Survey question: "One way to provide support to eligible households would be a direct cash discount on bills. To what extent would you support or oppose this idea?"

We asked in our polling what the *value* of financial support for energy bills should be. Among those who thought there should be a support scheme, there were mixed responses to how much support should be provided. 41% chose a support level below £60 a month. And 42% chose a support level of £60 a month or above. The mean value of support chosen was close to £1,000 a year when the question was expressed in £ terms – a third (33%) of an average energy bill of £3,000.

But when expressed as a percentage of the bill the average was around 27%. In a scenario of historically 'normal' energy bills, this would suggest a support level of around £300. A £300 support level applied to the same 2.8 million households currently in receipt of the Warm Home Discount would cost between £840 million and £950 million. However, in the context of an annual average bill of £3,000, a 27% amount would equate to around £800 of support. This would cost around £4.62 billion based on an eligibility of means-tested and disability benefit claimants.

For context, at present the Warm Home Discount scheme provides £150 of support for eligible households. The government argues that this level strikes "*a balance between supporting as many households as possible…with providing meaningful support*". Current government plans suggest that WHD spending will be £475 million a year by 2025, suggesting the current scheme is providing approximately one tenth of the support that public opinion expects.

Options for a fixed payment policy

The cost and impact of a fixed payment policy would depend on the value of the payment, on how it is targeted (if at all) and on energy prices. The table below provides an aggregate picture of potential options based on an average annual energy bill of around £3,000. In line with the polling findings, the annual value of fixed payment support is set at £900 – the average of the £ and % amount selected by polling participants.

As with the WHD, we envisage this payment would be paid to suppliers who would then add the payment value as a credit to the household's account.

A universal approach to bill support is highly unlikely to command durable political or public support but the option is included in our analyses for transparency. Targeting bill support at means-tested and disability benefit claimants would cost the Exchequer £5.2 billion per year. As highlighted in Chapter Two targeting by means-tested and disability benefits accounts for around a fifth (22%) of all households and around a third (38%) of households in the poorest three income deciles. As such, policymakers may wish to target support at pensioners (total cost of £7.8 billion) or those on below median household incomes (£8.9 billion). Reasonably, targeting by income sees the greatest energy bill reductions for the average household in the poorest deciles. This is also in part because the overall number of households targeted is greater.

Table 1: Impact and fiscal cost of a fixed payment policy options

	Number of households 'policy winners'	Average value of government support for 'policy winners'	Annual fiscal impact of policy (cost to HMT)
Annual fixed payment of £900			
Targeted at all households claiming means-tested and disability benefits	5.8 million	-£900	-£5.2bn
Targeted at all households with one person aged 65+	8.7 million	-£900	-£7.8bn
Targeted at all households with a household income of less than £25,000	9.9 million	-£900	-£8.9bn
All households	27.2 million	-£900	-£24.5bn

Source: SMF analysis of Living Costs and Food Survey 2019/20. Note: Assumes an average £3,000 energy bill.

As previously noted, there is a risk of creating sharp cliff-edges which can engender perverse incentives for work and earnings. An imperfect but potential method for better mitigating this risk would be to have a tiered approach to a fixed payment, whereby multiple payment options are available: a higher payment for a more 'in-need' targeted group, and a lower payment for a secondary targeted group. This would not remove all perverse incentives, but would be more effective than a single level of support. It may be reasonable to have further tiers but our stakeholders from both Whitehall and industry cautioned against excessive complexity for administrators and households.

Given the vulnerability of those claiming means-tested and disability benefits, it would seem reasonable to provide these households with a higher value of payment, say £900, with £600 for low-income non-benefits households. The table below provides an idea of a tiered approach and its cost.

This tiered fixed payment policy would cost a total of £6.7 billion for 8.2 million households.

Table 2: Impact and fiscal cost of a tiered fixed payment policy

	Number of household policy 'winners'	Average value of government support for 'policy winners'	Annual fiscal impact of policy (cost to HMT)
Primary group: annual fixed payment of £900			
Targeted at all households claiming means-tested and disability benefits	5.8 million	-£900	-£5.2bn
Secondary group: annual fixed payment of £600			
Targeted at households not claiming means-tested or disability benefits with a household income of less than £25,000	2.5 million	-£600	-£1.5bn
Aggregate tiered policy option	**8.2 million**	**-£811**	**-£6.7bn**

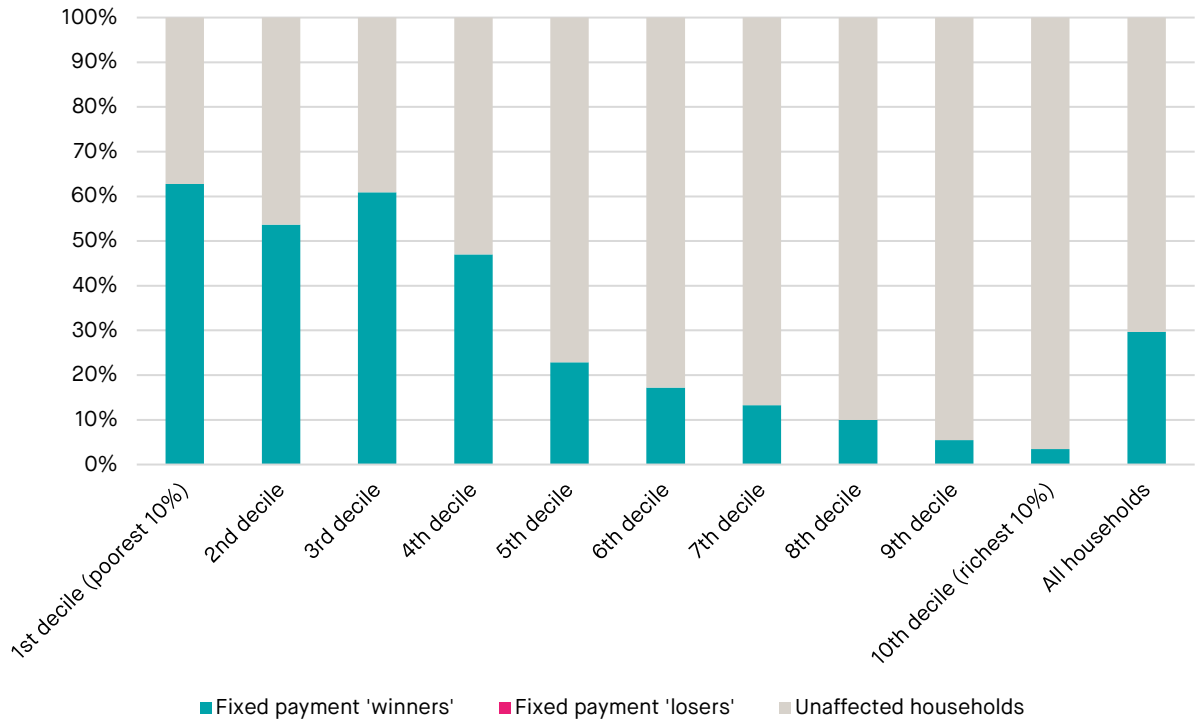
Source: SMF analysis of Living Costs and Food Survey 2019/20. Note: Assumes an average £3,000 energy bill.

Distributional impact

Policymakers must also consider what the distributional impact of a fixed payment policy may be on different households. The breadth of this impact (number of households affected) is highly dependent on how a policy is targeted while the depth of impact (reduction in energy bills) is more dependent on the value of support provided and energy prices.

The figures below illustrate what the impact of a tiered fixed payment policy might look like across income deciles. In terms of the breadth of the policy, of the 8 million households that would receive a payment, the majority (60%) are among the poorest three income deciles. As discussed later in this chapter, we assume that this policy would be paid for through general taxation. As a result, households who do not receive policy support would not see their energy bills increase in order to pay for the policy – we designate that these households are therefore unaffected directly by the policy, though we acknowledge that there might also be tax effects. Those effects, however, would depend on policy choices that are beyond our scope here.

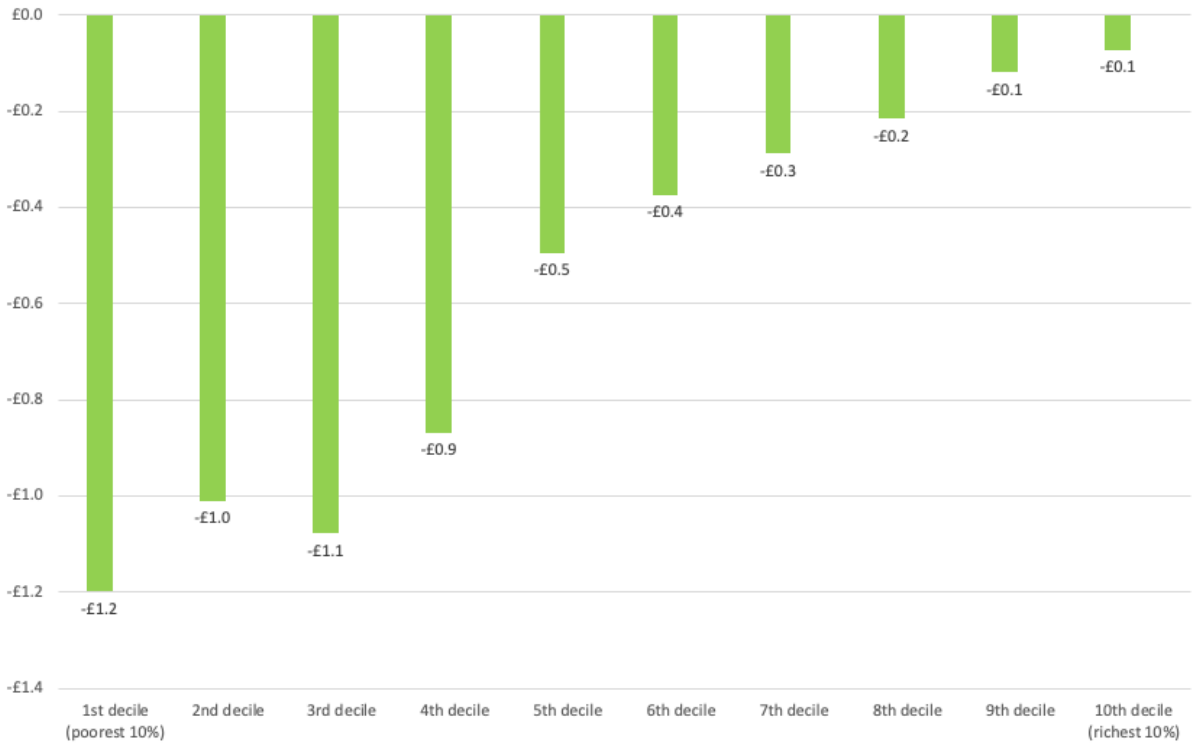
Figure 6: Proportion of households affected by a tiered fixed payment policy, by income decile.



Source: SMF analysis of Living Costs and Food Survey 2019/20. Note: Assumes an average £3,000 energy bill.

In terms of the depth of impact, Figure 7 below shows the aggregate reduction in the average energy bill per income decile as a result of the policy. Over half (58%) of the overall value of government support would be focused on benefiting the bottom three income deciles while 7% of overall support would benefit the top three income deciles.

Figure 7: Aggregate reduction in energy bills for tiered fixed payment policy 'winners', £bn, by income decile



Source: SMF analysis of Living Costs and Food Survey 2019/20. Note: Assumes an average £3,000 energy bill.

Policy Option 2: Unit rate discount

The second option is to **discount the rate** charged for each unit of energy used by an eligible household. This was a common model of social tariffs in the years before the WHD was introduced. It is very similar to the design of the government's current Energy Price Guarantee, although the latter scheme is universal.

A discounted unit rate provides a greater value of financial support to households that consume more energy. But in doing so it also somewhat blunts the incentive to consume less energy or to insulate one's home better.

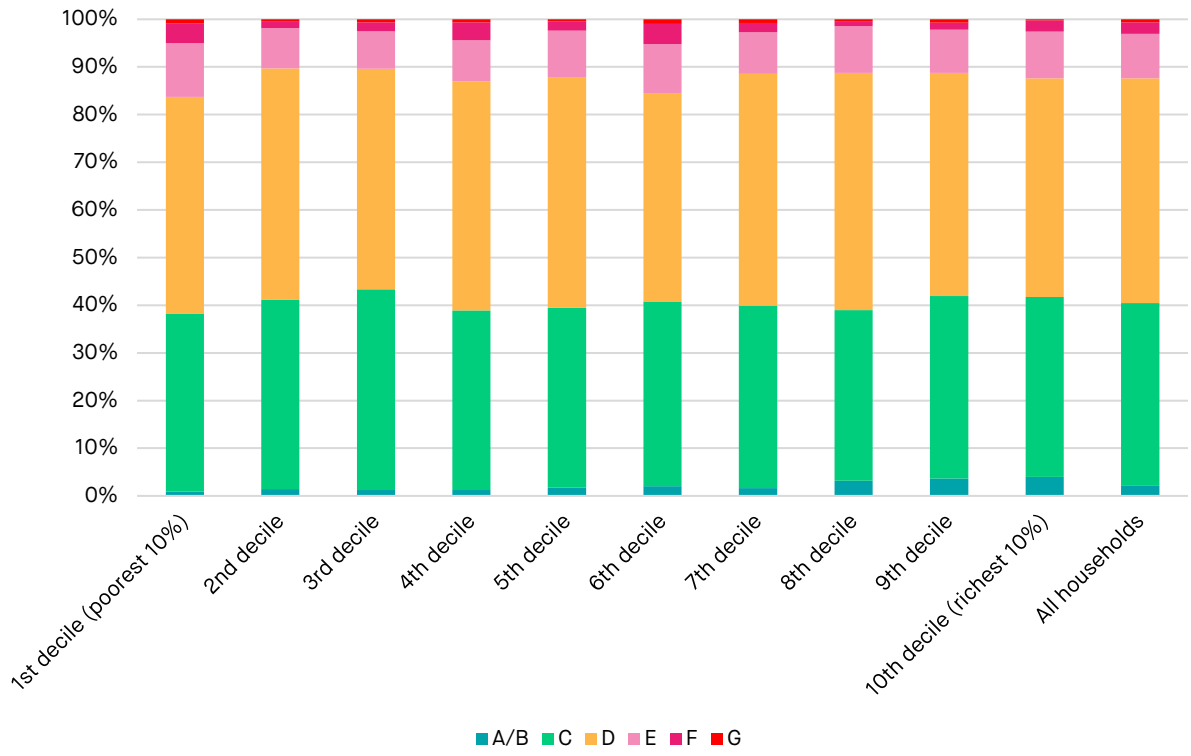
One concern about social tariffs pre-2011 was that they took customers out of the competitive market. While in theory these customers were getting a special rate, for example discounted below the standard variable tariff, this was not necessarily the cheapest rate on the market. These social tariffs gave customers the sense that they did not need to switch provider in order to get the best deal. And suppliers had a reduced incentive to market to these customers. The result, it can be argued, was that low income and vulnerable customers did not receive the full benefits of competition.

The Resolution Foundation (RF) has called for a "social tariff" that is essentially a tiered unit rate discount policy. RF's proposal consists of a 30% bill reduction to all households where no-one earns more than £25,000 and a 12% bill reduction to households where no-one earns over £40,000. RF analysis indicates that the policy would result in 94% of the poorest half of households benefiting compared to 45% if entitlement was limited to those on benefits.

In our focus groups we heard support for discounts generally, but also concern that this should reflect the number of people living in a house or other household circumstances. In the words of a participant in Wakefield: *"I think it should vary on how many people live in your house... because the more people that live there, you'll use more energy"*.

Our polling found the public were supportive of this model of delivery. 72% of all adults supported a unit rate discount, with only 6% opposed. Support was strong across demographic groups; indeed this was the most widely supported of the four options presented.

Figure 8: Support for a unit price discount



Source: Public First survey. Survey question: "One way to provide support to eligible households would be to discount the unit price of the energy they consume. To what extent would you support or oppose this idea?"

Options for a unit rate discount policy

A flat 30% discount on unit rates is in line with public opinion on the average level of support and similar to the payment modelled in our previous section. Accounting for behaviour change in response to above-average energy prices, this would offer around £922 of support for a median household. However, overall costs are higher as the discount is applied to every unit consumed. The reach of the policy is similar as the fixed payment model set out previously, since we assume the same eligibility criteria as before.

The impact and fiscal cost of the policy is summarised below. Unlike our interim report, these costs take into account behavioural responses by households, as households consume more energy due to the lower marginal costs of consumption created by the social tariff.

Table 3: Impact and fiscal cost of a unit rate discount policy options. Takes account of behavioural change by consumers in response to unit rate discount

	Number of household policy 'winners'	Average value of government support for 'policy winners'	Annual cost to the Exchequer
Unit discount rate of 30%			
Targeted at all households claiming means-tested and disability benefits	5.8 million	-£1,008	£5.8bn
Targeted at households with one person aged 65+	8.7 million	-£956	£83bn
Targeted at households with a household income of less than £25,000	9.9 million	-£863	£8.6bn
All households	27.2 million	-£978	£26.6bn

Source: SMF analysis of Living Costs and Food Survey 2019/20. Note: Assumes an average £3,000 energy bill.

A variation on this policy would be to take a tiered approach, giving different levels of unit discount to households dependent on their status or income. This tiered approach would help smooth the cliff-edge problem of a flat discount and is arguably more progressive in that it offers the greatest help to those with lowest incomes. Offering an additional tier of help to people above the threshold for benefits makes the policy means greater reach: offering a 20% unit rate discount to non-welfare households with incomes below £25,000 would mean another 2.5 million people get help with bills. This adds around £1.3 billion to the cost of the policy, taking into account behavioural change.

Table 4: Impact and fiscal cost of a tiered unit discount rate policy

	Number of household policy 'winners'	Average reduction to energy bills for policy 'winners'	Annual cost to the Exchequer
Primary group: unit discount rate of 30%			
Targeted at all households claiming means-tested benefits	5.8 million	-£1,008	£5.8 bn
Secondary group: unit discount rate of 20%			
Targeted at households not claiming means-tested or disability benefits with a household income of less than £25,000	2.5 million	-£507	-£1.3bn
Aggregate tiered policy option	**8.3 million**	**-£858**	**-£7.1bn**

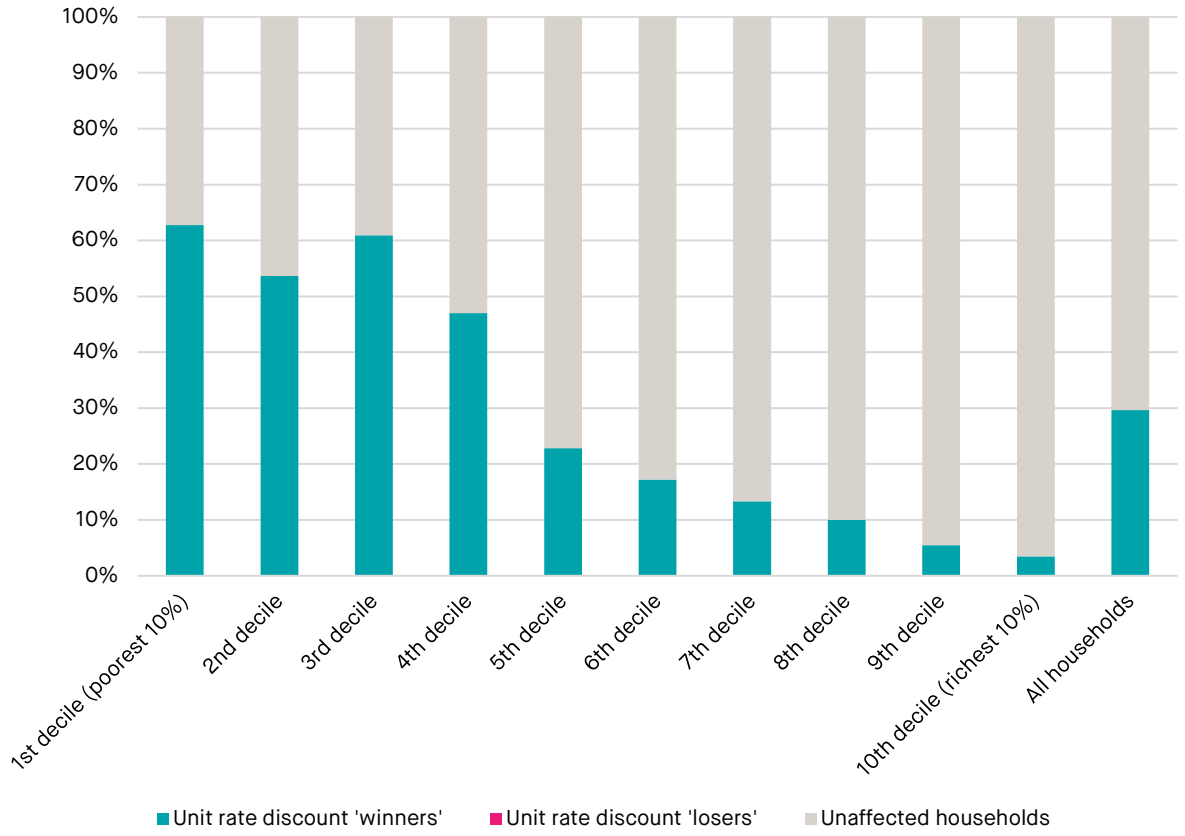
Source: SMF analysis of Living Costs and Food Survey 2019/20. Note: Assumes an average £3,000 energy bill.

Note that the value of this discount to our secondary group of households (non-welfare claimants with low incomes) is lower than the value of the benefit to that group of a fixed payment shown in Table 2. This is because the value of the unit-based discount varies with energy usage, and there is a wide spread of usage levels within this secondary group of low-income non-benefits households.

Distributional impact

The breadth of impact for this policy is identical to the fixed payment, given their shared approach to targeting. With a tiered unit rate discount, around 60% of policy 'winner' households are in the bottom three income deciles.

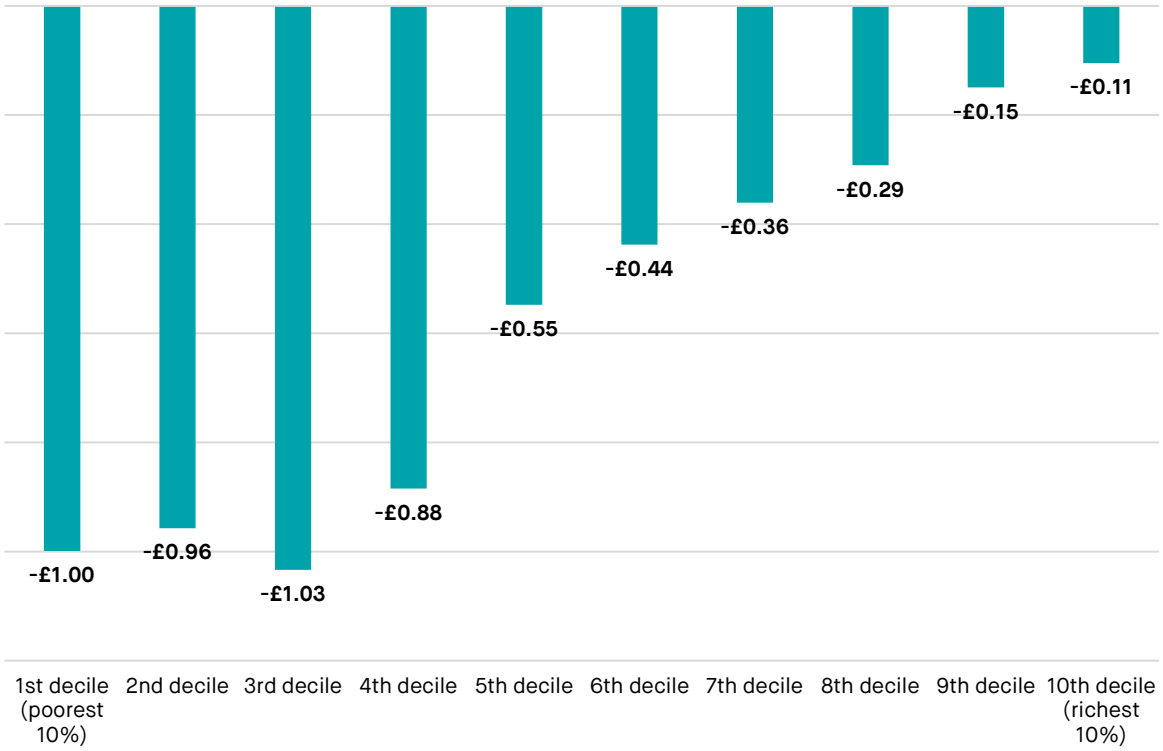
Figure 8: Proportion of households affected by a tiered unit discount rate policy, by income decile



Source: SMF analysis of Living Costs and Food Survey 2019/20. Note: Assumes an average £3,000 energy bill.

In terms of the depth of impact, Figure 8 shows the aggregate reduction in the average energy bill per income decile as a result of the policy. Despite being of higher fiscal cost (taking into account behavioural change) and the same breadth as the fixed payment policy, a unit discount rate would be *less* progressive in allocating funds. Some 52% of overall policy costs would go to help the bottom three income deciles, compared to 58% under the £900 fixed-payment policy. Meanwhile 9% of policy costs would go to the top three income deciles, compared to 7% under fixed payment. As such, this form of social tariff is more generous to middle- and high-income households, reflecting the fact that higher income households have higher average energy consumption.

Figure 9: Aggregate reduction in energy bills for a tiered unit rate discount policy 'winners', £bn, by income decile



Source: SMF analysis of Living Costs and Food Survey 2019/20. Note: Assumes an average £3,000 energy bill.

An additional consideration here relates to price signalling and the future shape of the consumer energy market. Though that market reform is not covered in this report, during our consultation exercises we heard arguments that a unit-discount policy could have the unintended effect of reducing the importance of price signals in the retail energy market. This is currently of little importance, given the lack of variation in consumer prices in energy. But some of our respondents argue that the consumer market of the future will allow for more active consumption choices (for instance, households choosing to buy their energy units at times of low grid demand and thus lower prices). We note this argument and recommend that policymakers consider it carefully when looking at both bill support policies and energy market reform.

Policy Option 3: Formula-based lump sum payments

This report introduces a third option for bill support, which was not modelled in our interim report but which was shaped by the consultation responses to that report. This is **a formula-based lump-sum payment**, with payments varying according to household income and energy usage. The merit of such an approach, in contrast to a uniform lump-sum payment, is that it targets more support towards households with higher-than-average energy needs – for example due to family size, ill-health or poorly-insulated accommodation. In contrast to a unit-rate discount, it preserves marginal price signals and is not vulnerable to changing tariff design.

This policy is only possible with a better mechanism for targeting bill support, as set out in the previous chapter. Under this system of bill support, energy suppliers would share energy usage and address data with HM Revenue and Customs. This would be matched against government Pay as You Earn Real Time Information (RTI) data, in addition to benefits receipt data including tax credits (as currently happens for WHD). Government would then apply a formula to each household address based on energy usage and income estimates to establish the lump sum discount for each household.

Such an approach to bill support, if implemented, could produce desirable outcomes. By making use of RTI data, there would be little to no "leakage" of bill support into higher income groups that do not need it. This means that, per pound spent on the scheme, benefits flowing to households in the lowest income group are greater than an approach in which targeting is based on means-tested benefits.

It is not the place of this report to recommend the exact format of the formula used for such a variable lump sum payment. But to give an example of the merits of the approach we have modelled a scenario with an overall Exchequer cost of the same approximate order as our other policy options.

In this scenario:

- A maximum lump sum payment of £1,500 can be received by households.
- An income multiplier between 0 and 1 is applied to this maximum payment. The multiplier is 0 for all household incomes above £30,000 and 1 for all incomes below £10,000, with a linear phasing in between these points.
- Similarly an energy expenditure multiplier between 0 and 1 is applied to energy spending of between £0 and £4,000 per annum (we use energy expenditure as a proxy for energy usage given data on the latter is not present in the Living Costs and Food Survey)

We estimate that such a policy would cost £6.5 billion with an average reduction in energy costs for policy beneficiaries of £530. As we discuss below, there are significant variations in the average value of lump sum payments across and within income groups, reflecting the formula-based approach.

Table 4: Impact and fiscal cost of a formula-based lump sum payment

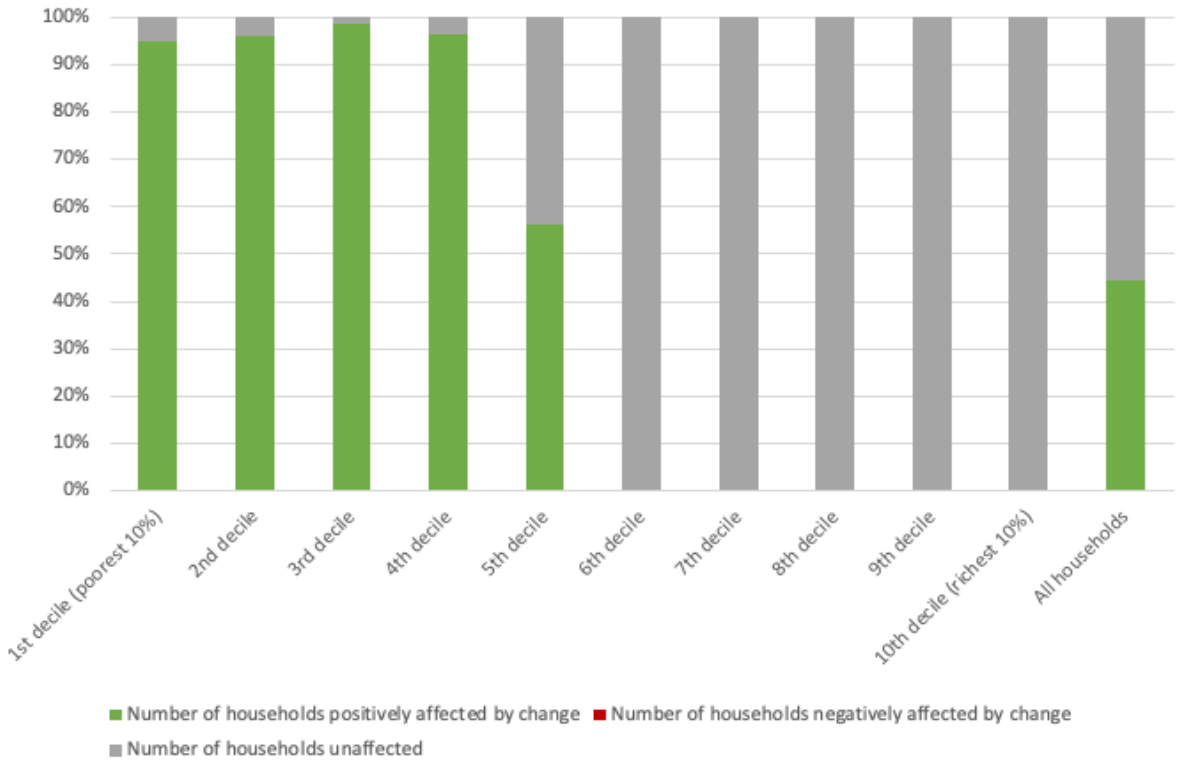
	Number of household policy 'winners'	Average value of government support for 'policy winners'	Annual cost to the Exchequer
Formula-based lump sum payment			
Applies to all households (though lump sum payments will be zero for households with incomes above £30,000)	12.3 million	-£530	£6.5bn

Source: SMF analysis of Living Costs and Food Survey 2019/20. Note: Assumes an average £3,000 energy bill.

Distributional impact

Due to the mechanism for the formula-based lump-sum payment, benefits are well-targeted – 66% of households receiving lump sum payments would be in the bottom three income deciles. (Compared to: 58% for a lump sum; 52% for unit discount.) *All* spending would be in the bottom half of the income distribution. Under the scenario outlined above, the average payment for beneficiary households in the lowest income decile would be £853, falling to £90 for those in the fifth income decile. There will be significant variations within these income groups, given that the lump-sum payment varies with energy usage – 9% of those in the bottom income decile would receive the maximum amount of £1,500 given their high energy usage.

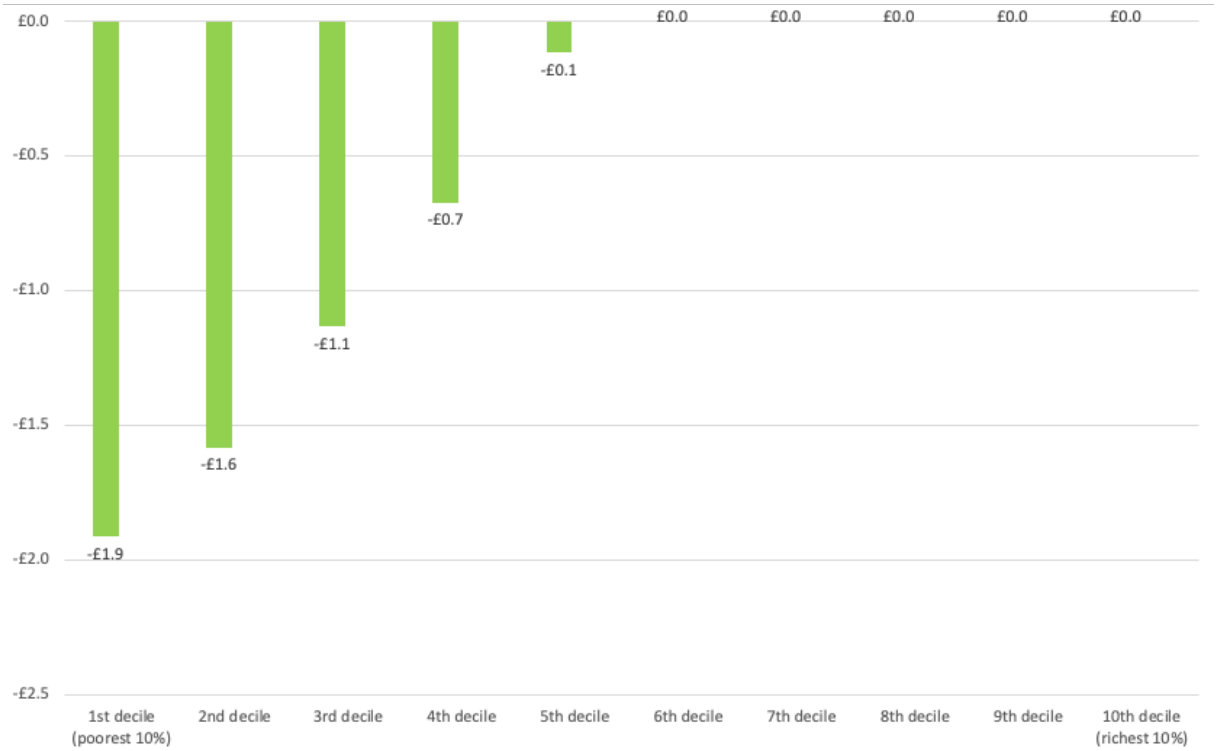
Figure 10: Proportion of households affected by a formula-based lump sum payment



Source: SMF analysis of Living Costs and Food Survey 2019/20. Note: Assumes an average £3,000 energy bill.

Variations in lump sum payments mean the targeting is more apparent when looking at the depth of impact. 85% of the benefits of the policy, in cash terms, are received by households in the bottom three income deciles.

Figure 11: Aggregate reduction in energy bills due to a formula-based lump sum payment, £bn, by income decile



Source: SMF analysis of Living Costs and Food Survey 2019/20. Note: Assumes an average £3,000 energy bill.

Additional modelling: What if bills are £2,500?

As this report was being finalised for publication, it became apparent to us that ministers were considering altering plans for the Energy Price Guarantee such that energy bills would continue to be limited to £2,500 from April 2023. Movements in the wholesale energy markets also suggest that bills below our modelled £3,000 level are a possibility later this year.

On that basis, we present here additional modelling of our three policy options, based on an assumption of energy bills at £2,500.

The costs of the unit-rate discount and formula-based lump sum payment policies automatically scale down in a world of lower energy prices – the former because it is a percentage reduction on prevailing unit rates, and the latter because lump sum payments taper with the size of energy bills.

As such, we have not adjusted the structure of these policies under the £2,500 bills scenario.

For the fixed payment policy, however, we have reduced the primary payment from £900 to £850 and the secondary payment from £400 to £300 to arrive at a package of support with similar Exchequer costs to the other measures.

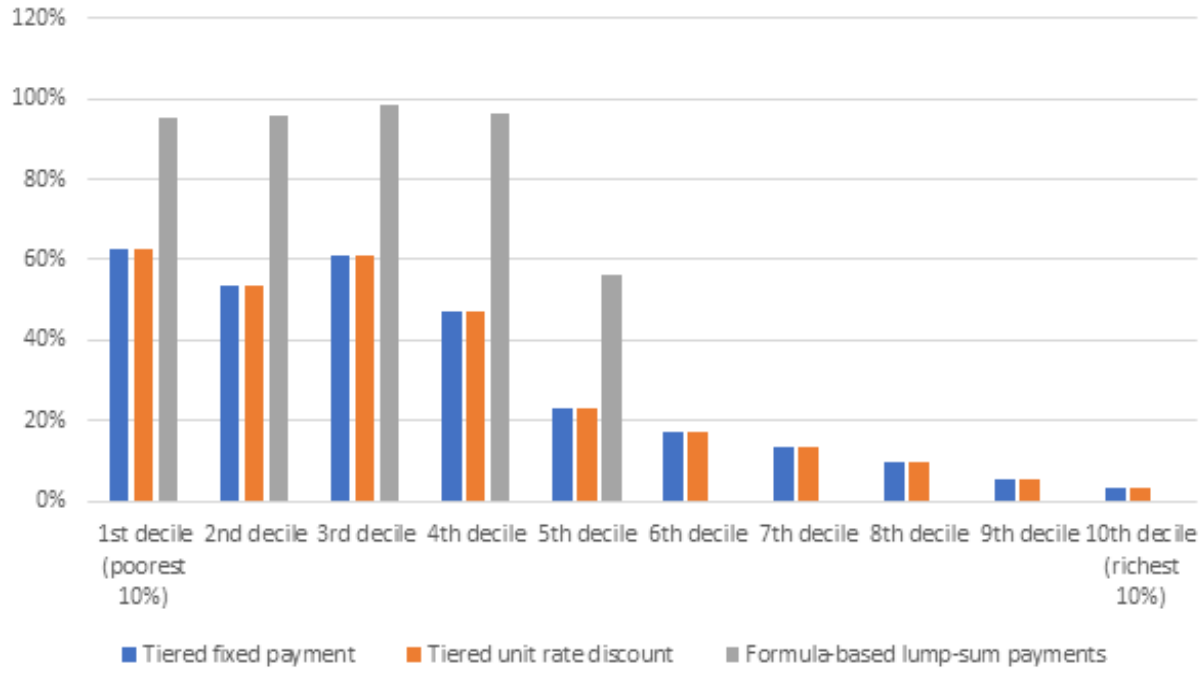
Table 5: Summary of policy options' impact and costs under a £2,500 per annum average bill scenario

	Number of household policy 'winners'	Average reduction to energy bills for policy 'winners' (taking into account behavioural change)	Annual cost to the Exchequer
Tiered fixed payment	8.3 million	-£588	£5.7bn
Tiered unit discount rate	8.3 million	-£573	£5.9bn
Formula-based lump sum payment	12.3 million	-£381	£5.6bn

Source: SMF analysis of Living Costs and Food Survey 2019/20. Note: Assumes an average £2,500 energy bill. Assumes policies would be funded through general taxation.

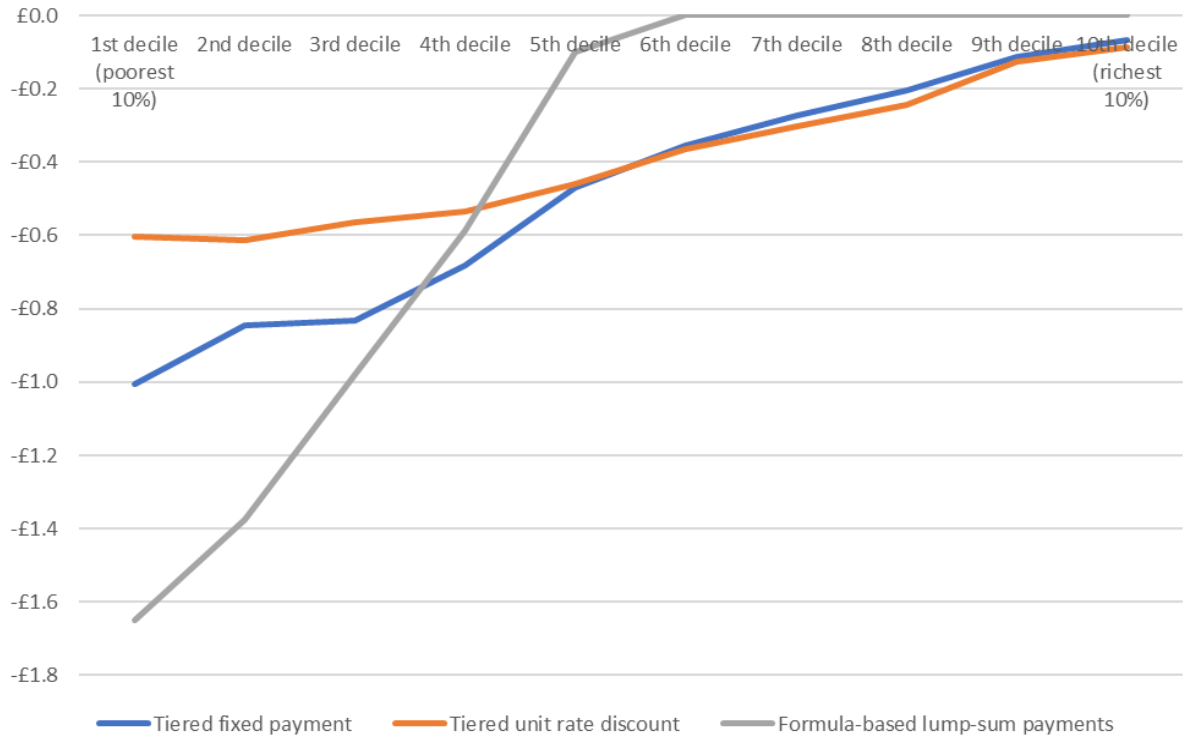
This modelling does not affect our conclusions on a preferred bill support mechanism. A formula-based lump sum payment remains the policy that most effectively at targets funds to those in greatest need (lower income, higher energy usage households). This is shown in Figures 12 and 13.

Figure 12: Proportion of household 'winners' per policy option, by income decile



Source: SMF analysis of Living Costs and Food Survey 2019/20. Note: Assumes an average £2,500 energy bill.

Figure 13: Aggregate reduction in energy bills, £bn, by income decile



Source: SMF analysis of Living Costs and Food Survey 2019/20. Note: Assumes an average £2,500 energy bill.

Are these social tariffs?

Our analysis of these options underlines how slippery the concept of a "social tariff" can be.

Using a historical meaning for that term, Options 1 and 3 might not qualify, since under these proposal all households pay the same price for each unit of energy they buy – only Option 2 meets that narrow definition of a social tariff.

But in a more contemporary and realistic definition of "social tariff", Options 1 and 3 also appear to qualify. First, they involves designating a subgroup of households to receive different treatment in the market, for reasons of social justice and equity. Second, the effect of that different treatment is that those households pay less for a given quantity of energy than a household with similar consumption but greater means: the effect of the lump sum payment is that eligible households pay fewer pence for each unit consumed than ineligible ones. That is the essence of a social tariff, even if the policies concerned are not commonly described in terms of their effect on per-unit costs. As such, we consider that all three of the options modelled above can and should be described social tariffs.

Other policies considered

We also analysed other ways to deliver support: a rising block tariff and a real bill cap. This analysis is briefly summarised below, having been published in full in our interim report.

Rising block tariff:

Modest public backing: net support was 32%.

Enjoys some support from stakeholders, especially those from environmental policy backgrounds, since rising costs for increased consumption are seen as helpfully incentivising demand reduction. Also an instinctive appeal to notions of fairness: those who use the most should pay the most.

However, rising block tariff models face serious problems because a household's energy usage is often very loosely related to that household's income. For reasons of health or housing type, high users can have very low incomes; and vice versa.

Distributional analysis suggests that 26% of households in the poorest decile could lose under a rising block tariff, while 62% of the richest would gain.

Even when a £2 billion mitigation payment was applied to our modelled policy, our rising block tariff model still leaves around a fifth of the most vulnerable households worse off. This equates to over 520,000 households.

In our view, a policy that can *increase* energy costs for poor, sick people in cold homes while benefiting people on high incomes in cosy homes cannot be politically viable.

Real bill cap:

Weak public support. 48% of adults were supportive of introducing a real price cap. 29% opposed, giving a net score of 19%, making this the least popular option that we polled on

With our assumptions of £3,000 bills and £900 worth of support, we find that 4.1 million benefits-recipient households would benefit from a real cap. So would 5.9 million pensioner households and 5.9 million households with incomes below £25,000.

The number of households directly helped by a real price cap is lower than the numbers reached by other policy options modelled for this report, because a significant number of households already have consumption that puts their bills below the likely level of the real price cap.

We modelled a tiered approach to capping, with the real cap set at different levels for different groups. This means a 20% discount for most households, whose cap would be around £2,400. Benefits-recipient households would get a 30% discount, for a cap of £2,100.

The overall cost of this policy would be £14.8 billion, spent to benefit 9.5 million households. This is more than double the cost of a unit rate discount policy and a fixed payment policy, despite only benefiting 1.2 million more households.

Distributionally, the benefits of even a tiered real cap policy skew further towards higher income groups than other interventions modelled for this report. More than half of the very poorest households would not benefit.

On the basis of this analysis, we do not consider either of these approaches to be viable. However, we note that with a better system of targeting, there may be ways to design a rising block tariff scheme that mitigates the income-consumption disconnection problem identified above. As such, we recommend that when our proposed data-matching and targeting mechanism is established, policymakers revisit the case for a rising block tariff based on accurate and timely information about income and energy consumption.

Summary of financial support policy options

This section compares the impact – both positive and negative – of what we see as the three viable options. Policymakers may choose to vary the value, and therefore the total cost, of energy support, particularly over the long term as and when energy prices come down.

Table 6: Summary of policy options' impact and costs.

	Number of household policy 'winners'	**Average reduction to energy bills for policy 'winners'** (taking into account behavioural change)	**Annual cost to the Exchequer**
Tiered fixed payment	8.3 million	-£693	£6.7bn
Tiered unit discount rate	8.3 million	-£684	£7.1bn
Formula-based lump sum payment	12.3 million	-£440	£6.5bn

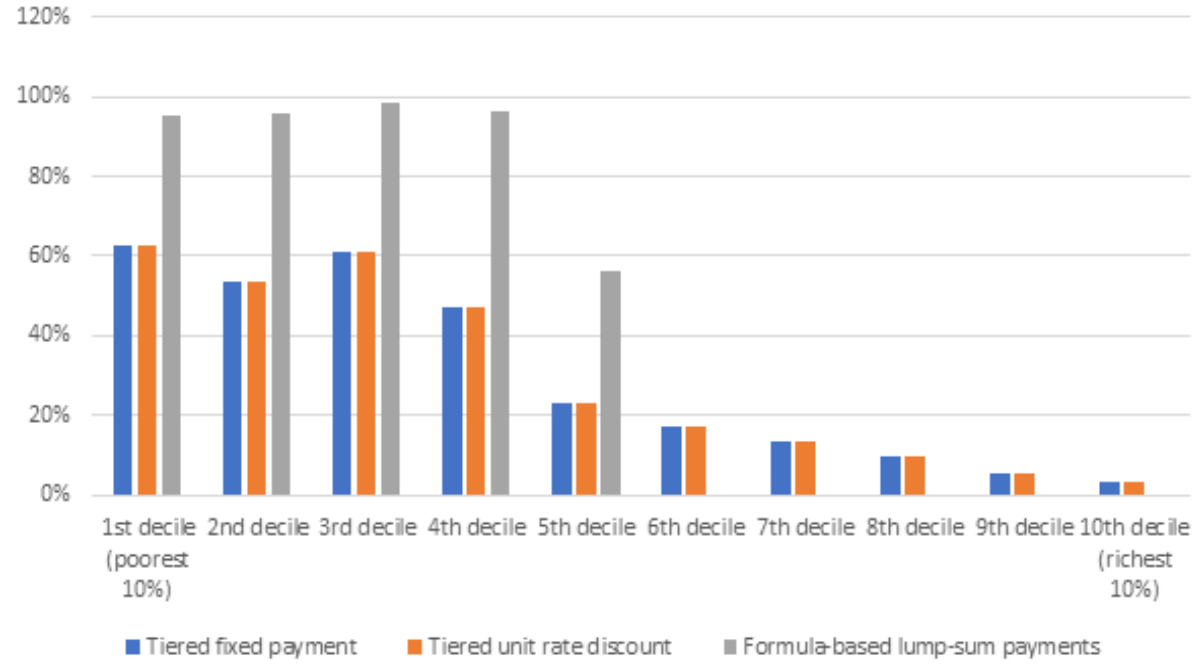
Source: SMF analysis of Living Costs and Food Survey 2019/20. Note: Assumes an average £3,000 energy bill. Assumes policies would be funded through general taxation.

Distributional impacts

In aggregate, the **fixed payment** and **unit rate discount** appear to similar. They benefit the same group of household with a similar average level of support, though the unit rate discount policy is fiscally more expensive once we take into account consumer behavioural change and greater energy consumption pushing up the costs of the policy.

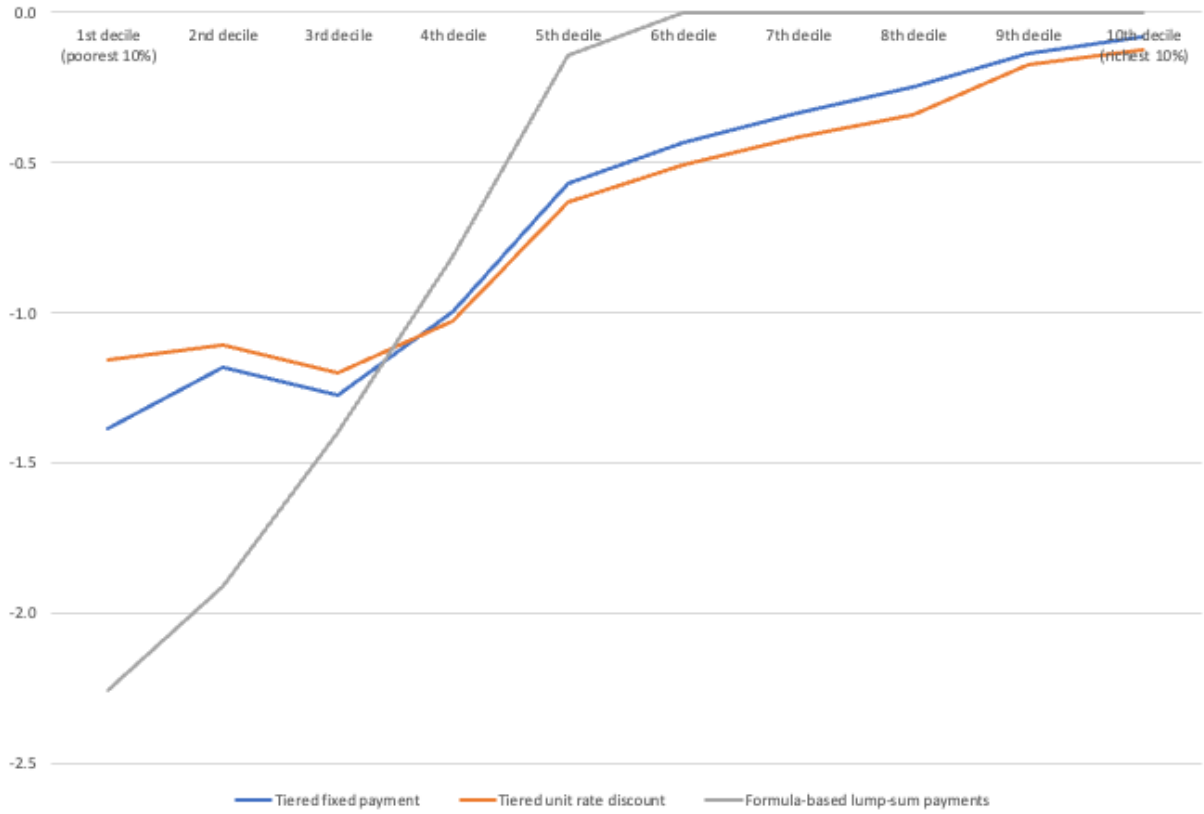
Despite the similar average level of support, a fixed payment sees a slightly greater proportion of the overall funding pot go to lowest income households than a unit rate discount, and would therefore be considered as more progressive. A formula-based lump-sum payment would be more progressive still, despite a slightly lower fiscal cost, reflecting the targeting of payments based on income and energy usage. This is shown in the charts below which depict the estimated reductions in energy bills, taking into account behavioural change, and the share of households benefiting from the policy in each income decile. Note that our modelling shows a small number of low-income households do not benefit from the formula-based lump sum – this reflects data from the Living Costs and Food Survey showing no recorded energy costs for these households.

Figure 14: Proportion of household 'winners' per policy option, by income decile



Source: SMF analysis of Living Costs and Food Survey 2019/20. Note: Assumes an average £3,000 energy bill.

Figure 15: Aggregate reduction in energy bills, £bn, by income decile



Source: SMF analysis of Living Costs and Food Survey 2019/20. Note: Assumes an average £3,000 energy bill

Funding

Whatever social tariff option is chosen for bill support in future, a question arises: how should that support be funded? Based on the consultations carried for this project, and our reflection on the issue, **we recommend that future energy bill support is funded from general taxation rather than via levies applied to energy bills.**

Currently the costs of the Warm Home Discount scheme are recouped by suppliers through higher prices for all energy customers. Government estimates that the current scheme adds £19 to an average annual bill.

There is a long precedent of government policies in the energy sector being funded in this way through energy bills. On the basis of the energy price cap from the summer of 2022, the total of these levies added £153 to a typical dual fuel bill. There is a legitimate concern that this model of funding is regressive as it results in a greater proportion of the total cost being met by those in lower income deciles.

We can see an argument for paying for policies that decarbonise the energy system through bills, since environmental objectives offer a clearer case for linking energy consumption with the costs of decarbonisation. However, we argue that support for low income and vulnerable groups is more properly seen as welfare policy rather than energy policy. In that sense we believe it would be more appropriate for it to be funded through general taxation and not via levies on bills.

The quantum matters here too. As discussed, WHD involves the reallocation of hundreds of millions of pounds, from better-off billpayers to (some) worse-off ones. While this report does not make detailed recommendations on the level of support that should be delivered through our recommended policy framework, it seems clear that any meaningful support would involve the reallocation of billions of pounds each year. Several of our stakeholders argued persuasively that delivering that level of reallocation via on-bill tariffs is unlikely to be politically viable, since it would mean adding significant sums to many other billpayers' bills. To give a sense of how significant those sums might be, we calculate that funding the three policy options that we have modelled here via bills would add the following to typical bills: Lump sum: £342; Unit rate discount: £362; Formula-based lump sum: £368. We do not believe that any political party would seek or win consent for such an approach at an election.

Raising and spending such sums via taxation is more feasible, even if it is not without its own political costs. Although we note here that the latest emergency bill support measures implemented during 2022 were funded from general taxation rather than tariffs. Tacitly, policymakers have already accepted that energy bill support measured in billions of pounds is funded by taxpayers not billpayers.

One question for further consideration is how to ensure such tax revenues are definitely spent on energy bill support, given the numerous other demands on funds controlled by HM Treasury and the lack of formal hypothecation in the UK fiscal system.

In our polling we found that the public agreed that fuel poverty reduction work should be funded by taxpayers not billpayers. 38% agreed that financial support for energy bills should be paid for via taxation with only 12% preferring that it be funded through tariffs on bills. However, we should note that a relatively high proportion (31%) said they had no preference between these two funding routes, suggesting a lack of engagement with this issue.

CHAPTER FOUR – ENERGY EFFICIENCY

Energy bills are a function of unit prices and units consumed. The consensus from our stakeholder engagement is that any approach to reduce household energy bills would therefore be insufficient without also supporting reduced consumption over the long term by increasing the efficiency of our homes.

Better insulation benefits the individual household with lower bills, a more comfortable home, and less worry about using and paying for heating. But it also has wider benefits. Every unit of gas not burned in a home reduces national carbon emissions, local air pollution, and reduces our dependence on imported gas. And where the government supports households to pay their bills, energy efficiency reduces costs to the taxpayer.

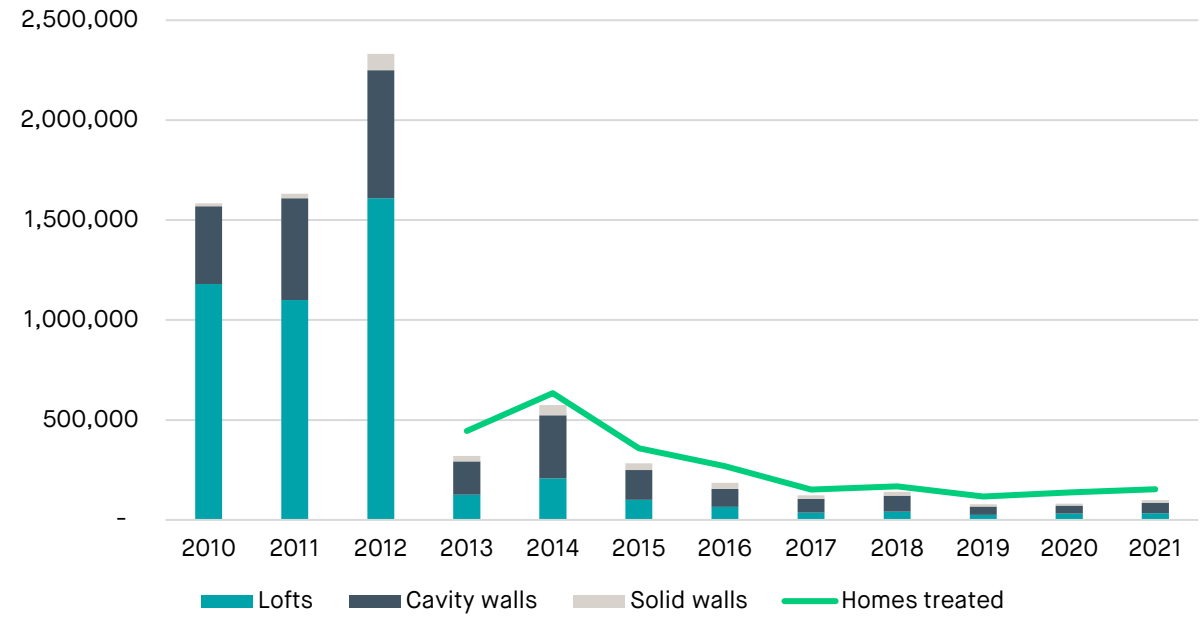
The UK has the least well insulated housing stock in Europe and the majority of homes do not reach a sufficient standard of efficiency. Less than half of homes in England (44%), Wales (38%) and Scotland (45%) qualify for an EPC rating of Band C or above. To make this challenge worse, there is limited enthusiasm from the current government in addressing the state of our housing stock. Insulation levels have barely recovered since former prime minister David Cameron's cutting of 'the green crap' (generally understood to refer to levies on bills to subsidise onshore wind, solar and energy efficiency schemes) caused them to plummet in 2013 (see Figure 16 below). In 2021, energy-efficiency installations reached just 150,000 – just 30% of the 500,000 required each year until 2025, according to the Climate Change Committee (CCC).

Policy interventions to retrofit homes have been relatively limited compared to the scale of the challenge. Public investment in the energy-efficiency of homes previously stood at around £1.5bn a year for fuel poor and socially rented homes.[3] The Chancellor's Autumn Statement included an additional £6 billion of new funding over three years for energy efficiency across all buildings, however this is not committed until 2025. It is also unclear what proportion of this will be committed to residential buildings.

While the ECO scheme has demonstrated success, our analysis finds that nearly 11 million homes rated EPC D or below in England would not be considered fuel poor and therefore ineligible for support. The wider 'able to pay' market for energy efficiency improvement work has been fraught with demand- and supply-side issues, not least exacerbated by the stop-start nature of government policy in this area. As such, the consensus from our engagement with stakeholders and the public is that policymakers should do more to address this challenge.

However, there is little sign of consensus on the design of such a scheme. There are still questions to be answered as to who should benefit from government support here – everyone or a targeted group? How might that targeted group be defined? What level of support would be given? And what political support is there for these options? The current fiscal outlook further hampers the development and delivery of stable long-term policies to promote greater energy efficiency. Not least since that efficiency can take several years to pay for itself in the form of reduced aggregate energy use and spending, other demands on the public finances can appear to politicians to be more urgent and more politically rewarding.

Figure 16: Home energy efficiency installations 2010-2021, UK



Source: CCC, 2022

Learning from previous energy efficiency schemes

Despite multiple government schemes delivered over more than a decade, the UK still has some of the least energy efficient homes in Europe. That's not to say that nothing has been achieved; for example since 2013 almost 2.5 million homes have received energy upgrades under the Energy Company Obligation (ECO) scheme. But many government schemes in this area have underperformed and we find multiple lessons that can and should be learned.

The first is a misunderstanding of the role of finance. Energy efficiency upgrades should be an economically sensible step for many homeowners; they should pay back the investment in a few years and then offer lower energy bills for many years ahead. When homeowners don't make this investment, the conclusion that many policymakers have drawn is there must be a lack of accessible finance to help people over the initial investment hurdle.

This conclusion appears to be backed up by public opinion research. For example in the polling undertaken for this project affordability was the most cited barrier to getting insulation fitted. This same logic led the coalition government to introduce the Green Deal, a loan scheme for energy efficiency upgrades. It failed. Only 14,000 households took out Green Deal loans – less than 0.1% of the homes needing upgrades. The National Audit Office found that for the £240 million on the scheme by government, it had "not generated additional energy savings". There were multiple reasons for this scheme's underperformance, some common to other schemes discussed below. There were two specific failures of the Green Deal: the belief that there was pent up demand for energy efficiency measures; and the belief that a finance scheme was all that was needed to unlock demand. The reality is likely to be more prosaic. Our assessment is that – when bills are at normal levels – families have a lot to think about and insulation measures are rarely top of their mind. And that very many families hate the idea of taking out a loan and being in debt.

The second lesson is the benefit of a scheme being in place for the long term. In 2020 the government announced a six-month scheme of Green Homes Grant Vouchers. These were intended to cover two-thirds of the cost of eligible improvements, up to a maximum government contribution of £5,000. Ministers hoped to allocate £1.5 billion and help 600,000 homes to become more efficient in just six months. That didn't happen. At best 47,500 homes will have been upgraded under the scheme. One of the key reasons was the short duration of the scheme – this reduced the incentive for Trustmark registered installers to sign up to the scheme and meant there was no pipeline of work to encourage new installers to become Trustmark registered. Building a supply chain of accredited installers will be vital to delivering a national energy efficiency programme, and that in term will require a long duration scheme where potential installers can see the enduring benefit of undertaking training and applying for accreditation. It remains to be seen whether the additional three years of funding committed in the Autumn Statement 2022 is long-term enough for the sustainable development of the supply chain.

There may be further lessons to learn here from Scotland. In 2015, the Scottish government classified energy efficiency as a national infrastructure priority. Following this, in 2018, the Scottish government published its Energy Efficient Scotland route map setting out a 20-year programme to improve homes, business and public buildings, which has led to more comprehensively governed and targeted centrally-funded, long-term schemes.

The detailed design of an energy efficiency programme is beyond the scope of this paper. But it is clear that policy will be more successful if it learns the lessons from past schemes, both positive and negative.

Principles for designing an energy-efficiency scheme

It is beyond the scope of this project to design various energy-efficiency schemes in full. Our analysis does however provide a high-level cost-benefit guide to answering some of the questions for policymakers posed above.

The findings presented below are based on analysis of the household, physical, and fuel poverty datasets from the English Housing Survey 2019/20. More details on the cost and energy savings assumptions are provided in the annex.

Speed vs scale

Before considering who should benefit from publicly-funded energy-efficiency upgrades, policymakers should consider whether a government scheme should aim to achieve *speed* or *scale*. By this we mean whether a scheme prioritises key individual measures that can deliver notable energy savings, such as loft and wall insulation, or a "whole house" approach to improving efficiency. A 'whole house' approach considers the house as an energy system with interdependent parts that complement each other. As such, this approach offers a comprehensive plan for home improvements including insulation, heating, ventilation while taking account of wider factors like the local climate.

There are various benefits and limitations to either approach. Where capacity and funding are limited, an approach which prioritises individual measures such as insulating lofts and walls could deliver quicker measures across more homes, and therefore spreading the benefits of reduced energy bills across more households compared to a 'whole-house' approach. For some measures, this could mean a quicker payback period which may be considered a better use of public funds. However, there are potential disadvantages to

this approach, such as a 'patchwork' effect that may give rise to installation issues and/or limit the overall potential for energy savings.

In comparison, a 'whole house' approach requires designing a comprehensive improvement plan which would increase the overall labour and capital costs of measures. However, it is expected that overall energy savings would also be greater than individual measures. Currently, the UK government's approach to the latest iteration of the ECO energy efficiency scheme favours a 'whole house' approach. This is in line with PAS 2035 quality standards, based on the German standard of *Passivhaus*. Although, evidence suggests that has not always been the case – in evidence to the Environmental Audit Committee in 2020, the UK Green Building council highlighted that ECO funding was not compatible with the delivery of whole-house retrofits as it tended to deliver single energy efficiency measures only.[lii] In light of the recent crisis, there have been many calls for the government to invest in energy-efficiency schemes – however, the climate change think tank E3G warns that there is a risk that companies may choose to deliver low-cost measures as opposed to a 'whole house' approach which could 'cannibalise' the existing ECO scheme.

In order to provide a comparative cost-benefit guide to this trade-off, we analyse the capital costs and energy savings of a 'whole house' approach by a proxy measure-upgrading all homes currently rated EPC D or below to EPC C. We have already noted the limitations of EPCs in this report, but in lieu of more accurate data, EPCs provide the best picture of whole-house energy efficiency at a national level. The cost-benefit data for a 'whole house' approach is based on DLUHC average estimates for upgrading a home to EPC C from the English Housing Survey. Our analysis reflects the varied costs between different EPC bands D, E and F/G provided by DLUHC. Due to the availability of data, the cost-benefit of individual measures is based on Energy Saving Trust estimates by property type - our analysis also reflects these varied costs. We recognise that in reality, costs also vary by a number of different factors per property. As noted, the analysis below is intended to provide a guide for an order of magnitude.

We find that on average, upgrading all 14.1 million homes rated EPC D or below to EPC C would cost in the region of £119 billion and deliver total annual energy bill savings of £10.2 billion. This is based on an average annual energy bill of £3,000 and is shown in Table 7. This equates to an average payback period of 12 years. In comparison, the costs and savings from an individual measures-based approach varies according to the measure concerned. Insulating all 8.5 million lofts, 5.1 million cavity walls, and 6.2 million solid walls in England could deliver total energy bill savings of £7 billion for a capital cost investment of £50.3 billion – as shown in Table 8. This would reduce the payback period to 7 years.

Table 7: Capital costs and energy savings from upgrading all homes rated EPC D or below to EPC C, England

	Homes requiring improvements	Average cost per household	Aggregate capital cost	Average annual energy bill savings per household	Aggregate annual energy bill savings	Simple payback years
'Whole house' upgrade to EPC C	14.1 million	£8,456	£119bn	£721	£10.2bn	12 years

Source: SMF analysis of English Housing Survey 2019/20. Cost data based on English Housing Survey. Energy savings calculated based on an average annual energy bill of £3,000. 2021 prices.

Table 8: Capital costs and energy savings from key individual energy-efficiency measures, England

	Homes requiring improvements	Average cost per household	Aggregate capital cost	Average annual energy bill savings per household	Aggregate annual energy bill savings	Simple payback years
Individual measures						
All lofts	8.5 million	£410	£3.5bn	£100	£845 million	4 years
All cavity walls	5.1 million	£864	£4.4bn	£459	£2.3bn	2 years
All solid walls	6.2 million	£6,890	£42.4bn	£621	£3.4bn	11 years
Total estimate of households requiring at least one measure	**14.7 million**	**£3,428**	**£50.3bn**	**£477**	**£7bn**	**7 years**

Source: SMF analysis of English Housing Survey 2019/20. Lofts with insulation below 150mm are considered requiring insulation installed or upgraded, as estimated in the English Housing Survey. Cost data based on Energy Savings Trust, 2021 and BEIS, 2017. 2021 prices. Energy savings calculated based on an average annual energy bill of £3,000.

Overall, these costs are significant, particularly in comparison to other estimates made by the CCC and BEIS. In its Sixth Carbon Budget, the CCC estimates that its Balanced Net Zero Pathway requires £55 billion of investment in home energy-efficiency to 2050. According to the CCC, this corresponds with a similar level of ambition as the Government's target that all homes should reach EPC C by 2035, "where practical, cost-effective and affordable". BEIS' own analysis in 2019 estimated that reaching this target would cost £35-65 billion. These figures refer to UK homes.

In comparison, DLUC estimates the overall cost to upgrade all *English* homes to EPC C would be £93-95 billion in 2020; compared to our estimate of £119 billion.

Data variations explained

Clearly, there is significant variance between cost estimates here. This is based on the notion of what is considered easy or beneficial to treat. It is widely recognised that in some instances, such as insulating older solid wall properties, there are significant costs and practical challenges that might mean it is not worthwhile doing the work.

The BEIS analysis essentially removes homes such as these, and thus produces a lower estimate for overall costs. The BEIS approach removes homes based on key assumptions and 'thresholds' for what is deemed practical, cost-effective, and affordable. Homes are kept in the analysis where a package of measures would deliver below £100-£200t/CO2e in terms of investment to carbon savings ratio. There is an affordability cap of £5,000+2-4% of a property's value. And 25-75% of uninsulated solid wall properties are excluded. Similarly, the CCC's analysis removes over 5.5 million homes, which includes over half of solid wall properties and 1 million houses in conservation areas. Analysis by DLUC of the English Housing Survey finds that 26% of uninsulated or partially insulated lofts, 26% of uninsulated cavity walls, and 85% of uninsulated solid walls would be deemed 'hard to treat'.

At an individual home level, the CCC estimates an average cost of below £10,000 for efficiency. Within that average, 63% of homes need to spend no more than £1,000. This contrasts with DLUC's analysis of the English Housing Survey, which estimates that just 5% of homes could be upgraded for less than £1,000. In this view, nearly half (47%) of homes would cost between £5-10,000.[lix] This appears to reflect the fact that the EHS has minimal exclusions in their analysis: only around 3% of properties rated EPC D or below are excluded. Due to varying criteria of 'eligible' households included in different estimates, our analysis is based on not removing any properties from consideration.

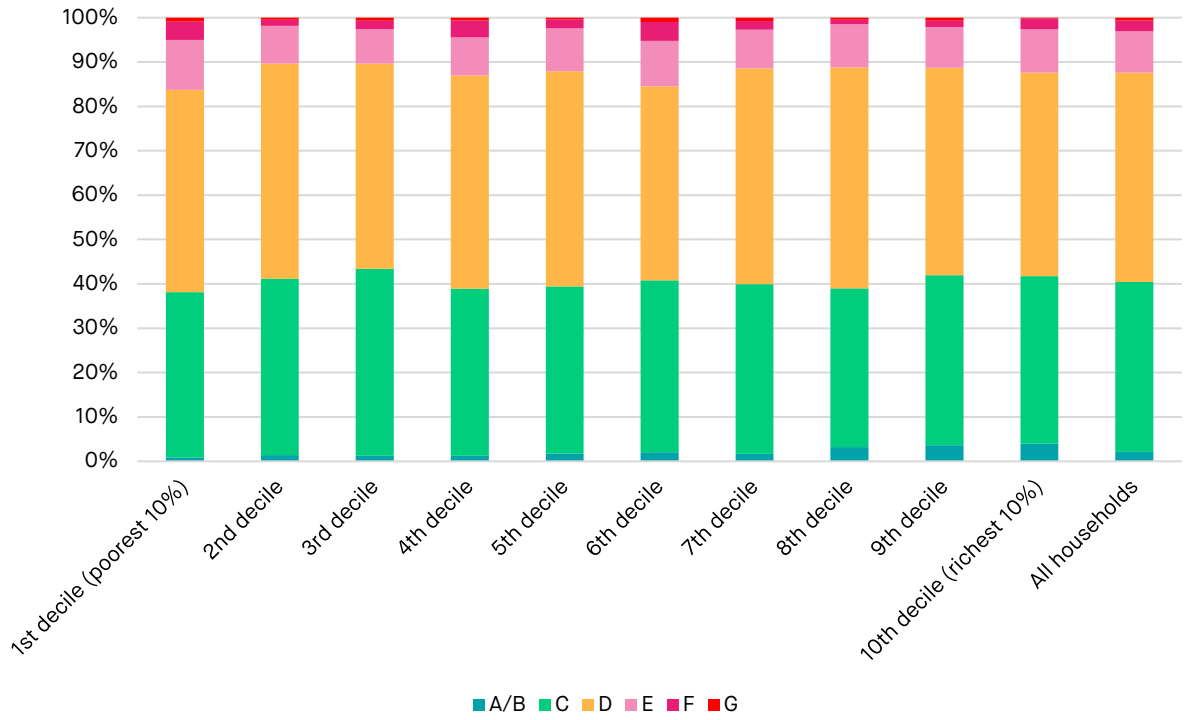
Whether policy should prioritise 'whole-house' efficiency or promote individual measures is not a question on which our stakeholder engagement process revealed any clear consensus. Our primary conclusion here is that debate among policymakers about delivering national energy efficiency policy is not yet sufficiently mature to allow a full consideration of that question. Such an informed debate is therefore urgently needed.

Targeting energy efficiency policy

As with price support schemes, policymakers must also answer the question of who should benefit from energy efficiency policy. Current policy is largely focused on fuel poor households and social renters through ECO and the Social Housing Decarbonisation Fund, a UK government plan to spend up to £3.8 billion over ten years upgrading the efficiency of social housing. However, there is appetite among the public and wider industry stakeholders for policymakers to also address low insulation levels and cost barriers to action in the 'able to pay' market. What level of policy support is required in this market is a question that remains to be answered. More details on public attitudes on energy-efficiency are explored later in this chapter.

The consensus from our stakeholder engagement was that when considering energy-efficiency policy, targeted support would require a broader definition than would potentially be applied to price support – help with efficiency should be given to people outside the group of people on means-tested benefits or the lowest incomes. This is in part because the relationship between efficiency and income is not straightforward. There are about as many homes rated EPC D and below in the poorest decile (1.5 million) as there are in the richest (1.4 million) – as shown in Figure 17.[lx] So some people who are better off could well be living in cold and draughty homes where the cost of efficiency upgrades exceed their means. The upfront costs of those improvements can be significant, as highlighted above, meaning that even households in middle to higher income deciles may still face affordability issues.

Figure 17: EPC rating by income decile, England



Source: SMF analysis of English Housing Survey 2019/20

In our consultation process, stakeholders were in agreement that where there are trade-offs to be made, especially in a time of constrained public spending, efficiency-promoting schemes should prioritise in-need households who lack the means to upgrade, in preference to helping 'able to pay' households that could afford to meet upfront costs privately but may be reluctant to do so. There was a concern that a policy that significantly benefits the latter group could i) potentially hamper the development of a sustainable 'able to pay' market and ii) divert resources away from in-need households. Here, however, it should be noted that stakeholders offered little clarity on how to define those in need of help with energy efficiency in such a way as to maximise uptake and minimise wasteful public spending. Similarly, the concept of 'able to pay' is ill-defined. Often it is used to refer to owner-occupiers although, as highlighted by the Committee on Fuel Poverty, this group also comprises the highest proportion of fuel poor households making it an unhelpful generalisation.

Before answering *who* should benefit from energy-efficiency policy, policymakers would need to outline *why* public funding should be committed to it. This may seem needless – to many in this field, the benefits of insulating homes are so well-evidenced that they barely need to be rehearsed. As a result, energy-efficiency policy can be seen as a panacea for reducing fuel poverty, energy demand, carbon emissions, and the negative health implications of cold, damp homes – all of which are in the interest of policymakers and the taxpayer. While these co-benefits can be true in aggregate and striving to achieve them is a worthy aim, designing a targeted energy-efficiency scheme in which only a proportion of households can benefit means accepting trade-offs and hard choices where all these benefits do not align. As such, policymakers will have to clarify which outcome(s) are the government's priority.

During a time when energy costs are high and the government is subsidising the cost of every unit consumed, mitigating very high energy bills and reducing consumption are two key priorities for policymakers. However, they are not always mutually achievable. As a consequence, there could be tensions in designing a scheme that can deliver on both. For example, insulating the home of a fuel-poor household could make a material difference to their living standards but may not deliver significant demand reduction (and thus carbon savings) because residents may not reduce energy consumption, instead heating their home to a higher temperature than previously. Indeed, if affordability concerns (heightened by the home's wasteful energy inefficiency) had previously led them to ration their energy use, increased efficiency could theoretically lead some of the newly-insulated to *increase* their use. So a policy that addresses fuel poverty might not reduce energy demand.

By comparison, home improvements that deliver notable demand reduction or carbon savings could well reduce usage for properties that are bigger in size or households with high energy needs. It is plausible that this would include households on higher incomes that are considered part of the 'able to pay' market. Helping insulate a large and affluent but energy-inefficient home might reduce energy demand, but it would do little or nothing to address fuel poverty.

Below, we consider the cost-benefit of these two conceptual approaches for targeting energy-efficiency support. This analysis compares the fiscal cost of policy interventions and the savings that then accrue to households in the form of lower energy bills. It should be noted that this analysis does not take account of the savings that would consequently accrue to HM Treasury in the form of reduced financial support for high energy bills. As such, our "payback" figures are a significant *overestimate* of the time it would take for these policies to deliver savings (to either households or taxpayers) greater than the initial Exchequer cost.

First, if policymakers wish to prioritise addressing **fuel poverty**, a scheme could be designed to target fuel poor households in line with the government's own low income low energy-efficiency (LILEE) measure:

- We estimate that under a 'whole house' approach to a fuel poverty energy efficiency scheme, 3.2 million households would be considered in-need. The capital cost of upgrading all of these homes would be around £27 billion but could deliver £3 billion in annual energy savings, meaning a payback period of 12 years.
- A poverty-first approach which focuses on individual measures would vary in the cost and energy savings based on which were chosen. Insulating the lofts of the fuel-poor would cost £576 million, delivering savings to households that would match that cost in three years. Filling the solid walls of the fuel poor would cost almost £8.7 billion and take 11 years to realise matching savings.

Second, if policymakers wish to prioritise reducing **overall energy consumption** as much as possible, a scheme could be designed to target households where potential energy savings would be considered "above average". As our modelling shows, this approach has higher capital costs as savings are likely to be greatest in homes that need the most improvement:

- We estimate that an energy efficiency policy that focussed on demand reduction and took a whole-house approach would target 3.1 million homes that have potential to deliver above-average energy savings. Despite covering a similar number of homes as the poverty-focused approach, this policy would cost much more: £46 billion. Annual savings would also be higher, at £5.6 billon, meaning a shorter payback period: 8 years compared to 12 for a poverty-first policy.
- A demand-first policy using an individual measures approach might be the best route to releasing savings equal to costs. Insulating the lofts of the homes with scope for above-average savings would cost £494 million but deliver annual savings of £466 million, almost paying for itself in a single year. Similarly, filling the solid walls of the homes with the greatest scope for savings would cost over £17 billion and take 7 years to realise matching savings.

Table 9: Capital costs and energy savings from upgrading all homes rated EPC D or below to EPC C, by targeted groups, England

	Homes requiring improvements	Average cost per household	Aggregate capital cost	Average annual energy bill savings per household	Aggregate annual energy bill savings	Simple payback years
Whole house upgrade to EPC C	14.1 million	£8,456	£119bn	£721	£10.2bn	12 years
Fuel poor households	3.2 million	£8,585	£27.3bn	£725	£2.3bn	12 years
Households with the potential for above average energy savings	3.1 million	£14,630	£45.6n	£1,799	£5.6bn	8 years

Source: SMF analysis of English Housing Survey 2019/20. Fuel poor households are estimated based on the English Housing Survey LILEE designation. "Above average energy savings" = above £721/a year.

Table 10: Capital costs and energy savings from key individual energy-efficiency measures, by targeted groups, England

	Homes requiring improvements	Average cost per household	Aggregate capital cost	Average annual energy bill savings per household	Aggregate annual energy bill savings	Simple payback years
All lofts	**8.5 million**	**£410**	**£3.5bn**	**£100**	**£845 million**	**4 years**
Fuel poor households	1.4 million	£404	£576 million	£119	£170 million	3 years
Households with the potential for above average energy savings	1 million	£486	£494 million	£460	£466 million	1 year
All cavity walls	**5.1 million**	**£864**	**£4.4bn**	**£459**	**£2.3bn**	**2 years**
Fuel poor households	756,000	£774	£585 million	£442	£334 million	2 years
Households with the potential for above average energy savings	1.7 million	£1,390	£2.4bn	£859	£1.5bn	2 years
All solid walls	**6.2 million**	**£6,890**	**£42.4bn**	**£621**	**£3.4bn**	**11 years**
Fuel poor households	1.3 million	£6,652	£8.7bn	£587	£764 million	11 years
Households with the potential for above average energy savings	1.9 million	£8,824	£16.7bn	£1,209	£2.3bn	7 years

Source: SMF analysis of English Housing Survey 2019/20. Note: Lofts with insulation below 150mm are considered requiring insulation installed or upgraded, as estimated in the EHS. Fuel poor households are estimated based on the EHS LILEE designation. "Above average energy savings" = above £100/year for lofts; above £459/year for cavity walls; and above £621/year for solid walls.

Policy choice: target fuel poverty before demand reduction

Drawing on feedback from stakeholders consulted since the publication of our interim report, we conclude that **energy efficiency policy should prioritise fuel poverty over aggregate demand reduction.** This is not to underplay the importance of demand reduction as a policy goal: reducing total UK household consumption of energy is clearly an important objective, in context of both climate policy and geopolitics. But we note that there are other policy tools that can and should be used to reduce the consumption of fossil-fuel generated energy. We also note that even if energy efficiency policy prioritises poverty over demand reduction, it still delivers demand reduction, albeit potentially to a lesser degree. And we are mindful of the need to keep public consent for policy. As noted, a demand-first approach to energy efficiency raises the prospect of public money being spent on members of the able-to-pay group who happen to live in high-consumption, low-efficiency homes. Spending public money insulating large homes occupied by wealthier

people is a bad way to retain public support for energy efficiency policy. Finally and most importantly, we argue that social justice demands that public resources are used where possible to improve the conditions of people in greatest need. In this context, that means using energy efficiency to reduce the bills – and increase the welfare – of people in fuel poverty.

How to do this? Here, our recommendations on a better targeting and data-matching system for energy bill support become relevant.

A poverty-first approach to efficiency might be broadly consistent with an **enhanced ECO**. The latest iteration of this scheme (ECO4) is set to deliver upgrades for 450,000 households over the period 2022-26. Our research finds 3.2 million fuel poor households have EPC rated D or below, meaning there is scope for more households to get efficiency help through an expanded ECO or a scheme like it. Is such an expansion feasible? Research from Gemserv, a services consultancy, found that the energy-efficiency supply chain is operating with some spare capacity and there is strong confidence that capacity could double over the next two years if there was more funding and therefore demand.

Rather than facing supply-side obstacles, a key constraint on ECO-style schemes has been on the demand side, arising from the challenge of identifying eligible households. Our consultation exercise suggests that the logistical and financial challenges of searching for and finding potential ECO recipients are a major limiting factor. Several energy suppliers describe hiring staff to "walk the streets knocking on doors" in hopes of finding qualifying households.

The improved data-matching mechanism we recommend in this report could significantly reduce the challenge of searching for the eligible. By better identifying high-use, low-income households, a poverty-first approach to energy efficiency support becomes cheaper and easier to deliver. Suppliers searching for potential ECO recipients could start from a pool of households identified by the new targeting mechanism. Further matching households in that pool to the VOA "property characteristic" data currently used in the WFD eligibility exercise would only improve the targeting of those who should get help with energy efficiency.

This improved targeting would make it realistic to set significantly higher ambitions for ECO schemes' impact on fuel poverty. Reaching entire populations described in our modelling above would become feasible.

Our primary recommendation on energy efficiency is therefore that the ECO scheme be further enhanced with significantly higher and wider ambitions. Such ambitions could encompass the aim of carrying out loft and cavity wall insulation improvements for all fuel-poor households. We estimate this would carry an aggregate capital cost of £1.1 billion and deliver average annual bill savings of more than £550 for a fuel-poor household where both loft and wall improvement is carried out.

This, in turn, would reduce the number of fuel-poor households in need of energy bill support via the policy modelled in the preceding chapter.

Spending £1.1 billion on this ambition could, theoretically, double the in-year size of ECO, to which the government has committed annual spending of around £1 billion a year for the five years from 2022. But we cannot at this stage say with confidence what the net additional cost of meeting our ambition would be, since we accept that some of the work we recommend might covered under existing ECO operations. We also suggest that the capital costs of meeting our recommendation may be lower than our modelled £1.1 billion if policymakers implement the improved system of targeting outlined earlier in this report. Better identification of households eligible for help could significantly reduce industry costs of delivering ECO, since suppliers would no longer be obliged, in the words of one, to "walk the streets" looking for potential recipients of support.

We do not make a firm recommendation about the timetable for spending our implied £1.1 billion and meeting this increased ambition for this "Enhanced ECO", since we accept that policymakers will want to consider carefully decisions that will add to on-bill levies. But we believe that this ambition should be met within the lifetime of an ordinary Parliament. Over a five-year period, our recommendation would mean spending around £220 million more each year on ECO, a 22% increase in current budgeted expenditure.

Arguably, this additional spending has already been promised by the Conservative Government of the day. The 2019 Conservative manifesto promised to "help lower energy bills by investing £9.2 billion in the energy efficiency of homes, schools and hospitals." While that promise is vague, several analyses suggest that it has not yet been met, meaning implementing our recommendation on enhancing ECO could be seen as fulfilling that manifesto promise.

We do not suggest that this ambition should be the ceiling for energy efficiency policy during this decade. There is a clearly a compelling case for greater efficiency still, since that would reduce both UK energy demand and carbon emissions. But within the remit of this project – develop policy recommendations that can be implemented in 2024 and which can command broad political stakeholder support –we believe that our Enhanced ECO ambition is appropriate and deliverable.

ECO for the "able to pay"

Turning to that "able to pay" group, in November 2022, the Government announced a consultation on an Eco Plus scheme. The proposed policy draws heavily on a proposal from Energy UK. The proposal is aimed at the "able to pay" group, but loosely targeted at those of lesser means: only homes in council tax bands A-D will be eligible, though as noted council tax banding can be a poor proxy for income. Homes must be EPC D-rated or below. ECO+ would be voluntary meaning households must put themselves forward to suppliers, who could then claim public money to reduce costs. Although Energy UK advocated a five-year scheme, the Government consulted on a scheme to run for just three years to March 2026.[lxiv] **We are concerned that this timetable is not long enough for the scheme to become familiar to households and to encourage industry participation.**

There remain questions about the level of customer contributions that might be required for this scheme, but Energy UK notes that these contributions are necessary to increase the impact and reach of publicly-funded subsidies. There is clearly a debate for policymakers to have about the right level of contribution that "able to pay" households should make to efficiency measures, compared to the public subsidy. We note that in heat pump market, government has provided £5,000 grants for air source heat pumps, around 50% of the upfront cost.

Public information

Given the evidence that low levels of consumer information and engagement with the detail of energy efficiency (for instance, our poll findings about those who don't believe they need insulation) there is scope for much better advice and guidance to engage the public and help them navigate what can be a highly complex marketplace and policy environment. The £18 million public information campaign on reducing energy use that was launched alongside Eco Plus is welcome, but leaves scope to do more.

Scotland provides what could be an example to other parts of the UK. **Home Energy Scotland (HES)** is a national energy-efficiency advice service managed by the Energy Saving Trust. It offers a "one stop shop" for information, bespoke advice, access to schemes and even 'handholding support' for installing more complex measures. Staff can act as a referrers to government financing programmes. Consumer protection is also built in whereby households cannot access much financing support without talking to HES first. The network helps more than 90,000 customers a year in Scotland and the total lifetime energy bill savings from the network are estimated to be well over £1bn since 2008.

There is currently no service available in England, but the Environmental Audit Committee has recommended a similar service as HES for England.

Again, timeframes are important here. HES exists as part of the Scottish Government's Energy Efficient Scotland route map, which has a timetable stretching over 20 years.

Public attitudes to energy efficiency

Public information work is clearly needed, because significant numbers of households are not convinced of the need for action on efficiency. A surprising 54% of homeowners do not believe they need (more) insulation. This is made up of 41% who think they have already had all the insulation measures they need fitted and 12% who have not had insulation fitted but still don't think they need it.

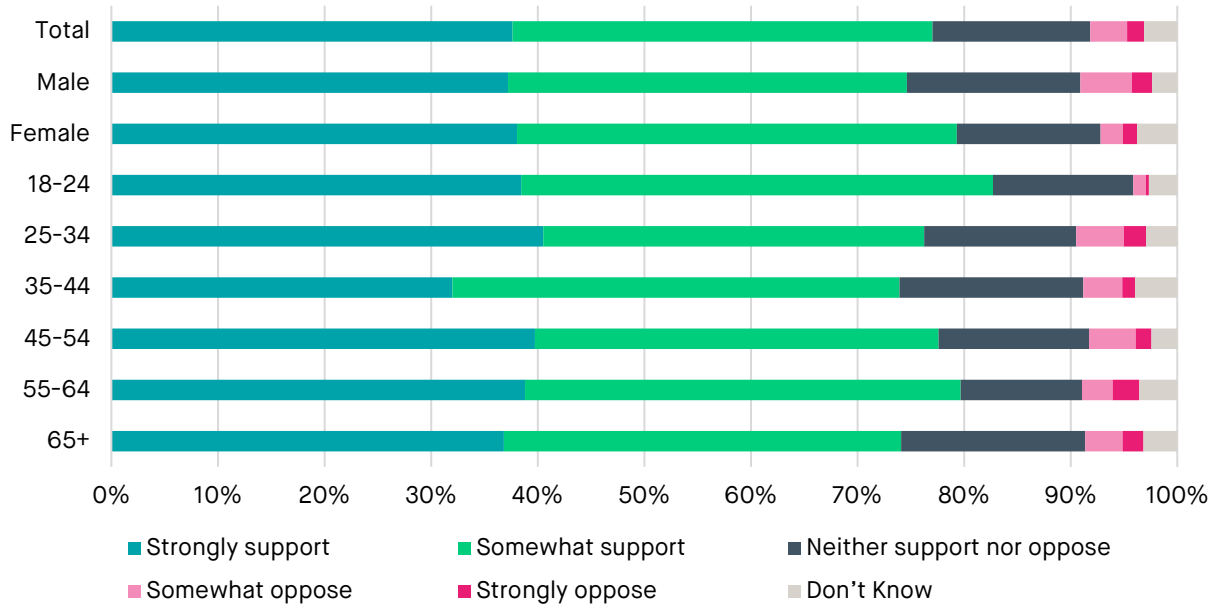
This is concerning given are around 3.8 million homes with easy-to-treat uninsulated wall cavities, around 5.7 million homes with easy-to-treat uninsulated (or under-insulated) lofts, and 7.7 million uninsulated solid wall properties in Great Britain.

Raising awareness of the awareness of energy efficiency may therefore be a key way to increase uptake. In our polling 67% said they had read at least some advice on how to cut their energy consumption over the past few months. Female respondents (73%) were more likely to have read such advice than male respondents (61%).

Asked whether this should be the responsibility of Governments, 64% said it was the Government's responsibility to provide *information* to households on how to reduce their energy consumption in order to help them make savings and alleviate pressures on our energy system. By contrast, 28% said it is not the Government's place to tell people how they should behave, and people should consult other sources if they want advice on how to reduce their energy consumption. Younger respondents were more likely to see a responsibility for government.

In principle, the public are very supportive of the idea that there should be a government energy efficiency scheme. Across all adults 77% they were supportive compared to just 5% who were opposed. Indeed there were no statistically significant sub-groups in our polling where even 10% of respondents opposed this idea.

Figure 18: Support for a government scheme to insulate poorly insulated homes



Source: Public First survey. Survey question: "Some households face high energy bills because their home is poorly insulated. Some people have called for a government scheme to insulate such homes. To what extent would you support or oppose this idea?"

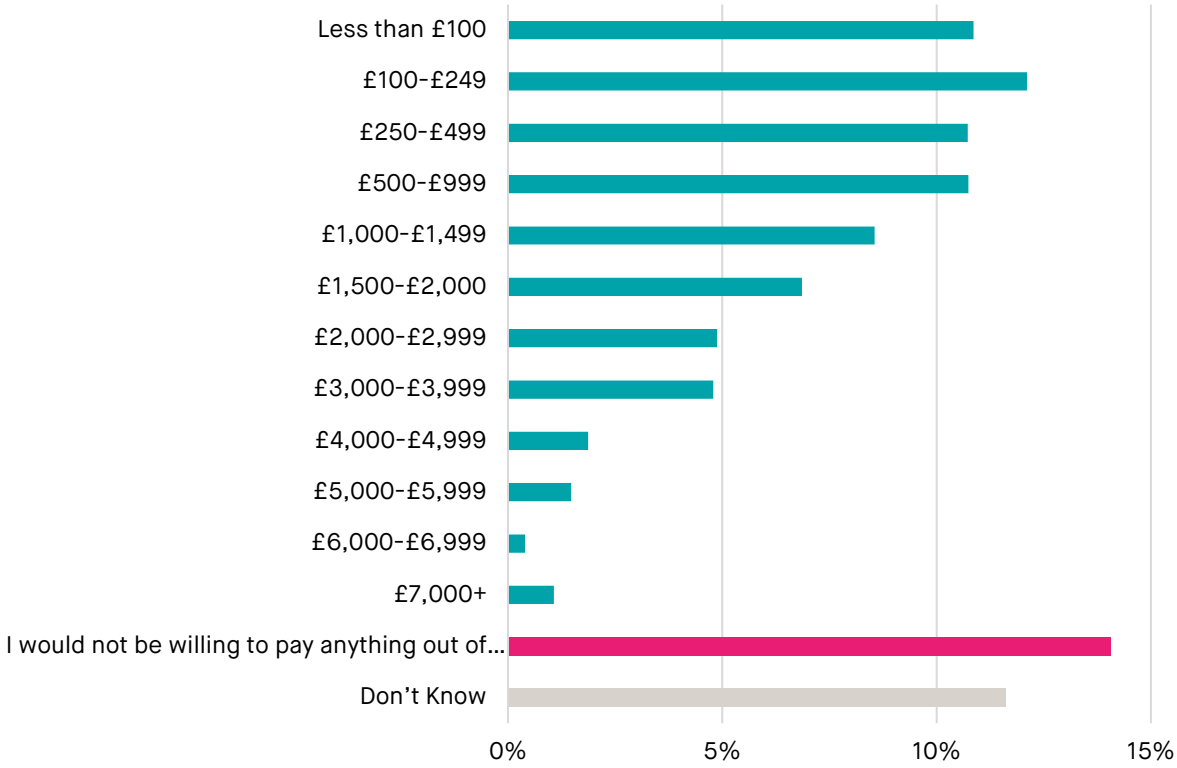
This may of course reflect the 'motherhood and apple pie' nature of the question. In our focus groups we explored whose responsibility participants thought it was to insulate homes. The groups felt that landlords should be responsible for improving the insulation of houses they rented out and that homeowners had responsibility for the fabric of their own home. There was little support (especially in one of the higher-income focus groups) for the government having a role, except where homeowners found themselves on a very low income or where there was a safety concern. One of our lower-income focus groups could see a role for government upgrading homes when presented with the alternative being the need to provide a cash grant every year to help with energy bills made larger by higher usage. Participants would rather public money is used on lagging than subsidising the cost of trying to heat draughty homes.

If the government were to fund a scheme to insulate homes, the public splits on whether this should be targeted at low-income/vulnerable households or be available to everyone equally. 40% of respondents preferred such help to be targeted, while 54% preferred universal availability. There was some political divergence on this, with those intending to vote Conservative at the next election more likely to support a universal approach and those intending to vote Labour split broadly in line with the public as a whole. Only those intending to vote Liberal Democrat were more likely to prefer the targeted approach.

We asked those who identified as homeowners how much of their own money they would be willing to contribute to a government energy efficiency upgrade of their home. In order to give respondents some anchor for their expectations in answering this question, we explained that the average investment required to bring draughty homes up to the Government's target EPC rating of C is around £7,000. We found 14% of homeowners would not be willing to contribute at all and a further 23% would not contribute more than £250. Older homeowners were the most likely to say they were unwilling to contribute.

Only 10% of homeowners said they would be willing to contribute £3,000 or more, or around half the likely bill.

Figure 19: Public willingness to contribute to home energy-efficiency costs



Source: Public First survey. Survey question: "If the Government were to offer you a discount to help you upgrade your home's insulation, how much would you be willing to pay out of your pocket to contribute to this insulation upgrade? As a rough guide, the average investment required to bring draughty homes up to the Government's target EPC rating of C is around £7,000."

Funding

As with the social tariff policy, our expanded ECO approach faces a question of funding: where should the money come from?

It is tempting to apply the same logic that we used for funding the social tariff and argue that energy efficiency should also be funded by taxpayers. After all, if energy efficiency work is just another tool used to address fuel poverty, isn't this also an exercise in social policy that should also be funded by the Exchequer?

But that logic must be balanced against the practicalities of policymaking. The case for a social tariff, and funding on a significantly larger scale, rests on the fact that the status quo has failed and that a new system is needed. The case for whole-system change on energy efficiency is less clear, and indeed we are not calling for that – we recommend the enhancement of a status quo policy, not its replacement. We also note that unlike the social tariff, energy efficiency measures can deliver a residual gain to the owners of properties that are upgraded, since warmer homes are more valuable. (And may become more so in future, if homebuyers pay greater attention to EPC ratings and efficiency when purchasing.)

Given that, we consider it reasonable to argue that our enhanced ECO regime should continue to be funded by billpayers rather than taxpayers.

However, we also recommend that policymakers supporting such funding make greater efforts to win and retain consent for this approach, perhaps by emphasizing the benefits that accrue from greater efficiency – and the costs of failing to deliver that greater efficiency.

Before proceeding with the policies we recommend in this report, policymakers should recalling that the increasing cost of an earlier iteration of the ECO scheme in late 2013 was one cause of David Cameron's "cut the green crap" intervention. Changes made by the coalition government as a result did reduce bills by around £50 (of which £30-35 was related to the ECO scheme). But an analysis by Carbon Brief earlier this year found that the reduced number of energy efficiency measures installed as a result meant that household bills were around £464 million *higher* as a result at the start of 2022. Adjusting this to the reflect more recent energy prices equates to a typical household bill being around £50 more expensive now than had ECO not been cut back.

In our polling we found the public preferred that a government energy efficiency scheme be paid for via taxation (40% support) rather than through energy bills (11%). But a relatively high proportion (29%) said they had no preference between these two funding routes, suggesting that active public engagement around on-bill levies for energy efficiency could make a significant difference to opinions.

APPENDIX 1 – RESEARCH METHODS

This report draws on two opinion polls conducted by Public First during 2022, as well as a series of roundtables with members of the public during the summer of 2022.

The SMF ran a stakeholder engagement programme, holding four roundtable sessions with industry, charity, academic and independent experts on energy policy. Those were followed by another series of roundtables with parliamentarians and other representatives of five major political parties.

In addition to those conversations, the report draws on extensive informal discussions with energy policy stakeholders in several areas, including a number of policymakers who spoke on condition of anonymity.

This report also sets out modelling of the costs and benefits of a range of energy policies, based on analysis of several datasets including the Living Costs and Food Survey from the Office for National Statistics.

This report also sets out modelling of the costs and benefits of a range of energy policies, based on analysis of several datasets including the Living Costs and Food Survey from the Office for National Statistics.

The result of that work was set out in an interim version of this report published in December 2023.

In contrast to our interim report, the modelled estimates of bill support impacts here attempt to account for behavioural change by households in response to price signals. To do this, we have drawn on previous estimates of the price elasticity of demand with respect to gas prices, which capture the extent to which the quantity of gas used by households changes with price movements. These suggest an average short-run price elasticity of demand of -0.19 in the UK.

This report has been concerned with the distributional impact of different bill support options. It is highly unlikely that the price sensitivity of consumers is uniform across the income distribution. Evidence on variations by income group is unfortunately sparse, but we have drawn on tentative analysis suggesting those in the lowest income groups may be 25% more price sensitive.

Our interim report began a consultation process where stakeholders of all sorts were invited to share thoughts on our analysis and provisional conclusions, both in writing and in person. We are grateful to all of those who took part in that consultation, including those who cannot be named.

We also held a roundtable discussion with members of the UK energy industry, convened by Energy UK, and presented to a large group of officials at Ofgem.

This consultation exercise heavily informs this final report, though all contents here are solely the responsibility of the SMF and Public First. A list of respondents to our consultation is found in an annex to this report.

Full details of our project, including data tables and other documents can be found at **https://www.smf.co.uk/future-of-energy-bills/**

CONSULTATION RESPONDENTS

Age UK

Christians against Poverty (CAP)

Energy Saving Trust (EST)

End Fuel Poverty Coalition

EON

Fair by Design

Friends of the Earth

Independent Age

Jan Gilbertson, Centre for Regional Economic and Social Research (CRESR)

Professor Emeritus Jonathan Bradshaw, University of York Social Policy Research Unit

National Energy Action (NEA)

New Economics Foundation (NEF)

Octopus Energy

Scope

Scottish Power

So Energy

End Fuel Poverty Coalition (EFPC)

ENDNOTES

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[21] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1115631/whd-eligibility-statement-england-wales-2022.pdf

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