| | |
|---|---|
| **Title: Warm Home Discount: Extension to 2016/17 and 2017/18**<br>**IA No: DECC0210**<br>**RPC Reference No: N/A**<br>**Lead department or agency:**<br>**Department of Energy and Climate Change**<br>**Other departments or agencies: N/A** | **Impact Assessment (IA)**<br>**Date:** 22/06/2016<br>**Stage:** Final<br>**Source of intervention:** Domestic<br>**Type of measure:** Other<br>**Contact for enquiries:** warmhomediscount@decc.gsi.gov.uk |

## 1. Summary: Intervention and Options

**RPC Opinion: N/A**

| Cost of Preferred (or more likely) Option | | | | |
|---|---|---|---|---|
| **Total Net Present Value** | **Business Net Present Value** | **Net cost to business per year** (EANDCB in 2014 prices) | **One-In, Three-Out** | **Business Impact Target Status** |
| 34m | N/A | N/A | Not in scope | N/A |

**What is the problem under consideration? Why is government intervention necessary?**

Fuel Poverty is a long term, structural problem for households on a low income that face high energy costs.

Improving the energy efficiency of the housing stock is typically the best way of supporting the fuel poor, but this is a gradual process. Direct support on energy bills can help bring costs down in the meantime, while also helping offset the distributional impacts of rises in energy prices and the costs of energy and climate change policies funded through energy bills. **The Warm Home Discount scheme began in April 2011 and provides assistance to around 2m low income and vulnerable households in Great Britain annually. In the 2015 Spending Review/Autumn Statement, Government committed to the extension of the scheme until 2020/21. This impact assessment covers only the extension of the scheme to 2016/17 and 2017/18.**

**What are the policy objectives and the intended effects?**

The objective is to extend the current scheme for an additional year. This will ensure continued support to qualifying households and have the following intended effects:

1) Reduce the depth of fuel poverty for a significant number of households by providing direct support on energy bills, while minimising the impact on competition within the energy markets, and ensuring households retain the incentive to actively engage in the energy market; and

2) Alleviate some of the distributional impacts of higher energy bills on low income and vulnerable households.

**What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)**

**Do Nothing** – the current scheme regulations that provide support to 2m households would cease after 2015/16 and it is not anticipated that participating energy companies would take action without Government intervention;

**Policy Option 1 (preferred option)** – extend the Warm Home Discount to 2016/17 and 2017/18, following the same obligation requirements as in 2015/16, which would continue the support over 2m households a year, including rebates for 1.3m lower income pensioners in the Core Group, 800,000 low income families in the Broader Group and up to £30m funding for other initiatives as part of Industry Initiatives.

**Will the policy be reviewed?** It will be reviewed **2017/18**

| | | | | |
|---|---|---|---|---|
| Does implementation go beyond minimum EU requirements? | | N/A | | |
| Are any of these organisations in scope? | **Micro** No | **Small** No | **Medium** No | **Large** Yes |
| What is the $CO_2$ equivalent change in greenhouse gas emissions? (Million tonnes $CO_2$ equivalent) | | **Traded:** 0.29 | **Non-traded:** 0.51 | |

***I have read the Impact Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.***

Signed by the responsible: Amber Rudd Date: 23.06.2016

# 2. Summary: Analysis & Evidence

Policy Option 1

**Description:**

**FULL ECONOMIC ASSESSMENT**

| Price Base Year | PV Base Year | Time Period Years | Net Benefit (Present Value (PV)) (£m) | | |
|---|---|---|---|---|---|
| 2015 | 2016 | 2 | **Low: -3** | **High:** 73 | **Best Estimate: 34** |

| COSTS (£m) | Total Transition (Constant Price) | Years | Average Annual (excl. Transition) (Constant Price) | Total Cost (Present Value) |
|---|---|---|---|---|
| **Low** | 0 | 0 | 515 | **1030** |
| **High** | 0 | | 477 | **955** |
| **Best Estimate** | 0 | | 497 | **994** |

**Description and scale of key monetised costs by 'main affected groups'**

- Equity-weighted value of bill increases as suppliers recoup the benefits paid: PV£812m - £824m. This includes any associated administrative costs to business estimated at PV £15-m - £25m;
- Value of change in fuel use : PV £111m - £138 m;
- Equity-weighted value of change in utility from reduced fuel consumption: PV £5.6m - £6.5m;
- Value of change in greenhouse gas emissions: PV £17m - £52m;
- Value of change in air quality: PV £5.3m - £6m;
- Administrative costs to Government: PV £3-4m

**Other key non-monetised costs by 'main affected groups'**

None identified.

| BENEFITS (£m) | Total Transition (Constant Price) | Years | Average Annual (excl. Transition) (Constant Price) | Total Benefit (Present Value) |
|---|---|---|---|---|
| **Low** | 0 | 0 | 514 | **1,028** |
| **High** | 0 | | 514 | **1,028** |
| **Best Estimate** | 0 | | 514 | **1,028** |

**Description and scale of key monetised benefits by 'main affected groups'**

- Equity-weighted value of reduction in energy bills to recipient households: PV £595m;
- Value of comfort taking: PV £414m
- Value of Industry Initiatives not spent on debt assistance or channelled towards additional rebates for the Broader Group: PV £19m

**Other key non-monetised benefits by 'main affected groups'**

- An estimated reduction of 81,000 households in fuel poverty and a £26m reduction in the aggregate fuel poverty gap in England.
- Improvements in physical and mental health of recipient households as a result of reduction in bills and increased thermal comfort.

Key assumptions/sensitivities/risks — **Discount rate (%)** 3.5

- All administrative costs are passed on to all customers through the standing charge element of their gas and electricity bills;
- Recipients of energy bill rebates increase their demand for heating fuels, whereas those who pay for the rebate but do not receive it reduce their energy demand for heating fuels;
- The responsiveness of household energy demand to changes in energy bills are based on evidence from published non-Government sources – Beatty et al (2011), Jamasb and Meier (2010);
- The income distribution of recipients is based on data from the 2013 Fuel Poverty dataset.

**BUSINESS ASSESSMENT (Option 1)**

| Direct impact on business (Equivalent Annual) £m: | | | Score for Business Impact Target (qualifying provisions only) £m: |
|---|---|---|---|
| **Costs: N/A** | **Benefits: N/A** | **Net: N/A** | **N/A** |

# Contents

This final stage Impact Assessment (IA) updates the consultation stage IA of the Warm Home Discount Scheme, published on 8 April 2016[1].

The previous assessment covered a one year extension of the scheme (2016/17). In line with the accompanying Government Response, this assessment covers a two year extension of the scheme, from 2016/17 to 2017/18. This is a change to the consultation stage IA, which covered only 2016/17.

In addition to this, the current assessment also contains updates to the methodology, including the use of an updated GDP deflator along with changes to the projected recipients of benefits. This changes the NPV assessment of the 2016/17 scheme from that in the consultation stage IA, reducing the central estimate from £19m to £15m. However, as the assessment now covers two rather than a single scheme year, the overall NPV is £34m.

# 1.Introduction

## 1.1 Fuel poverty indicators and targets

1. Fuel Poverty is a devolved matter, with separate indicators, targets and strategies adopted by each nation of the UK.
2. In England, a household is considered to be in fuel poverty if the home has higher than typical energy costs and, were they to spend that amount on energy, they would be left with a residual income below the official poverty line. Households who meet both conditions are referred to as either Low Income High Costs (LIHC) or fuel poor. There are currently just over 2.3m households living in fuel poverty in England.
3. The Government has a statutory target to raise as many English fuel poor homes as is reasonably practicable to energy efficiency Band C by 2030, with milestones of Band E by 2020 and Band D by 2025. In March 2015, The Government published a new fuel poverty strategy, "Cutting the cost of keeping warm: a fuel poverty strategy for England"[2]. The strategy is our roadmap for meeting the target and interim milestones in a way that reflects a number of guiding principles – these include prioritising the worst cases first and to take account of vulnerability.
4. Scotland and Wales use variations of the '10%' indicator, whereby a household is considered fuel poor if they need to spend more than 10% of their net income on energy. The Scottish Government has a statutory duty to eradicate fuel poverty in Scotland, as far as is reasonably practicable, by November 2016. The Scottish Fuel Poverty Statement[3] published in August 2002 and the progress report published in 2015[4], sets out in further detail how this target will be achieved. The Welsh Government has a similar statutory target to eradicate fuel poverty by 2018[5].
5. While approaches to measuring fuel poverty differ across GB, in practice each country needs to prioritise delivery so that finite support is focussed on those households in greatest need – i.e. those with the lowest incomes and who cannot keep warm at reasonable cost, while taking account of vulnerability. As a result, Warm Home Discount can contribute towards the aims of each devolved nation's fuel poverty objectives.

[1] https://www.gov.uk/government/consultations/warm-home-discount-scheme-201617

[2] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/408644/cutting_the_cost_of_keeping_warm.pdf

[3] http://www.gov.scot/Publications/2002/08/15258/9951

[4] http://www.gov.scot/Publications/2015/01/2420

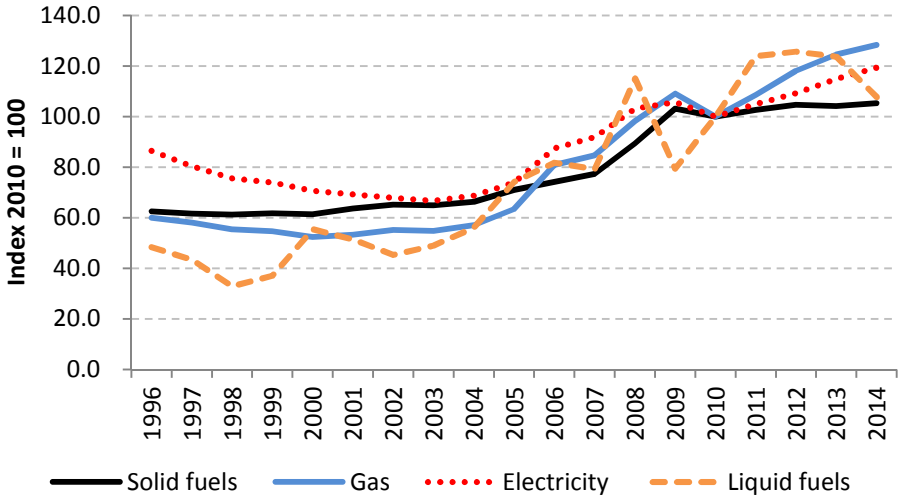
[5] http://gov.wales/topics/environmentcountryside/energy/fuelpoverty/strategy/?lang=en

# 2. Evidence Base

## 2.1 Fuel poverty and distributional effects of energy expenditure for low income households

6. Despite a recent decline, domestic fuel prices have almost doubled over the last ten years (see Figure 1). This rise has typically outstripped earnings growth in recent years, as well as general inflation levels to which many means-tested benefits are indexed[6].

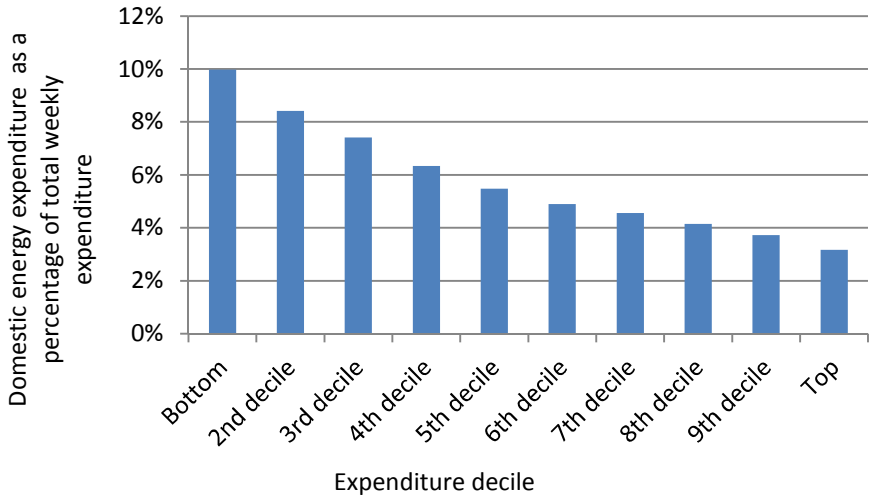
**Figure 1: Fuel price indices in the domestic sector, in real terms 1996-2014**




Source: Quarterly Energy Prices, December 2015[7]

7. The effects of energy costs, particularly at times when prices are rising, are felt most by those with the lowest disposable incomes, for whom spending on energy necessities already accounts for a disproportionately high share of their annual outgoings (see Figure 2).

**Figure 2: Domestic energy expenditure as a percentage of total weekly household expenditure (2014)**




Source: DECC 2015[8]

[6] IFS (2011). Available at: http://www.ifs.org.uk/comms/comm119.pdf

[7] Quarterly Energy Prices (DECC, 2015), available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/487856/QEP_final_Dec_15.pdf

8. The households who are worst affected are those that face the overlapping problem of being on a low income and facing high energy costs, and as a consequence are in fuel poverty. Under the respective indicators of fuel poverty in England, Scotland and Wales, the headline levels of fuel poverty have stabilised in some of the most recent years after over half a decade of a worsening trend.[9]

9. The 2015 Fuel Poverty National Statistics report[10] shows that levels of fuel poverty in Great Britain (according to the respective indicators used[11] in each constituent country) were:

   - 2.35m households in England (around 10.4% of all English households), driving an aggregate fuel poverty gap of £877m and an average fuel poverty gap of £374;
   - Around 940,000 households in Scotland (approximately 39% of all Scottish households); and
   - Around 390,000 households in Wales (approximately 30% of all Welsh households).

## 2.2 Tackling fuel poverty and driving positive distributional outcomes

10. In order to tackle fuel poverty, in addition to a range of initiatives specific to each devolved country, the Government has in place a range of policies across all three drivers of fuel poverty across Great Britain:

    - On **thermal efficiency**: the Affordable Warmth element of the Energy Company Obligation delivers heating and energy efficiency measures alongside other services to eligible households. This policy is estimated to be worth around £360m per year and between January 2013 and September 2015 has supported around 368,000 low income and vulnerable households.
    - On **household income**: in 2015/16, the Winter Fuel Payment will provide pensioners with an additional £200 per household (£300 for households with a member over 80) and the Cold Weather Payment will supplement the income of a subset of targeted benefit recipients by £25 for every period of sufficiently cold temperatures.
    - On **energy prices**: the largest energy suppliers have been obliged to deliver over £1.4bn of direct assistance to low income and vulnerable households between 2011 and 2016 through the Warm Home Discount scheme.

## 2.3 The Warm Home Discount scheme

11. The WHD scheme was introduced in April 2011, succeeding a previous Voluntary Agreement between Government and the largest energy suppliers to provide household level support to reduce energy costs.

12. WHD provides direct energy bill support for many fuel poor households but also reduces the bills of a large number of low income and vulnerable households[12]. This means that the policy both contributes to the Government's fuel poverty objectives and also helps address broader distributional concerns across low income households as a consequence of energy price rises and the impact of energy and climate change policies funded through bills.

13. The scheme currently provides help to around 2m low income and vulnerable households annually in Great Britain. In 2015 Ofgem reported that around 2.2m rebates of £140 were paid, including to 1.4m lower income pensioners and a range of other support to vulnerable households[13].

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[8] For more details see statistical release on "Annual Domestic Energy Bills": https://www.gov.uk/government/statistical-data-sets/annual-domestic-energy-price-statistics

[9] See DECC (2015). *Fuel Poverty Statistics Report*:
https://www.gov.uk/government/statistics/annual-fuel-poverty-statistics-report-2015
Scottish Government Progress towards Fuel Poverty target (2013): http://www.gov.scot/Topics/Built-Environment/Housing/warmhomes/fuelpoverty/Progtowtarg
Welsh Assembly (2013) http://gov.wales/topics/environmentcountryside/energy/fuelpoverty/researchreports/?lang=en

[10] See DECC (2015). *Fuel Poverty Statistics Report*:
https://www.gov.uk/government/statistics/annual-fuel-poverty-statistics-report-2015

[11] The Fuel Poverty definition in England is based on the Low Income High Cost (LIHC) measure. The LIHC measure was introduced after the Hills Review, see Hills, John (2012), Getting the measure of Fuel Poverty, Final Report of the Fuel Poverty Review, LSE, CASE report 72.
The definition in Scotland and Wales is based on the 10% indicator, whereby a household is fuel poor if their energy costs exceed 10% of their income. Throughout this impact assessment, Fuel Poverty in England related to the LIHC definition and to the 10% indicator for Scotland and Wales.

[12] For example in England many of these homes fall into the 'Low Income, Low Costs' category of households. For more information see DECC (2013) https://www.gov.uk/government/consultations/fuel-poverty-changing-the-framework-for-measurement

[13] See Ofgem Warm Home Discount Annual Report, Available at:
https://www.ofgem.gov.uk/sites/default/files/docs/2015/11/whd_annual_report_publish.pdf

14. Currently the WHD scheme has an overall expenditure target for each financial year, which is divided into three main subgroups. The majority of spending each year is on automatic discounts made on the electricity bills of low income pensioners, those who are in receipt of a subset of Pension Credit; this is known as the '**Core Group**'.

15. The level of expenditure on the Core Group each year is determined by the number of qualifying households each year. The remainder is referred to as 'Non-Core' expenditure. Each year the Secretary of State for Energy and Climate Change sets a minimum level of expenditure that participating suppliers are required to undertake on Non-Core activities in that scheme year. The 'Non-Core' activities are broadly divided into two elements:

16. The '**Broader Group**' – participating suppliers provide electricity bill discounts to a variety of low income and vulnerable households, including those of working age, who are deemed to be in or at risk of fuel poverty and are not part of the Core Group. In scheme year 5 (2015/16), the Government introduced a set of standard criteria that all participating energy suppliers had to adopt for their Broader Group schemes. Alongside this, energy suppliers were permitted to have additional criteria, subject to approval by Ofgem. The standard criteria was based on a variation of the Cold Weather Payments and low income working families in receipt of in work benefits and with a child under 5 or disabled child.

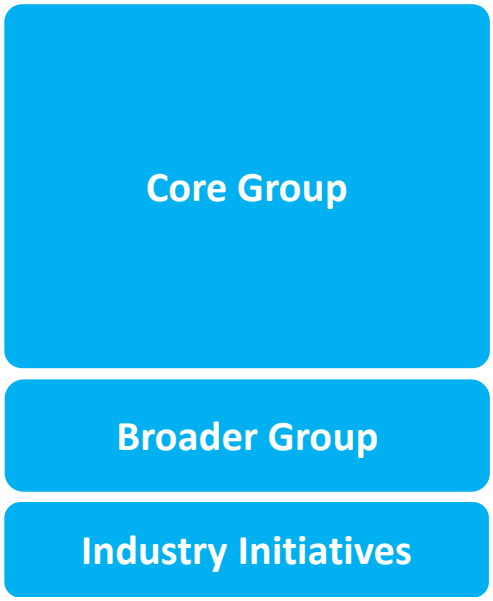


**Figure 3: Composition of Warm Home Discount Spending Envelope**

17. '**Industry Initiatives**' – participating suppliers are permitted to count up to a collective maximum of £30m of expenditure per year on actions to support households in fuel poverty or at risk of fuel poverty. These include, among others, activities such as providing debt write-offs, installing heating and energy efficiency measures, offering energy saving advice or providing rebates to certain households.

18. The legislation covering the current Warm Home Discount scheme comes to an end in March 2016. New Regulations are required for the WHD scheme to continue. Government would need to introduce new regulations if the scheme is to continue. The Government proposes to keep the scheme unchanged for 2016/17 in respect of the eligibility for the Core and Broader Groups. Lower income and vulnerable pensioners would continue to receive the rebate automatically. Low income households will still be able to apply to their suppliers for the Broader Group rebate and if successful the rebate will be awarded on a first come first served basis.

19. For 2017/18 and beyond, the Government is considering whether to make further changes to the scheme to improve delivery. This will include consideration of using new data sharing arrangements, as set out in the Cabinet Office 'Better use of data in government'[14] consultation document that was published in February 2016. This staged approach will also be consistent with likely changes to the scheme in Scotland. Though the WHD is a GB-wide scheme, fuel poverty targets are devolved and, following commencement of the relevant provisions of the Scotland Act 2016, Scottish Ministers will in future have the powers to design and deliver a Warm Home Discount scheme specific to Scotland. Certain aspects of the scheme will remain reserved to the Secretary of State, including the overall spending target. Scottish Ministers may, however, choose to target the scheme in Scotland differently based on their specific objectives.

20. In the 2015 Spending Round[15] the Government committed to extending its continued support for the WHD to 2020-21, with a budget of £320m, rising with inflation (CPI).

## 2.4 Rationale for intervention

21. Helping a household to improve the thermal comfort and efficiency of their dwelling through the installation of heating and energy efficiency measures is usually the most cost-effective way of reducing the cost of maintaining an adequate level of warmth and tackling fuel poverty. By the end of September 2015, approximately 485,000 measures were delivered to low income households through the ECO Affordable Warmth target.

[14] See https://www.gov.uk/government/consultations/better-use-of-data-in-government

[15] HM Treasury, Spending Review and Autumn statement, 2015: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/479749/52229_Blue_Book_PU1865_Web_Accessible.pdf

22. However, upgrading the thermal efficiency of the housing stock is a gradual process and the Hills Fuel Poverty Review (2012) recognised the role of direct bill discounts in providing immediate support at scale in the short term as part of tackling the longer term challenge around fuel poverty[16].

23. The extension of the WHD would ensure continued support to vulnerable households against a background of an upward trend in energy prices over the past 10 years, with the impacts being felt particularly by fuel poor and low income households.

24. The rationale for providing support to vulnerable households via energy bills is founded in equity considerations and supported by the role that direct bill discounts can have as part of a cost-effective mix of interventions to tackle fuel poverty.[17] The equity rationale has two main components:

    - Fuel Poverty: Direct bill support can reduce the depth of fuel poverty (as 'measured by the fuel poverty gap'), remove some households from fuel poverty altogether, improve the thermal comfort and health of assisted households, and help make progress towards the Government's statutory fuel poverty objectives; and;
    - Distributional Equity: Rises in energy prices disproportionately affect low income households because heating is a necessity good, therefore spending on heat, on average, makes up a larger proportion of low income households' expenditure than higher income households. Thus support for low income households to tackle rising energy prices is expected to have significant and positive distributional benefits.

[16] Hills (2012). Getting the measure of Fuel Poverty, Final Report of the Fuel Poverty Review, LSE, CASE report 72, Chapter 7, 144-173

[17] For more detail see DECC (2015). Cutting the cost of keeping warm - A fuel poverty Strategy for England https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/408644/cutting_the_cost_of_keeping_warm.pdf

# 3. Policy Options

## 3.1 Options considered

25. Two policy options have been considered for analysis:

- **Do Nothing**: under the current scheme regulations, support to low income and vulnerable households would stop at the end of the 2015/16 scheme year when the current scheme regulations expire.
- **Policy Option 1**: extend the WHD, rolling forward the policy design of Year 5 of the current scheme, until 2017/18 with minor changes to the Industry Initiatives element of the scheme (namely to allow suppliers to achieve part of their Industry Initiatives spend through contributions to centrally selected and pre-approved initiatives, the introduction on a cap on the amount suppliers are able to spend on debt write-off along with some other minor administrative changes as set out in the Government response). The extension of the scheme would enable many low income and vulnerable households to receive support, while allowing time to design and consult on long term changes to streamline delivery and target better the fuel poor.

## 3.2 Analytical approach

26. The approach taken to analyse the policy options builds on that developed for previous impact assessments of the WHD scheme[18] with the main differences being:

- the use of After Housing Costs (AHC) equivalised income deciles when examining the income distribution of recipient households and analysing the equity impacts of the scheme. This change has been made to be consistent with the approach used under the Low Income High Costs indicator of fuel poverty, which is judged to better reflect disposable household income[19]; and
- the inclusion of monetised benefits associated with Industry Initiatives, which had not been attempted in previous impact assessments. Details of the underlying approach and assumptions are set out in Annexes 1 – 4. The key assumptions in relation to Policy Option 1 are described below:

### 3.2.1 Do Nothing Option

27. To estimate the 'Do Nothing' baseline we assume the following:

- When the current WHD scheme regulations come to an end in March 2016, and in the absence of new regulations, it is unlikely that energy suppliers would continue to provide continued support to currently eligible households.
- Therefore under the 'Do Nothing' option the net benefit of the WHD scheme to society would be lost from April 2016 onwards. This net loss would equal the net benefit of extending the scheme.

### 3.2.2 Policy Option 1

28. To estimate the impact of Policy Option 1 we assume that:

- Participating suppliers are required to provide support up to a combined total of £323m in 2016/17 and £329m in 2017/18 in nominal prices, offering a rebate of £140 to Core and Broader Group eligible households and spending up to £30m under Industry Initiatives.
- Unlike previous impact assessments of the WHD scheme, we do include monetised benefits from activities undertaken by supplies under Industry Initiatives. Based on historical data from the scheme reported by Ofgem we assume that out of the £30m allocated to Industry Initiatives:
    - £10m in 2016/17 and £8m in 2017/18 is spent on debt write-off (see page 10 for more details),

[18] DECC (2011), available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/42595/1308-warm-home-disc-impact-assessment.pdf; DECC (2013), available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/266020/warm_home_discount_ia.pdf ; DECC (2015), available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/398546/Warm_Home_Discount_Final_Stage_Impact_Assessment_FINAL.pdf

[19] See: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/48297/4662-getting-measure-fuel-pov-final-hills-rpt.pdf, chapter 2.

  - £10m in spent on other activities including the provision of heating and energy efficiency measures and energy saving advice; and
  - £10m in 2016/17 and £12m in 2017/18 is channelled to the Broader Group as additional rebates.
- Each supplier incurs some administrative cost to process applications and payments for eligible households.
- Costs of the policy are added to the standing charge element of gas and electricity bills.
- We have assumed that the income distribution of recipients under the scheme mirrors the income distribution of the eligible population (e.g. those recipients under the Core Group have the same income distribution as all households in receipt of the relevant sub-components of Pension Credit).

# 4. Cost-benefit analysis

## 4.1 Methodology

29. This section assesses the costs and benefits of Policy Option 1 using the 'Do Nothing option' as the counterfactual. A summary of the types of costs and benefits considered, both in monetary and non-monetary terms, is set out in Table 4.1 and the methodology for each is discussed below.

**Table 4.1 – Summary of Costs and Benefits**

| | Benefits | Costs |
|---|---|---|
| **Monetised** | - Net equity weighted value of transfers (including the 2/3 of Industry Initiatives that are used either to provide debt write-off or rebates)<br>*Change in bills*<br>*Change in comfort*<br>- 1/3 of Industry Initiatives which is spent on activities other than debt write-off or rebates (not equity weighted) | - Administrative Costs<br>- Impact of changes in energy consumption, greenhouse gas emissions and air quality<br>- Costs of Industry Initiatives |
| **Non-monetised** | - Fuel Poverty Impacts<br>- Health Impacts | - Nil |

### 4.1.1 Impact on households

30. The policy will be delivered by energy suppliers in proportion to their market share of domestic customer accounts[20]. Consequently, we expect that the cost of the policy will be passed onto domestic gas and electricity bill payers. This will have an impact on household disposable income and, in turn, influence household demand for energy from which a number of societal costs and benefits will stem.

31. For the purposes of the analysis, we distinguish between two sets of households, *bill payers*, who incur the costs of the policy but do not receive the rebate and *rebate recipients*, who benefit from the policy. We discuss the impact on each household type in turn.

***Rebate recipients***

32. Rebate recipients are those households that meet Core or Broader Group eligibility criteria, or receive support under Industry Initiatives. However, the number of households that benefit in each group is based on a number of assumptions:

- Core Group: The size of the Core Group is determined using the latest Pension Credit forecasts as published by DWP for the years 2016/17 and 2017/18 and the latest historical data on the success rate[21] of data matching between suppliers' and DWP' records. Households that meet the Core Group criteria automatically receive the rebate, which in turn determines the size of non-core spending. **We have estimated Core Group nominal expenditure of approximately £181m to support 1.3m households for 2016/17, and £172m supporting 1.2m households in 2017/18.**
- Broader Group: Households eligible under the Broader Group do not receive the rebate automatically and suppliers are required to seek out these households in order to provide them with assistance through a rebate. With expenditure on Industry Initiatives assumed to be at the maximum level of £30m, **we estimate Broader Group nominal expenditure of approximately £112m to support 800,000 households for 2016/17, and £126m supporting 900,000 households for 2017/18**.

[20] Ofgem calculate the market share of each supplier based on the number of domestic customer accounts that suppliers holds on the 31st December of each operational year of the scheme.

[21] The success rate of the data matching process refers to a technical match rate and a sweep up rate. The technical match rate refers to the automatic data match (assumed to be 81%); the sweep up rate (assumed to be 25%) refers to the number of successful matches after responses received to DWP letters.

As households eligible under the Broader Group are part of the non-core obligation, we assume that the rebate is provided to them on a first come, first served basis. Suppliers must adopt the standard criteria, which remain unchanged, but can supplement this with their own criteria which will remain unchanged from the 2015/16 scheme[22]. Annex 5 provides more information on the Broader Group eligibility criteria and how it was modelled in our analysis.

- Industry Initiatives: Participating suppliers are permitted to count up to a collective maximum of £30m of expenditure per year on actions to support households in fuel poverty or at risk of fuel poverty. These include a varied set of activities such as providing debt write-off, installing heating and energy efficiency measures, offering energy saving advice or providing rebates to certain households (e.g. park homes).

  However, despite having a £30m budget, historically there has been a £10m underspend on Industry Initiatives that has been channelled to additional rebates for the Broader Group (this is at suppliers' discretion). We assume this level of underspend will continue in 2016/17 and 2017/18.

  Out of the £20m spent on Industry Initiatives, a large share (72% in 2014/15) has traditionally been spent on debt write-off. To incentivise innovation and more varied range of uses of the Industrial Initiatives funds, the Government is proposing a 50% cap on the amount spent on debt write-off. Based on historic data we assume that the cap will be fully reached, which would bring the expected spend on debt write-off to £10m for 2016/17 and £8m for 2017/18. The remaining amount would be spent on activities such as offering energy saving advice, installing heating and energy efficiency measures, referrals, etc.

  Therefore, we assume that around £20m out of the £30m budget would be spent either on debt write-off or rebates in 2016/17 and 2017/18. We assume that debt write-off has similar effects as receiving a rebate, in that it reduces households' energy costs and increases their disposable income. Given this, we have modelled this impact as additional household rebates.

  Finally, we also assume that the group of households benefiting from these rebates and debt write-off (as part of £30m Industry Initiatives' budget) share similar income characteristics as those in the Broader Group (which incorporates a wide range of low income and vulnerable households). Therefore, when referring to rebates for the Broader Group hereafter these rebates will include the additional £20m spent on rebates or debt write-off coming from Industry Initiatives.

***Energy demand***

33. Households' energy demand response to the rebate will depend on whether they receive the rebate (rebate recipients) or they fund the rebate without receiving it (bill payers).

34. We have assumed that rebate recipients will spend 41% of their rebate on increased energy use for higher level of thermal comfort in their homes. This assumption is based on research for Winter Fuel Payments which showed that labelled transfers (e.g. the label "*Winter Fuel* Payment") led to a higher proportion of the transfer being spent on fuel use than would typically be expected for a non-labelled transfer[23]. As the WHD rebate is delivered directly on the energy bill and is also labelled as "Warm Home Discount", we assume that the rebate encourages consumers to recycle the rebate back in to energy consumption. We assume this response to be uniform across all recipient households. DECC has commissioned further research into the 'labelling effect' as part of the evaluation of the WHD scheme, which will be published later in 2016.

***Increase in income***

35. The rebate can be seen as increasing recipients' income. However, we assume that at least part of the rebate will be used towards energy consumption (discussed above). Therefore, only a portion of the rebate (about 59%) is counted as additional income. This monetary transfer (from bill payers to recipients) is adjusted to reflect that households in different income decile groups place a different value on this additional income gained. This adjustment is called 'equity weighting' and is in line with Green Book methodology for policy appraisal[24].

36. As support through energy bills is generally targeted at a subset of lower income households, the transfers would have a positive net equity value to society because lower income households place a greater value on an extra £1 of income compared to better-off households (i.e. they have a greater

[22] Details of the guided criteria can be found in: Ofgem (2015), *Warm Home Discount: Guidance for Licensed Electricity Suppliers and Licensed Gas Suppliers,* Section 4, https://www.ofgem.gov.uk/sites/default/files/docs/2015/03/whd_supplier_guidance_sy5_0.pdf

[23] Beatty, Blow, Crossley & O'Dea (2011). Cash by any other name? Evidence on Labelling from the UK Winter Fuel Payment, IFS Working Paper 11/10, available at: http://www.ifs.org.uk/wps/wp1110.pdf

[24] HM Treasury (2003). *The Green Book*. Available at: https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-governent

marginal utility of income). Further information on the theory and method of using equity weights can be found in Annex 1.

***Comfort***

37. Low incomes have been shown to be correlated with lower temperatures within the home[25]. Support would be targeted at a subset of low income and vulnerable households with the aim that those receiving assistance are able to increase the level of thermal comfort within the home. Hence, we would expect rebate recipients to increase their demand for energy.

38. The change in energy consumption of these households is valued using the retail price for the relevant fuel consumed – as this measures their willingness to pay for the additional comfort, in line with HMT Green Book appraisal guidance[26]. Further detail is provided in Annex 3.2.1.

39. In line with the *Green Book* methodology the increase in comfort is also equity weighted to capture the different value (improvement in social welfare) that comes from lower income households being able to spend on additional energy consumption to generate higher levels of comfort.

***Switching***

40. Last year the Government introduced standardised eligibility criteria for the Broader Group (which applied to all participant suppliers), while allowing participating suppliers to have their own criteria (subject to approval by Ofgem). The Government is proposing to lay regulations that keep this eligibility structure for 2016/17 and 2017/18. This would allow suppliers to differentiate themselves in the market and provide suppliers with flexibility to base their criteria on the size of their obligation and customer base. However, this may impact the switching behaviour of consumers. While we are unable to monetise the impact of Broader Group Criteria on switching, we provide a qualitative assessment of how we believe this may have impacted our results.

***Bill payers***

41. All domestic gas and electricity bill payers[27] are expected to bear the cost of the policy as well as any administrative cost faced by energy suppliers in delivering the policy including those receiving the rebate.

***Energy demand***

42. We assume bill payers will make a small change in their energy consumption as a result of the costs of the scheme being passed on to their energy bill. This change in consumption is determined through each household's income elasticity of demand for energy. The income elasticities assumed for bill payers are informed by Jamasb and Meier (2010), who carried out a study into the determinants of energy expenditure in Great Britain[28].

***Change in bills***

43. We assume the policy will lead to an increase in energy bills for bill payers. However, the extent to which this increase materialises will be affected by any changes in their energy consumption. For that reason, we only value the change in bills (cost of the policy) after adjusting for changes in household energy demand.

44. We expect the magnitude of these changes (increases) in energy bills to be felt differently by households depending on where they are in terms of the income distribution. By applying equity weights to the overall change in bills, we are able to capture the impact on households across income decile groups.

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[25] Hills (2011). Fuel Poverty: The problem and its measurement, CASE Report 69, Section 2.5, available at: http://eprints.lse.ac.uk/39270/1/CASEreport69%28lsero%29.pdf

[26] Green Book supplementary guidance: Valuation of energy use and greenhouse gas emissions for appraisal :https://www.gov.uk/government/publications/valuation-of-energy-use-and-greenhouse-gas-emissions-for-appraisal

[27] It is worth noting that as result of the policy design, rebate recipients are also by default bill payers and therefore the costs of the policy also apply to them.

[28] Jamasb & Meier (2010), Household Energy Expenditure and Income Groups: Evidence from Great Britain, Cambridge Working Paper in Economics 1011. Available at: http://www.eprg.group.cam.ac.uk/wp-content/uploads/2014/01/JamasbMeierCombined-EPRG10031.pdf

***Reduction in utility from lower energy consumption***

45. We also derive a social value from the change in energy demand of bill payers, using the retail price for the relevant fuel consumed. This social value reflects the change in utility of bill payers as a result of the policy.

### 4.1.2 Impact on resource costs, greenhouse gas emissions and air quality

46. Any increase in the net energy consumption from the WHD scheme has three associated costs: the energy resource cost[29], the costs associated with additional greenhouse gas emissions and the impact on air quality.
47. The sensitivity of these results to elasticity and price assumptions, and information on the methodology used for estimating the impacts can be found in Annex 3.

### 4.1.3 Administration costs

48. The delivery of the scheme would result in some administrative costs for both Government and Energy Suppliers - there would be an administrative cost associated with identifying eligible households, administering the payment of rebates, monitoring and enforcement.
49. Table A4.2 in Annex 4 provides an estimate of the administrative costs and burden of delivering the policy on Government. These cover the costs of monitoring and auditing (based on Ofgem estimates); data-matching (based on agreed contractual costs in previous years with DWP) and the administrative requirements that would be placed on energy suppliers in complying with the scheme (e.g. verification costs). These costs are discussed further in Annex 4.

## 4.2 Results

50. Table 4.2 presents the Net Present Values (NPV) of the central scenario:

**Table 4.2 – Summary of discounted costs and benefits (£ millions)**

| | | Policy Option 1 |
|---|---|---|
| **Benefits** | Equity weighted value of rebate (including the impact of the £20m from II) | 595 |
| | Increase in equity weighted comfort (including the impact of the £20m from II) | 414 |
| | Remaining £10m of Industry Initiatives (not equity weighted) | 19 |
| | ***Total Benefit*** | **£1,028m** |
| **Costs** | Equity weighted value of bill increase | 818 |
| | *Admin costs to Industry*[30] | [20] |
| | Reduction in utility from lower energy consumption (bill-payers) | 6 |
| | Resource Costs | 126 |
| | Carbon Costs | 34 |
| | Air Quality | 6 |
| | Administrative Costs – Government | 3 |
| | ***Total Cost*** | **£994m** |
| | **NPV** | **£34m** |

[29] The Energy Resource cost can be interpreted as the opportunity cost of the energy consumption valued using the long run variable cost of fuel. See Annex A3.2.2 for more details.

[30] We assume admin costs are paid for through bill increases so this cost is a subset of the value of bill increases.

51. The results in Table 4.2 are driven by a number of different factors that impact the benefits and costs, which we explore, as follows:

### 4.2.1 Benefits

#### Equity weighted value of rebates

52. The support provided by the Warm Home Discount rebate (including debt assistance and write-off) would lead to a reduction in energy bills for those receiving it. The reduction in energy bills is lower than the value of the rebate as we assume that, as set out in paragraph 35, 41% of the rebate is spent on energy (that is, £83 out of the £140 goes to a reduction in energy bills whilst £57 is spent on energy). When we equity weight the value of the reduction in energy bills becomes larger than its monetary value because the rebate transfers income from all bill payers to essentially those households on a lower income.

53. It is important to note that unlike previous WHD impact assessments where full income deciles were used to estimate the equity impacts, we draw here on After Housing Cost Equivalised (AHCeq) income. AHCeq income provides a better reflection of the household's purchasing power and, as such, is used for example by DWP on some of its poverty measures and it is also used by DECC for the "Low income" element of the Low Income High Costs indicator of fuel poverty in England. More information on equity weights, the income distribution of the eligible population and AHCeq income can be found in Annex 1.

#### Equity weighted value of comfort

54. As mentioned above, we assumed that 41% of the rebate is spent on energy (increase in comfort). The social value of increased comfort experienced by rebate, debt assistance and write-off for recipients is high. This is the result of two effects: Firstly, it stems from rebate recipients having a relatively more elastic response to fuel consumption (as result of the labelling effect) than the bill payers (as discussed in section 4.1.1). Secondly, it is the result of the policy targeting low income households, which value the change in comfort at a higher magnitude than high income households.

#### Remaining share of Industry Initiatives not spent on debt assistance or rebates

55. Industry Initiatives are the third element of the WHD scheme. From the outset the spend on this element of the scheme has been consistently around £20m – i.e. historically there has been a £10m underspend.

56. There are a number of activities that participating suppliers can undertake to comply with their share of Industry Initiatives (such as providing debt write-off, installing energy efficiency measures, offering energy saving advice or providing rebates to certain households). However, currently more than two thirds is spent on debt write-off. The Government is proposing to introduce a 50% cap on the amount of money energy suppliers can spend on debt write-off in 2016/17 and 40% in 2017/18. Historical data suggests that the cap will be fully reached and, therefore, that £10m in 2016/17 and £8m in 2017/18 will be spent on debt write-off.

57. An additional way suppliers may be able to meet this obligation is through a contribution to a central pot of funding, which could be used to fund innovative approaches to reaching and supporting those in greatest need. Government anticipates that such an approach would encourage innovative Industry Initiative schemes, and potentially also make compliance easier for smaller suppliers who may not have the resources to set up their own schemes under industry initiatives. £10m of the Industry Initiatives is expected to be delivered through this portion of the scheme. A one to one cost benefit ratio is assumed for these activities and the reason for this is that we know (based on this and previous analyses) that the share of those £10m spent on rebates and the installation of heating and energy efficiency measures would bring about a net benefit. We do not have good evidence on the benefit to cost ratio of other activities and therefore, we take a conservative approach in assuming a benefit to cost ratio (non-equity weighted) of one (on average) for all of these activities.

### 4.2.2 Costs

#### Equity weighted value of bill increases

58. Households paying for the rebate and not benefitting from it (bill payers) experience an increase in their energy bills. The rise in energy bills is smaller than the cost of the rebate and the admin costs associated to it per household (roughly £13) because households react to an increase in energy bills by reducing to some extent their energy consumption (as explained in paragraph 43 and 46). The equity weighted value of the increase in energy bills is £818m. The increase in energy bills for those paying for the rebate is

larger than the reduction in bills for those receiving the rebate due to the different demand responses for each group (as set out in section 4.1.1).

**Reduction in utility from lower energy consumption**

59. This represents the reduction in energy consumption following the increase in their energy bills. This represents a drop in utility of bill payers as a result bearing the costs of the policy. The fall in energy consumption for those paying for the rebate is smaller than the increase for those receiving it again due to the demand response assumption explained in section 4.1.1.

**Resource cost, GHG emissions and air quality**

60. The net increase in energy demand leads to an increase in resource costs, GHG emissions and a small deterioration in air quality.

**Administration costs**

61. The administrative costs incurred by suppliers are based on evidence provided from industry in response to a public consultation.

62. There is no change in the estimated costs to Government compared to the previous impact assessment.

## 4.3 Non-monetised benefits

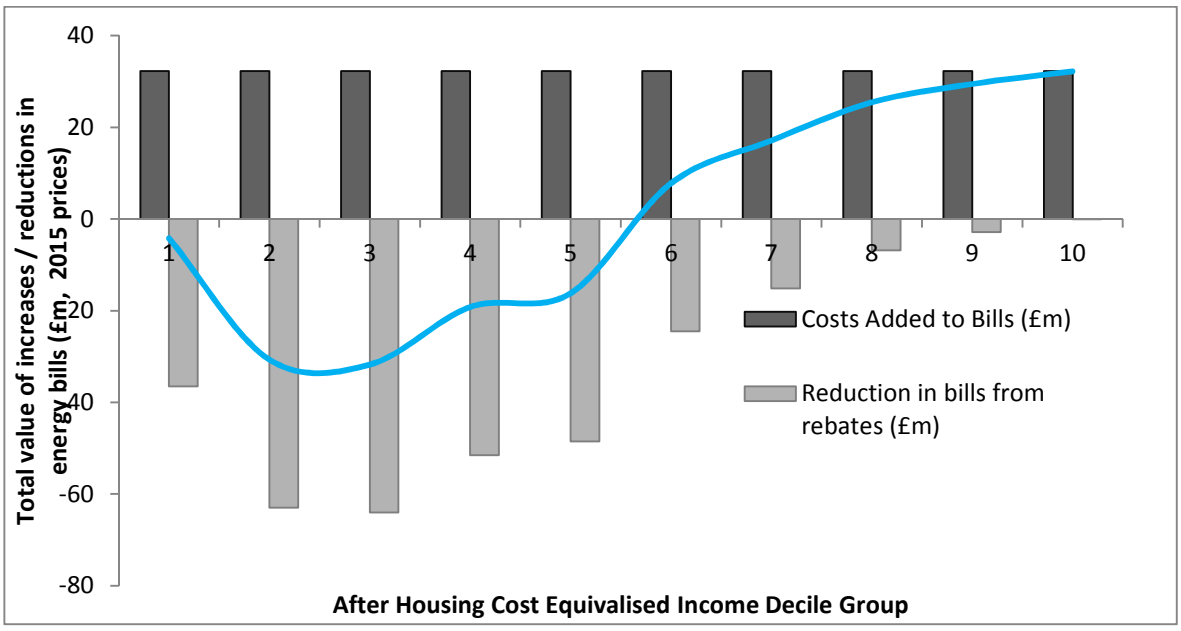
### 4.3.1 Distributional and fuel poverty impacts

63. The two key aims of the WHD scheme are to alleviate fuel poverty and help offset the distributional impact of energy costs on lower income households. The distributional benefits of WHD are quantified and monetised as part of the cost benefit analysis using equity-weighting. However, for clarity we also present a graphical illustration of the distribution of costs and bill reductions across income decile groups in this section. The fuel poverty impacts can be quantified but are non-monetised, and discussed in this section.

*Distributional impact of WHD as a proportion of expenditure*

64. WHD targets support for low income households, meaning that the policy drives positive distributional outcomes in terms of helping offset general price increases as well as the contribution of energy and climate change policies to energy bills. The positive distributional impact of WHD is already captured in the NPV calculations shown in Table 4.2 through the use of equity-weighting. However, this effect can also be demonstrated visually. The positive distributional effect of the Policy is shown in Figure 4, whereby costs are spread across all bill-payers, and the distribution of bill reductions (through WHD rebates) is heavily concentrated among lower income groups.

**Figure 4: Distribution of scheme costs and bill reductions from WHD (nominal prices)**




*Fuel poverty impacts*

65. As well as driving positive distributional incomes, the targeting of WHD at low income households is also likely to affect the breadth and/or depth of fuel poverty for those low income households who also face high energy costs. Fuel poverty is a devolved matter, and each GB constituent country has its own indicator of fuel poverty, meaning it is not possible to conduct an overall assessment of the impact of WHD at the GB level.
66. We estimate that in England the WHD in 2016/17 and 2017/18 will reduce the number of households in fuel poverty by around 81,000 households while also driving a reduction in the aggregate fuel poverty gap for recipient households of around £26m (in 2013 prices[31]), compared to the Do Nothing counterfactual scenario.
67. Details on the methodology to model the impacts on fuel poverty can be found in Annex 2. While not directly applicable for Scotland and Wales, we would expect to see a similar impact in terms of direction (i.e. a net reduction in fuel poverty outcomes), although the magnitude is uncertain.

#### 4.3.2 Health impact

68. The Interim Report of the Hills Fuel Poverty Review (2011) summaries the evidence base on the impacts on health as a result of living in lower temperatures [32]. As set out in Section 4.1.1, it is expected that a proportion of the rebates paid to eligible households will be used towards increasing the internal temperatures of homes. Therefore, the provision of support is expected to have a positive impact on both the physical and mental health of household members through an improvement in conditions within the home and an improvement in the affordability of the household energy requirement.
69. The anticipated health benefits of support through energy bills are not monetised in this impact assessment as there is no robust methodology at present to quantify the health impacts of direct energy bill support.

#### 4.3.3 Switching

70. Although the introduction of the standardised criteria for the Broader Group last year would have helped reduce uncertainty for customers and, therefore, keep energy customers' incentives to switch, there is still great difficulty in monetising the impact and the extent to which the WHD would contribute towards improving switching. Therefore, we currently assume that the WHD scheme does not have any impact on switching.

## 3.4 Summary

71. Overall, we estimate that the scheme would have a positive NPV of £34m in the central scenario. This is likely to be a conservative estimate as it does not include important benefits from this policy such as the impact on health that, at present, is not possible to quantify.

[31] The 2015 Fuel Poverty estimates are based on the 2013 EHS and use 2013 energy prices, whilst monetised costs and benefits in this impact assessment are in 2015 prices. We have not addressed this discrepancy for two reasons: firstly, the impact of the WHD scheme on fuel poverty is not included in the monetised estimates in this impact assessment and, secondly, it allows comparability with the latest fuel poverty statistics which are in 2013 prices.

[32] Hills (2011). Fuel Poverty: The problem and its measurement, CASE Report 69, Section 3, available at: http://eprints.lse.ac.uk/39270/1/CASEreport69%28lsero%29.pdf

# 5. Risks and Sensitivities

72. The costs and benefits of support through energy bills have been estimated using assumptions around the structure of the scheme, the success of identifying eligible households and external factors. In practice, a number of risks around these assumptions could result in variation in these costs and benefits.

## 5.1 Recipients on Pre-payment Meters

73. For households on direct debit or standard credit billing, a Warm Home Discount rebate can be made directly on to their bill. For those using pre-payment meters, however, the majority of obligated suppliers use pre-paid vouchers as a means of delivering the rebate. Supplier delivery experience indicates that around 5% of WHD recipients who use pre-payment meters do not redeem their voucher. This is primarily a result of the customer for various reasons not going through the process of transferring their WHD vouchers onto their pre-payment meters.

74. Our best estimate is that there are currently around 600,000 WHD recipients on pre-payment meters, and a 5% non-redemption rate would imply approximately 30,000 of these recipients may forego the use of their WHD vouchers. This is equivalent to around 1% of the scheme's total expenditure on discounts. Our current analysis suggests this would not meaningfully change the assessment of the scheme and modelling the full impact is therefore deemed disproportionate.

75. However, going forward, proposals set out in the Government response have been made to ensure any underutilisation by customers is appropriately reflected in the overall spending of the scheme through equivalent increases in discounts for the Broader group in future years. This means that any underspend in any single year will be recycled into additional Broader Group rebates in the following year.

## 5.2 Delivery risks

### 5.2.1 Risk: Large increase in take-up of eligible benefit

76. As outlined in previous impact assessment, the size of the eligible Core Group is estimated using up to date Department for Work and Pensions (DWP) forecasts of the Pension Credit caseload.[33]

77. These forecasts are based on assumptions[34] around the take up of Pension Credit, as not all those that are eligible claim the benefit. Should take-up increase[35], there is a risk that Core Group expenditure would rise above the total level of the obligation.

78. We expect that the likelihood of this risk materialising is low, as historically figures have not shown a surge in take-up.

### 5.2.2 Risk: Forecasting error

79. As explained earlier, the size of the core group is based on DWP forecasts of the Pension Credit caseload, which can be susceptible to forecasting errors and lead to risk of possible under-/over-spend of the Core Group obligation.

80. This risk is minimised through new forecasting methodologies adopted by DWP in recent years – the forecasting team take now an actual cut of the real Pension Credit data and remove non-eligible cases they can identify at an early stage, and adjust for expected mortality.

81. The risk is further minimised as forecasts are compared using a "top-down" forecasting approach, whereby aggregated benefits-data are used in forecasting models to provide another estimate of the Core Group size.

82. These two approaches are used to generate a robust range on which to base the level of non-core spending targets in the lead up to the scheme year.

[33] Department for Work and Pensions, 2015, Autumn Statement 2015: https://www.gov.uk/government/statistics/benefit-expenditure-and-caseload-tables-2015

[34] Low take-up is reported to be a consequence of low awareness of Pension Credit and the rules around eligibility. However, take-up among households eligible for Guarantee Credit and both Guarantee and Savings Credit has decreased over time.

[35] The result of incentives to become eligible for Warm Home Discount and other benefits

## 5.3 Sensitivities of key assumptions

83. We recognise there is uncertainty in the analysis carried out for this impact assessment. We have therefore carried out a sensitivity analysis on the following key assumptions:
    - Administration costs
    - Energy Demand Response
    - Energy Prices
84. Figure 5 and table 5.1 show the results of changing the above assumptions on the NPV.
85. In order to measure the sensitivity, all other aspects of the policy have been kept constant so that it is possible to isolate the impact of a change in each assumption on the NPV.

**Figure 5 : Graph demonstrating the percentage change in NPV from changing assumptions in the analysis**

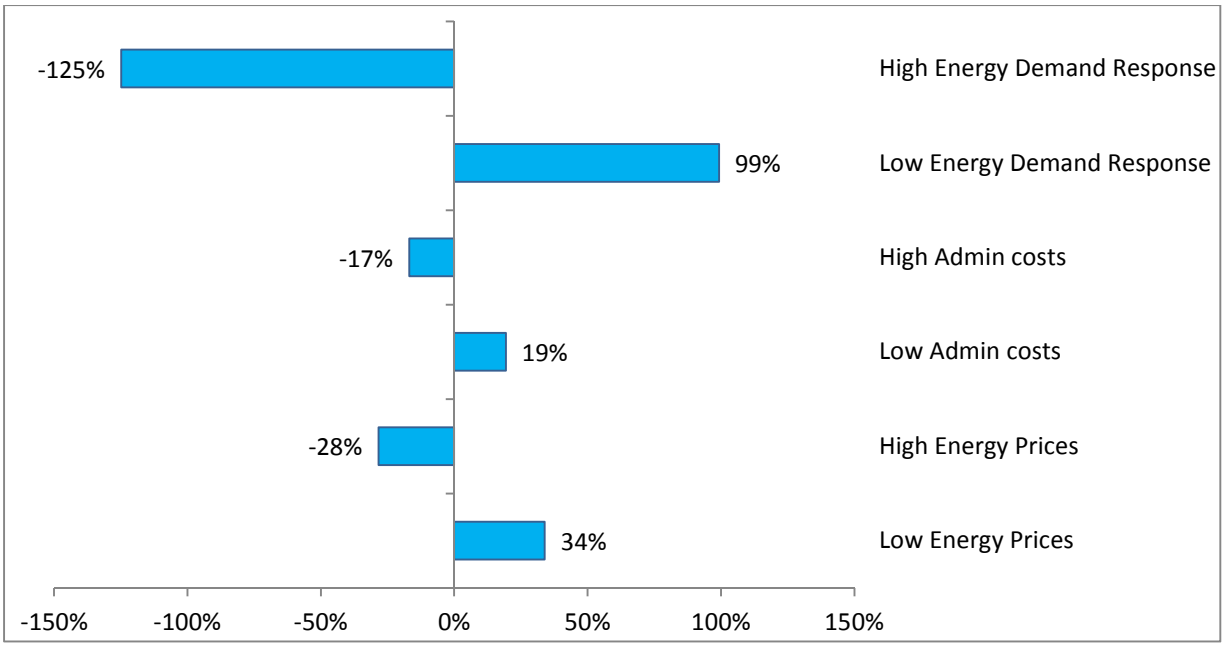



**TABLE 5.1 – Sensitivity of NPV to assumptions**

| Assumptions | Scenario | Description of change in assumption from central scenario | NPV under modified assumption | Change in NPV (% change) |
|---|---|---|---|---|
| **Demand Response** | *High* | *25% increase* | -£9m | -£43m (-125%) |
| | *Low* | *25% decrease* | £68m | +£34m (99%) |
| **Admin Costs** | *High* | *25% increase* | £29m | -£6m (-17%) |
| | *Low* | *25% decrease* | £41m | +£7m (19%) |
| **Energy Prices** | *High* | *IAG high energy price projection* | £25m | -£10m (-28%) |
| | *Low* | *IAG low energy price projection* | £46m | +£12m (34%) |

86. Table 5.1 and Figure 5 show that the NPV is very sensitive to assumptions around the demand response as a 25% change in the demand response assumption leads to much larger changes in the NPV (between -125% and 99%). The NPV is rather less sensitive to assumptions around energy prices and even less sensitive to admin costs assumptions.
87. The NPV is very sensitive around the energy demand response in part because we monetise the main costs associated with it (that is, the change in energy demand and related impacts on greenhouse gas emissions and air quality) but we cannot monetise all the benefits, in particular the impact on health. If we

were able to monetise the impact on health the NPV would be less sensitive to the demand response assumption. It is worth noting that we intend re-visiting our central assumption as more evidence emerges from the WHD evaluation.

88. Energy prices affect the NPV in two ways. First retail prices are used to calculate the value of the change in comfort of rebate recipients and the fall in utility of all domestic bill payers, (see section A3.2. for more information). Second, long run variable prices are used to calculate the resource cost.

89. The admin costs are expected to be added on to the energy bills of all bill payers, which impacts their energy demand response and subsequently has an impact on air quality and value of carbon emissions. The change in admin costs from high to low has a smaller impact on the NPV given the total administration costs make up a small proportion of the overall costs.

# 6. Wider Impacts

**Greenhouse gas emissions**

90. We estimate greenhouse gas emissions to be higher than estimated in the 2011 Warm Home Discount impact assessment. This is due to a change in methodology in relation to the estimated demand response from rebate recipients, which we assume is higher than previously anticipated. Table 6.1 below provides estimates of the increase in emissions.

**Table 6.1 - Estimated increase in emissions of greenhouse gases (Mt $CO_2e$)**

| Sector | Policy Option 1 |
|---|---|
| **Traded** | 0.29 |
| **Non-traded** | 0.51 |

91. For greater detail on the methodology and income elasticities used to estimate the changes in energy use see Annex 3.

**Impact on competition**

92. This section considers the competition impact of the Warm Home Discount scheme. The general assessment is made against two key criteria:

    a. does the policy directly or indirectly limit the number or range of suppliers in the market, and;
    b. does the proposal limit the ability of suppliers to compete?

*Does the policy limit the number or range of suppliers?*

93. The powers in the Energy Act 2010 allow the Secretary of State to require energy suppliers to make support available to assist some of their vulnerable customers. This requirement creates no direct restriction on the number of firms that can compete in the market.

94. As detailed above, a requirement to provide support results in some costs to energy suppliers, both in terms of the benefits provided to eligible customers (the rebate) and administrative costs of participation in the scheme. It is likely that suppliers recoup these costs through higher energy prices.

95. It is possible that the costs of participating companies may be disproportionately high for smaller suppliers. For example, where some of the costs of participation are fixed, this will disadvantage suppliers that have a smaller customer base over which to recoup costs. A requirement to participate in a support scheme could therefore act as a barrier to entry for new firms. For this reason, a *de minimis* threshold (250,000 customer accounts) has been in place since the outset of the scheme, below which an energy supplier is not required to participate in the scheme.

*Does the proposed policy limit the ability of suppliers to compete?*

96. A requirement to provide support through bills could impact on competition through one or both of the following:

    - impacting on the incentives for customers to engage in switching behaviour; and
    - making it more difficult for energy suppliers to compete on an even footing.

*Impact on switching behaviour*

97. A support through bills scheme could impact on competition to the extent that the requirements of the scheme affect the incentives for some consumers to actively participate in the market and engage in switching behaviour. This could happen, for example, where the policy results in a reduction in the price differential between tariff offers or in a reduction in the diversity of tariffs on offer.

98. The way in which the benefit is specified and delivered to households could therefore have an impact on switching behaviour. Relative to the other ways in which a benefit could be delivered, a lump-sum rebate would have the lowest impact on competition in energy markets as it would not interfere with underlying tariff structures and would maintain cost-reflective pricing. This means that customers would be more likely to continue to look across all tariff offerings to search for the best deal available and in turn, would also mean that firms are more likely to continue to compete for customers across the entire market.

99. The way in which eligibility for support is specified could also have an impact on switching behaviour. Where there are clear criteria that households are entitled to receive a benefit under the scheme, as proposed under the Core Group, the switching behaviour of customers in this group is unlikely to be affected (apart from in relation to tariffs offered by smaller suppliers that are exempt from the WHD). These customers would be able to look across the offerings of all participating suppliers in order to find the best deal for them and can still be confident that they will receive a benefit irrespective of which participating company is supplying their energy.

100. Customer switching could be reduced where no clear criteria are set for which types of households are eligible or there is no entitlement to a benefit. To reduce this uncertainty, the Government introduced last year the standardised criteria for the Broader Group, which apply to all participating energy suppliers – although participating suppliers are still allowed to have their own criteria (subject to approval by Ofgem) in addition to the standardised criteria.

*Impact on competition between suppliers*

101. A support through energy bills scheme could impact on competition between suppliers where one or more suppliers are required to bear a disproportionate share of the costs of the policy. This situation could arise where:

    - A particular supplier has a disproportionate number of customers that are entitled to a benefit under the scheme: suppliers with a greater exposure to entitled households would be obligated to fund a greater proportion of the total expenditure. If this exposure is disproportionate to their energy market share, energy prices set by these suppliers would become distorted, as a larger than average cost per consumer would be passed through. Further, the group which is assigned a right to receive support may become less profitable and hence less attractive for suppliers to serve. This could affect the extent to which energy suppliers compete for these types of customers. To avoid this, the Government proposes to keep the existing reconciliation mechanism to ensure that the costs of the obligation to provide support to a Core Group are shared fairly across obligated energy suppliers.
    - The aggregate amount that is mandated to be spent through the Non-Core obligation is shared amongst suppliers in an inequitable manner. This situation can be avoided by ensuring that the obligation on suppliers is set with regard to each supplier's market share. This is what has been done in the past and the Government is proposing to continue on setting the obligation based on each supplier's market share.

**Impact on small businesses**

102. Some of the costs of participating in the WHD scheme are unlikely to scale with the size of the obligation on the supplier (for example, the technical cost of applying benefits to household energy accounts, which is likely to require some up-front changes to billing systems that may not scale with the number of benefits that a particular supplier has to apply). Hence, smaller suppliers could be disadvantaged by having to participate in the scheme, as they may incur disproportionately large set-up and on-going administrative burdens.

103. Further, the imposition of these larger administrative costs may present a greater challenge for smaller energy suppliers as relative to their larger competitors as:

    - they are likely to have more limited tariff variability and a smaller customer base over which to recover the costs,

- for some smaller suppliers who attract consumers through price competition, the customer base over which they could spread the costs is likely to be more price sensitive, and
- smaller suppliers have smaller cash flows, placing these businesses at greater risk of cash flow problems over the period (e.g. they may face cash-flow difficulties from having to make a large number of payments to eligible even where those payments are later reconciled).

104. This is why the scheme has had a *de minimis* threshold, specified in terms of a number of customer accounts, below which an energy supplier will not be required to participate in the scheme. This ensures that support through energy bills would not represent a barrier to entry to the energy supply market. The Government proposes to keep this threshold.

105. While a de minimis threshold reduces the barriers to entry for new firms, it will create some other impacts on competition:

- It could make it difficult for small suppliers to attract the types of customers that would be eligible for a benefit with a larger supplier. A household that is currently purchasing energy from a small supplier that would be eligible for a benefit through the scheme may decide to switch to a participating supplier in order to claim a benefit. The Warm Home Discount scheme makes provisions for smaller suppliers to be able to voluntarily opt-in to offering benefits to the Core Group[36]
- It could create a barrier to smaller suppliers to grow their customer base above the *de minimis* level: When suppliers that were previously excluded from the obligation gain enough customers to pass over the threshold, at this point the supplier will face the full administrative costs of participating in the scheme. This would be compounded by the costs of having to participate with other policies that carry a similar threshold.

106. While the *de minimis* threshold may have an impact on the ability of small suppliers to compete, it is necessary to balance this against the potential impact of a policy that requires all suppliers to participate in the full scheme. In this case we would be exposing all suppliers, irrespective of size, to the policy and administrative costs of the scheme.

107. The impact of excluding smaller suppliers from the obligation using a *de minimis* threshold is determined by how many households in the Core Group smaller suppliers hold. Those smaller suppliers which compete on energy price are more likely to supply eligible customers than those which offer energy to households willing to pay a premium for lower-carbon energy. However, on the whole, smaller energy suppliers hold only a small proportion of the total energy supply market[37]. Hence, excluding smaller suppliers from the scheme is likely to have only a small impact on the ability of the scheme to provide a benefit to the defined eligible group.

108. A requirement for small suppliers to participate in the obligated scheme would therefore put existing small suppliers at a competitive disadvantage and would potentially create a barrier to entry of new firms.

109. Hence, allowing smaller energy suppliers to voluntarily participate in the Core Group helps overcome any potential negative impact on smaller businesses of being included in the scheme, whilst maintaining the potential for all eligible households to receive support.

**Impact on health**

110. The health impacts of living in a cold home are well documented[38, 39]. We anticipate that the WHD scheme will help households heat their homes to a higher standard and reduce the health impacts of cold homes. However, we cannot quantify at present the health impacts. We hope to be able to do this in future.

**Rural proofing test**

111. Although more fuel poor households live in urban areas, a greater proportion of rural households are fuel poor than those living in urban areas. In 2013, around 14% of households residing in village, hamlet and

[36] The administrative burden of complying voluntarily with the Core Group is smaller than complying with other parts of the scheme or with the scheme as a whole due to the data-matching exercise. This mitigates the need for small suppliers to identify eligible households. If smaller suppliers voluntarily opt-in to offering benefits to the Core Group, they also participate in the reconciliation mechanism.

[37] State of the Market Assessment (Ofgem): https://www.ofgem.gov.uk/publications-and-updates/state-market-assessment

[38] Fuel Poverty Review by John Hills, available at: https://www.gov.uk/government/publications/final-report-of-the-fuel-poverty-review

[39] "The health impacts of cold homes and fuel poverty" by the Marmot Review Team, available at: http://www.instituteofhealthequity.org/projects/the-health-impacts-of-cold-homes-and-fuel-poverty

isolated dwellings were fuel poor with an average fuel poverty gap of £820 compared to 10% of households living in urban areas, which had an average fuel poverty gap of £304[40].

112. Households in rural areas are more likely to be fuel poor, in part, as a consequence of the type of houses in which they live. Rural houses tend to have lower levels of thermal efficiency and are often larger than houses in urban areas. As a consequence, rural households often have larger costs of achieving an adequate standard of thermal comfort in the home.

113. Houses in rural areas tend also to be harder to treat and require larger levels of investment to improve the efficiency of the household. This is in part a consequence of a larger prevalence of houses not connected to the gas grid which need to use relatively more costly fuels to heat the home.

114. The higher propensity of fuel poverty among rural households means that it is important to ensure that rural households are not precluded from accessing assistance provided through energy bills. To ensure that access is provided to potentially eligible households residing in rural areas the energy bill reduction is applied to the household electricity account so that households which are not connected to the gas grid are also able to receive support.

[40] https://www.gov.uk/government/statistics/fuel-poverty-detailed-tables-2013

# Annex 1 - Valuing the distributional impact of Warm Home Discount

1. In order to estimate the distributional impact of WHD it is necessary to understand and estimate where the relevant costs and benefits fall across households and the wider income distribution. In relation to funding the scheme, it is expected that energy suppliers will pass on the costs of the obligation to their customer base. There are many ways in which they could potentially spread these costs across both their domestic and industrial consumers. For the purposes of this impact assessment, and in line with the approach taken for other recent domestic supplier obligations[41], we assume suppliers will pass costs on in the way in which they face them. As a result, it is assumed that suppliers pass all the costs of the obligation as an equal and fixed lump sum per domestic customer account. This is a result of the share of the WHD being allocated to each participating supplier on the basis of the number of domestic customers they have. This in turn means that a supplier's marginal cost of participating in the scheme is determined by the number of customers they have, and they therefore incur costs on a 'per customer' basis.
2. The funds raised from all energy consumers are then assumed to be transferred to eligible households in the form of rebates. It is possible to estimate how the rebates and associated benefits fall across the income distribution using national survey data to assess the income levels of households in receipt of passport benefits that make them eligible for either the Core or Broader Groups. More detail is provided in Section A1.2 below.
3. While the value of these transfers in cash terms sums to zero, the welfare impact of these transfers to society will depend on the types of households that are receiving WHD-qualifying benefits. Poorer households place a greater value on an additional unit of income as income is assumed to have a diminishing marginal utility. Hence as household income increases, the marginal utility of an additional unit of income decreases.

## A1.1 Equity weighting

4. In line with the *Green Book*[42] we apply equity-weights to our cost-benefit analysis to value the distributional impact of the main policy options.
5. Equity weighting accounts for the difference in value that a household in a lower income group places on £1 compared to a household in a higher income group.
6. The equity weights used are contained in the following table. They are based on After Housing Cost Equivalised (AHCeq) income. AHCeq income is estimated using data from the 2013 Fuel Poverty Analytical Dataset, which itself is based on the 2013 English Housing Survey.

**Table A1.1 Equity Weights under After Housing Cost Equivalised Income**

| Decile | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Equity Weight | 3.6 | 2.0 | 1.5 | 1.3 | 1.1 | 0.9 | 0.8 | 0.7 | 0.5 | 0.4 |

7. Using the equity weights, an additional £1 for *any* household in the lowest income decile would be valued at £3.6, whereas an additional £1 to *any* household in the highest income decile would be valued at £0.4.
8. The transfers to or from each income decile are multiplied by the relevant equity weights. As assistance under the scheme is targeted towards poorer households, the support represents a transfer from relatively richer to relatively poorer households and hence has a significantly positive equity weighted value to society.

[41] For example, see Annex H of the final stage Green Deal and ECO Impact Assessment. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/42984/5533-final-stage-impact-assessment-for-the-green-deal-a.pdf

[42] HM Treasury (2003). *The Green Book*. Available at: https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-governent

## A1.2 After Housing Cost Equivalised income

9. After Housing Cost Equivalised income adjusts household incomes (once housing costs have been removed) for the number of people within the household. This makes it a fair and useful way to compare the relative spending power of households across various household compositions.
10. The table below shows various levels of household income (top row) and how they change when equivalised based on the household composition.

**Table A1.2: Differences between income before and after equivalisation for various types of families**

| Equivalised income | | | | |
|---|---|---|---|---|
| **Income before equivalising** | | **£10,000** | **£15,000** | **£20,000** |
| **Equivalised income** | **Single adult** | £14,925 | £22,388 | £29,851 |
| | **Single adult + child** | £11,494 | £17,241 | £22,989 |
| | **Two adults** | £10,000 | £15,000 | £20,000 |
| | **Two adults + child** | £8,333 | £12,500 | £16,667 |

11. As the table shows, although a household with two adults and a child may have higher earnings than a single adult household (for example £15,000 vs. £10,000) by equivalising we can see that the single adult household has a relatively higher income (£14,925) than the household with two adults and a child (£12,500). This is because although the single adult earns less, the single person can achieve a higher standard of living for the same level of income compared to the family of three; as the family will need to split the income across all members of the household.

## A1.3 Income distribution of eligible and non-eligible households

12. Using the 2013 Fuel Poverty Analytical Dataset, we are able to understand the distribution of the eligible population across different income decile groups. For the Core Group, where eligibility is tightly defined, we are able to estimate where households in receipt of Pension Credit are in the income distribution with a relatively high level of confidence. For the Broader Group, we do not have perfect information because:
    a. Suppliers are able to follow their own eligibility criteria (subject to approval by Ofgem);
    b. As non-Core spending is capped, not everyone who is eligible will necessarily be in receipt of a rebate, generating uncertainty around where the actual recipients are in the income distribution.
13. For this reason, to estimate where Broader Group households sit in the income distribution we assume that the eligibility criteria used by suppliers are consistent with the benefits that make households eligible for Cold Weather Payment, excluding those household eligible under the Core Group and including households with an income of £16,190 or less in receipt of child tax credit with a child under 5 or disabled child under 16.
14. Table A1.2 provides a breakdown of the proportion of households distributed across the different income decile groups by the eligibility group they fall into. We use these proportions as probabilities of the number of households in each AHCeq income decile group.

**Table A1.2 – After Housing Cost Equivalised Income Distribution of Groups**

| Income Decile Group | Core Group | Broader Group |
|---|---|---|
| 1 - Poorest | 9% | 15% |
| 2 | 14% | 28% |
| 3 | 20% | 22% |
| 4 | 18% | 15% |
| 5 | 20% | 10% |
| 6 | 9% | 6% |
| 7 | 6% | 3% |
| 8 | 3% | 1% |
| 9 | 1% | 0% |
| 10 - Richest | 0% | 0% |

# Annex 2 – Approach to estimating fuel poverty impacts

1. We estimate the impact of the WHD scheme on fuel poverty by modelling a scenario where the WHD scheme would not exist and compare fuel poverty under this modelled scenario against published fuel poverty figures (which include the impact of the WHD scheme).
2. As follows, the steps we take to estimate the impact of the WHD scheme on fuel poverty :
    a. We start with the 2013 Fuel Poverty dataset which is underpinned by the 2013 English Housing Survey (EHS). The Fuel Poverty dataset includes notional bills (broken down by type of fuel), which take account of the impact of the WHD scheme at that time;
    b. In this dataset we create a flag that identifies those who would be eligible for the WHD rebate. Within this group of eligible households we randomly assign rebates until we reach the total spend under each element of the scheme. In this way we create a flag for those who (we estimate) receive the WHD rebate.
    c. Once we have estimated those who receive the rebate we remove the impact of the rebate from their notional energy bill, which means increasing their electricity or gas and electricity bill by £140 that year (see figure A2.1).
    d. We then remove the cost of the WHD scheme borne out by every household with an electricity or gas and electricity account, including those who receive the rebate. This reduces their electricity or gas and electricity bill by approximately £13 (see figure A2.2).
    e. The effect of removing the WHD scheme for those who receive the rebate is the net impact of losing the rebate (i.e. an increase in their energy bill) and not having to pay for their share of the WHD cost (i.e. a reduction in their energy bill).
    f. Finally once we have estimated the notional energy bills without the impact of the WHD scheme we estimate the number of fuel poor and the fuel poverty gap under this modelled scenario and compare them to published fuel poverty figures, which include the impact of the rebate.

**Figure A2.1: WHD recipients' energy bill (with and without the rebate)**

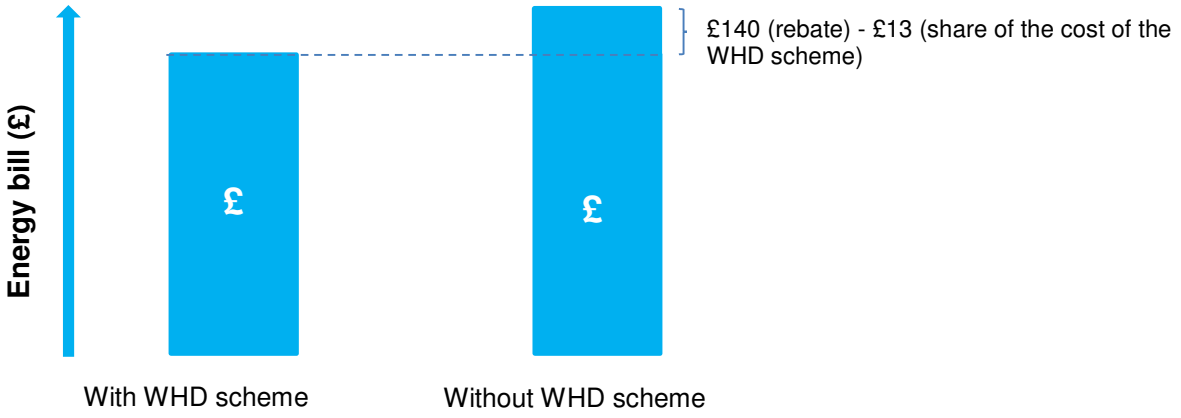
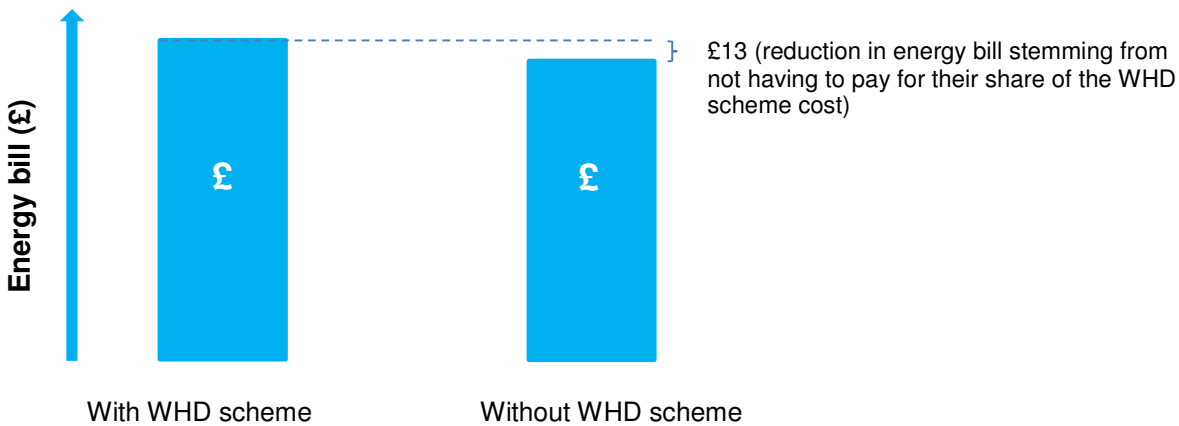



**Figure A2.2: Non-WHD recipients' energy bill (with and without the rebate)**



# Annex 3 – Response to energy demand

## A3.1 Energy demand

3. WHD rebates will be delivered through reductions in electricity bills. This is effectively an increase in household disposable income for rebate recipients and a decrease in household disposable income for bill payers who bear the cost of funding the rebates. As a result, we would expect households to respond through observable changes in the amount of energy they consume.
4. The responsiveness of energy demand to a change in energy costs or income depends on household characteristics and the way in which costs fall on households.

*Rebate recipients*

5. In the case of the WHD we assume there is a labelling effect, which means households receiving the rebate will spend a significant proportion (estimated at around 41%) of the bill reduction on energy. This is based on evidence from the response of Winter Fuel Payment recipients[43]. As such, the modelling assumes that 41% of the rebate is used for energy consumption.

*Bill payers*

6. We expect bill payers who bear the overall cost of the policy to respond by reducing their energy consumption by a small amount.
7. For the purposes of this impact assessment, we model the responsiveness of households using income elasticities of expenditure for different fuel types for different income brackets from Jasamb & Meier (2010)[44], mapped onto income decile groups. The values are shown in table A3.1 and can be interpreted as the percentage change in expenditure on gas and electricity in relation to a 1 per cent change in the income of the household. For example, a 1 per cent reduction in income would on average lead to a 0.033 per cent reduction in gas expenditure in income decile group 1.

**Table A3.1 - Income Elasticities - Jamasb & Meier (Expenditures)**

| Income Decile Group | Electricity | Gas | All Energy |
|---|---|---|---|
| All | 0.062 | 0.064 | 0.058 |
| 1 - Poorest | 0.046 | 0.033 | 0.053 |
| 2 | 0.050 | 0.051 | 0.050 |
| 3 | 0.050 | 0.051 | 0.050 |
| 4 | 0.050 | 0.051 | 0.050 |
| 5 | 0.050 | 0.051 | 0.050 |
| 6 | 0.076 | 0.096 | 0.061 |
| 7 | 0.076 | 0.096 | 0.061 |
| 8 | 0.152 | 0.168 | 0.142 |
| 9 | 0.152 | 0.168 | 0.142 |
| 10 - Richest | 0.098 | 0.087 | 0.080 |

8. We expect this change in demand for energy from both rebate recipients and bill payers to lead to social costs and benefits in terms of "comfort taking", change in additional GHG emissions and resulting impact on air quality, which are described in the following section.

## A3.2 Costs and benefits resulting from changes in energy demand

### A3.2.1 Comfort taking

9. Comfort taking here refers to the value of the change in indoor temperatures that result from receiving a WHD rebate.

[43] Beatty, T., Blow, L., Crossley, T. & O'Dea, C. (2011). Cash by any other name? Evidence on labelling from the UK Winter Fuel Payment. Available at: http://www.ifs.org.uk/publications/5603

[44] *Source: Jamasb & Meier (2010)*

10. We expect rebate recipients to experience increased levels of warmth as the rebate incentivises them to increase energy consumption, which we assume is through the use of heating fuels.
11. To capture comfort taking within our cost-benefit analysis, we derive a social value of changes from changes in energy consumption using the retail price for the relevant fuel consumed, in line with IAG guidance, as this reflects a household's willingness to pay for additional warmth.
12. A social value is derived from those in the eligible group as shown in the following formula:

$$Social\ Value\ of\ Comfort = retail\ price_f * \Delta\ energy\ consumption_f$$

*Where f = gas, electricity, oil, coal*

13. For non-eligible bill payers, we anticipate that as a result of slightly higher bills (expected to be around £13 per household) there will be a reduction in energy consumption – some of which could be through a small reduction in the use of heating fuels. As a result, we value this reduction in the same way as comfort taking.

**A3.2.2 Energy use (resource) cost**

14. The changes in energy consumption described above would also have an impact on society, by either using up resources that could be employed in alternative ways (if energy use increases) or freeing up resources to be used elsewhere (if energy use decreases).
15. The cost of changes in energy consumption and the benefits of reduced use are valued at the variable domestic price for the relevant fuel in 2017, as published in the DECC Interdepartmental Analysts Group guidance on valuing energy use and greenhouse gas emissions.

$$Resource\ Cost = Long\ Run\ Variable\ Cost_f * \Delta\ energy\ consumption_f$$

*Where f = gas, electricity, oil, coal*

**A3.3.3 Air quality and greenhouse gas (GHG) emission valuation**

16. With the resulting changes in energy demand, we expect there to be an overall aggregate increase in energy consumption as the increased energy consumption of rebate recipients outweighs the reduction in demand from bill payers (as a result of varying income elasticities).
17. Changes in energy consumption as a result of the policy would lead to changes in greenhouse gas emission levels, which have a detrimental impact on society.
18. Changes in the level of emissions would have social impacts, which are valued by using a combination of market and 'shadow' prices. Emissions have two valuation-relevant elements; air quality and GHG cost of those emissions (traded and non-traded).

# Annex 4 – Estimating the administrative burden

1. Energy suppliers will face on-going administration costs in order to deliver the policy. The Government will also bear some of the costs of delivering the rebate, especially with respect to data matching activities for Core Group rebates. These costs will continue to be a part of the policy's cost and therefore be recouped through energy bills.

## A4.1 Costs to Government

2. The costs to Government are based on actual estimates from previous years, and assumed to continue at these levels to 2016/17. These include:

   - Ofgem's role in administering the WHD scheme and monitoring suppliers' compliance with their WHD obligations.
   - DWP's role in providing data matching assistance for households in the Core Group, informing matched and un-matched households through letters regarding their eligibility to receive the rebate and call centre costs for enquires around the policy.
   - An independent third party to fulfil the role in providing a reconciliation service to energy suppliers for Core Group rebates. This service rebalances the costs of Core Group so that they are in proportion to each supplier's market share, while still enabling each supplier to pay all their eligible Core Group customers a rebate.

| Table A4.1 – Administration Costs to Government (£m, 2015 prices) | |
|---|---|
| **Ofgem** | 0.74 |
| **DWP** | 0.99 |
| **Core Group Reconciliation** | 0.02 |
| **Total** | **1.75** |

## A4.2 Costs to Industry

3. We use evidence put forward by suppliers as part of the 2015/16 WHD extension consultation. While a small proportion of these costs could be attributed to set-up, or fixed costs, that may not roll over for future years of the scheme, we have taken the conservative assumption that they all would. Moreover, there is no evidence to suggest that the changes to the scheme would alter any of these on-going administration costs. Therefore our estimate of the aggregate administration costs from the scheme has been derived directly from the information provided to us by obligation suppliers, and is estimated to be around £10m. We welcome further evidence to refine our estimates.

# Annex 5 – Broader Group eligibility criteria

The Broader Group element of the WHD scheme allows other low income and vulnerable households, who do not qualify under the Core Group, to apply for the same value rebate through their supplier. The Government proposes to lay regulations that do not change the scheme for 2016/17 and 2017/18 in respect of eligibility for the Core and Broader Groups. Last year the Government introduced the Standardised Criteria, which is set out below.

**Table A5.1 Standardised Criteria**

**Income Support** or **Income-based Jobseeker's Allowance**, with any of following:

- a disability or pensioner premium
- a child who is disabled
- Child Tax Credit that includes a disability or severe disability element
- a child under 5 years living with them

**Income-related Employment and Support Allowance (ESA),** with any of the following:

- the support or work-related component of ESA
- a severe or enhanced disability premium
- a pensioner premium
- a child who is disabled
- Child Tax Credit that includes a disability or severe disability element
- a child under 5 years living with them

**Universal Credit equivalent,** not in work or self-employer, with any of the following:

- limited capability for work element (with or without a work-related activity element)
- the disabled child element
- a child under 5 years living with them
- disabled child element, whether employed or not.

Total household annual income is less than or equal to **£16,190 (and in receipt of Child Tax Credits or the Universal Credit equivalent)** with either:

- a child aged under 5 years living with them
- a disabled child with a Child Disability Premium or claiming Child Tax Credit that includes a disability or severe disability element

4. Alongside this, energy suppliers are permitted to have additional criteria, subject to approval by Ofgem. Some of the suppliers with the largest consumer base include pension credit as part of their additional criteria. For this reason, when modelling the Broader Group eligibility flag we incorporate pension credit as an eligibility criterion. This means that the Broader Group modelled eligibility criteria is effectively the same as the Cold Weather Payment plus low income households on Child Tax Credit with a child under 5 or disabled child under 16. Finally we remove those who are eligible for the Core Group from the Broader Group eligibility flag.

1. As with the Core Group we estimate those who receive the rebate as part of the Broader Group obligation by selecting randomly household within those estimated eligible until reaching the Broader Group spending envelope.