



Department for
Business, Energy
& Industrial Strategy

WARM HOME DISCOUNT SCHEME 2018/19

Consultation Stage Impact Assessment

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March 2018

Title: Warm Home Discount Extension to 2018/19 IA No: BEIS035(C)-17-HLE RPC Reference No: N/A Lead department or agency: Department for Business, Energy and Industrial Strategy Other departments or agencies: None	Impact Assessment (IA)			
	Date: March 2018			
	Stage: Consultation			
	Source of intervention: Domestic			
	Type of measure: Secondary legislation			
Summary: Intervention and Options	Contact for enquiries: warmhomediscount@beis.gov.uk			
	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)	In Scope of One-In, Three-Out?	Business Impact Target Status Measure qualifies as
£84m	N/A	N/A	No	Non Qualifying Provision

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

Fuel Poverty is an affordability problem for households on low incomes 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. This latter effect is important, given that energy used to heat the home is a necessity, and consequently rising energy prices can have a regressive impact on low income households.

The Warm Home Discount scheme began in April 2011 and provides assistance to more than 2 million low income and vulnerable households in Great Britain annually. In the 2015 Spending Review/Autumn Statement, the Government committed to the extension of the scheme until 2020/21. This impact assessment covers the extension of the scheme to 2018/19.

What are the policy objectives and the intended effects?

The objective is to extend the current scheme for an additional year, with slight modifications to the spending caps within it. 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.

In the longer term, the Government proposes to reform the scheme to improve its targeting of fuel poor 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 more than 2m households would cease after 2017/18, 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 2018/19, following largely the same obligation requirements as in 2017/18, supporting 2.3m households, including rebates for c. 1.3m lower income pensioners in the Core Group, c.1m low income families in the Broader Group, but increasing industry initiatives from £30m to £40m and reducing the debt write-off cap from £12m to £10m.

Policy option 1 is preferred as it ensures the Warm Home Discount continues to offer support to low income and vulnerable households. Extending the existing policy without modification has not been presented, as the Government intends to extend the funding to industry initiatives. Analysis suggests the NPV of an unmodified scheme would be very similar to the option presented in this IA.

Will the policy be reviewed? It will be reviewed. If applicable, set review date: 2018/2019

Does implementation go beyond minimum EU requirements?			N/A	
Are any of these organisations in scope?		Micro No	Small No	Medium Yes
				Large Yes

What is the CO ₂ equivalent change in greenhouse gas emissions? (Million tonnes CO ₂ equivalent)	Traded: +0.13	Non-traded: +0.25
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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 Minister:



Date:

29/03/18

Summary: Analysis & Evidence

Policy Option 1

Description: Extend the Warm Home Discount scheme until 2018/19 as per current terms of the scheme.

FULL ECONOMIC ASSESSMENT

Price Base Year 2018	PV Base Year 2018	Time Period Years 1	Net Benefit (Present Value (PV)) (£m)		
			Low: £45m	High: £116m	Best Estimate: £84m

COSTS (£m)	Total Transition (Constant Price) Years		Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	Optional		Optional	£494m
High	Optional		Optional	£565m
Best Estimate				£525m

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

- Suppliers recoup the total value of their obligation, plus any administrative costs they incur, through raising prices. This is estimated to lead to equity-weighted costs to consumers of PV£438m – £441m. This includes supplier administrative costs of PV £6m – £10m;
- Increased income for rebate recipients is expected to lead to a net increase in energy consumption, which leads to additional resource costs of PV £41m – £80m;
- Those who do not receive the rebate experience a reduction of income, which leads to reduced energy consumption. Reduced energy consumption leads to reduced utility of PV £3m – £5m;
- The net increase in fuel consumption leads to GHG emissions costs of PV £7m – £31m;
- The net increase in fuel consumption leads to air quality costs of PV £4 – £6m;
- Administrative costs to Government: PV £1m – £2m

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	Optional		Optional	£609m
High	Optional		Optional	£609m
Best Estimate				£609m

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

- The benefits of rebates and debt write-off delivered to eligible households are split between increases in income and comfort;
- The portion of the rebate spent on fuel consumption leads to an increase in comfort, which is equity weighted to reflect the greater value of an increase in temperature in colder homes: PV £182m – £303m;
- The portion of the rebate not spent on fuel consumption is also equity weighted to reflect the greater value of a unit of income for poorer households. The value of this increase is PV £288m – £409m;
- The value of Industry Initiatives not spent on debt write-off or channelled towards additional rebates for the Broader Group is PV £19m

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

- An estimated net decrease of 112,000 households in fuel poverty and a £35m reduction in the aggregate fuel poverty gap, in 2015 prices¹.
- Improvements in physical and mental health of recipient households as a result of the reduction in bills and increased thermal comfort.

¹ This modelling was based on the 2017 Fuel Poverty dataset which is based on EHS 2015 data, and reports in 2015 prices. We have not addressed the discrepancy for two reasons. Firstly, the fuel poverty impacts are not monetised and therefore this has no effect on the cost benefit analysis, and it allows comparison with the latest Fuel Poverty Statistics, which are also based in 2015 prices.

Key assumptions/sensitivities/risks	Discount rate (%)	3.5
<ul style="list-style-type: none"> Industry 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 is 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 2017 Fuel Poverty dataset. 		

BUSINESS ASSESSMENT (Final Policy Position)

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

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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 around 2.5m households living in fuel poverty in England. 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.
3. 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, however, recently published a consultation on changing their fuel poverty definition².
4. The analysis contained within this IA is based on the indicator of fuel poverty used in England, reflecting the greater evidence base in England; with the exception of fuel poverty impacts (due to differences in the indicators used in each nation), this has then been scaled up to represent impacts of the Warm Home Discount across GB.

1.2 The Warm Home Discount Scheme

5. The Warm Home Discount scheme (hereafter WHD) was introduced in April 2011 and covers Great Britain. It succeeds a previous Voluntary Agreement between Government and the largest energy suppliers to provide household level support to reduce energy costs.
6. 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 households³. This means that the policy both contributes to the Government's fuel poverty objectives, and also helps to 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.
7. The scheme currently provides help to more than 2.1m low income and vulnerable households annually in Great Britain. In 2016, Ofgem reported that around 2.1m rebates of £140 were paid, including to 1.4m lower income pensioners and a range of other support to vulnerable households⁴. This is expected to increase to 2.3m during 2018/19, reflecting (nominal) increases in the WHD budget.
8. Currently, the WHD scheme has an overall expenditure target for each financial year, which is divided into 3 main subgroups. The majority of spending each year is on automatic discounts made on the electricity bills of low income pensioners who are in receipt of a subset of Pension Credit; this is known as the '**Core Group**'.
9. 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 Business, Energy and Industrial Strategy 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:

² <http://www.gov.scot/Resource/0052/00527441.pdf>

³ 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>

⁴ See Ofgem Warm Home Discount Annual Report, Available at: https://www.ofgem.gov.uk/system/files/docs/2016/12/whd_annual_report_sy5_final_for_publication2.pdf

- The **‘Broader Group’** – participating suppliers provide energy 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.

- **‘Industry Initiatives’** – Until the end of scheme year 7 (2017/18), 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 such activities as providing debt write-off, installing energy efficiency measures and offering energy saving advice or providing rebates to certain households.

10. For the extension period (2018/19), the Government is proposing to raise the collective maximum Industry Initiatives to £40m, and reducing maximum spend on debt write-off from £12m to £10m. The latter is intended to reduce the high levels of spending on debt-write off, encourage spending on other Industry Initiative activities, and ensure suppliers are not credited via a Government scheme for something which is commercially attractive, and part of their responsibilities under their licence conditions.

11. The legislation covering the current Warm Home Discount comes to an end in March 2018. New Regulations are required for the WHD scheme to continue. In addition to the above changes, the Government proposes to make a minor addition to the standard definition of Broader Group eligibility, while keeping Core Group eligibility unchanged. Lower income 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.

12. In the longer term, the Government proposes to make more significant changes to the scheme to streamline delivery, and to ensure that support is better targeted at fuel poor households in greatest need. These improvements could be underpinned by new data sharing arrangements, which would enable us to provide working-age customers with Core Group-style automatic rebates for the first time. We are also seeking to bring new datasets to bear, including Government-held energy efficiency data, which would pave the way for rebates to be prioritised for those in the coldest homes. This is consistent with the commitments in the Fuel Poverty Strategy for England to target support at Low Income High Costs households and to do so through better use of data.

2. Rationale for intervention

13. Helping a household to improve the thermal comfort and efficiency of fuel poor households 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 October 2017⁵, approximately 775,000 measures were delivered to low income households through the ECO Affordable Warmth target.

14. 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 poverty⁶.

15. The last 10 years show a generally upward trend in fuel prices, with the cost of domestic fuel having risen significantly⁷. These costs fall disproportionately on the fuel poor, who have greater

⁵ Household Energy Efficiency National Statistics (BEIS, 2017):

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/669827/Headline_HEE_tables_21_December_2017.xlsx

⁶ Hills (2012). Getting the measure of Fuel Poverty, Final Report of the Fuel Poverty Review, LSE, CASE report 72, Chapter 7, 144-173

⁷ Quarterly Energy Prices (BEIS, 2017). Available at:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/647090/QEP_Q217.pdf

than average energy needs, and those with low income, who spend a greater portion of their income on meeting their energy needs. The extension of the WHD would ensure support to vulnerable households, through providing supplementary income to meet their demand for energy and other necessary goods.

16. 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.⁸ 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.

3. Policy Options

3.1 Options considered

17. Two policy options have been considered:

- **Do Nothing:** under the current scheme regulations, support to low income and vulnerable households would stop at the end of the 2017/18 scheme year when the current scheme regulations expire.
- **Policy Option 1:** extend the WHD, rolling forward the policy design to 2018/19 with some changes to the Industry Initiatives. These changes entail increasing the maximum collective spend on Industry Initiatives to £40m, reducing the collective cap on the amount suppliers are able to spend on debt write-off from £12m to £10m, and allowing obligated suppliers to provide financial support to households that are in, or at risk of, fuel poverty, and not otherwise in receipt of the rebate. The collective cap for financial support would be £5m, and £140 per recipient. 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.

18. The Government recognises the option to extend the WHD with no changes. However, modelling the extension with the current design – an Industry Initiative cap of £30m and debt write-off cap of £12m - resulted in a small change in Net Present Value compared to Policy Option 1 (the preferred option). Given the small magnitude of the difference, and the Government's aim to diversify the range of activities undertaken through Industry Initiatives and limit debt write-off, we have not presented this option in this Impact Assessment.

4. Improvements to the evidence base

19. Since the publication of the last WHD Impact Assessment in 2016 (which assessed the impact of the scheme during 2016/17 and 2017/18), BEIS has made improvements and updates to its evidence base. The main updates are discussed below.

⁸ 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

4.1 Administrative costs

20. Towards the end of 2017, BEIS surveyed suppliers that offered the Warm Home Discount in order to improve its understanding of the administrative costs they expect to incur in meeting their obligation.
21. Two sets of data were obtained: the expected administrative costs for the scheme during 2016/17, and the estimated administrative costs during 2018/19. The evidence presented in this IA is based on the estimated administrative costs during 2018/19. As a result of this update, we have reduced assumed supplier administrative costs from £11m to £8m.
22. To date, supplier responses have provided information for a collective total 87% of the market. This data has been extrapolated to provide a robust estimate for total supplier administrative costs. BEIS welcomes further evidence on industry administrative costs as part of this consultation.
23. Updated administrative costs to the Government were also obtained, and underpin the analysis presented in this IA. As a result, the administrative costs to the Government have fallen from £1.7m to £1.2m.
24. More information can be found in Annex 3.

Supplier spend on debt write-off

25. In previous impact assessments, it was assumed that all suppliers maximise their debt write-off cap. However, BEIS has revised this assumption based on scheme year 6 (2016/17) data which details individual supplier spending on Industry Initiatives and debt write-off. This evidence suggests that only a proportion of suppliers have offered debt write-off up to their cap. BEIS has therefore assumed that only those that have historically delivered relief up to the cap will continue to do so, while others are assumed to deliver below their cap (at historical levels).
26. The overall debt write-off cap of £10m (as outlined above) will be apportioned to suppliers based on their share of the Warm Home Discount. This is applied to the assumed level of spend for each supplier to provide the expected £6m spend on debt write-off during 2018/19 (i.e. below the cap of £10m overall). We will review this assumption following feedback from the consultation.

English Housing Survey and Fuel Poverty Dataset

27. The modelling underpinning this IA has been updated to the latest wave of the English Housing Survey (2015/16) and fuel poverty dataset (2017). The variables underpinning the analysis remain, however, consistent with those used in the previous [Warm Home Discount IA](#)⁹.

Warm Home Discount Evaluation

28. The Government is publishing the evaluation of the Warm Home Discount to 2015 alongside this impact assessment and accompanying consultation document. The main findings are discussed below.

Labelling effect

29. Previous Warm Home Discount Impact Assessments have assumed that 41% of the total Warm Home Discount rebate is spent on improving the thermal comfort of the recipients' homes. This assumption is based on research for Winter Fuel Payments which has shown that labelled transfers (e.g. the label "Winter Fuel Payment") led to a higher proportion of the transfer being spent on fuel

⁹ Note that the impact assessments for the future of the Energy Company Obligation is expected to be based on the 2013 English Housing Survey. The modelling, however, is updated to reflect delivery since 2013.

use than would typically be expected for a non-labelled transfer¹⁰. As the WHD rebate is delivered directly on the energy bill and is also labelled as “Warm Home Discount”, we assume the rebate encourages consumers to recycle the rebate back into energy consumption. We assume this response to be uniform across all recipient households. This so-called ‘labelling effect’ was tested as part of the evaluation.

30. The WHD evaluation’s findings regarding the labelling effect are mixed. Findings are inconsistent between different model specifications, however overall the results suggest the existence of a labelling effect is likely¹¹. Given the lack of conclusive evidence as to the existence or size of the labelling effect, and the evidence supporting the labelling effect for the Winter Fuel Payment, we have maintained the 41% assumption, but will keep the assumption under review. Sensitivity analysis has been carried out on the size of the labelling effect; see Section 6 for details.

Health Impacts

31. The WHD evaluation found a small increase in the internal temperature of properties in receipt of WHD, and concluded this is likely to have led to health improvements amongst WHD recipients. BEIS is currently reviewing the health impacts of WHD, and welcomes feedback as part of this consultation. Because these health benefits are not monetised in the cost-benefit analysis, while all the costs are, the net present value of the policy is likely to be higher in reality than those presented in this IA.

Supplier switching

32. Previous IAs have assumed that the Warm Home Discount does not have a detrimental impact on consumers’ switching behaviour, which is largely supported by the WHD evaluation. Given these conclusions, this IA maintains that assumption. See Annex 1 for a more detailed discussion of the impact of WHD on competition and small businesses.

5. Cost-benefit analysis

5.1 Methodology

33. 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 Tables 5.1 and 5.2 and the methodology for each is discussed below.

Table 5.1 – Summary of Costs and Benefits

	Benefits	Costs
Monetised	<ul style="list-style-type: none"> - Equity weighted value of reduced bills (including 1/4 of Industry Initiatives spent on debt write-off), through: <i>Change in bills</i> <i>Change in comfort</i> - Industry Initiative spending, not including debt write-off (not equity weighted) 	<ul style="list-style-type: none"> - Equity weighted value of increased bills (including administrative costs) - Impact of changes in energy consumption, greenhouse gas emissions and air quality - Costs of Industry Initiatives
Non-monetised	<ul style="list-style-type: none"> - Fuel Poverty Impacts - Health Impacts - Industry Initiative Impacts 	<ul style="list-style-type: none"> - Nil

10 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>

¹¹ See Analytical Report 2, p. 37.

5.1.1 Impact on Households

34. The policy will be delivered by energy suppliers in proportion to their market share of domestic customer accounts¹². 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, will influence household demand for energy from which a number of societal costs and benefits will stem.
35. 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.

Table 5.2 presents the Net Present Values (NPV) of the Central Scenario:

Table 5.2 – Summary of discounted Costs and Benefits (£ millions)		
		Policy Option 1
Benefits	Equity weighted value of rebate (including the impact of the £21m from Industry Initiatives spent on rebates and debt write-off)	348
	Increase in equity weighted comfort (including the impact of the £21m from Industry Initiatives spent on rebates and debt write-off)	242
	Remaining £19m of Industry Initiatives (not equity weighted)	19
	Total Benefit	609
Costs	Equity weighted value of bill increase	440
	Administrative costs to Industry ¹³	[8]
	Reduction in utility from lower energy consumption (bill-payers)	4
	Resource Costs	58
	Carbon Costs	17
	Air Quality	5
	Administrative Costs – Government	1
Total Cost		525
NPV		84

Rebate Recipients

36. 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 from the Department of Work and Pensions (DWP) for the year 2018/19 and the latest historical

¹² Ofgem calculate the market share of each supplier based on the number of domestic customer accounts suppliers holds on the 31st December of each operational year of the scheme.

¹³ We assume industry administrative costs are paid for through bill increases so this cost is a subset of the value of bill increases.

data on the success rate¹⁴ of data matching between suppliers' and DWP's records. Households that meet the Core Group criteria automatically receive the rebate, which in turn determines the size of non-core spending. For 2018/19, we have estimated Core Group expenditure of approximately £179m to support 1.3m households.

- **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 roughly 50% of the maximum (not including debt write-off), we estimate Broader Group expenditure of approximately £135m to support 1m households.

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 the consultation proposes to amend to include Universal Credit (UC) recipients in work with earnings not exceeding £16,190, and to reflect changes made by the Department of Work and Pensions to the work-related activity element of Employment Support Allowance and Universal Credit, but can supplement this with their own. The consultation that accompanies this IA provides more information on the Broader Group eligibility criteria.

- **Industry Initiatives:** Currently, 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 (currently limited to £12m of the total), installing energy efficiency measures, and offering energy saving advice or providing rebates to certain households. We also propose to allow obligated suppliers to provide financial assistance up to £140 per customer to households that are not in receipt of the rebate, but are in, or at risk of, fuel poverty. This activity would be subject to a collective cap of £5m. The remaining portion of the Industry Initiatives cap is channelled into additional rebates for the Broader Group.

Industry Initiative spending rose 26% from 2015/16 to 2016/17, while debt write-off rose by 5%. It is possible that suppliers continue to increase their spending on these activities. Although recent historical data suggests an upward trend in Industry Initiative spending, there is insufficient evidence to assume this will continue.

The Government aims to incentivise a greater amount and a more varied range of activities under Industry Initiatives, and to prevent excessive spending on debt write-offs. Therefore, the Government proposes raising this collective maximum to £40m, and limiting debt write-off spending to £10m. We also propose extending financial support to vulnerable groups that would otherwise be ineligible for the rebate, up to £140 per recipient and a collective total of £5m.

In this IA, we assume that £19m out of the maximum £40m would be spent on industry initiatives (excluding debt write-off). Of the remaining £21m, we expect £6m to go on debt write-off, with the remaining £15m being delivered to the Broader Group in additional rebates. These figures have been calculated by applying the proportion of each supplier's Industry Initiative and debt write-off spend to their new caps. This is expected to achieve a further 30% increase in Industry Initiatives and a 35% reduction in debt write-offs, compared to 2016/17.

37. We assume that debt write-offs have a similar effect to rebates, in that they reduce household costs relating to energy and increase disposable income. We also assume that debt write-off recipients share similar income characteristics as those in the Broader Group (which includes a range of low income and vulnerable households). Although the proposed £5m financial support would likely have a similar effect to rebates and debt write-off, we have included this spend within the non-weighted £19m industry initiative spend, as the level of supplier participation is uncertain¹⁵. Therefore only the £6m debt write-off spend is modelled as rebates to Broader Group households, and, as a result, total non-core rebate expenditure rises to £142m. Henceforth, when we refer to rebates delivered to the Broader Group, we will also be referring to the spending on debt write-off.

¹⁴ 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 94.44%); the sweep up rate (assumed to be 25%) refers to the number of successful matches after responses received to DWP letters.

¹⁵ We welcome feedback on suppliers' interest in this activity.

Energy Demand

38. How households alter their behaviour in relation to energy use as a result of receiving a rebate or debt write-off or funding the WHD scheme (bill-payers) will determine energy demand responses.
39. We have assumed that rebate recipients will spend 41% of their rebate on increased energy use to drive a higher level of thermal comfort in the home (see 'Improvements to the evidence base', above for more information).

Increase in income

40. 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 appraisal¹⁶.
41. 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 marginal utility of income). Further information on the theory and method of using equity weights can be found in the [2016 Warm Home Discount IA](#).

Comfort

42. Low incomes have been shown to be correlated with lower temperatures within the home¹⁷. 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. As stated above, we expect recipients will spend roughly 41% of the rebate on increased energy consumption.
43. 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 guidance¹⁸. Further detail is provided in Annex 3.2.1 of the [2016 Warm Home Discount IA](#).
44. 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

45. In scheme year 5, the Government introduced standardised eligibility criteria for the Broader Group (which applied to all participant suppliers), while allowing participating suppliers to add their own criteria (subject to approval by Ofgem). The Government is proposing to keep this eligibility structure for 2018/19, and proposes to include Universal Credit recipients with earnings not exceeding £16,190¹⁹ and reflect changes made by the Department of Work and Pensions to Employment Support Allowance and Universal Credit. Allowing suppliers to add their own criteria allows suppliers to differentiate themselves in the market, and provides suppliers with flexibility to base their criteria on the size of their obligation and customer base. However, this may impact on the switching behaviour of consumers. While we are unable to monetise the impact of Broader Group Criteria on switching, we provide a qualitative assessment in Annex 1 of how we believe this may have impacted our results.

¹⁶ HM Treasury (2003). *The Green Book*. Available at: <https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government>

¹⁷ 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%28Isero%29.pdf>

¹⁸ 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>

Bill Payers

46. All domestic gas and electricity bill payers²⁰ 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

47. 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.
48. The income elasticities assumed for those not receiving the rebate are informed by Jamasb and Meier (2010), who carried out a study into the determinants of energy expenditure in Great Britain.²¹ The study provides income elasticity estimates for different income groups, which allows us to assign different elasticities to households in each income decile group considered in this impact assessment. Despite this variation across income deciles, energy demand for those not receiving the rebate is assumed to be relatively income inelastic. This is likely to reflect the fact that relatively better off households are more likely to be consuming closer to their desired level of heat, and an increase in their bill will result in a relatively small decrease in energy consumption. Further, the increase in household energy bills is expected to be small relative to the size of their overall energy bill.

Change in bills

49. We assume the policy will lead to an increase in the 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.
50. 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.

Reduction in utility from lower energy consumption

51. 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.

5.1.2 Impact on resource costs, greenhouse gas emissions and air quality

52. Any increase in the net energy consumption from the WHD scheme has three associated costs: the energy resource cost²², the costs associated with additional greenhouse gas emissions and the impact on air quality.
53. 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.

5.1.2 Administration Costs

54. The delivery of support 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. As outlined above, BEIS has

²⁰ 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.

²¹ 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>

²² 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.

updated its administrative cost assumptions. Table A3.1 in Annex 3 provides the updated estimate of the administrative costs of the scheme.

55. The results in Table 5.2 are driven by a number of different factors that impact the benefits and costs, which we explore, as follows:

5.2.1 Benefits

Equity Weighted Value of Rebates

56. The support provided by the Warm Home Discount rebate (including debt write-off) should 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 38, 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 equity weighted, the value of the reduction in energy bills becomes larger than its monetary value because the rebate transfers income from all bill payers to households on a lower income.

Equity Weighted Value of Comfort

57. As mentioned above, we assume that 41% of the rebate is spent on energy (increase in comfort). The social value of increased comfort experienced by rebate and debt write-off recipients is high. This is the result of two effects. The first is due to the relatively more elastic response of rebate recipients than bill payers (as discussed in section 5.1.1) due to the labelling effect. The second is due to the policy targeting low income households, who value the change in comfort at a higher magnitude than high income households.

Remaining share of Industry Initiatives not spent on debt write-off or rebates

58. Industry Initiatives are the third element of the WHD scheme. The expected spend on this element of the scheme is estimated to be around £19m, excluding spending on debt write-off. There are a number of activities (such as providing debt write-off, installing energy efficiency measures, offering energy saving advice or providing rebates to certain households) that participating suppliers can undertake to comply with their share of Industry Initiatives. We assume that this share of Industry Initiatives would bring about a £19m benefit in the implementation year. This implies a benefit to cost ratio of one for this spending. The reason for this assumption is that, although we know (based on this and previous analyses) that the share of those £19m spent on the installation of energy efficiency measures would bring about a net benefit, we do not have good evidence on the benefit to cost ratio of the other activities. Therefore, we take a conservative approach in assuming a benefit to cost ratio (non-equity weighted) of one (on average) for all these activities.

5.2.2 Costs

Equity weighted value of bill increases

59. Households paying for the rebate and not benefitting from it experience an increase in their energy bills. The rise in energy bills is smaller than the cost of the rebate and the administrative 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. The equity weighted value of the increase in energy bills is £440m. 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 5.1.1).

Reduction in Utility from Lower Energy Consumption

60. There is reduction in utility of bill payers from their lower energy consumption, as a result of bearing the costs of the policy on their energy bills. 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 5.1.1.

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

5.3 Non-Monetised Benefits

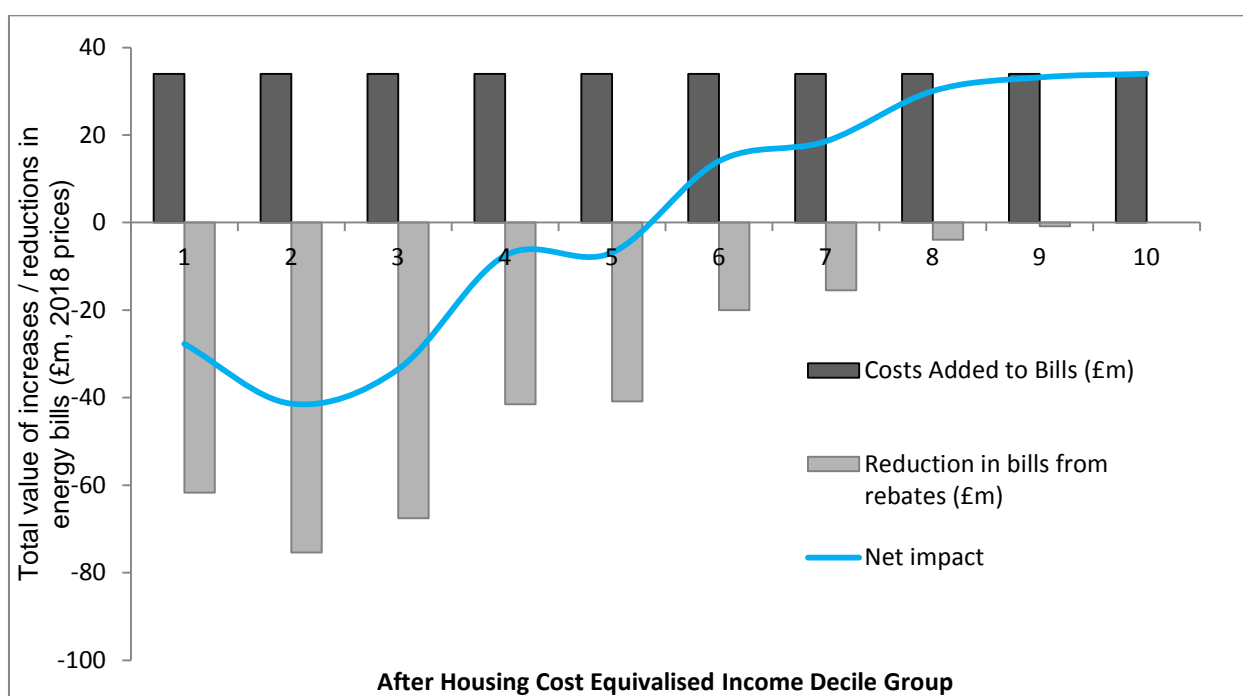
Distributional and Fuel Poverty Impacts

62. 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

63. WHD targets support for low income households, meaning that the policy drives positive distributional outcomes in terms of helping to 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 5.2 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 1, 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 1: Distribution of scheme costs and bill reductions from WHD (nominal prices)



Fuel poverty impacts

64. As well as driving positive distributional incomes, the targeting of WHD at low income households is likely to also 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 definition of fuel poverty, meaning it is not possible to conduct an overall assessment of the impact of WHD at the GB level.

65. We estimate that in England the WHD in 2016/17 will reduce the number of households in fuel poverty by around 112,000 households while also driving a reduction in the aggregate fuel poverty

gap for recipient households of around £35m (in 2015 prices²³), compared to the Do Nothing counterfactual scenario.

66. Details on the methodology to model the impacts on fuel poverty can be found in Annex 2 of the [2016 WHD IA](#). 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.

Health Impacts

67. 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 temperatures²⁴. 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. Although the WHD evaluation, published alongside this IA, suggests the portion of the rebate spent on fuel could be smaller than assumed in this IA, it finds that the rebate has had a positive impact on dwelling temperature and self-reported physical and mental health, where the rebate was spent on fuel. This suggests the WHD leads to some positive health outcomes, although its size depends on the magnitude of the labelling effect.
68. Despite evidence for their presence, the anticipated health benefits of support through energy bills are not monetised in this Impact Assessment as at present there is no robust methodology with which to quantify the health impacts of direct energy bill support.

5.3.3 Switching

69. Evidence presented in the WHD evaluation suggests that the scheme does not have an adverse effect on consumer switching. We have therefore assumed that WHD does not have an effect on switching. See Annex 1 for a more detailed discussion of the effect on switching and small businesses.

6. Risks and Sensitivities

70. 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.

6.1 Sensitivities of key assumptions

71. Given the uncertainty around the key assumptions, the following sensitivity analysis has been undertaken:
- Administration Costs
 - Energy Demand Response
 - Energy Prices and Emissions Costs
 - Combination of all scenarios
72. Figure 2 and Table 5.1 show the results of changing the above assumptions on the NPV. As shown, the central scenario provides a NPV of £84m. The combined high scenarios lead to a 46% reduction in NPV, largely due to greater, more costly emissions. The combined low scenarios lead to a 34% increase in the NPV.

²³ The 2017 Fuel Poverty estimates are based on the 2015 EHS and use 2015 energy prices, whilst monetised costs and benefits in this impact assessment are in 2016 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 2015 prices.

²⁴ Hills (2011). Fuel Poverty: The problem and its measurement, CASE Report 69, Section 3, available at: <http://eprints.lse.ac.uk/39270/1/CASEREport69%28Isero%29.pdf>

73. In order to measure the sensitivity to changes to individual assumptions, 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 2 : Graph demonstrating the percentage change in NPV from changing assumptions in the analysis

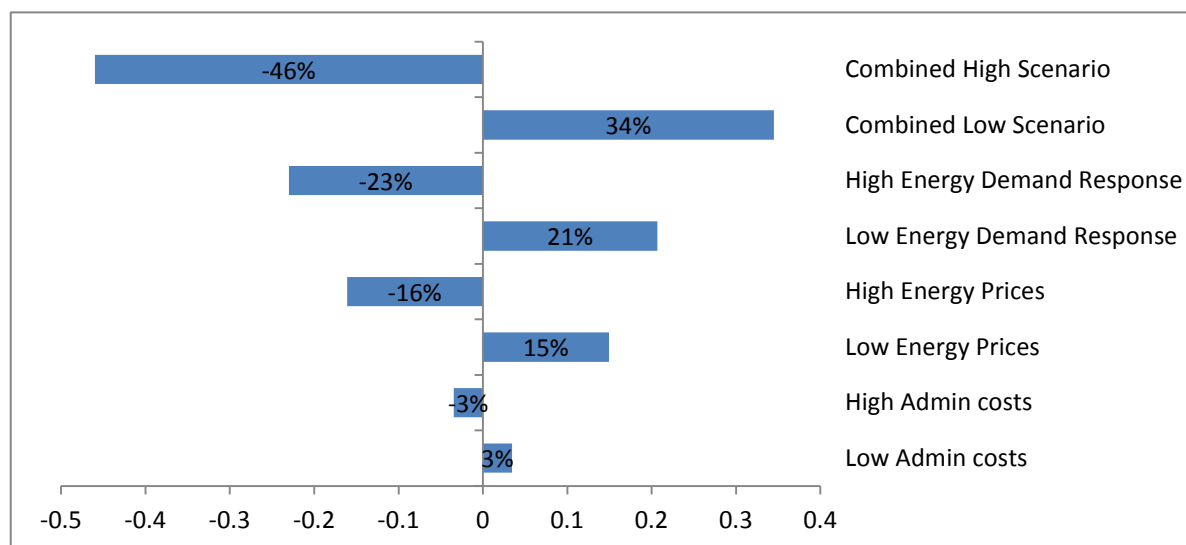


TABLE 6.1 – Sensitivity of NPV to assumptions				
Assumptions	Scenario	Description of change in assumption from central scenario	NPV under modified assumption ²⁵	Change in NPV (% change)
Demand Response	High	25% increase	£64m	-£20m (-24%)
	Low	25% decrease	£105m	+£20m (+24%)
Admin Costs	High	25% increase	£82m	-£3m (-3%)
	Low	25% decrease	£87m	+£3m (+3%)
Energy Prices	High	IAG high energy price projection	£71m	-£13m (-16%)
	Low	IAG low energy price projection	£96m	+£12m (+14%)
Combined Scenarios	High	Combined above changes	£45m	-£39m (-47%)
	Low	Combined above changes	£116m	+£32m (+37%)

74. Table 6.1 and Figure 2 show that the NPV is most sensitive to assumptions around the demand response – as a 25% change in the demand response assumption leads to a change in the NPV of 23%. This sensitivity analysis entails applying a +/- 25% margin to the energy demand response rates of both recipients and non-recipients. A sensitivity check was also done using the mid-point of the labelling effect range provided in the WHD evaluation, which led to an increase of 76% on the central NPV, reaching £149m. In this case the central income elasticity of demand for non-recipients was used.

75. Although the evaluation's findings were inconclusive as to the size of the labelling effect, it provided some evidence that the labelling effect may be smaller than assumed in this IA. Therefore, the low

²⁵ Figures may not sum due to rounding.

demand response scenario may be more likely than the high scenario. This suggests the NPV may be likely to be greater than presented in the central scenario.

76. However, the sensitivity of the NPV with respect to energy demand is likely over-stated. This is in part because we monetise the main costs associated with it (i.e. the change in energy demand and related impacts on greenhouse gas emissions and air quality), but we have insufficient evidence to accurately 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.
77. Price scenarios affect the NPV in three 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 Annex 3.2 for more information). Second, long run variable prices are used to calculate the resource cost. Third, emissions costs are used to calculate charges imposed on energy companies for emitting pollution.
78. The administrative costs are expected to be added on to the energy bills of all customers of participating suppliers, which impacts their energy demand response and subsequently has an impact on air quality and carbon emissions. The change in administrative 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.
79. It is worth noting that the NPV is positive in all cases, and significantly less sensitive to high and low scenarios than it has been in previous Impact Assessments. This is due to a larger central NPV, which is a result of updated assumptions to the modelling regarding the income distribution of Broader Group recipients, which is now more skewed towards the lowest income deciles. This results in greater equity weighted benefits and a greater NPV, against which changes from different scenarios are relatively smaller.
80. Wider impacts of the Warm Home Discount are presented in Annex 1.

Annex 1. Wider Impacts

A1.1 Greenhouse Gas emissions

81. We estimate the net increase in greenhouse gas emissions arising from increased fuel consumption to be broadly equivalent to those in the 2016 Warm Home Discount impact assessment. This amounts to 0.13 MtCO₂ in the traded sector and 0.25 MtCO₂ in the non domestic sector from 1st April 2018 to 31st March 2019.

TableA1.1 - Estimated increase in emissions of greenhouse gases (Mt CO ₂ e)	
Sector	Policy Option 1
Traded	0.13
Non-traded	0.25

82. For greater detail on the methodology and income elasticities used to estimate the changes in energy use see Annex 3 of the [2016 Warm Home Discount IA](#).

A1.2 Impact on competition

83. This section considers the competition impact of the Warm Home Discount scheme. The general assessment is made against two key criteria:
- Does the policy directly or indirectly limit the number or range of suppliers in the market; and,
 - Does the proposal limit the ability of suppliers to compete?

Does the policy limit the number or range of suppliers?

84. 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.
85. 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.
86. 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?

87. 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

88. A more detailed discussion of the policy's impact on competition and switching is provided below.

A1.3 Impact on small businesses

89. 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 ongoing administrative burdens.

90. Further, the imposition of these larger administrative costs may present a greater challenge for smaller energy suppliers 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).

91. 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.

92. 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 the rebate with a participating 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 Group²⁶, which may allow smaller suppliers to compete against obligated companies for Core Group members. However, the WHD evaluation suggests that Broader Group members were more likely than Core Group members to base a decision to switch suppliers on whether or not they would be eligible for the rebate with their chosen supplier. On the other hand, it also suggests that Broader Group members are more likely to make switching decisions based on price, therefore non-participating suppliers may have an advantage in attracting these customers. The impact on the ability of smaller suppliers to compete against obligated suppliers is therefore unclear.

- 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 which carry a similar threshold.

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.

93. 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 market²⁷. 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.

²⁶ 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.

²⁷ State of the Market Assessment (Ofgem): <https://www.ofgem.gov.uk/publications-and-updates/state-market-assessment>

94. 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.
95. 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.

A1.4 Rural Proofing

96. 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 2015, around 14% of households residing in village, hamlet and isolated dwellings were fuel poor with an average fuel poverty gap of £726 compared to 11% of households living in urban areas, which had an average fuel poverty gap of £303.²⁸
97. 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. They are also on average less likely to be connected to the gas grid, and therefore tend to rely on relatively more expensive fuel types to heat the dwelling. As a consequence, rural households often have larger costs of achieving an adequate standard of thermal comfort in the home.
98. 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.
99. 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.

Annex 2 - Valuing the distributional impact of Warm Home Discount

100. 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 obligations²⁹, 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.
101. 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 A2.1 below.
102. 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.

²⁸ <https://www.gov.uk/government/statistics/fuel-poverty-detailed-tables-2017>

A2.1 Income Distribution of eligible and non-eligible households

103. 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:

- Suppliers are able to select their own eligibility criteria (subject to approval by Ofgem); and,
- 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;

104. 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 CWP, 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.

105. Table A2.1 provides a breakdown of the proportion of households distributed across the different income decile groups according to the eligibility group they fall into. We use these proportions as probabilities of the number of households in each AHCEq income decile group.

Table A2.1 – After Housing Cost Equalised Income Distribution of Groups

Income Decile Group	Core Group	Broader Group
1 - Poorest	8%	31%
2	17%	30%
3	23%	18%
4	15%	10%
5	19%	5%
6	10%	2%
7	8%	1%
8	1%	1%
9	0%	0%
10 - Richest	0%	0%

Annex 3 – Estimating the administrative burden

106. 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.

A3.1 Costs to Government

107. The costs to Government are based on actual estimates from previous years figures from 2016/17, and assumed to continue at these levels to 2018/19. 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; and,
- Ofgem's role in providing a reconciliation mechanism for Core Group rebates. This rebalances the costs of the 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 A3.1 – Administration Costs to Government (£m, 2018 prices)

Mailing	0.32
Printing and production	0.08
Core Group Reconciliation	0.01
Serco	0.44
Datamatching	0.35
Total	1.2

A3.2 Costs to Industry

108. Our estimate of the aggregate administration costs from the scheme has been derived directly from the information provided to us by obligation obligated suppliers, and is estimated to be around £8m in 2018 prices. 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 continue. Moreover, there is no evidence to suggest that the changes to the scheme would alter any of these on-going administration costs. We welcome further evidence to support these estimates.