NEA

Action for Warm Homes

NEA Discussion Paper

Water Poverty: A Common Measurement

August 2019

Executive summary

This paper sets out to explore how adoption of a common and consistent set of approaches to tackling 'water poverty' may lead to successful outcomes for customers. It is designed to generate debate across all interested stakeholders and to consider ways in which water can be made affordable for all customers. It outlines the different approaches to measuring water poverty which are currently used and discusses the merits of developing a shared understanding of the issue across the water sector. Where possible, learning from the development of 'fuel poverty' as a concept has been drawn on, and both the similarities and the differences between the two concepts have been highlighted. The paper sets out four key recommendations that should be further explored to facilitate eradication of water poverty in the UK.

This comes at a time when the discussion surrounding poverty in the UK is ramping up; the report of Philip Alston, Special Rapporteur for the United Nations, highlighted that "one fifth of the population [of the UK] live in poverty, and 1.5 million people experienced destitution in 2017, unable to afford basic essentials" (Alston, 2019). As a person's access to safe, clean and affordable water is recognised as a human right (United Nations, 2014), the cost of water and sewerage bills should not be one of the many struggles for customers in difficult financial situations.

Switching is a commonly used method of tariff management within the energy market, and domestic customers are encouraged to switch regularly to ensure they have the best deal. In the UK, water companies are regional monopolies, and so domestic customers do not have the choice to switch as they do within energy. This places a reliance on the water companies to propose fair, affordable bill profiles which do not unfairly impact customers, and a requirement for the water regulator, Ofwat, to propose rules, monitor compliance and review company business plans and pricing strategies.

The budget determining the Minimum Income Standard (MIS) includes a provision for water bills based on household type; this is approximately 3% of household income after housing and childcare costs regardless of household type. This supports NEA's recommendation for a common measure based on this 3% model, also supported by the United Nations General Assembly 'definition' of affordability related to the provision of water (2014).

The paper concludes that, once a common measure is in place, the UK Government should set a statutory target to eliminate water poverty and introduce a national action plan to make this vision, of eradicating water poverty, a reality.

Key recommendations

1. Industry should work towards the 3% measure of water poverty meaning that a household will be in water poverty if it spends more than 3% of the household disposable income on their combined water and sewerage bill(s).

2. A measure of the 'water poverty gap' at both average and aggregate level should be tracked by different household characteristics to understand the depth of the issue and its distribution.

3. Government should look to set out a water poverty strategy and set a statutory target to eliminate water poverty by 2030.

4. The approach to social tariff eligibility and support levels should be reviewed to ensure customers are treated fairly and not detrimentally impacted due to where they live.

What is ‘water poverty’?

A person’s ability to access safe, clean and affordable water is recognised by the United Nations as a human right (2014). The concept of ‘water poverty’ has therefore developed to consider both a lack of access to clean water and sanitation and the cost of consuming it. In the UK, access to safe and clean water is rarely compromised, though changing climates and growing populations may affect this in the future. The affordability of water however varies between different customer groups and circumstances, leading to some customers choosing to restrict their consumption in an attempt to manage cost. Alternatively, some customers accumulate debt with their water company which can lead to collections procedures. Therefore, when referring to water poverty in the UK, we are referring to the ability of a customer to pay their water and sewerage bill(s) and not their ability to access safe and clean water.

For a number of years, the measurement of water poverty has been accepted as “the proportion of households spending more than 3% and 5% of their household income (after housing costs) on [their water and sewerage bills], and the percentage of customers that do not think their water bill is affordable” (CCWater, 2018). Although adopted by a number of organisations, neither of these has been adopted by government as a definition of water poverty, and so are open to challenge. This means, that although multiple organisations may have the same intention (to reduce or eradicate water poverty), they may be measuring success in different ways, meaning some customers struggling to pay, or at risk of struggling to pay, may not benefit from support in one area of the country, when they could in another. The Department for Environment, Food and Rural Affairs (Defra) used 3% as “a water affordability indicator” in their water strategy “Future Water” (2008). This measure was later referred to as having “previously been used” by UK and Welsh Government in a House of Commons briefing paper (2016).

The geographical differences are widened further by the requirement for each water company to consult with their customers on their approach to supporting customers, agreeing with them the amount of customer contribution to a cross-subsidy to pay for these services (an additional charge per household bill). This raises an important point that customers’ eligibility to support, and the levels of support they can access via social tariffs, varies widely depending on where they live. In affect eligibility and the level of support social tariffs provide becomes akin to a ‘postcode lottery’. In other areas, such as the Warm Home Discount, there is greater parity as all eligible customers receive the same payment amount.

Ofwat first reported against both 3% and 5% in the Affordability and Debt report recognising varying levels of severity of water poverty (Ofwat, 2010), most recently updating their findings in 2013/14. The most recent figures suggest that 24% of customers spend more than 3% of their household income (after housing costs) on their water bills, and 11% spend more than 5% (both based on 2013/14 data).

The Consumer Council for Water (CCWater) conducted their annual ‘Water Matters’ survey, which provides insight into the number of customers who perceive that their bills are not affordable (CCWater, 2018). When asked if their water bills are affordable, 11% of customers responded to say they are not (based on the 2017/18 survey). This is used as a measure of water poverty by some water companies, with similar questions being asked of their customers, instead of using the percentage indicators.

In 2010, “through Resolution 64/292, the United Nations General Assembly explicitly recognised

the human right to water… calling upon states and international organisations to provide financial resources, help capacity-building and technology transfers… to provide safe, clean, accessible and affordable drinking water and sanitation for all. Water, and water facilities and services, must be affordable for all. The United Nations Development Programme suggests that water costs should not exceed 3% of household income" (United Nations, 2014).

In 2011 the Joseph Rowntree Foundation (JRF) commissioned a paper to look at the effects of global economic trends on the UK Minimum Income Standard (MIS) – the minimum income required for a household to achieve a decent standard of living (Hirsch, et al., 2011). The paper details the importance of each category of goods and services within MIS as a percentage of the overall budget, outlining water as 3% of the total. The data tables published by Loughborough University (Centre for Research in Social Policy, 2019) show the annual MIS budgets from 2008 to 2018, which show the proportion of each category as a proportion of the budget by different household types. The percentage of water bills is rarely above 3%, with only single pensioner households and lone parent, one child households having a higher proportion budgeted (at 3.27% and 3.23% respectively, based on the average of each year reported).

This data shows that in order for the majority of households to meet the MIS, the cost of their water bills cannot exceed c.3% of the household income after housing and childcare costs. The main findings of the most recent MIS report suggest that "working lone parents… working full-time on the [National Living Wage]… typically fall £70 a week short of a MIS budget" (Davis, et al., 2018). When calculated on an annual basis, someone earning the National Living Wage and working 37.5 hours per week in 2018, earned £15,269 per year before tax (Office for National Statistics, 2018). Davis et al. (2018) reported that "a single person must earn £18,400 to meet MIS" demonstrating a significant gap to meet a decent standard of living. Taking this into account, to ensure the most at risk in our society are supported with the costs of their bills in order to alleviate the strains of other household expenditure, support services must be aimed at those whose combined water bill is equal to, or greater than, 3% of their household income after housing and childcare costs. Focusing on a measure higher than this, such as 5% may impact the most severe cases of water poverty in our society but would not improve the situation for a significant number of households who already do not meet the MIS.

Finally, and most recently, the first published definition of water poverty in legislation was laid out in the Digital Economy Act (2017) which stated that:

> *"For the purposes of this chapter a person lives in water poverty if the person is a member of a household living on a lower income in a home which –*
>
> (a) *Cannot be supplied with water at a reasonable cost, or*
> (b) *Cannot be supplied with sewerage services at a reasonable cost."*

So, whilst there is now a definition in legislation, there is still a divergence in measurement, which has been seen during the current PR19 (2020-2025) price review. In September 2018, the 17 regulated water companies in England and Wales submitted their draft business plans to Ofwat under the PR19 price review. The methodology for this review includes an assessment of 'Addressing Affordability and Vulnerability' as one of four key themes, "incentivising companies to develop business plans that address; overall affordability, providing value for money; affordability in the long

term; and affordability for those struggling, or at risk of struggling, to pay" (Ofwat, 2017). All Business Plan submissions include plans to extend social tariffs and reduce bills to support customers in water poverty, with varying measures of water poverty being used. One water supply only company uses a 2% measure of water poverty, though this would only account for one part of a customer's bill. The 3% and 5% definitions have also been referenced, as has a more subjective approach – the percentage of customers who feel their water bills are affordable (taken from a survey of customers). The intention of the 17 water companies is clear; they all seek to support customers with affordability issues, and will apply similar techniques to do so, however the measurement of success is currently inconsistent.

Why are consistent approaches to measurement important?

- When multiple parties are working towards a common goal, a shared understanding of what the aim is can be critical
- How progress will be measured is also key, varying measurements can create confusion or complacency by artificially reducing the scale of the challenge
- "When we use a common measurement system, we can make direct comparisons" (Haak, 2016)
- "The purpose of [a common measurement framework] is to provide a set of core indicators that define data to be collected on a regular basis and that help to measure progress [against a target]" (GCP, 2017)
- "Consistency is essential in a task-orientated goal since it allows you to trace your results through to completion" (Fahkry, 2018)

While the concept of water poverty is well established both in the UK and internationally, there is still no official agreed measurement for water poverty within the industry and with one in eight households finding their water bills unaffordable (CCWater, 2017) and an estimated 4.1 million people in financial difficulty (FCA, 2018) it is clear that an agreed measurement of success and consistent eligibility criteria would be helpful to ensure work to improve affordability for customers is aligned to common goals.

The next section of this paper considers the emergence of 'fuel poverty' as an issue and explores whether the development of a common measurement has been an important driver in efforts to address it.

Drawing relevant experience from approaches to tackling fuel poverty in the UK

The term fuel poverty was first used in 1977 by Eric Deakins, Labour MP for Walthamstow. The concept was acknowledged to be "the inability to afford adequate warmth at home… [arising] when low income is combined with high heating costs" (Bradshaw and Harris, 1983), but there had been no attempts to clarify what 'affordable warmth' was until Brenda Boardman's book 'Fuel Poverty: From Cold Homes to Affordable Warmth' (1991). Boardman summarised that the "most equitable way of assessing a reasonable amount of expenditure for fuel is judged to be as a percentage of income" and found that the amount spent on energy in absolute terms for low-income families represented 10% of their expenditure, in comparison to 4.4% for higher income households. It was therefore proposed that if "a household's energy costs are above 10% of their

income, they should be entitled to receive additional assistance". This was expanded to also consider the energy efficiency rating of a home, using the Milton Keynes Energy Cost Index (MKECI), summarising that fuel poverty "occurs when a family are unable to afford adequate warmth because they live in an energy inefficient home".

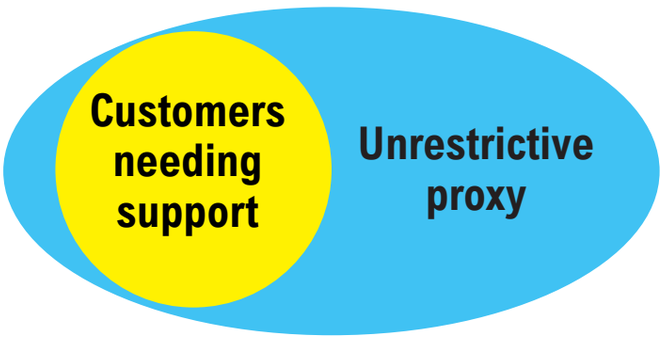
In 2000, the Warm Homes and Energy Conservation Act (WHECA) was passed by Parliament, where the meaning of fuel poverty was described as "… a person is to be regarded as living "in fuel poverty" if he is a member of a household living on a lower income in a home which cannot be kept warm at a reasonable cost" (Warm Homes and Energy Conservation Act, 2000), language that was then subsequently broadly adopted in the Digital Economy Act (2017) to define water poverty.

WHECA also placed duties on the Secretary of State (in England) and the National Assembly (in Wales) to define the subjective terms 'lower income' and 'reasonable cost' outlined in the first provision of the Act. This resulted in both England and Wales adopting broadly similar fuel poverty indicators. Importantly, the Act also required the UK government to produce a strategy which set out plans for eradicating fuel poverty within 15 years and resulted in the formation of the independent Fuel Poverty Advisory Group. The first UK Fuel Poverty Strategy was published in 2001 by the UK government, aiming "to eradicate fuel poverty across England, as far as reasonably practicable, in vulnerable households by 2010 and in all households by 2016". Similar aims were set out in The Housing Act for Scotland in 2001, and 'A Fuel Poverty Commitment for Wales' in 2003.

In 2011, Professor John Hills undertook an 'Independent Review of Fuel Poverty in England' on behalf of Chris Huhne, Secretary of State for Energy and Climate Change, outlining the advantages and disadvantages of the 10% definition, and determining if a more appropriate indicator existed. This resulted in the 'low income – high costs' indicator being adopted in England , alongside a new indicator to measure the depth of fuel poverty, the 'fuel poverty gap', however neither have been readily adopted by practitioners on the ground for targeting assistance to those most in need.

The Conservative and Liberal Democrat coalition simultaneously updated the Fuel Poverty Strategy in 2015 and introduced a new legal fuel poverty target: "to ensure that as many fuel poor homes as is reasonably practicable achieve a minimum energy efficiency rating of [EPC] Band C, by 2030" (Department of Energy and Climate Change, 2015). The strategy outlined the initiatives and actions Government would take to meet the key milestone targets to deliver their strategy, alongside a commitment to "review the fuel poverty strategy regularly" as "it is neither possible nor desirable to produce a one-off strategy setting out exactly how a 2030 target will be met " (Department of Energy and Climate Change, 2015).

From the very first time the phrase was used in 1977, the journey of fuel poverty as an issue for social policy has never been static. The introduction of the WHECA in 2000 provided a common definition of fuel poverty, which is still broadly followed today, but, more importantly, it introduced a duty on the Secretary of State to eradicate the issue within a specified timeframe. This duty led to the development of the Fuel Poverty Strategy and the introduction of the statutory fuel poverty target, raising awareness of the issues customers face within Government. Yet still, identifying those who are most in need of support can be challenging, and reconciliation of the proxies used to deliver practical assistance often causes tension dependent on how restrictive they are (see Figure 1).



To ensure all customers requiring support receive it, an unrestrictive proxy for identifying vulnerable customers is required, however other customers in less vulnerable situations may also be identified and supported.

Restricting the proxy reduces the number of customers receiving support unnecessarily, however will also exclude some customers who do require support. The risk of this increases as the restricted area becomes tighter.

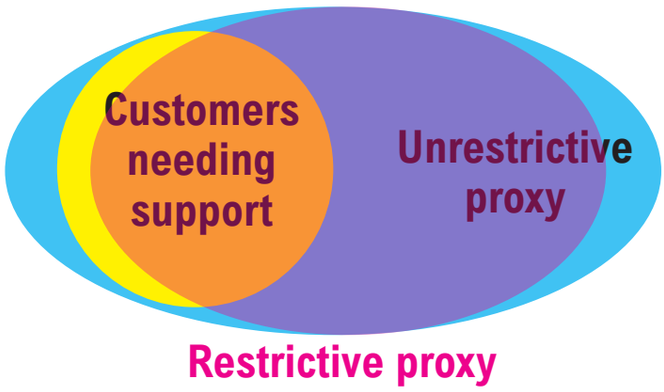


Figure 1 - Restrictive and unrestrictive proxies in fuel poverty

The lack of consistency of eligibility criteria for support services can result in some customers who require assistance being left behind; low customer awareness of this disparity can have a detrimental impact on those who need help the most, and in some cases can lead to a 'postcode lottery'.

Why is water different to energy?

Whilst this paper has highlighted why a common measurement can be important in driving strategic progress, it is also important to consider why water poverty requires some discrete consideration. This section aims to highlight some of the key differences between water and energy in relation to the cost of services.

Priority and non-priority debts

Unlike gas and electricity bills, water and sewerage bills are considered to be non-priority debts, as a domestic water supply cannot be disconnected or restricted due to arrears (Citizens Advice, 2012) following an update to the Water Industry Act (1999) which removed the powers previously granted to water undertakers in 1991. If a domestic customer chooses not to pay, or is unable to pay, their water and sewerage bill(s), the amount owed will continue to rise (The Money Advice Service, 2015), and water companies are able to initiate collections processes, including the use of debt recovery agents and county court judgements (Citizens Advice, 2012).

Switching

Another key difference between water and energy is the ability of customers to manage their costs through switching. Within the energy industry, customers are encouraged to switch to find the best deal, however a domestic customer has no choice in regard to the company who supply their water and sewerage services. Water companies are regional monopolies and are responsible for determining their charges in compliance with rules set by the water regulator, Ofwat (2017). Bills can therefore be influenced by geographical differences which cannot be managed by a domestic customer.

Social tariffs

The Flood and Water Management Act (2010) allows water undertakers to "reduce charges for individuals who would have difficulty paying in full" through introduction of a customer cross-subsidy funded "social tariff". These tariffs have specific eligibility criteria, usually based on a household income or receipt of specific benefits (CCWater, 2017). They are individual to each water company, and subsidy levels vary widely based on customers' willingness to pay them and the approaches companies use to apply them. In addition to this, help is offered by means of a price cap for customers with medical conditions requiring higher water consumption or large families through the WaterSure scheme, providing they are in receipt of income-related benefits (CCWater, 2010). Social tariffs do not exist with energy suppliers, due to competition in the market; the closest comparable service is the Warm Home Discount scheme, which applies an annual discount of £140 to a customers' electricity bill (gov.uk, 2019) providing they meet the eligibility criteria.

Private water supply

The possibility exists that a domestic customer may be connected to a private water supply, either from a local well, borehole, spring, lake, river or stream, or through a private distribution system (mains water privately distributed by another party); "about 1% of the population of England and Wales use a private water supply" (Drinking Water Inspectorate, 2018). Customers wishing to connect to their regional regulated water company's water and wastewater networks can do so, but at a one-off connection charge, often in the thousands. It could be argued that this one-off charge places a customer into water poverty under the Digital Economy Act definition of water and/or sewerage services supplied at a "reasonable cost". There is very little information available regarding the cost of private water supplies, and as such, it is suggested that this be explored as an additional theme in the future.

Water stress

As a result of climate change and population growth, England is at risk of "not [having] enough water to meet demand [within 25 years]" (BBC News, 2019). "The Environment Agency works with the water companies to help them understand what action they need to take to increase the resilience of the environment… if new infrastructure is needed… then this cost is passed on to customers" (CCWater, 2017). Although not published as a management tool within the UK, the concept of supply and demand, specifically the law of demand, states that "quantity purchased varies inversely with price… the higher the price, the lower the quantity demanded" (Chappelow, 2019) which suggests price control could be considered as a future management tool for water supply. Indeed, the European Commission (2012) stated "setting the price of water is a key tool used to support water management decisions; water that is under-priced may lead to its unsustainable use. In the EU, member states… are required, among other measures, to recover the cost of water services as a means of promoting sustainable and efficient water use."

Proposed recommendations

The case for a consistent approach to the measurement of water poverty is strong, as commonality will lead to clearer outcomes and minimise the risk of regional differences affecting a customer's eligibility for support.

If the goal is to eradicate water poverty, a percentage-based absolute definition will make this possible, unlike a relative low-income, high-cost definition. As the percentage-based measurement is the most commonly used measurement by involved parties (though the percentage-threshold used ranges from 2% (for some water supply only companies) to 5%) this would also likely be the simplest to implement across the industry.

NEA believes the industry should adopt the 3% measure of water poverty, in line with the MIS, meaning that a household will be in water poverty if it spends more than 3% of the household income (after housing and childcare costs) on their combined water and sewerage bill(s).

Recommendation 1 – Industry should work towards the 3% measure of water poverty, in line with the MIS, meaning that a household will be in water poverty if it spends more than 3% of the household income (after housing and childcare costs) on their combined water and sewerage bill(s).

It is important to note that NEA recognises that water companies have already submitted their plans to Ofwat for the next price control period, 2020-2025, and so their ability to amend their approaches water poverty may be limited. Companies could be encouraged to move towards this common measurement in line with the next price review, PR24, and focus on practical delivery projects and other innovations to alleviate water poverty under their current definitions in the interim.

Currently, the 3% threshold does not assume an income cap, though the Digital Economy Act definition references households "living on a lower income…". Further analysis should be undertaken to understand the risk of high usage/high income households being captured in this measurement. It is worth noting, that the 10% definition for fuel poverty was based on whether or not a household needed to spend 10% of their income to be adequately warm. A similar approach could be taken with water, to ensure customers spending less than 3% of their income due to their attempts to reduce consumption aren't overlooked, but this concept would require further development.

In addition to this, a measure of the 'water poverty gap' at both average and aggregate level should be routinely measured and tracked to ensure we understand the depth of the issue, and not just the absolute number of households affected. The implementation of both measures will ensure support is directed to those who need it the most. In 2013, Jonathan Bradshaw and Meg Huby reviewed the current state of water poverty in England and Wales, and looked to estimate an average 'water poverty gap' – "that is for those spending more than 3% and 5% on water, how much their bills need to fall to be lifted out of water poverty" (Bradshaw & Huby, 2013). Households would need to either see a reduction in bills, or an increase in income, in order to close or reduce this gap. This model has been brought up-to-date by NEA (using Bradshaw's methodology) and new analysis is detailed in Appendix One; it demonstrates a reduction in the percentages of households affected by water poverty between 2009/10 and 2017/18,

but also shows a significant increase in the depth of the issue. It would be encouraging to see water companies working to close this gap as part of future price reviews.

Recommendation 2 - A measure of the 'water poverty gap' at both average and aggregate level should be tracked by different household characteristics to understand the depth of the issue and its distribution.

To ensure that these measures are acted upon, and recognising the significant strides which have been made since the introduction of the first Fuel Poverty Strategy in 2001, Government should publish a Water Poverty Strategy and a statutory target to ensure that as many water poor homes as is reasonably practicable pay no more than 3% of their household income (after housing and childcare costs) on their combined water and sewerage bill(s), by 2030.

Recommendation 3 – Government should look to set out a water poverty strategy and set a statutory target to eliminate water poverty by 2030.

A water poverty strategy needs to take a holistic approach to tackling the issues customers face, which will likely include, but not be limited to: water efficiency; income maximisation; effective targeting of measures; and the provision, and use, of social tariffs.

Social tariffs are currently funded via customer cross-subsidy, ranging from as low as £1 per year per household, to £15. Levels of discount and eligibility criteria are therefore determined by individual water companies in line with their agreed level of customer cross-subsidy and potential company contribution. This leads to the risk of a 'postcode lottery' for affordability support. The funding and delivery of social tariffs should be reviewed to ensure customers are treated fairly and not detrimentally impacted due to where they live and therefore which company they are served by. NEA plans to explore differences and opportunities in this area further.

Recommendation 4 – The approach to social tariff eligibility and support levels should be reviewed to ensure customers are treated fairly and not detrimentally impacted due to where they live.

Eradication is possible, as is a common goal and measurement. If adopted, NEA hopes that each of the four recommendations will support low-income households to access safe, clean, and affordable water. Whilst industry still needs to adopt workable proxies to deliver this assistance, adoption of the four recommendations could improve the quality of life for millions of UK households, easing the pressure of other financial commitments, reducing the need to restrict water use for purely financial reasons and allowing for a more socially cohesive existence.

In the short-term, significant improvements can be made by working with the industry to agree a collective response to these recommendations. The timing of seizing this opportunity is also crucial. With wider debates regarding value for money, affordability and public ownership now raging, and water companies now awaiting the final outcomes from Ofwat's regulatory price review later this year, there is an opportunity to secure necessary progress in these key areas.

Appendix 1

The Water Poverty Gap

In 2013, Jonathan Bradshaw and Meg Huby reviewed the current state of water poverty in England and Wales, and looked to estimate an average 'water poverty gap' – "that is for those spending more than 3% and 5% on water how much their bills need to fall to be lifted out of water poverty" (Bradshaw & Huby, 2013). Their estimates are outlined in the table below:

	Weekly Water Poverty Gap (2009/10)	
	Mean	**Median**
3% threshold	£3.46	£2.48
5% threshold	£3.62	£2.44

They also estimated the percentage of households in England and Wales who were in water poverty based on both thresholds:

	Households in Water Poverty (2009/10)
3% threshold	23.6%
5% threshold	11.5%

Using the same model but updated using 2017-18 data, the gap and affected households have been recalculated as follows:

	Weekly Water Poverty Gap (2017/18)		Percentage change from 2009/10	
	Mean	**Median**	**Mean**	**Median**
3% threshold	£4.75	£3.03	+37%	+22%
5% threshold	£6.48	£3.66	+79%	+50%

	Households in water poverty (2017/18)	Percentage change from 2009/10
3% threshold	21.9%	-1.75%
5% threshold	10.0%	-1.5%

Aggregate Water Poverty Gap		
2011 household population in England and Wales (Office for National Statistics, 2012)		23,366,044
Households with a private water supply (1% estimate)		233,660
Sample size		23,132,384
	3% threshold	**5% threshold**
Mean water poverty gap (per week)	£4.75	£6.48
Proportion of households water poor	21.9%	10.0%
Aggregate gap (per week)	£24.06m	£14.99m
Aggregate gap (per annum)	£1.251bn	£0.779bn

This analysis shows a significant increase in the gap despite the number of households in water poverty at each threshold decreasing. Whilst the reducing number of households affected by water poverty is positive to see, it is concerning that those who still have affordability issues would require significantly more support in order to not be water poor, and the scale of the issue demonstrated by the aggregate water poverty gap shows there is significant work to be done.

Special thanks to Professor Bradshaw for allowing NEA to use his original methodology for calculating the water poverty gap.

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