**UNIVERSITY OF YORK**

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**EXPLORING SOME OPTIONS FOR REDUCING WATER POVERTY:**

Analysis for the Water Consumer Council Inquiry into water affordability

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**Background**

We were asked by WCC to look at a set of adjustments to the existing water bills to explore what impact they might have on water poverty. This analysis is an extension of the analysis we undertook for the WCC Inquiry into water poverty based on the Family Resources Survey data for 2017/18.[[1]](#footnote-1)

The water poverty rate was defined in that paper as the % of households in England and Wales spending more than 3% and 5% of their net after housing costs income (before water and sewerage charges) on water and sewerage. The water poverty gap is the amount that those in water poverty would need to reduce their bills to be lifted out of water poverty.

**The baseline**

The water poverty rates are shown in Tables 1 and 2 for the 3% and 5% thresholds for unequivalised and equivalised income. We will focus on the 5% threshold results. The water poverty rates for the 5% threshold are 8.9% unequivalised income and 9.1% results equivalised income.[[2]](#footnote-2)

**Table 1: Whether in water poverty unequivalised household income threshold**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Number of households in England and Wales | 3% threshold  % | Number of households in England and Wales | 5% threshold % |
| yes | 5881011 | 18.9 | 2774974 | 8.9 |
| Total | 31058925 | 100.0 | 31058925 | 100.0 |

**Table 2: Whether in water poverty equivalised household income threshold**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Number of households in England and Wales | 3% threshold  % | Number of households in England and Wales | 5% threshold % |
| yes | 6579591 | 21.2 | 2819184 | 9.1 |
| Total | 31058925 | 100.0 | 31058925 | 100.0 |

Tables 3 gives. the water poverty gaps. At the 5% threshold the mean threshold for equivalised income is £9.69. It is worth noting that the median is much lower £4.08 and there are some very high water poverty gaps, which seem to be unlikely, and which are dragging up the mean. It might be worth investigating these further and deleting outlying values at the top of the distribution to obtain a better view of the challenge of reducing water poverty gaps.

**Table 3 Water poverty gaps**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | 3% threshold unequivalised | 5% threshold unequivalised | 3% threshold equivalised | 5% threshold equivalised |
| Number of households | 5881011 | 2774974 | 6579591 | 2819184 |
| Mean | 6.2321 | 9.3452 | 6.1404 | 9.6914 |
| Median | 3.1830 | 4.0395 | 3.0947 | 4.0794 |
| Std. Deviation | 26.51658 | 37.99457 | 25.74437 | 40.14417 |
| Minimum | 0.00 | 0.01 | 0.00 | 0.02 |
| Maximum | 562.05 | 551.14 | 561.54 | 764.86 |

**WCC options**

The Water Consumer Council asked us to calculate the water poverty rates for the following alternatives

1. Water poverty rates at a 4% and 6% threshold.
2. Water poverty rates in the South West without the Government’s £50 per year subsidy.
3. Water poverty rates if bills reduced by £100 per year.
4. Water poverty rates if bills reduced by £180 per year.
5. Water poverty rates if bills reduced by 30% per year.
6. Water poverty rates if bills reduced by 40% per year.
7. Water poverty rates if bills reduced by £35 for each member of a household.
8. **Water poverty rates at a 4% and 6% threshold.**

At the 5% threshold water poverty rate is 8.9% unequalised threshold and 9.1% equalised threshold. If the threshold was increased to 6% the water poverty rates would reduce to 7.1% and 6.8% respectively.

**Table 4: Whether in water poverty unequivalised household income threshold**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Number of households in England and Wales | 4% threshold  % | Number of households in England and Wales | 6% threshold % |
| yes | 3817447 | 12.3 | 2199515 | 7.1 |
| Total | 31058925 | 100.0 | 31058925 | 100.0 |

**Table 5: Whether in water poverty equivalised household income threshold**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Number of households in England and Wales | 4% threshold  % | Number of households in England and Wales | 6% threshold % |
| yes | 3968587 | 12.8 | 2096714 | 6.8 |
| Total | 31058925 | 100.0 | 31058925 | 100.0 |

1. **Water poverty rates in the South West without the Government’s £50 per year subsidy.**

Water poverty rates in the South West without the Government’s £50 per year subsidy.

Table 6 shows the water poverty rate for each standard region in England and Wales. It is important to note that standard regions to not coincide with water company regions. Also, for reliable regional analysis using the Family Resources Survey we should really combine three years of data.

The South West region water poverty rate is 9.7% at the 5% threshold unequivalised and 9.5% equivalised. If the £50 subsidy was removed it would increase to 10.5% and 10.6% respectively

**Table 6: Regional water poverty rates**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | whether in water poverty based on the 3% unequivalised threshold | whether in water poverty based on the 5% unequivalised threshold | whether in water poverty based on the 3% equivalised threshold | whether in water poverty based on the 5% equivalised threshold |
| North East | 22.6% | 9.0% | 20.2% | 7.5% |
| North West and Merseyside | 21.6% | 9.4% | 24.3% | 8.5% |
| Yorks and Humberside | 18.9% | 10.0% | 24.5% | 9.9% |
| East Midlands | 14.1% | 7.1% | 13.9% | 5.8% |
| West Midlands | 15.3% | 5.7% | 19.0% | 5.7% |
| Eastern | 19.7% | 7.9% | 22.2% | 10.4% |
| London | 17.8% | 10.3% | 20.8% | 10.6% |
| South East | 18.3% | 8.6% | 21.0% | 10.3% |
| South West | 20.2% | 9.7% | 20.3% | 9.5% |
| Wales | 24.8% | 12.4% | 24.8% | 10.3% |
| All | 18.9% | 8.9% | 21.2% | 9.1% |

1. **Water poverty rates if bills reduced by £100 per year.**

If water bills were cut by £100 per year water poverty rates at the 5% threshold would fall from 8.9% unequivalised income to 6.4% and from 9.1% equivalised to 6.3%.

**Table 7: Whether in water poverty unequivalised household income threshold**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Number of households in England and Wales | 3% threshold less £100 | Number of households in England and Wales | 5% threshold  Les £100 |
| yes | 3926555 | 12.6 | 1990377 | 6.4 |
| Total | 31058925 | 100.0 | 31058925 | 100.0 |

**Table 8: Whether in water poverty equivalised household income threshold**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Number of households in England and Wales | 3% threshold less £100 | Number of households in England and Wales | 5% threshold  less £100 |
| yes | 4256220 | 13.7 | 1955218 | 6.3 |
| Total | 30117617 | 97.0 | 30117617 | 97.0 |

1. **Water poverty rates if bills reduced by £180 per year.**

If the subsidy was increased to £180 the water poverty rates at the 5% threshold unequivalised would fall from 8.9% to 4.8% and from 9.1% equivalised to 5.4%.

**Table 9: Whether in water poverty unequivalised household income threshold**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Number of households in England and Wales | 3% threshold less £180 | Number of households in England and Wales | 5% threshold  less £180 |
| yes | 2696889 | 8.7 | 1476231 | 4.8 |
| Total | 31058925 | 100.0 | 31058925 | 100.0 |

**Table 10 Whether in water poverty equivalised household income threshold**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Number of households in England and Wales | 3% threshold less £180 | Number of households in England and Wales | 5% threshold  less £180 |
| yes | 2977643 | 10.6 | 1522515 | 5.4 |
| Total | 28144011 | 100.0 | 28144011 | 100.0 |

1. **Water poverty rates if bills reduced by 30% per year.**

If water poverty was reduced by 30% water poverty rates would fall to 5.8% at the 5% unequivalised threshold and 5.4% at the equivalised threshold.

**Table 11: Whether in water poverty unequivalised household income threshold**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Number of households in England and Wales | 3% threshold less 30% | Number of households in England and Wales | 5% threshold  less 3%0 |
| yes | 3431216 | 11.0 | 1806149 | 5.8 |
| Total | 31058925 | 100.0 | 31058925 | 100.0 |

**Table 12: Whether in water poverty equivalised household income threshold**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Number of households in England and Wales | 3% threshold less 30% | Number of households in England and Wales | 5% threshold  less 30% |
| yes | 3532515 | 11.4 | 1664062 | 5.4 |
| Total | 31058925 | 100.0 | 31058925 | 100.0 |

1. **Water poverty rates if bills reduced by 40% per year.**

If water poverty was reduced by 40% water poverty rates would fall to 5.0% at the 5% unequivalised threshold and 4.7% at the equivalised threshold.

**Table 12: Whether in water poverty unequivalised household income threshold**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Number of households in England and Wales | 3% threshold less 40% | Number of households in England and Wales | 5% threshold  less 40% |
| yes | 2774974 | 8.9 | 1558391 | 5.0 |
| Total | 31058925 | 100.0 | 31058925 | 100.0 |

**Table 13: Whether in water poverty equivalised household income threshold**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Number of households in England and Wales | 3% threshold less 40% | Number of households in England and Wales | 5% threshold  less 40% |
| yes | 2819184 | 9.1 | 1461312 | 4.7 |
| Total | 31058925 | 100.0 | 31058925 | 100.0 |

1. **Water poverty rates if bills reduced by £35 for each member of a household.**

The final option is to reduce bills by £35 per year for each member in a household – effectively a free basic allowance person. This would reduce unequivalised 5% threshold water poverty rates to 7.4% and equivalised to 6.7%

**Table 14: Whether in water poverty unequivalised household income threshold**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Number of households in England and Wales | 3% threshold less £35 for each member of the household | Number of households in England and Wales | 5% threshold  less £35 for each meber of the household |
| yes | 4481846 | 14.4 | 2285330 | 7.4 |
| Total | 31058925 | 100.0 | 31058925 | 100.0 |

**Table 15: Whether in water poverty equivalised household income threshold**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Number of households in England and Wales | 3% threshold less £35 for each member of the household | Number of households in England and Wales | 5% threshold  less £35 for each member of the household |
| yes | 4200798 | 13.9 | 2012781 | 6.7 |
| Total | 30163218 | 100.0 | 30163218 | 100.0 |

1. Jonathan Bradshaw and Antonia Keung (2020) WATER POVERTY IN ENGLAND AND WALES: EVIDENCE TO THE CONSUMER COUNCIL FOR WATER (CCW) REVIEW OF WATER POVERTY IN ENGLAND AND WALES, December 2020 [↑](#footnote-ref-1)
2. These are slightly different from those shown in Table 1 of the above paper because these are all households and for comparability between years in Table 1 was single unit households. [↑](#footnote-ref-2)