



Household water affordability analysis with Economics Insight

SEPTEMBER 2023

Contents

1

Introduction

- Aims and scope
- Methodology
- Household income definition
- Financial Strategy Segments overview
- UK macroeconomic summary

2

Household income of Anglian customers

3

Anglian Water billing records

4

Current and future water bill affordability for Anglian customers



Aims and scope



The key objective of the analysis is to help Anglian Water better understand the current and future affordability position of their customers measured by water bills as a proportion of household disposable income at LSOA level.



Estimate and forecast average disposable household income across different household segments within the Anglian Water supply area and the location of lower and higher income areas at LSOA level.



Affordability analysis of current and future water bills relative to the projected customer incomes at LSOA level.

Methodology – *Anglian Water billed customers*

- Anglian Water provided household billing data by bill values in £20 increment for financial year 2022/23 and 2023/24 for each LSOA area where Anglian Water is responsible for customer billing
- Financial Strategy Segment (FSS) household categories were appended to the Anglian Water dataset using postcode matching, allowing Anglian Water customers to be allocated to one of 55 FSS Types
- Household equivalised disposable income information (net of housing costs) was estimated using the Household Finances Survey data published by the ONS for 2020/21 financial year, then brought forward to 2023/24 using Experian's own econometric model. The household income estimates were then appended to each account using information on income distributions within each FSS type. The household income estimates were controlled to the ONS small income estimates data at MSOA level
- Bill value and income data was then combined to generate the following affordability metrics at the account level:
 - Estimated bill/household disposable income (%)
 - Probability of water bill to exceed the 3% and 5% of household income (equivalised after housing costs)
 - The account level metrics were aggregated to LSOA and Anglian service geographies.



Household income definition

Disposable household income net of housing costs is the preferred measure of household income, as it measures the amount of income that is available to household to spend or save after deductions by direct taxation and housing costs. The household income after housing costs have been aligned with the ONS' net income definition *

Household Income includes:

- Wages and salaries
- Incomes from self-employment
- Investment income (properties or other investments)
- State benefits received (e.g. income support, child benefits, state pension and disability benefits)

Direct taxation includes:

- Income tax and national insurance contributions
- Council tax

Housing costs includes:

- Rent
- Mortgage interest payments
- Structural insurance premiums (for owner occupiers)
- Ground rent and service charges

* Experian have estimated that the net impact on household income after housing would be £97 lower for FY 23 on average if the income measure is aligned to the household income after housing costs outlined in Ofwat's PR24 final methodology submission (SUB15), this would result less than 0.1 % uplift to the affordability metric to AWG customers.



Financial Strategy Segments overview

What are Financial Strategy Segments?

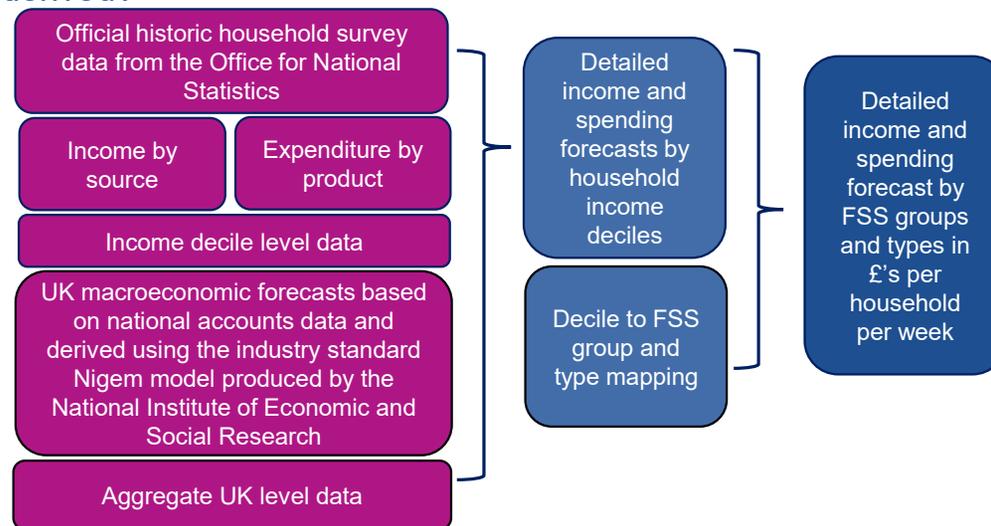
- Financial Strategy Segments divides the UK population into 15 Groups and 55 more detailed types. It uses almost 2,500 data variables and paints a unique picture of UK consumers based on their incomes, spending habits, needs wants and aspirations.

What is the breadth of the forecast data?

- For each FSS group and type there are forecasts of the following:

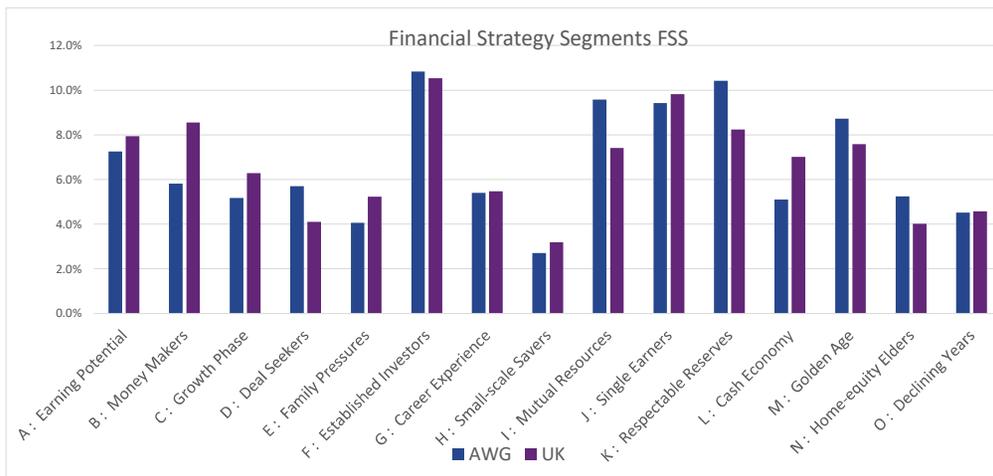
- Income split by 9 streams: wages & salaries, self-employment income, benefits, pensions, private pensions, investment income, other income, income tax and national insurance contributions
- Spending split by 61 detailed categories, ranging from food, mortgage payments to household insurance.

How are the forecasts derived?



Financial Strategy Segments: Anglian Water

Anglian Water is over represented relative to the UK in FSS groups:



Household income in the Anglian Water supply area is above the national averages and is over-represented in the more affluent groups such as F, K and M

F : Established Investors

Wealthy households who have accumulated substantial assets and are confident in financial management

I: Mutual Resources

Mid-range families whose financial position is enhanced by the support of extended family or wider community

K: Respectable Reserves

Older couples and singles whose home ownership and savings will give them a margin of comfort in their post-working life

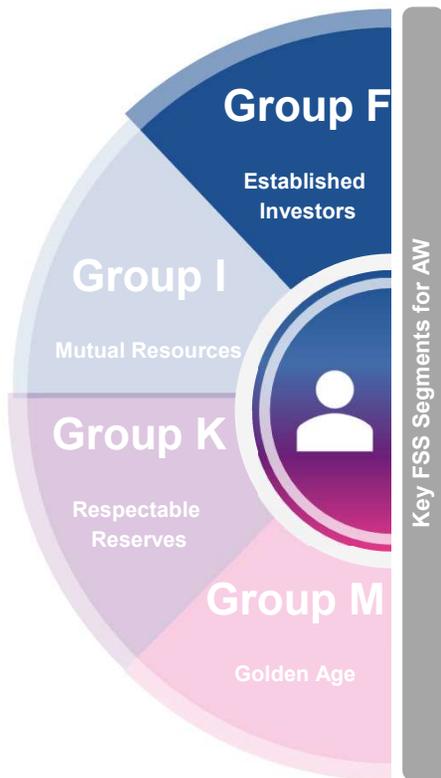
M : Golden Age

Fortunate elders on gold-standard pensions with money to enjoy now and choices in the future

Together these groups represent almost 40% of Anglian Water households compared with 34% of UK households.



Key FSS Segments



Group F – Established Investors

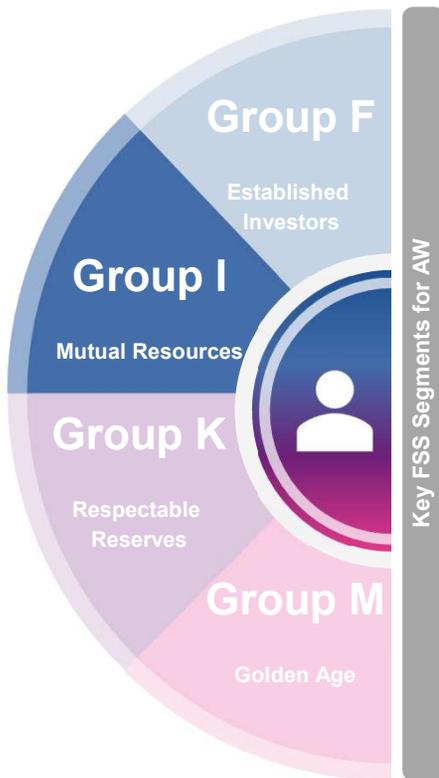
Wealthy households who have accumulated substantial assets and are confident in financial management

Key features:

- Older families
- Professional or managerial roles with high disposable income
- Large pension funds



Key FSS Segments



Group I Mutual Resources

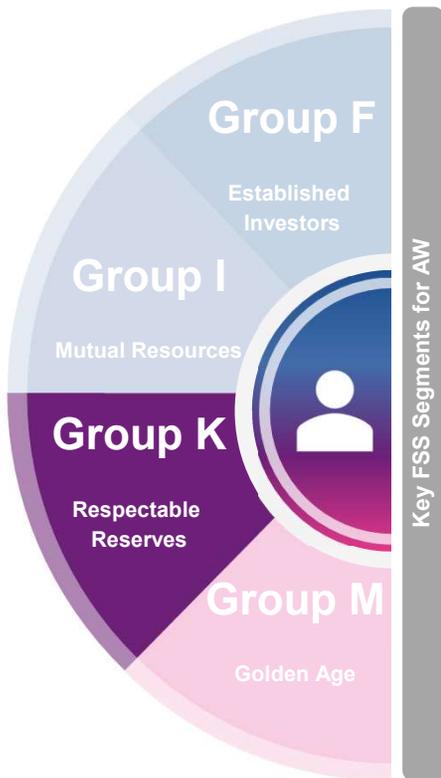
Mid-range families whose financial position is enhanced by the support of extended family or wider community

Key features:

- Extended families
- Farms & named buildings
- Low outstanding mortgage
- Long length of residency
- Support adult children
- Limited savings and investments



Key FSS Segments



Group K Respectable Reserves

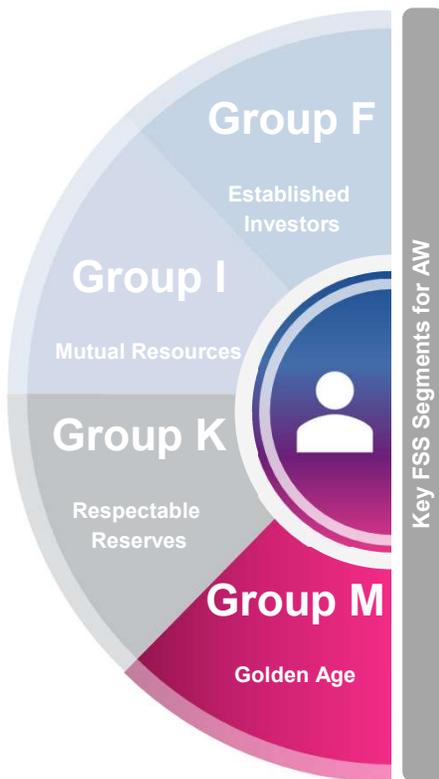
Older couples and singles whose home ownership and savings will give them a margin of comfort in their post-working life

Key features:

- Older couples in retirement
- Live in bungalows
- Tend to purchase premium products
- Reasonable savings and investments
- No outstanding debt



Key FSS Segments



Group M Golden Age

Fortunate elders on gold-standard pensions with money to enjoy now and choices in the future

Key features:

- Elderly retired singles/couples
- Live in detached homes
- Large pension fund and saving pot
- High disposable incomes
- No outstanding debt



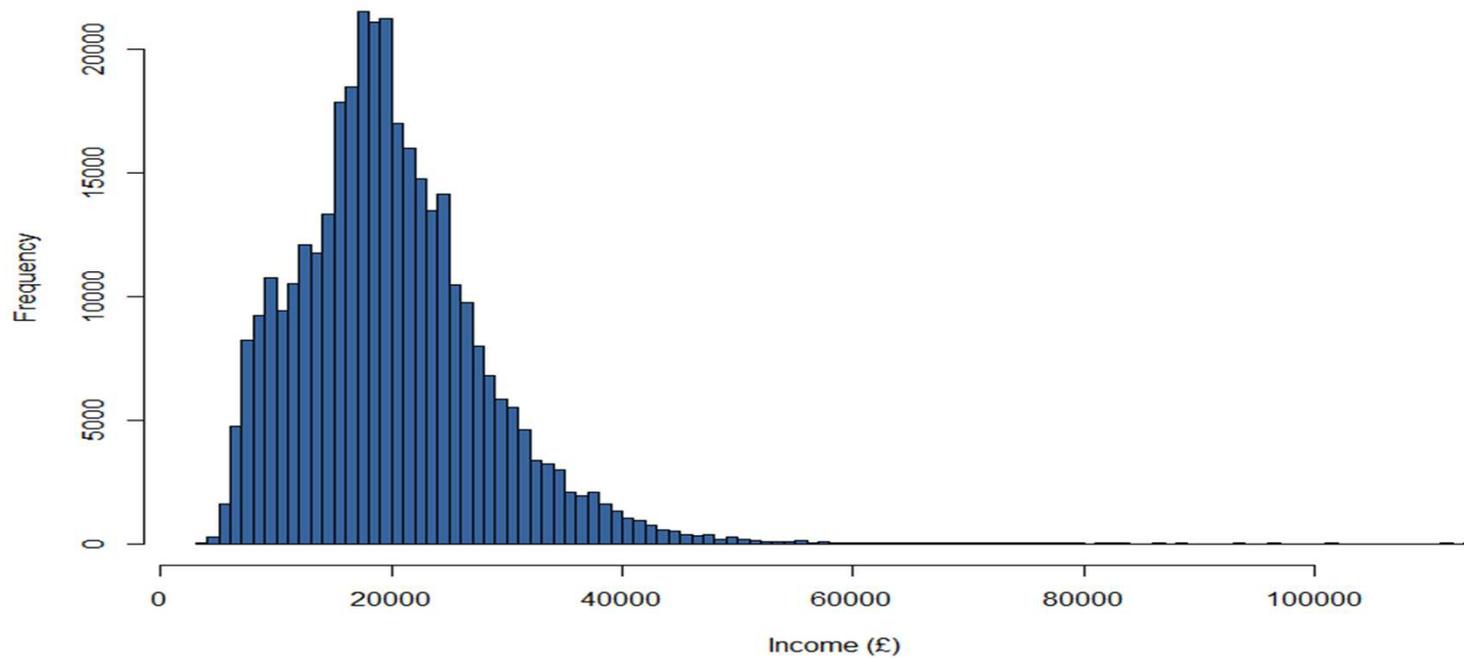
Household income of Anglian Water customers (Experian income estimates)



Household income estimates summary

Annual household income estimates for Anglian Water (Equivalised, after housing costs) FY23

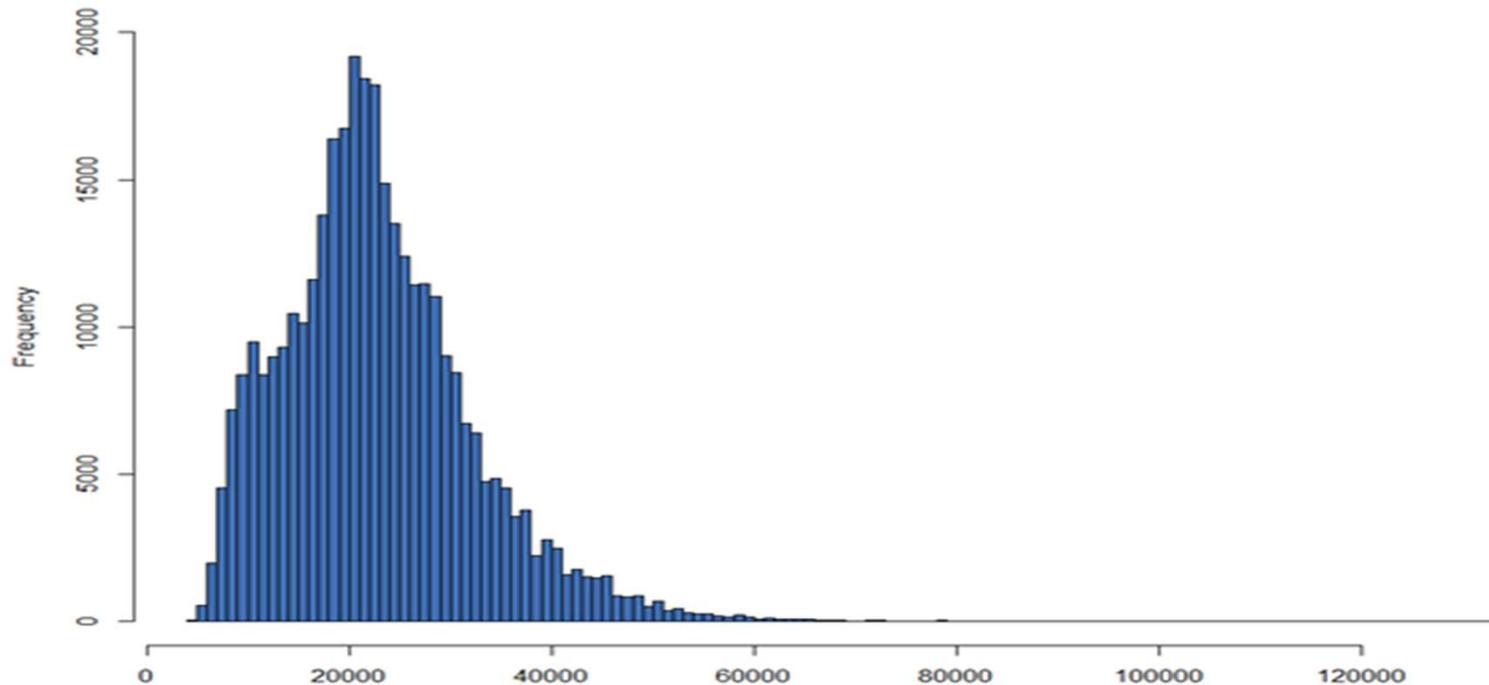
Equivalised disposable income after housing costs	Percentile			
Income data summary statistics	25%	50%	75%	Mean
£ per year	14600	19000	24300	19900



Household income estimates summary

Annual household income estimates for Anglian Water (Equivalised, after housing costs) FY24

Equivalised disposable income after housing costs	Percentile			
Income data summary statistics	25%	50%	75%	Mean
£ per year	15700	20600	26400	21600



Anglian Water billing data



The Anglian Water supply areas

Anglian Water primarily covers households in the East of England, including major cities such as Peterborough, Colchester and Norwich.

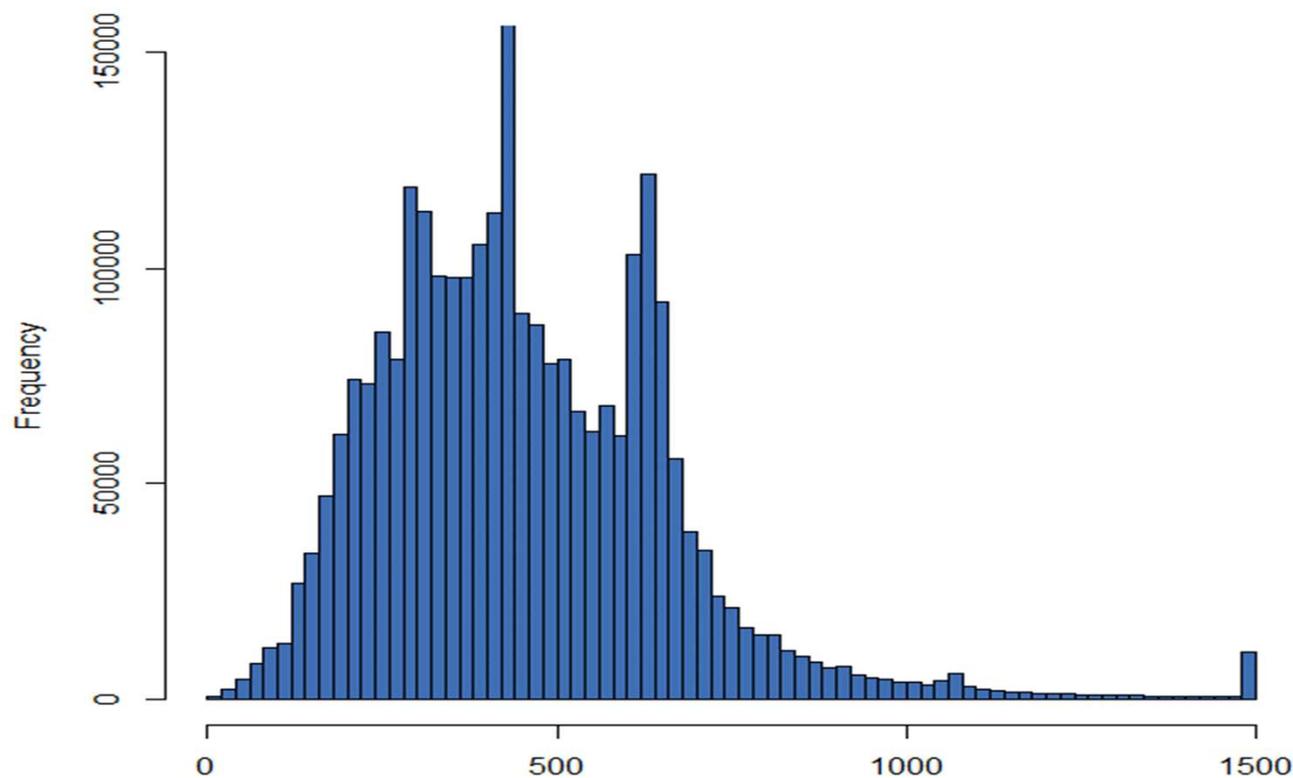
Since 1997 Anglian Water have expanded their coverage to Hartlepool. Anglian Water is the largest water and water recycling company in England and Wales by geographic area.



Billing Data summary

Billing data (metered and unmetered) for Anglian Water dual service customers FY23

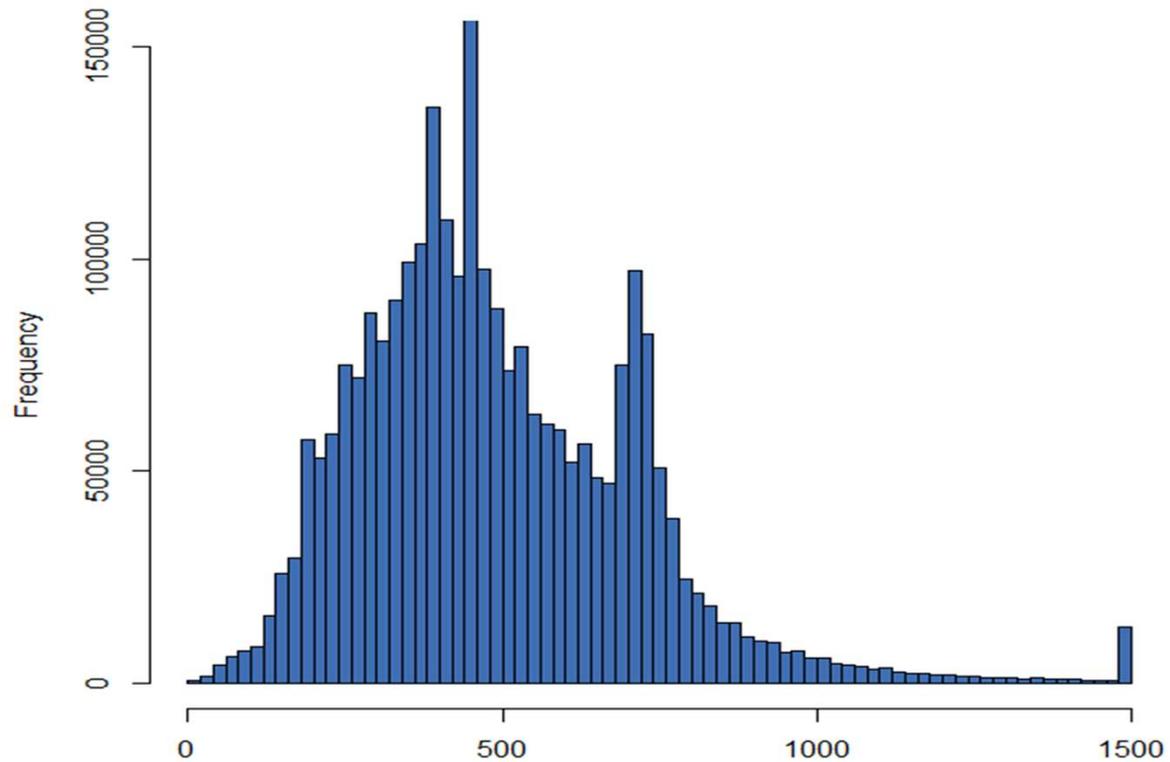
Billing data (metered and unmetered)	Percentile				
Billing data summary statistics	25%	50%	75%	Mean	Maximum
£ per year	289	421	590	452	1500



Billing Data summary

Billing data (metered and unmetered) for Anglian Water dual service customers FY24

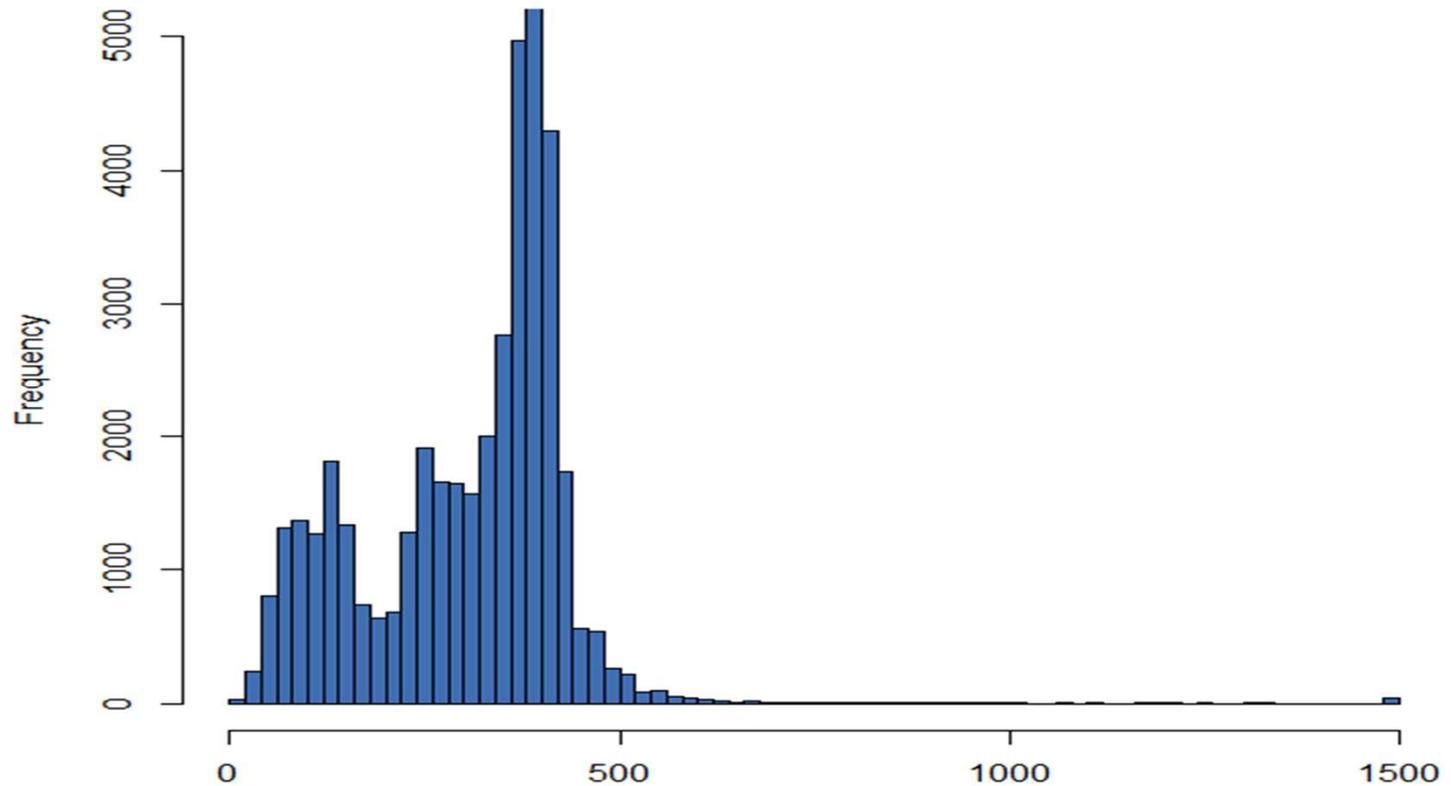
Billing data (metered and unmetered)	Percentile				
Billing data summary statistics	25%	50%	75%	Mean	Maximum
£ per year	330	450	630	491	1500



Billing Data summary

Billing data (metered and unmetered) for Hartlepool Water dual service customers FY23

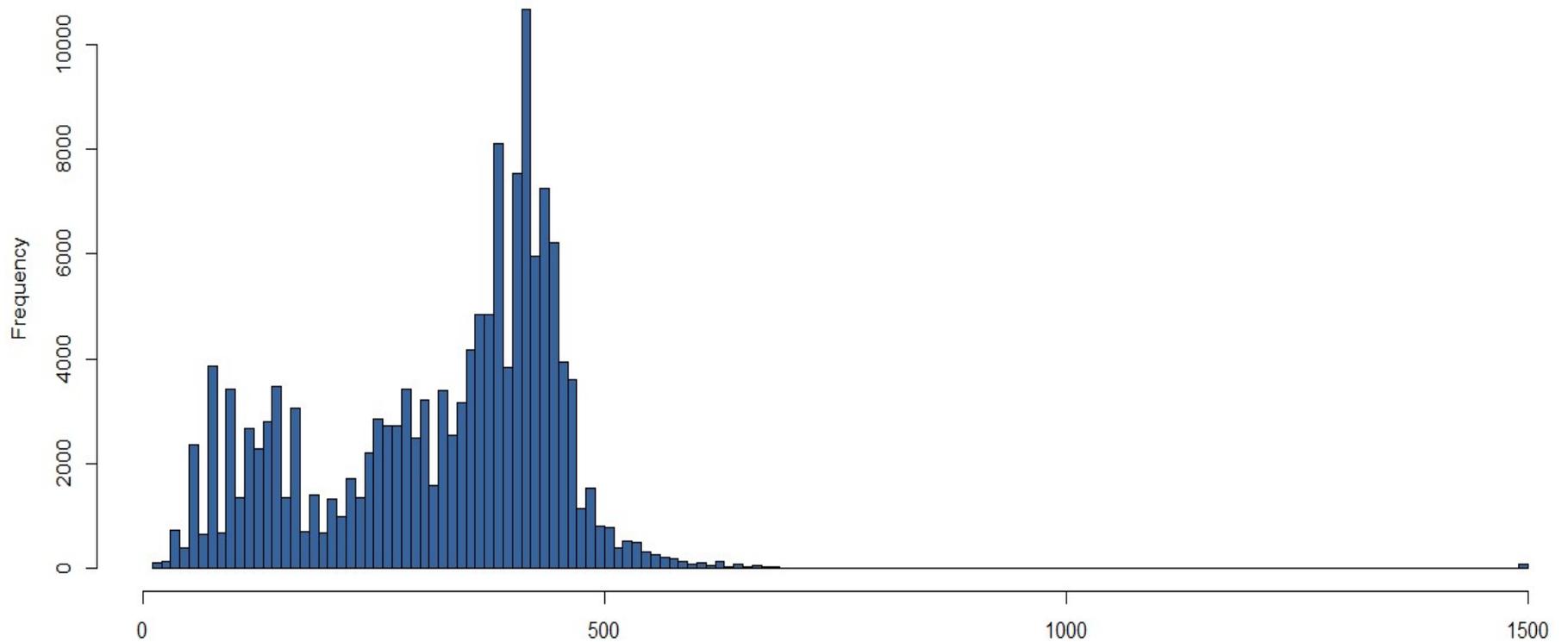
Billing data (metered and unmetered)	Percentile				
Billing data summary statistics	25%	50%	75%	Mean	Maximum
£ per year	283	403	443	357	1500



Billing Data summary

Billing data (metered and unmetered) for Hartlepool Water dual service customers FY24

Billing data (metered and unmetered)	Percentile				
Billing data summary statistics	25%	50%	75%	Mean	Maximum
£ per year	289	421	470	376	1500



Current water bills affordability for 2023/24



Current water bills affordability at LSOA – spending 5 % of household income

Quartile 1-
most affordable
areas



Quartile 2



Quartile 4 -
least affordable
segment areas

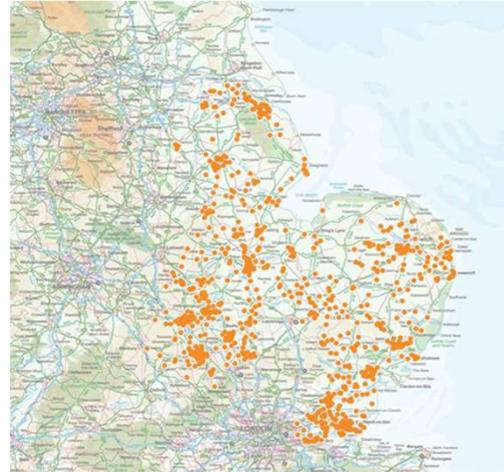


Current water bills affordability at LSOA – spending 3-5 % of household income

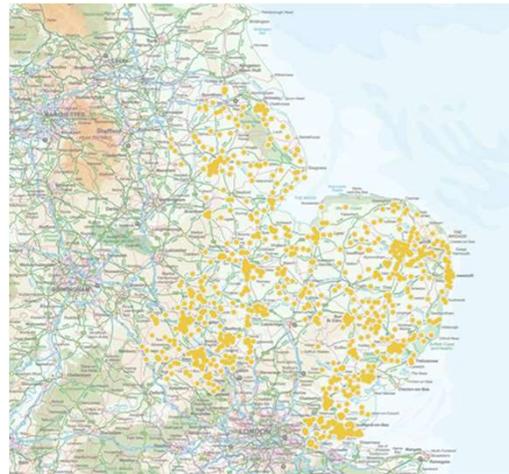
Quartile 1-
most affordable
areas



Quartile 2



Quartile 3



Quartile 4 -
least affordable
segment areas



Estimated number of households above 3% and 5% income affordability thresholds - equivalised household income after housing costs

Anglian Water dual services customers	2022/2023	2023/2024
Number of Billed Accounts		
Estimated Bill / Income (%)		
Less than 3%	1,899,156	1,886,894
3 to 5%	517,686	545,805
More than 5%	215,668	220,742
All	2,632,510	2,653,441
% of Billed Accounts		
Estimated Bill % Income (%)		
Less than 3%	72.1%	71.1%
3 to 5%	19.7%	20.6%
More than 5%	8.2%	8.3%

Hartlepool Water dual services customers	2022/2023	2023/2024
Number of Billed Accounts		
Estimated Bill / Income (%)		
Less than 3%	24,661	26,246
3 to 5%	10,648	9,921
More than 5%	4,952	5,694
All	40,262	41,862
% of Billed Accounts		
Estimated Bill % Income (%)		
Less than 3%	61.3%	62.7%
3 to 5%	26.4%	23.7%
More than 5%	12.3%	13.6%



Future water bills affordability –Scenario analysis



There are key risks which are **impacting consumers**



Shrinking labour market threatens growth



Cost of living squeeze is hitting all households



Unusual for real incomes to decline



Acute affordability pressures at the lower affluence levels



Subdued household spending and GDP growth



Russian Ukrainian conflict



Mounting mortgage interest payment



Wage price spiral emerges

UK macroeconomic outlook

- The UK economy is expected to avoid recession 2023 thanks to a more favourable global environment, the continued tightness in the labour market has kept wages growth high and kept a lid on unemployment. However, we expect macro headwinds to continue to drag on the UK economy throughout this year and lead to GDP growth of 0.2% this year. The pace of expansion in the future is likely to be well below the long-term trend throughout the short to medium-term. GDP growth is expected to average 1.1% per annum between 2022 and 2027, against 2.6 per cent from 1981 to 2008.
- The UK labour market has so far outperformed expectation, unemployment remains close to record low, average wages were up 7.5 per cent year on year in April. However, as the headline CPI inflation has consistently outpaced pay growth, the real terms squeeze on pay continues. While there were excess savings accumulated during the pandemic, this has been gradually used up by the on-going cost of living crisis. Household finance is weak by historic standards and the impact of real term income squeeze, and the cost-of-living crisis affects lower income households disproportionately as they spend a larger proportion of income on essential items such as food, electricity, gas and rent.
- Following the stickier inflation results it came as no surprise that the Monetary Policy Committee (MPC) voted 7-2 to raise its interest rates in its June meeting by a further 0.5 percentage points, taking it to a 15-year high of 5%. We now expect the Bank of England base rate to remain higher for longer into 2024, peaking at 5.5%, while maintaining an average of 5.3% in 2024. Though the macroeconomic narrative is similar to the macroeconomic forecasts used for the 2022/23 bills-to-income affordability study, our views hold that the long-term base rate should return to a lower level of 3.25% as inflation is eventually placed under control. Nevertheless, the relentless bank rate hikes see mortgage rates continue to price out first-time buyers, while a quarter of UK households possessing mortgages will be set to renew a fixed term deal by 2023Q4, according to the Institute of Fiscal Studies (IFS). The impact of monetary tightening has yet been feed through to the economy and therefore we expect housing costs to increase throughout 2023 and 2024 for both mortgage holders and renters.
- Higher mortgages costs which currently see average mortgage-holders paying around £280 more each will aggravate pressures on disposable incomes after housing costs. As a result of this, alongside inflationary pressures, we foresee a general reduction in real personal disposable incomes to 0.8% in 2024 and a general downgrade across the long-term averages of 2.0 per cent per annum between 1997-2017



UK macroeconomic outlook

- Importantly, this forecast is susceptible to further downgrades beyond our baseline scenario as real pay continues to falter in matching consumer prices which remain higher for longer. Should this continue, the BoE have signalled that they could raise interest rates again if wage pressures persist in the attempt to halt the feedback loop fuelled by labour-intensive service prices.
- Against this backdrop there has been a slight upgrade for our forecasts for UK GDP (Gross Domestic Product) in the latest macroeconomic outlook. However as mentioned previously, if the BoE raise the bank rate higher than forecasted in our base case scenario to tackle inflation the response could see a possibility for a recession to unfold across 2023 Q4 – 2024 Q1.

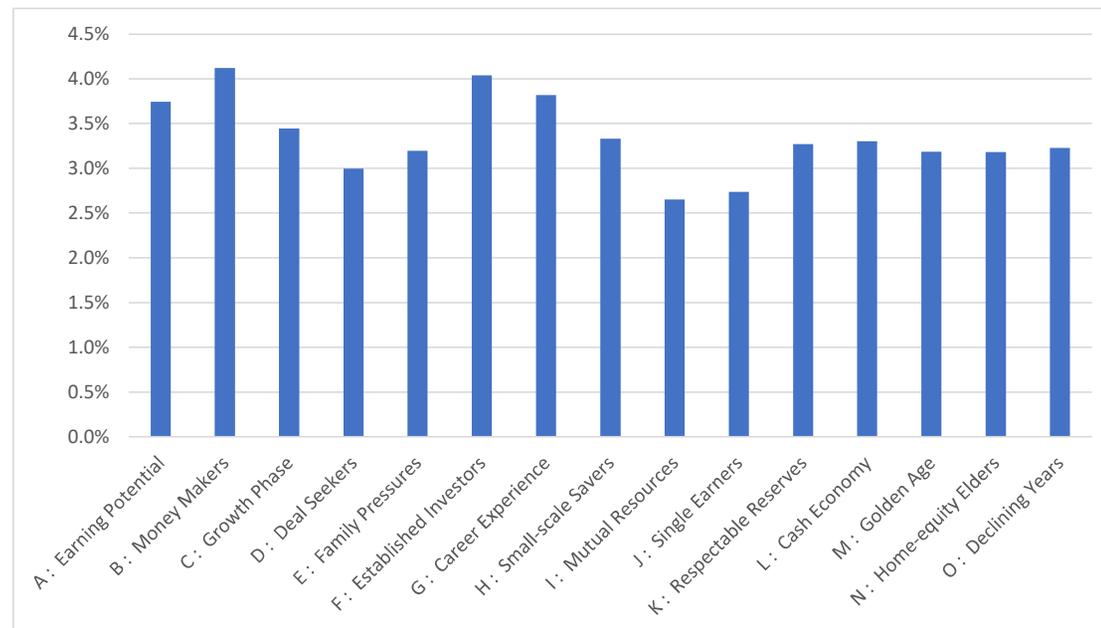
UK	2020	2021	2022	2023	2024	2025-27 avg
GDP (% change, real terms)	-11.0	7.6	4.1	0.2	0.7	1.5
LFS Unemployment Rate (% of workforce)	4.6	4.5	3.7	3.9	4.3	1.5
Consumer Prices (% change)	0.8	2.6	9.1	7.9	3.5	1.9
Real Personal Disposable Income (% change)	-1.0	0.9	-1.7	0.1	0.8	1.9
Bank Rate (annual average)	0.2	0.1	1.5	4.8	5.3	3.8



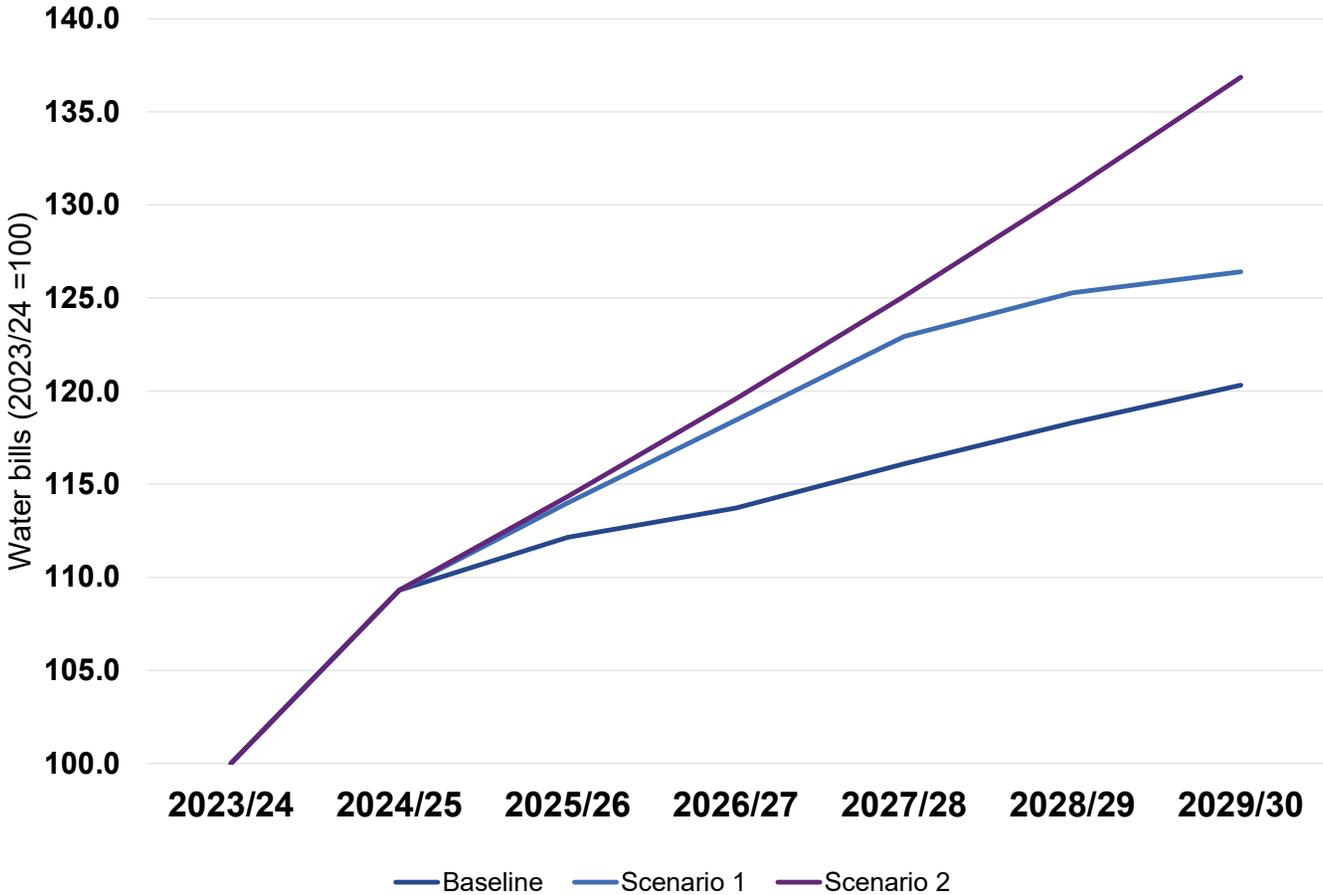
FSS household income forecast

- High inflation erodes real term household income, although households have seen their nominal income increasing at higher rates compared to the historical averages. People who are in employment have received increasing wages as employers seek to attract and retain workers. In addition, high inflation is itself driving nominal wage growth in the short term, as price rises prompt workers to demand higher salaries to compensate for the loss of purchasing power.
- Households receiving a part of their income from the government, through working age benefits or the state pension, see their incomes uprated by 10.1% in April 2023. The one-off Cost of Living Payments in 2023/24 are supporting the most vulnerable households. The above factors have offered temporary boost to household nominal incomes in nominal terms.
- On average, poorer households spend more of their income on essentials. FSS groups such as I and J who have larger exposure to rising food, housing/rent costs and tend to work in low-wage industries, underperform the UK averages in terms of disposable income.
- Overall, FSS groups that have relatively small mortgage outgoings with the ability to command higher than average salary increases would be more resilient in the current economic climate.

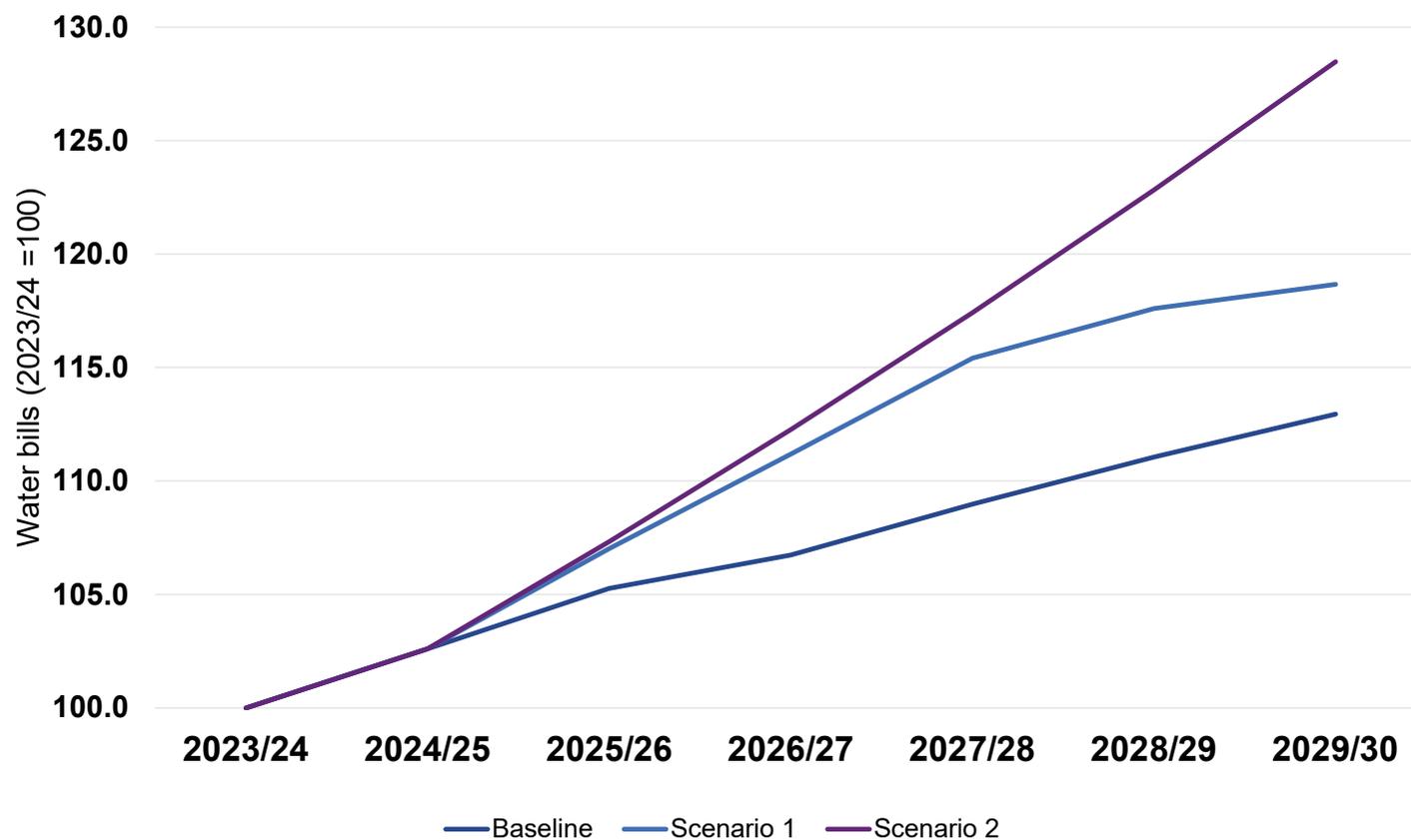
Average nominal household disposable income growth (nominal terms) 2023/24-2029/30



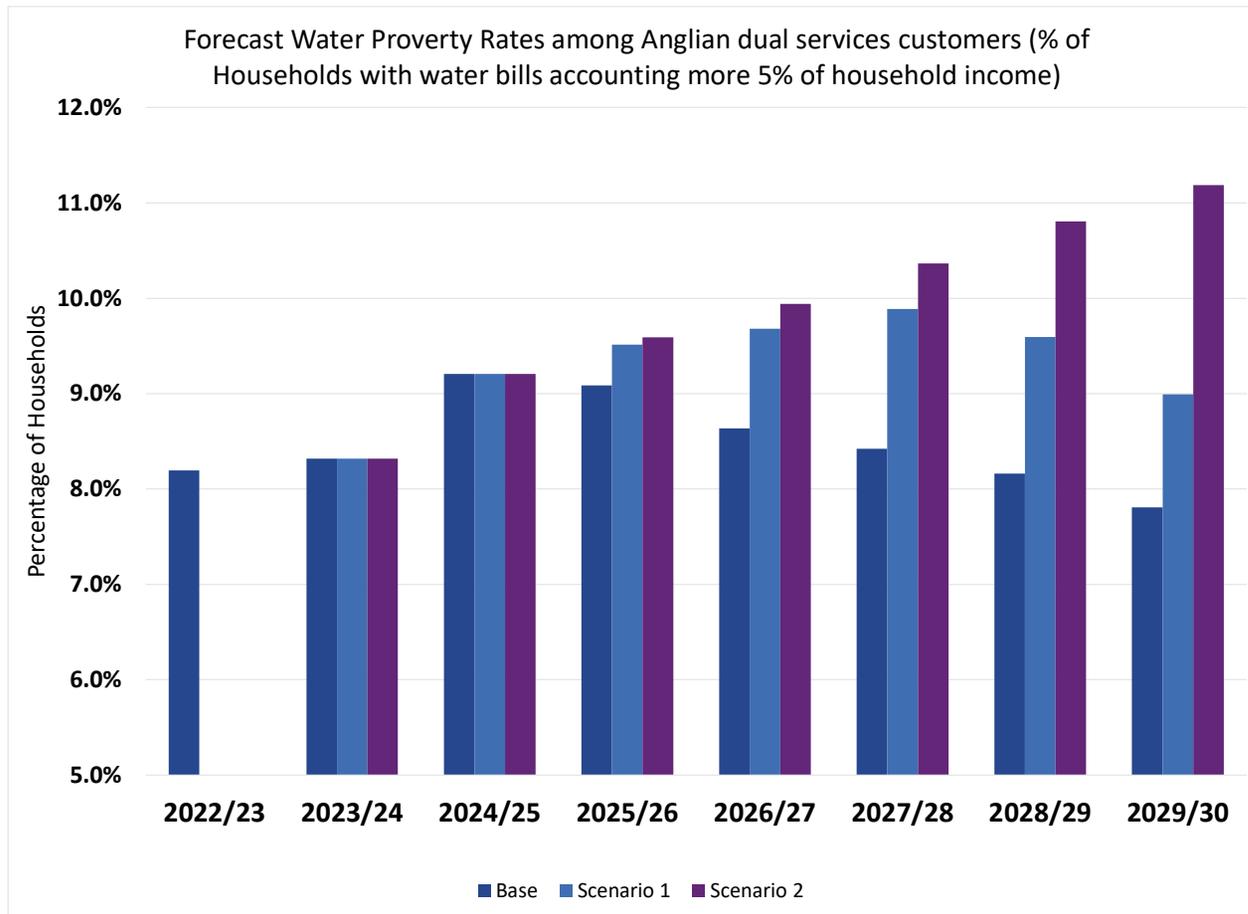
Average bills forecasts for Anglian Water under three scenarios



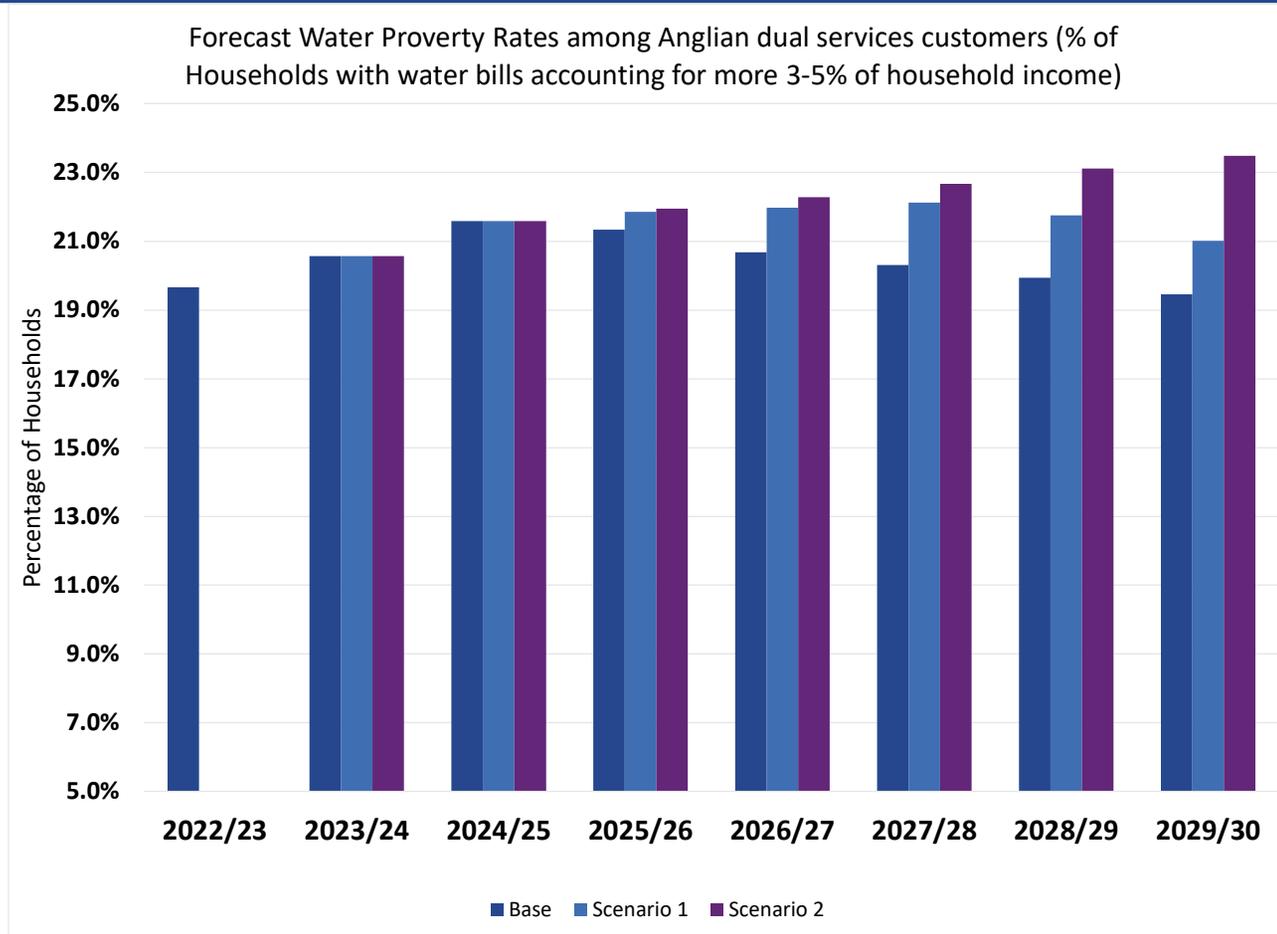
Average bills forecasts for Hartlepool Water under three scenarios



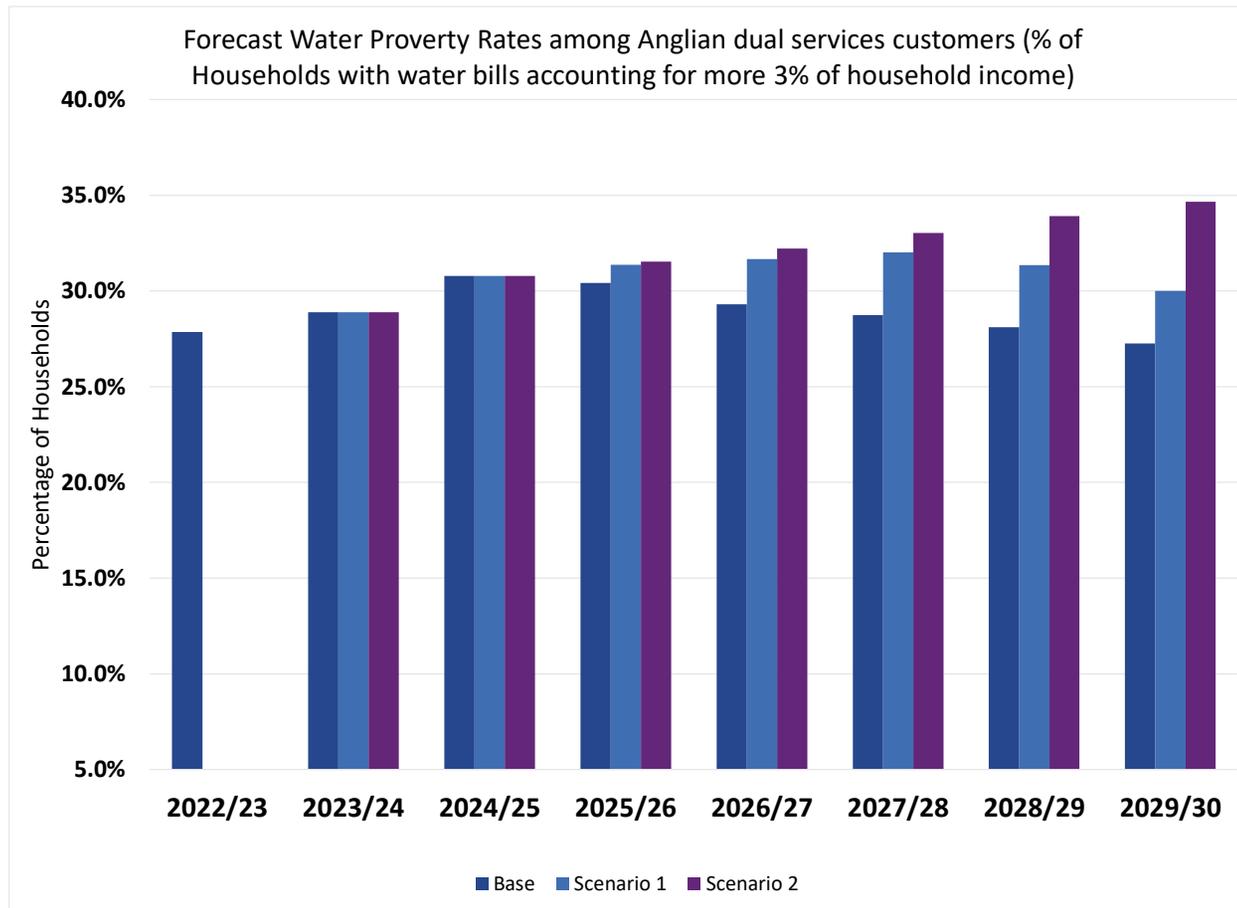
Estimated number of households above 5% income affordability thresholds - equivalised household income after housing costs (Anglian Water)



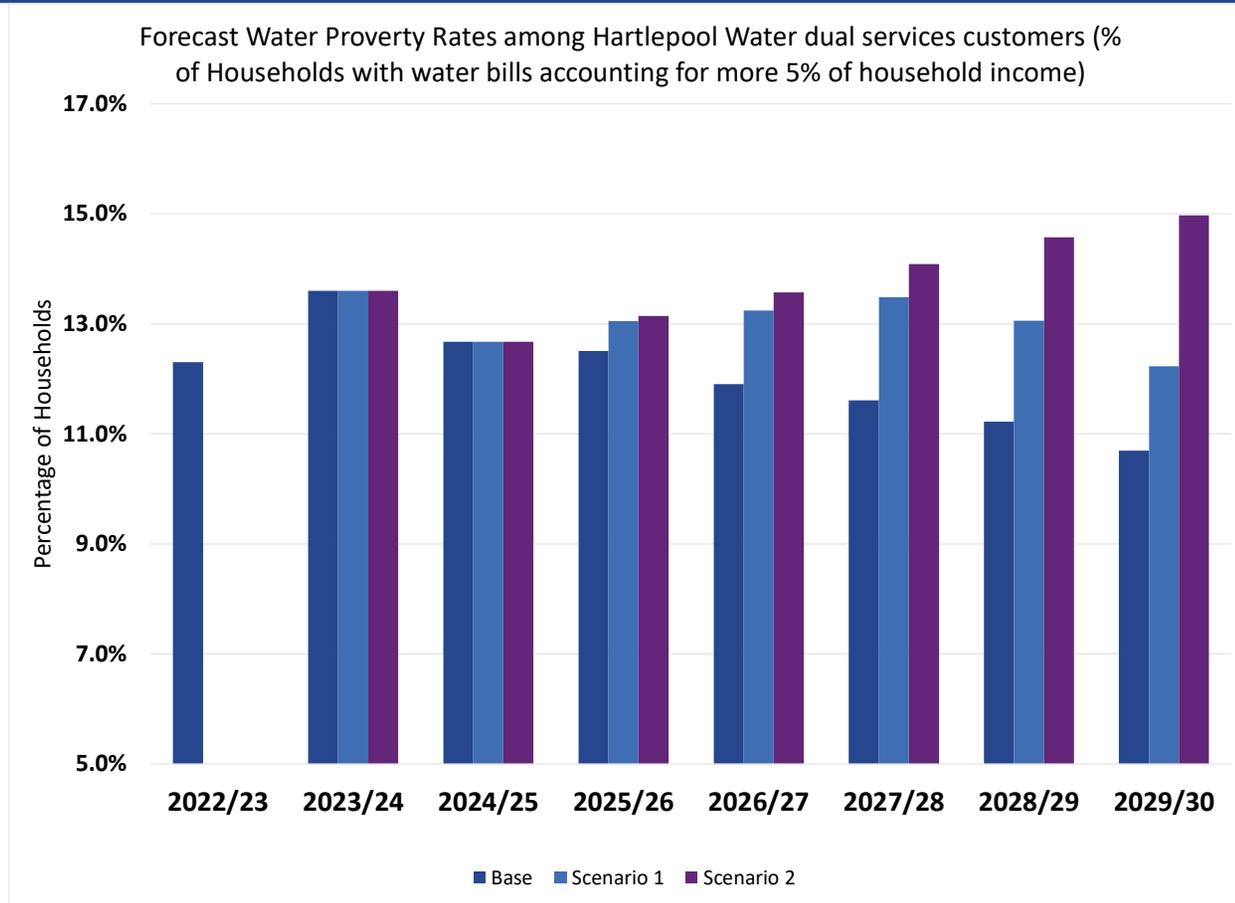
Estimated number of households between 3-5% income affordability thresholds - equivalised household income after housing costs (Anglian Water)



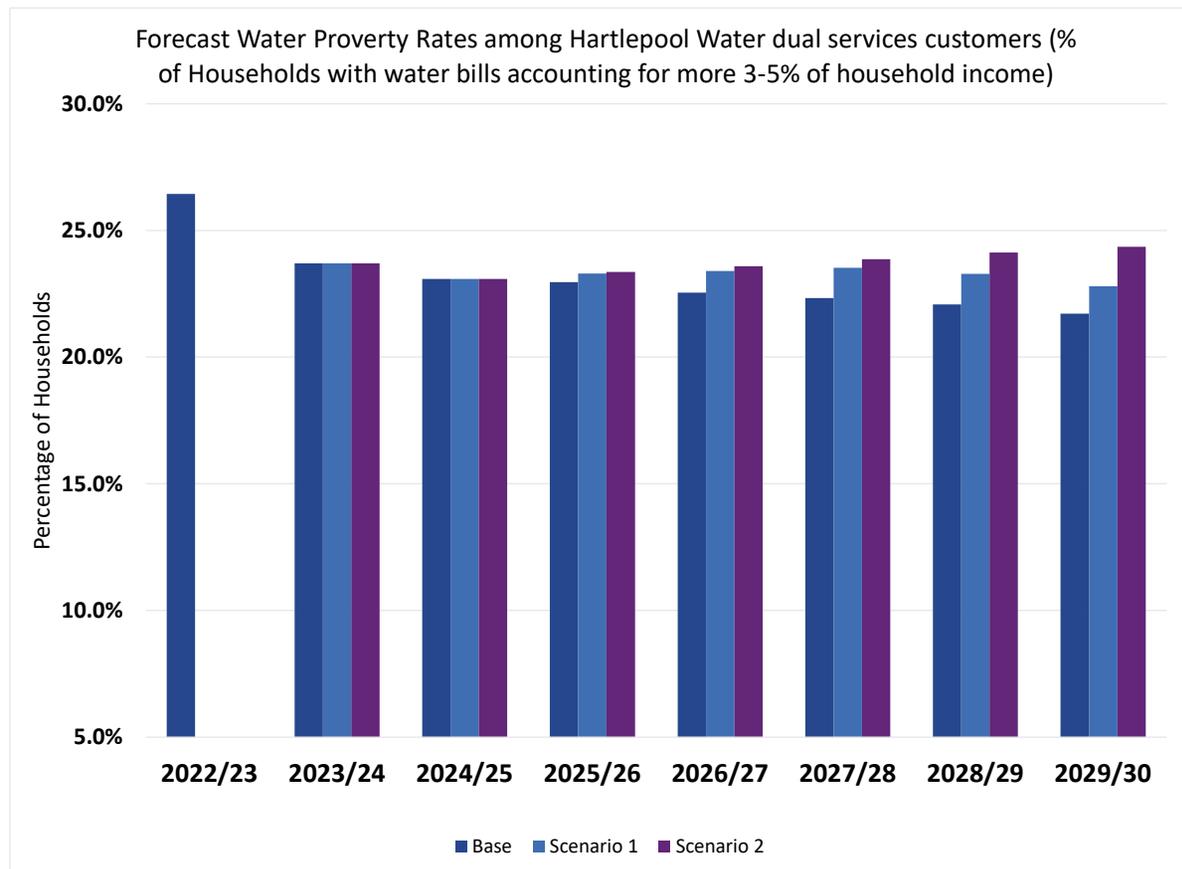
Estimated number of households above 3% income affordability thresholds - equivalised household income after housing costs (Anglian Water)



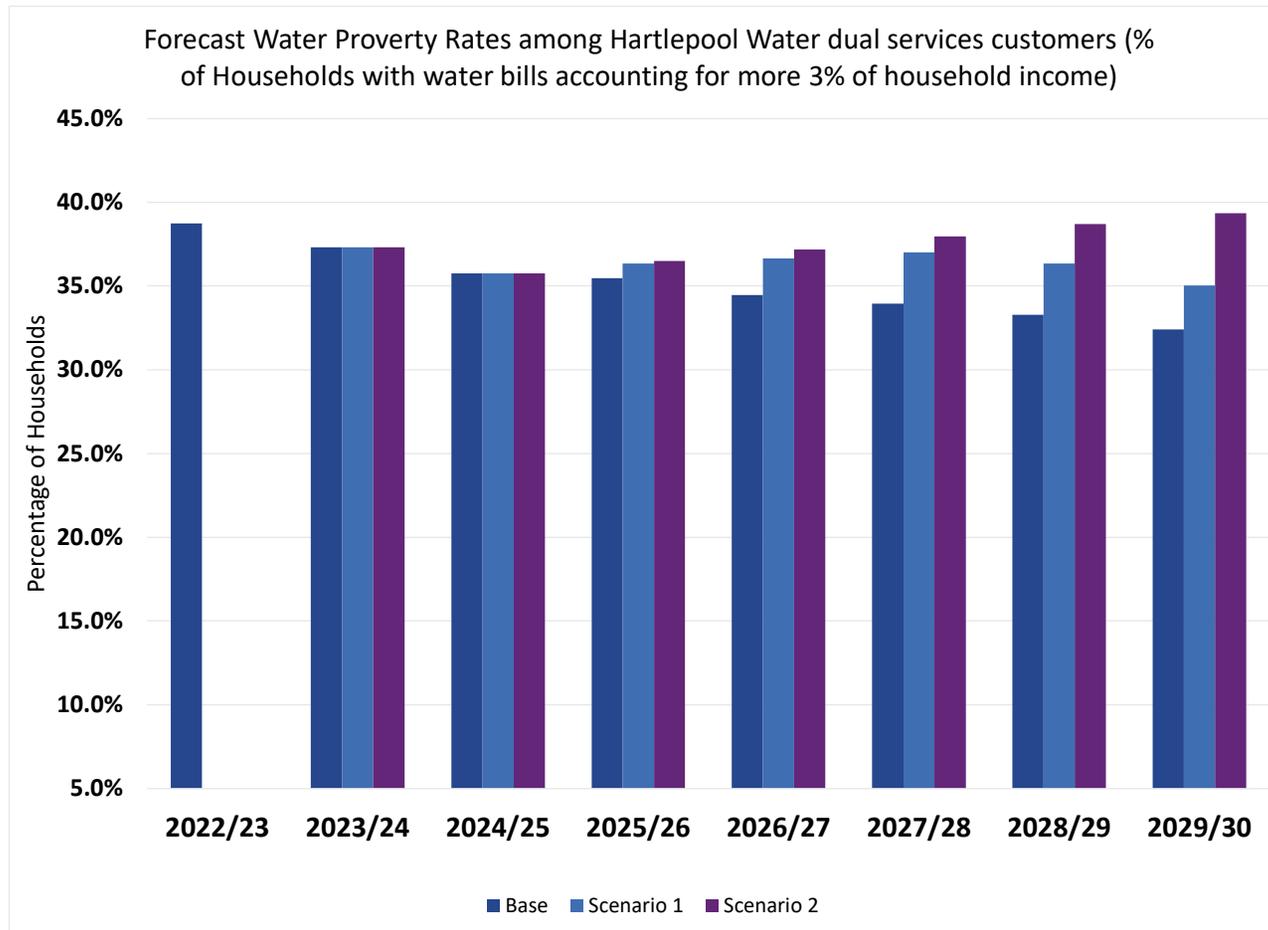
Estimated number of households above 5% income affordability thresholds - equivalised household income after housing costs (Hartlepool Water)



Estimated number of households between 3-5% income affordability thresholds - equivalised household income after housing costs (Hartlepool Water)



Estimated number of households above 3% income affordability thresholds - equivalised household income after housing costs (Hartlepool Water)



Estimated number of households above 3% and 5% income affordability thresholds by financial year (Baseline)

Anglian Water dual services customers	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30
Number of Billed Accounts								
More than 5% of income	215,668	224,997	247,207	242,834	230,153	223,539	215,985	206,197
Between 3-5%	517,686	514,399	538,119	532,509	517,362	508,943	500,042	488,255
Less than 3% of income	1,899,156	1,914,045	1,868,115	1,878,098	1,905,926	1,920,959	1,937,414	1,958,989
All	2,632,510	2,653,441	2,653,441	2,653,441	2,653,441	2,653,441	2,653,441	2,653,441
% of billed accounts								
More than 5% of income	8.2%	8.5%	9.3%	9.2%	8.7%	8.4%	8.1%	7.8%
Between 3-5%	19.7%	19.4%	20.3%	20.1%	19.5%	19.2%	18.8%	18.4%
Less than 3% of income	72.1%	72.1%	70.4%	70.8%	71.8%	72.4%	73.0%	73.8%

Hartlepool Water dual services customers	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30
Number of Billed Accounts								
More than 5% of income	4,952	5,694	4,931	4,863	4,625	4,507	4,352	4,146
Between 3-5%	10,648	9,921	9,398	9,342	9,163	9,069	8,955	8,796
Less than 3% of income	24,661	26,246	27,533	27,657	28,074	28,286	28,555	28,920
All	40,262	41,862	41,862	41,862	41,862	41,862	41,862	41,862
% of billed accounts								
More than 5% of income	12.3%	13.6%	11.8%	11.6%	11.0%	10.8%	10.4%	9.9%
Between 3-5%	26.4%	23.7%	22.4%	22.3%	21.9%	21.7%	21.4%	21.0%
Less than 3% of income	61.3%	62.7%	65.8%	66.1%	67.1%	67.6%	68.2%	69.1%



Estimated number of households above 3% and 5% income affordability thresholds by financial year (Scenario 1)

Anglian Water dual services customers	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30
Number of Billed Accounts								
More than 5% of income	215,668	224,997	247,207	253,939	257,281	261,446	252,965	236,769
Between 3-5%	517,686	514,399	538,119	544,684	547,587	551,347	542,528	524,977
Less than 3% of income	1,899,156	1,914,045	1,868,115	1,854,818	1,848,573	1,840,648	1,857,948	1,891,694
All	2,632,510	2,653,441	2,653,441	2,653,441	2,653,441	2,653,441	2,653,441	2,653,441
% of billed accounts								
More than 5% of income	8.2%	8.5%	9.3%	9.6%	9.7%	9.9%	9.5%	8.9%
Between 3-5%	19.7%	19.4%	20.3%	20.5%	20.6%	20.8%	20.4%	19.8%
Less than 3% of income	72.1%	72.1%	70.4%	69.9%	69.7%	69.4%	70.0%	71.3%

Hartlepool Water dual services customers	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30
Number of Billed Accounts								
More than 5% of income	4,952	5,300	4,931	5,080	5,158	5,255	5,084	4,753
Between 3-5%	10,648	9,665	9,398	9,491	9,537	9,594	9,491	9,273
Less than 3% of income	24,662	26,898	27,533	27,290	27,167	27,013	27,288	27,836
All	40,262	41,862	41,862	41,862	41,862	41,862	41,862	41,862
% of billed accounts								
More than 5% of income	12.3%	12.7%	11.8%	12.1%	12.3%	12.6%	12.1%	11.4%
Between 3-5%	26.4%	23.1%	22.4%	22.7%	22.8%	22.9%	22.7%	22.2%
Less than 3% of income	61.3%	64.3%	65.8%	65.2%	64.9%	64.5%	65.2%	66.5%



Conclusion

Average household income

Household income in the Anglian Water supply area is above the national averages according to the latest Experian estimates. However, the most recent local estimates for housing costs have indicated that housing costs as a proportion of household income have risen compared to the previous 2015/16 estimates and this may push more households above the affordability thresholds.

Income distribution and growth

Households disposable income is likely to increase above the long-term trend in 2023/24 and 2024/25 only in nominal terms as income growth from wages, state benefits (including state pension) would be lower than the headline inflation. The FSS profiles of Anglian Water customers on average is relatively resilient to economic headwinds, however, there are some household segments that are more vulnerable to rising housing costs.

Water affordability

Experian estimates that 8.3% of directly-billed households in the Anglian Water area are spending more than 5% of their equivalised disposable after housing costs on water & sewerage charges in 2023/24 and close to 21% of households are spending between 3-5% of their income on water & sewerage charges. The affordability metric is expected to peak at 9.2% for the 5% measure in 2024/25 before returning to below 8% in 2029/30 under the baseline scenario.





©2020 Experian Information Solutions, Inc. All rights reserved. Experian and the Experian marks used herein are trademarks or registered trademarks of Experian Information Solutions, Inc. Other product and company names mentioned herein are the trademarks of their respective owners. No part of this copyrighted work may be reproduced, modified, or distributed in any form or manner without the prior written permission of Experian.

Experian Confidential