Affinity Water

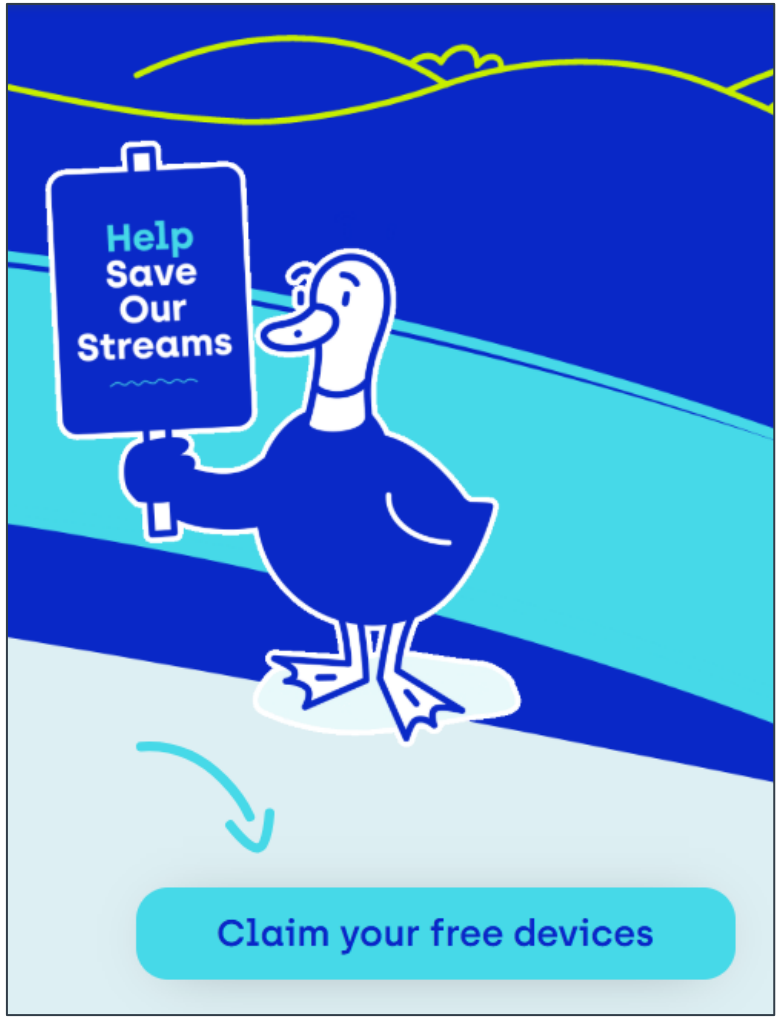
Water Resources Management Plan (WRMP)

Demand

13th March 2025

Agenda

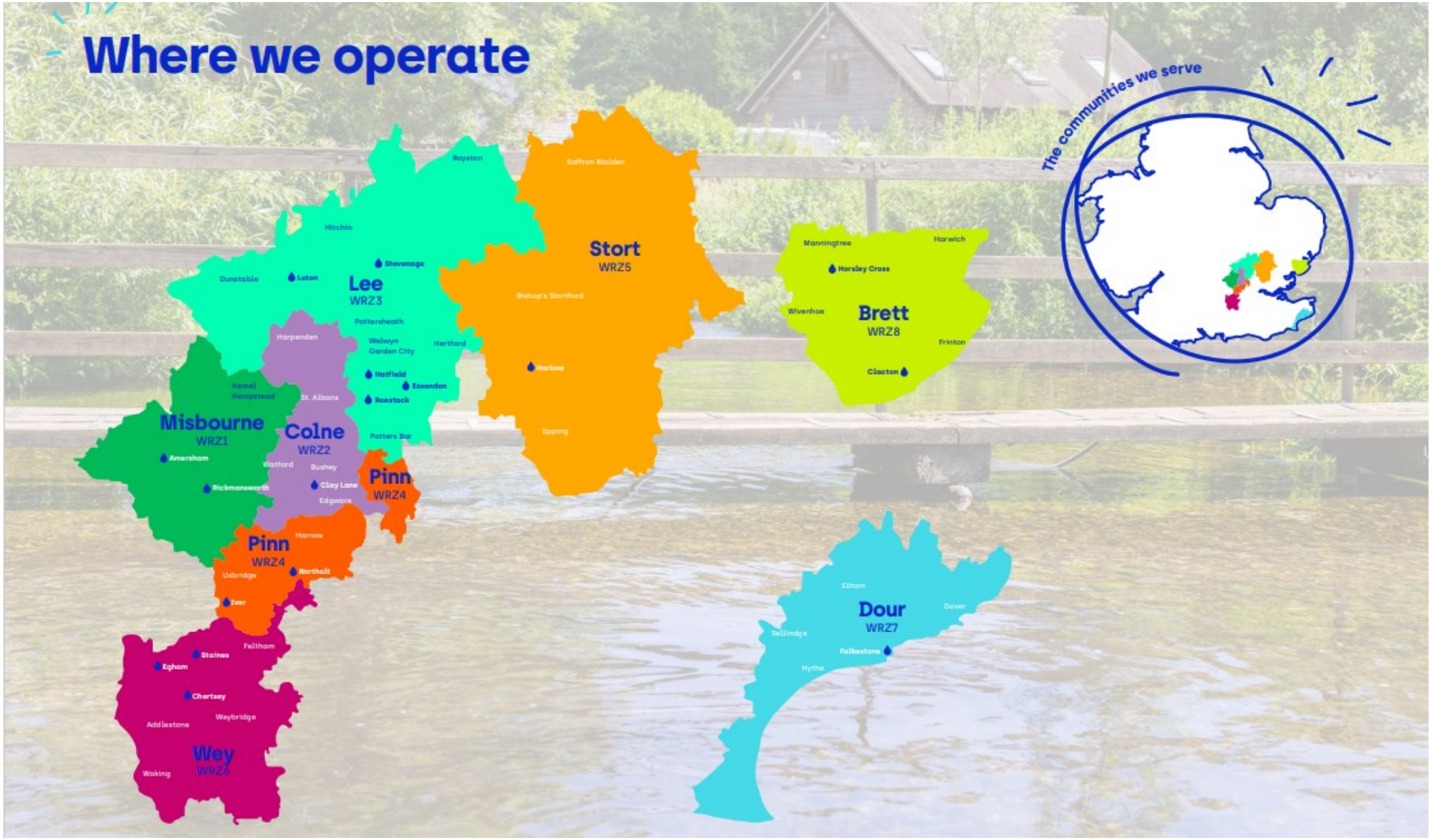
- Where we operate
- Water Resources Management Plan (WRMP)
- What is the need?
- A summary of our plan
- Overview of demand forecasting
- How do we model growth?
- Where do our demand targets come from?
- Emerging Issues – Data Centers
- Questions



You can view the plan on our website:
https://www.affinitywater.co.uk/corporate/plans/water-resources-plan

Affinity Water

Where we operate



Affinity Water is the largest water only supply company in the UK.

We supply three regions, Central, East and South East which are divided into 8 Water Resource Zones.

We operate in a water scarce region with vulnerable chalk streams.

Affinity Water

Water Resources Management Plan

- Every 5 years we produce a Water Resources Management Plan that looks at planning water resources in the future. It sets out how we intend to maintain the balance between water supply and demand to 2100.

- In a step change for the water industry, we have worked as an alliance with other water companies on two regional plans. Seven of our WRZ's are in Water Resources South East (WRSE) and Brett is in Water Resources East (WRE).

- The WRSE alliance includes Affinity Water, Portsmouth Water, SES Water, South East Water, Southern Water and Thames Water.

- The key focus for the supply side in the WRMP is demonstrating the **case of need** for new infrastructure. To do this, we must demonstrate that we have maximised our demand reduction activity in the most cost-effective way for customers.

Affinity Water

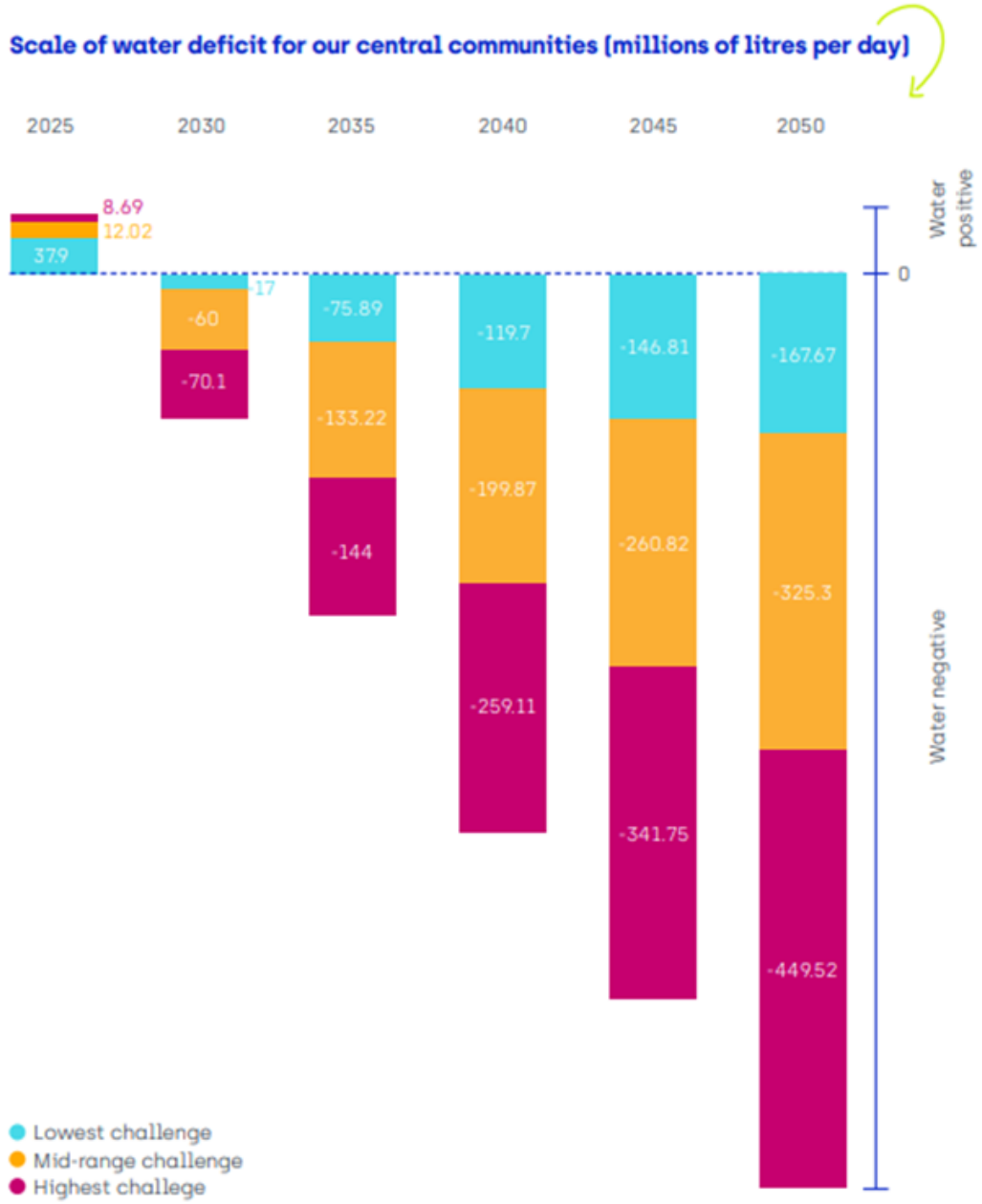
What is the need?

Key drivers

The need to protect chalk streams
(reduce our abstraction)

Growth in demand

Climate change impacts on resources



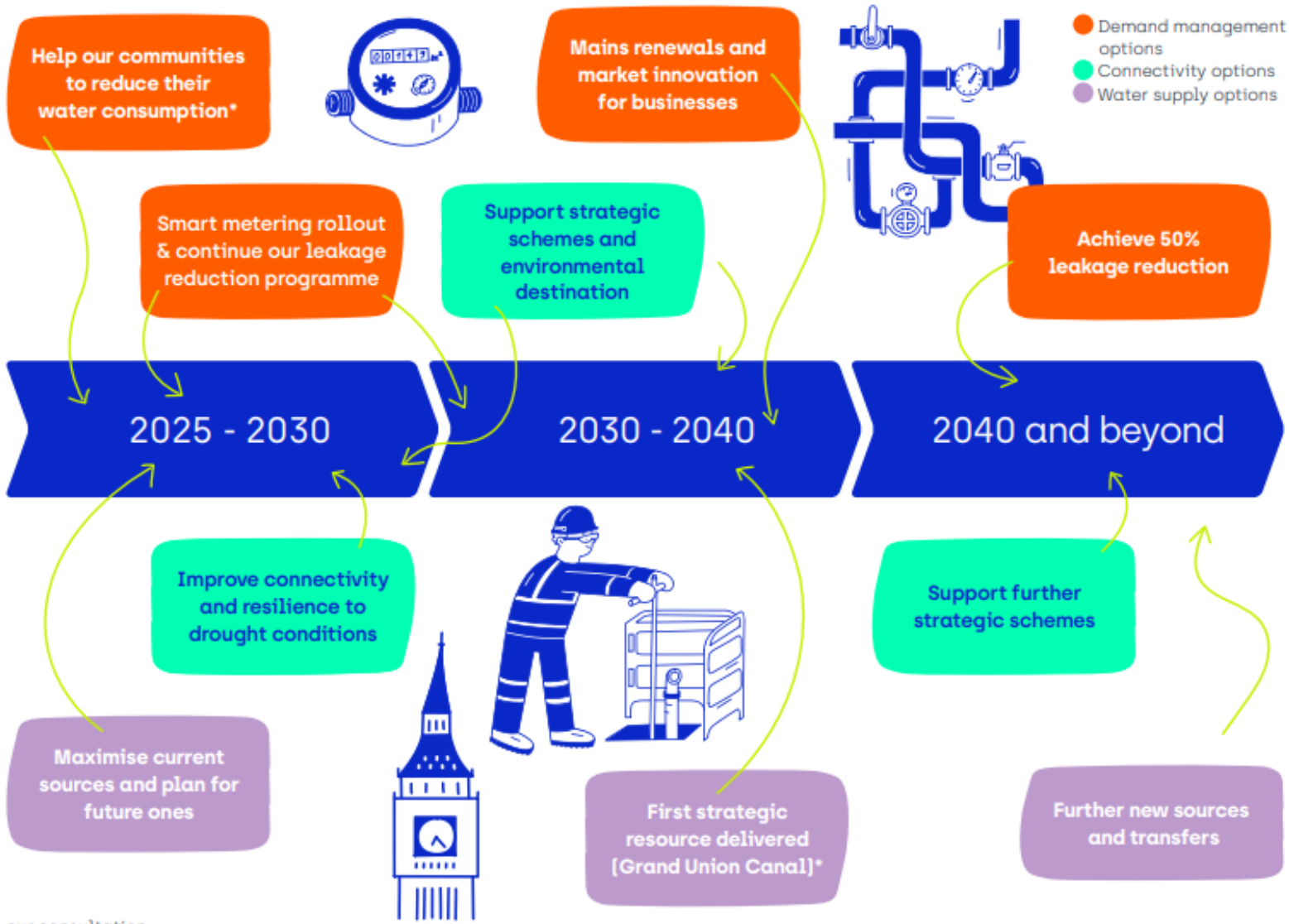
This is what we face **if we do nothing**

Our plan in summary

We have worked collectively as one of the six WRSE member companies, as well as with WRE, to develop a plan that both delivers for our Affinity Water customers and the southeast and eastern regions as a whole. Our plan provides an objective and evidence-based solution to meet our customers' future water needs.

We have looked beyond the boundaries of the company and identified the options that will deliver the most benefit to our customers, society, and the environment, now and in the future. Our plan fully reflects both the WRSE and WRE regional plans.

We will continue to engage and support our customers across the whole planning period, up to 2075.

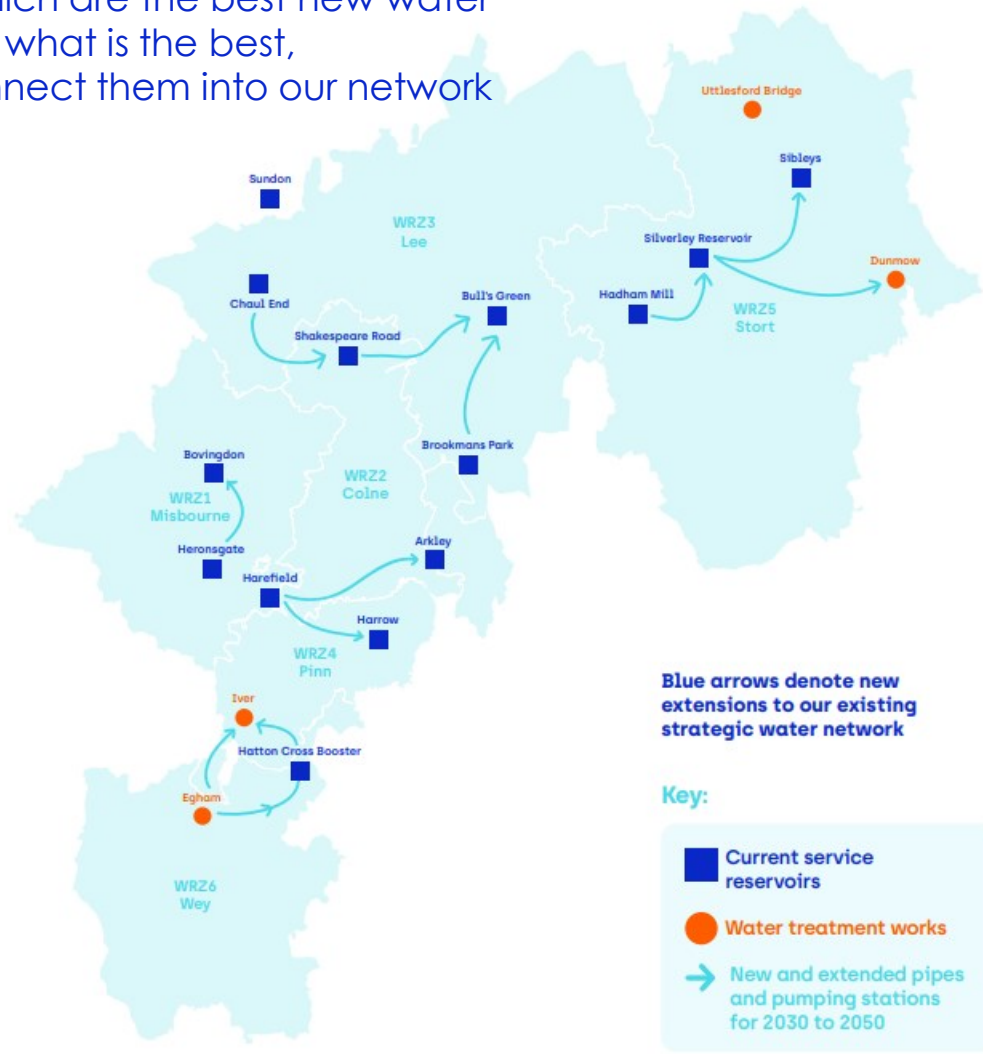


*These are areas that have changed in response to our consultation

Affinity Water

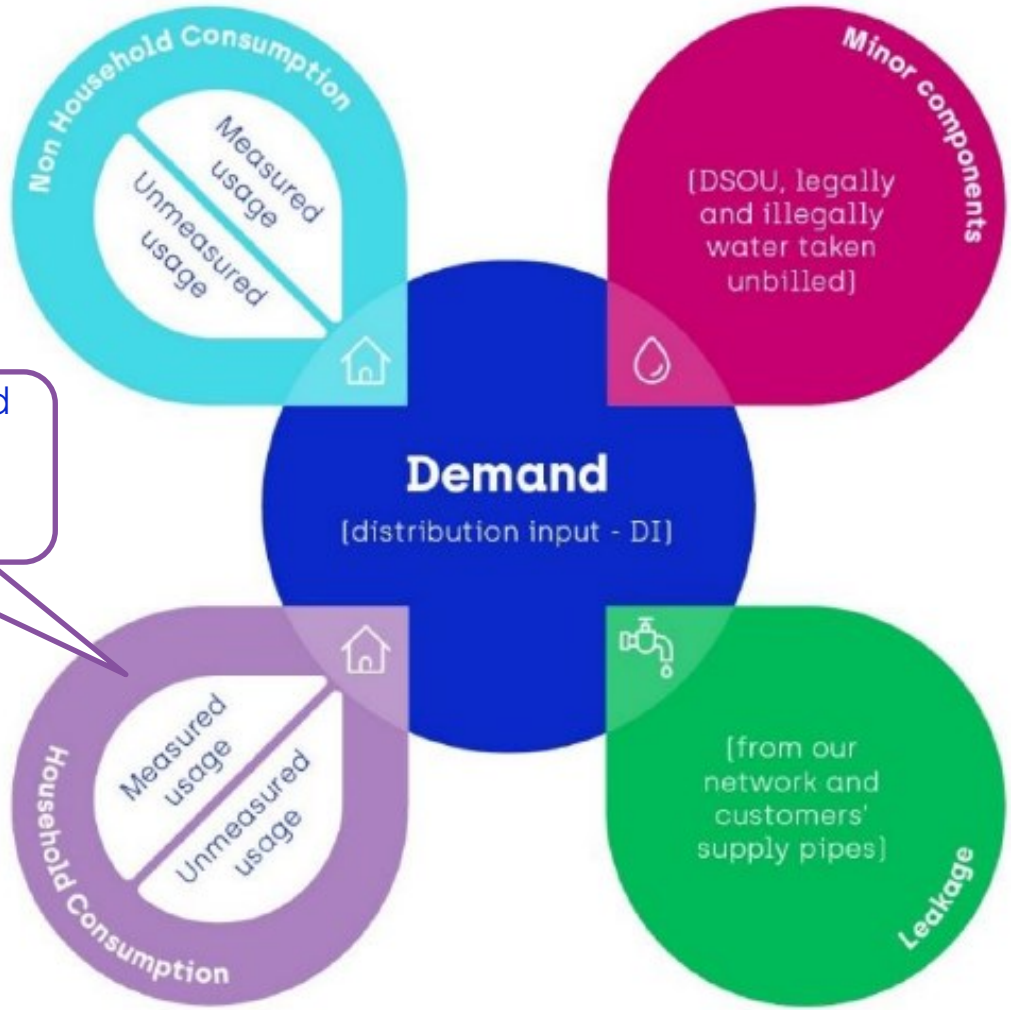
Supply - Developing and Connecting our Water Resources

Used adaptive planning to identify how best to use our existing sources, which are the best new water resource schemes and what is the best, progressive way to connect them into our network



Affinity Water

Overview of demand forecasting



Components of Distribution Input

PCC = Household Consumption / Household Population

For both household and non-household consumption, WRMP create a number of forecasts:

- **Baseline consumption**: volume of water used by households and non-households with no demand management activity.
  i.e. consumption increases as household population and the number of business properties in our area increase.

- **Demand Management (consumption):** the total reduction we can expect in household and non household consumption in response to demand management activities (i.e. metering & Weff)

- **Final plan consumption = Baseline consumption minus Demand Management (consumption)**
  Volume of water used by HH and NHH after our demand management activities have been implemented. This forecast forms the basis of our PCC and NHH targets.

For leakage, **Demand Management (leakage),** in conjunction with the leakage team and regulatory targets, we forecast a reduction in leakage based on combinations of leakage activity. i.e. mains renewal, fixing USPL, find and fix

Affinity Water

How do we model growth?

1. Population and Properties forecast – 5 key scenarios

To develop our population and property forecast, we commissioned Edge Analytics to use the latest available Local Plan and ONS trend-based data and data from the Greater London Authority to develop our forecasts.

- **Housing Plan ('medium and high'):** a housing led scenario with population growth underpinned by each local authorities Local Plan housing growth trajectory.
- **ONS-18 ('low and medium'):** ONS 2018 sub-national population projection (SNPP) using a five year history (2013-2018) to derive local fertility and mortality assumptions and long term UK net migration. These scenarios were rebased to ONS-2021.
- **Oxcam ('New Settlement'):** scenario above Housing Plan across Cherwell, Aylesbury Vale, Central Bedfordshire and South Cambridgeshire.

'Hidden and Transient' Population – population not included in official statistics such as short term migrants and second addressed. We apply an additional allowance based on further study by Edge allowing for up to 130k additional population.

We forecast household population to increase by 265k by 2030 and 890k by 2050

Affinity Water

How do we model growth?

2. Baseline Demand Forecast

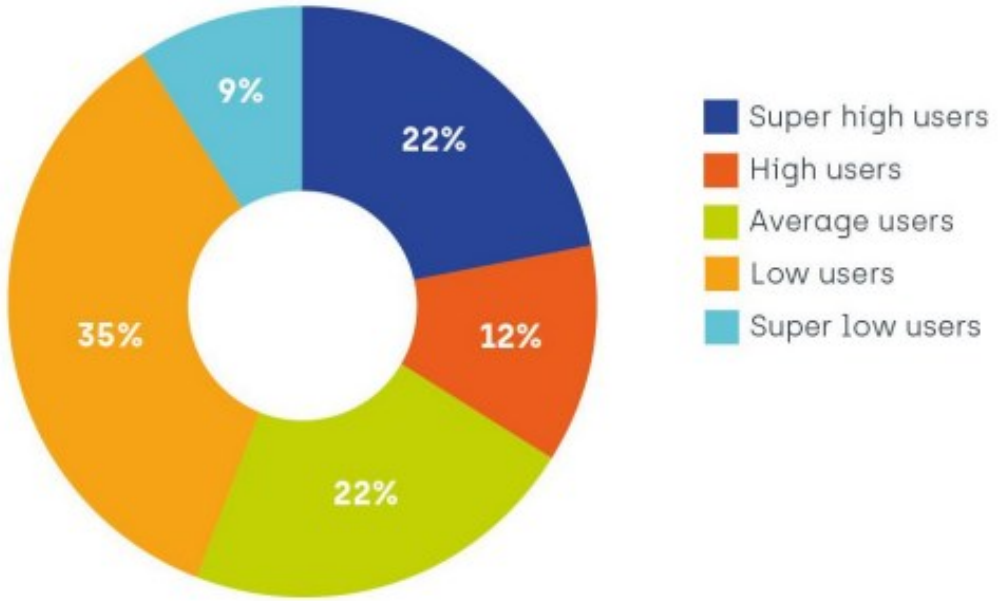
For each population and property scenario, we develop a baseline demand forecast our household consumption model. This model uses interactive drivers including the make up of occupants (number, age, socioeconomic, demographics), the property type, whether they pay on a metered bill and geography.

Key assumption: New build properties are assumed to be at 110 l/h/d PCC.

Without intervention, and under Dry Year Annual Average conditions, we expect household demand to increase by up to 150 Ml/d by 2050.

This is largely driven by a 33% increase in new properties in the forecast within our supply area.

For existing properties, we see a general upward PCC trend of 5 l/h/d between 2025 and 2050 due to a forecasted decrease in occupancy rates. This general upwards trend is true across the industry.



Affinity Water

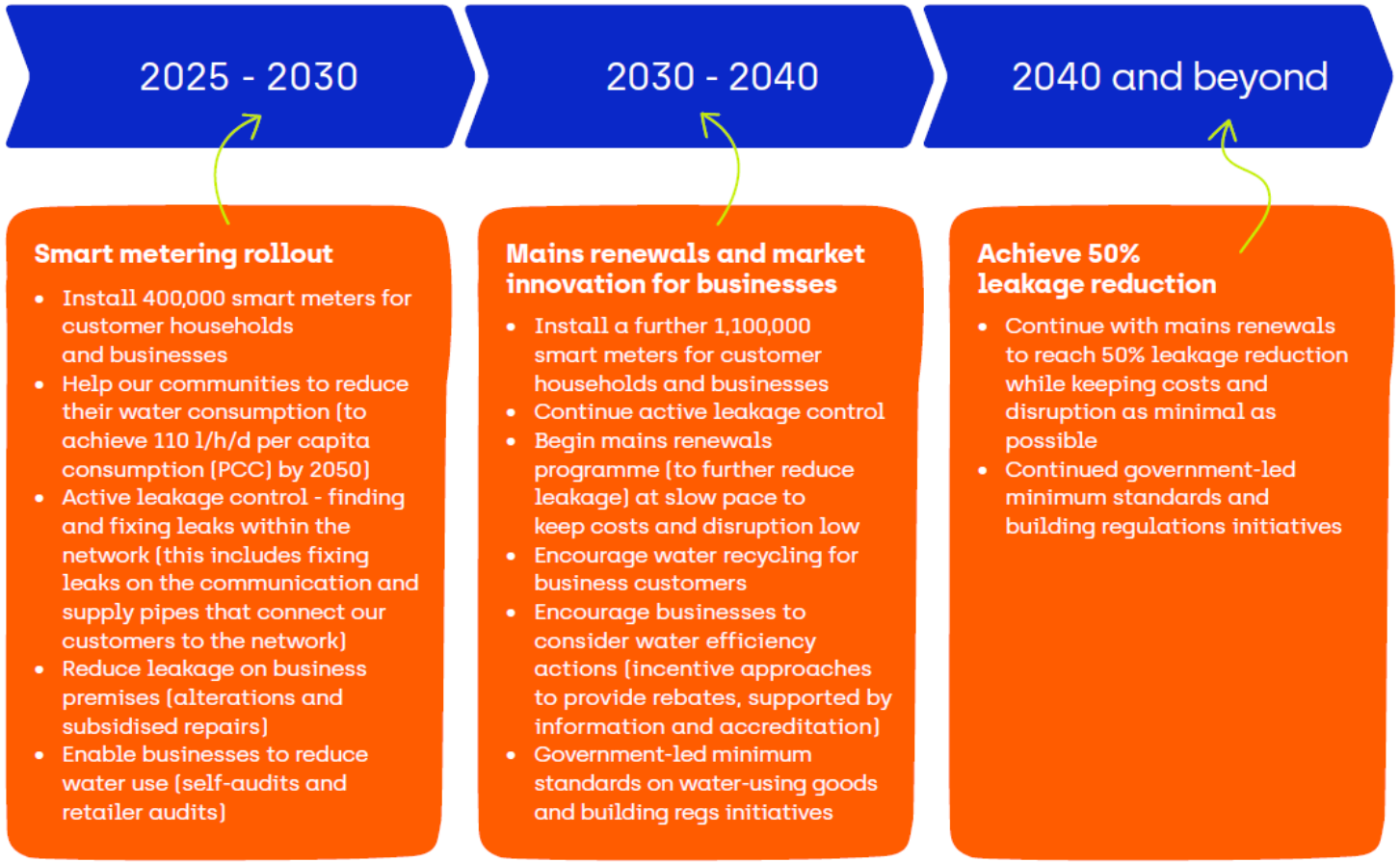
Where do our demand targets come from?

In February 2023, Defra released their expectations for demand management in their Environmental Improvement Plan (EIP).

Target	Reduction from	2027	2032	2038	2050
PCC*	**-**	**-**	**-**	**122 l/h/d**	**110 l/h/d**
NHH	2019/20			9%	15%
Leakage	2017/18	20%	30%	-	50%
DI (per head of pop)	2019/20	9%	14%	20%	-

*new build properties assumed to be at 110 l/h/d from 2025

PCC includes assumed savings from Government, 2 Ml/d by 2030 and 24 Ml/d by 2050.



Affinity Water

Emerging Issues – Data Centres

- Artificial Intelligence data centres have not been directly incorporated into our non-household demand forecasts.
- In AMP8 our supply and demand balance is protected as we include a level of uncertainty in our plan.
- However, there is significant uncertainty in how we track applications for data centre development in either new or existing buildings.

Affinity Water