

love every drop
anglianwater 

Revised Draft WRMP24
Technical Document

Water Resource Zone summaries



August 2023

Table of contents

Introduction	1	Lincolnshire East	
AREA 2: Lincolnshire and Nottinghamshire	3	DO Summary	24
Lincolnshire Bourne		Population and Housing	25
DO Summary	4	DYAA Baseline SDB	26
Population and Housing	5	DYCP Baseline SDB	27
DYAA Baseline SDB	6	Demand Forecast and PCC	28
DYCP Baseline SDB	7	Demand Management Option Strategy	29
Demand Forecast and PCC	8	DYAA Final Plan SDB	30
Demand Management Option Strategy	9	DYCP Final Plan SDB	31
DYAA Final Plan SDB	10	Supply-side Strategy	32
DYCP Final Plan SDB	11	Non-Household sector	33
Supply-side Strategy	12	Lincolnshire, Retford and Gainsborough	
Non-Household sector	13	DO Summary	34
Lincolnshire Central		Population and Housing	35
DO Summary	14	DYAA Baseline SDB	36
Population and Housing	15	DYCP Baseline SDB	37
DYAA Baseline SDB	16	Demand Forecast and PCC	38
DYCP Baseline SDB	17	Demand Management Option Strategy	39
Demand Forecast and PCC	18	DYAA Final Plan SDB	40
Demand Management Option Strategy	19	DYCP Final Plan SDB	41
DYAA Final Plan SDB	20	Supply-side Strategy	42
DYCP Final Plan SDB	21	Non-Household sector	43
Supply-side Strategy	22		
Non-Household sector	23		

1. Introduction

1.1 About our company

Anlian Water is the largest water and wastewater company in England and Wales geographically, covering 20% of the land area. We operate in the East of England, the driest region in the UK, receiving two-thirds of the national average rainfall each year; that's approximately 600mm. Our region has over 3,300km of rivers and is home to the UK's only wetland national park, the Norfolk Broads. Between 2011 and 2021, our region experienced the highest population increase in England. Despite this, we are still putting less water into our network than we did in 1989.

1.2 Planning for the long term

Our company Purpose is ***“to bring environmental and social prosperity to the region we serve through our commitment to Love Every Drop”***.

This purpose is at the heart of our business, having been enshrined in our Articles of Association in 2019. Central to delivering this purpose is planning for the long term; one of the strategic planning frameworks we use to achieve this is the Water Resources Management Plan (WRMP), which details how we will ensure resilient water supplies to our customers over the next 25 years. A WRMP looks for low regret investments for our region, giving flexibility to adapt to future challenges and opportunities such as technological advances, climate change, demand variations, and abstraction reductions.

1.3 What is a Water Resources Management Plan

We produce a WRMP every five years. It is a statutory document that sets out how a sustainable and secure supply of clean drinking water will be maintained for our customers. Crucially it takes a long-term view over 25 years, allowing us to plan an affordable, sustainable pathway that provides benefit to our customers, society and the environment.

Our previous WRMP, WRMP19, had an ambitious twin track strategy, combining an industry leading smart meter roll out and leakage ambition with a strategic pipeline across our region, bringing water from areas of surplus to areas of deficit.

This WRMP focusses on the period 2025 to 2050, and is known as WRMP24. We have developed it by following the Water Resources Planning Guideline (WRPG), as well as other relevant guidance, in order to meet statutory requirements.

1.4 Developing our WRMP

Our WRMP24 has been progressed following processes detailed in the WRPG. We start by determining the extent of the challenges we face between 2025 and 2050.

We achieve this by developing forecasts to establish the amount of water available to use (supply forecast) and the amount of water needed (demand forecast) in our region.

When these forecasts are combined, a baseline supply-demand balance is created. This tells us whether we have a surplus of water or a deficit, establishing our water needs for the planning period. An appraisal for both demand management options and supply-side options is undertaken.

We environmentally assess both demand management and supply-side options so we can understand their potential environmental impacts and what could be put in place to mitigate them.

The next step is for the water savings associated with the chosen demand management options to be added into our baseline supply-demand balance to determine if our region's water needs are met. If the demand management options savings do not solve the need, supply-side options are added into the modelling process and solution development.

1.5 Best value plan

To ensure we developed the right solution for our region's water needs, we have focussed on 'best value'. To us, best value is looking beyond cost and seeking to deliver a benefit to customers and society, as well as the environment, whilst listening and acting on the views of our customers and stakeholders.

1.6 Our revised draft WRMP24

Our best value plan, the revised draft WRMP24, has been produced following a public consultation on our draft WRMP24. This consultation ran from December 2022 to March 2023.

1.7 Strategic context of the revised draft WRMP24

Our revised draft WRMP24 aligns with our Purpose, as well as internal and external strategic plans and initiatives. We have worked collaboratively with internal and external stakeholders, regulators and other water abstractors to achieve this.

1.8 Guide to our draft WRMP24 submission

Our final submission comprises a non-technical customer and stakeholder summary, our main report and nine technical supporting documents and non-technical supporting documents.

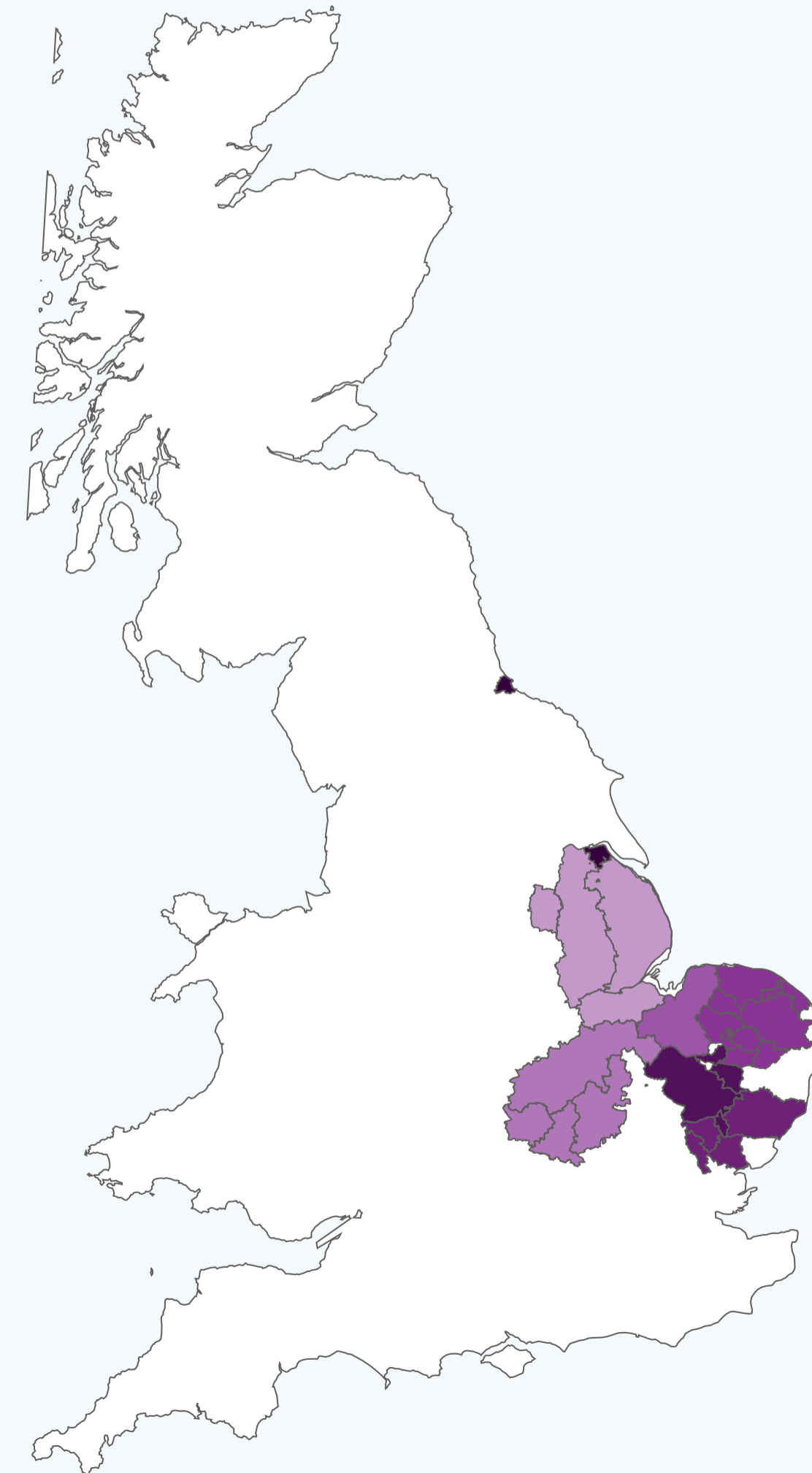
Introduction

1.9 This report is concerned with the WRMP24 water resource zone summaries non-technical supporting document. The report summarises key supply and demand data for the 27 Water Resource Zones (WRZs) characterised in the WRMP24.

These WRZs have been grouped by region according to our problem characterisation analysis.

Resource Zone	Area
Suffolk Ixworth	Cambridgshire & West Suffolk
Suffolk Sudbury	Cambridgshire & West Suffolk
Suffolk Thetford	Cambridgshire & West Suffolk
Suffolk West & Cambs	Cambridgshire & West Suffolk
Essex Central	East Suffolk & Essex
Essex South	East Suffolk & Essex
Suffolk East	East Suffolk & Essex
Fenland	Fenland
Hartlepool	Hartlepool
Lincolnshire Bourne	Lincolnshire & Nottinghamshire
Lincolnshire Central	Lincolnshire & Nottinghamshire
Lincolnshire East	Lincolnshire & Nottinghamshire
Lincolnshire Retford and Gainsborough	Lincolnshire & Nottinghamshire
Norfolk Aylsham	Norfolk
Norfolk Bradenham	Norfolk
Norfolk East Dereham	Norfolk
Norfolk East Harling	Norfolk
Norfolk Happisburgh	Norfolk
Norfolk Harleston	Norfolk
Norfolk North Coast	Norfolk
Norfolk Norwich & the Broads	Norfolk
Norfolk Wymondham	Norfolk
Ruthamford Central	Ruthamford
Ruthamford North	Ruthamford
Ruthamford South	Ruthamford
Ruthamford West	Ruthamford

Anglian Water WRMP24 water resource zones



2. Strategic Overview

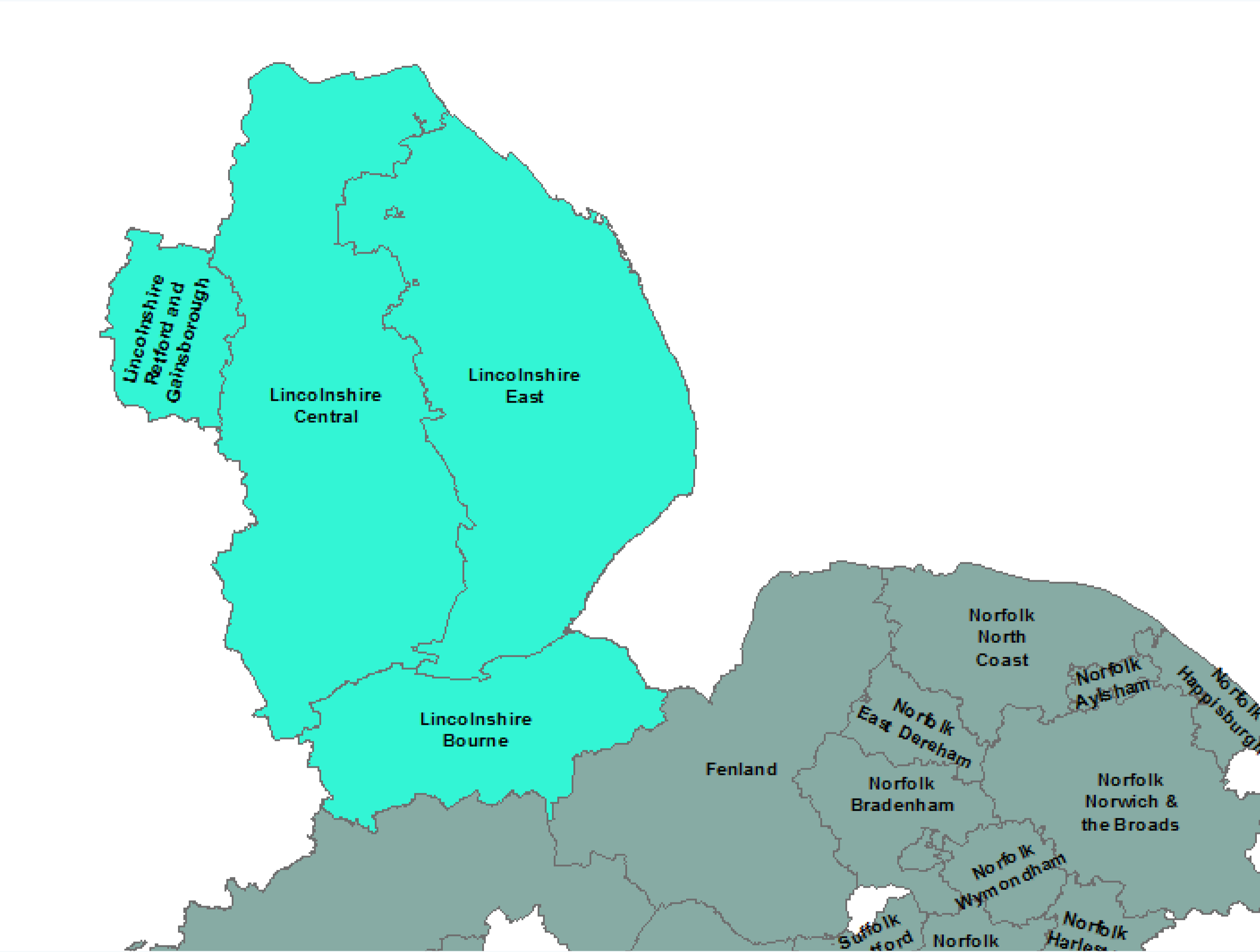
Lincolnshire & Nottinghamshire

2.1 Strategic risk and issues

Lincolnshire and Nottinghamshire benefit from additional connectivity provided by our AMP7 strategic grid and associated investments. Without mitigation, there is potential for future sustainability reductions to cause large deficits in Environmental Destination scenarios. Vulnerable catchments include:

- Idle and Torne
- Louth, Grimsby and Ancholme
- Lower Trent & Erewash
- Steeping Great Eau and Long Eau
- Welland
- Witham

Figure 1 Problem Characterisation Area

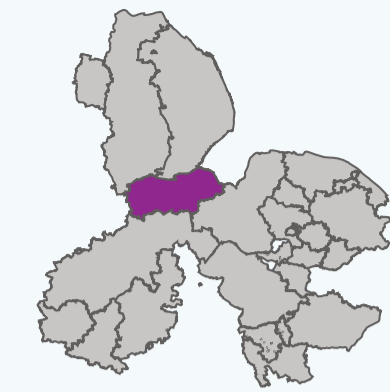


Choose area

Cambridgeshire & West Suffolk	Fenland	Lincolnshire & Nottinghamshire	Ruthamford
East Suffolk & Essex	Hartlepool	Norfolk	

3. Deployable Output summary DYAA

Lincolnshire Bourne



3.1 Resource Zone geography: Lincolnshire Bourne:

The Bourne WRZ covers an area of 1087 sq. km and lies to the south west of the Wash. It is based on the supply systems for Bourne, Spalding and Stamford. Water is abstracted from groundwater sources in the Lincolnshire Limestone aquifer.

3.2

Baseline deployable output (including 1:500 drought): 42.5 MI/d

Deployable output reductions

Restoring sustainable abstraction (recent actual average): -2.6 MI/d

Reductions to achieve environmental destination (BAU+): -20.7 MI/d by 2040.

Climate change: 0.0 MI/d by 2050.

Baseline deployable output reduces by a total of -23.3 MI/d by 2050 a reduction of 54.8%.

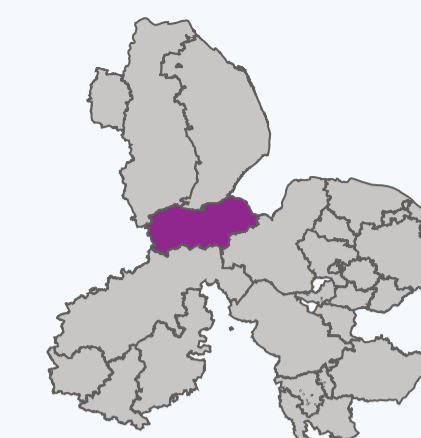
Table 3: supply characteristics (all values are MI/d)

	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
DO pre forecast changes	42.5	42.5	42.5	42.5	42.5
Change in DO due to climate change	0.0	0.0	0.0	0.0	0.0
DO reductions to restore sustainable abstraction	-2.2	-2.6	-2.6	-2.6	-2.6
DO reductions for Environmental Destination	0.0	0.0	0.0	-20.7	-20.7
Change in DO from drought measures	0.0	0.0	0.0	0.0	0.0
Final DO	40.3	39.9	39.9	19.2	19.2
Raw water losses (-ve)	-0.8	-0.8	-0.8	-0.8	-0.8
Outage Allowance (-ve)	-0.3	-0.3	-0.3	-0.3	-0.3
WAFU (own sources)	39.2	38.8	38.8	18.1	18.1
Net Transfers	4.3	6.6	4.1	24.3	24.0
Other benefits	2.17	0.00	0.00	0.00	0.00
Total Water Available for Use	45.7	45.4	42.9	42.4	42.1

3.3 The baseline Deployable Output data presented in this section represents the Environment Agency's preferred sustainability reduction licence cap scenario. This includes recent actual average caps to time limited licences in 2022-24 and caps to all other permanent licences by 2030. The impact of 1:500 drought resilience has also been applied from 2025 rather than the preferred scenario of 2039/2040. These factors apply to the baseline forecast only. For the final plan forecast we have applied our best value scenario for licence caps, which was developed following an iterative process to deliver licence caps as early as possible. The transition to 1:500 drought resilience occurs in 2039/40 in the final plan forecast. Further information is available in the WRMP24 Decision Making technical supporting document, section 6.



4. Population & Housing



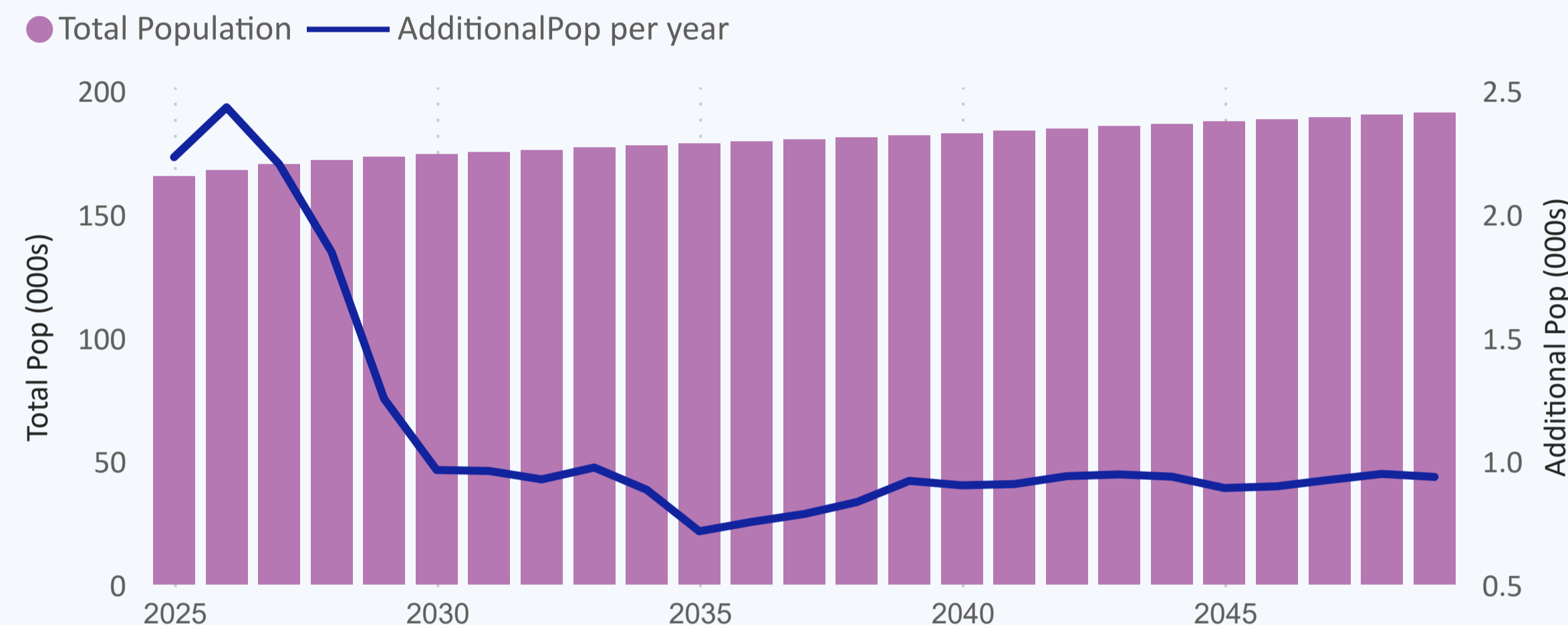
Lincolnshire Bourne

4.1 Over the WRMP period, population in Lincolnshire Bourne is set to increase from 165331 in 2025 to 190985 in 2049-50 - this is an increase of 15.5 % over the 25 years.

Table 4a: Population totals (cumulative) by AMP

Year	Total Population (000s)
2029-30 (end of AMP8)	173.059
2034-35 (end of AMP9)	177.762
2039-40 (end of AMP10)	181.767
2044-45 (end of AMP11)	186.393
2049-50 (end of AMP12)	190.985

Figure 2: Total Resource Zone Population

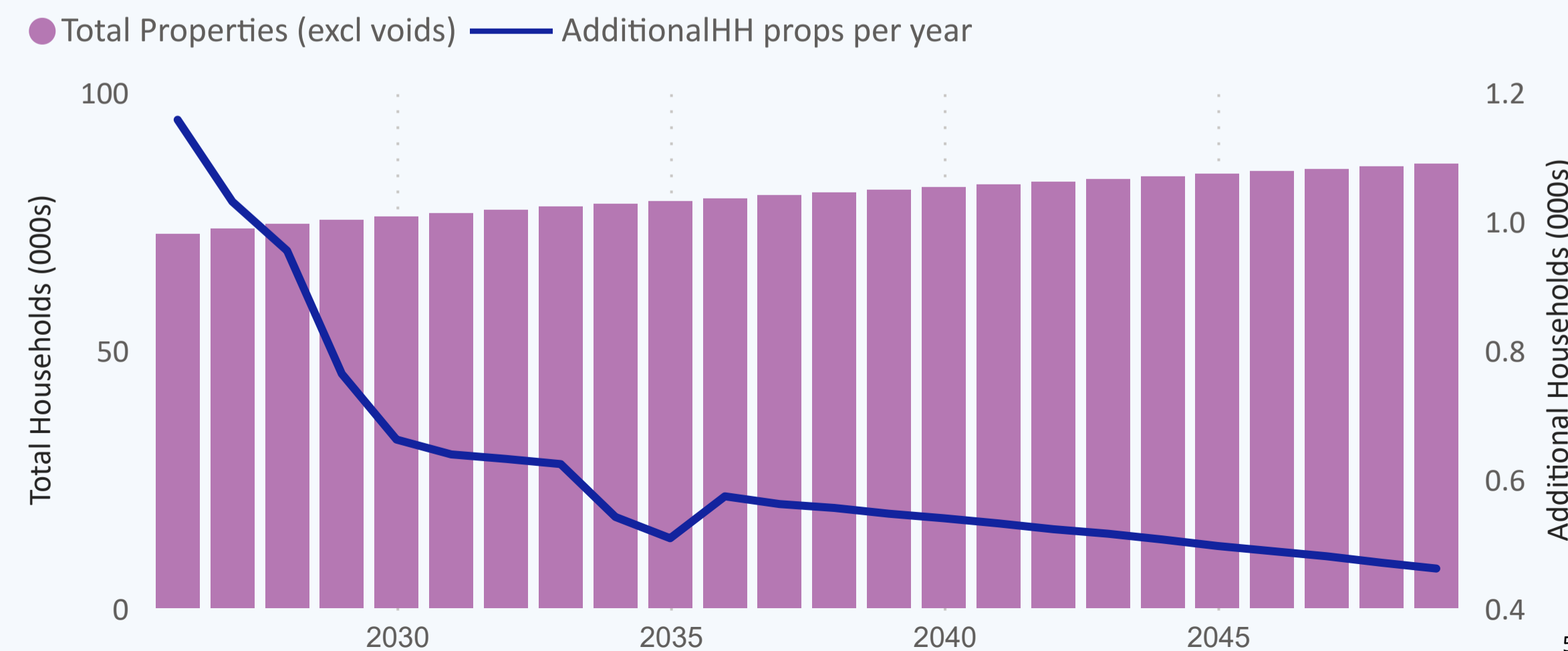


4.2 Over the WRMP period, property numbers in Lincolnshire Bourne are set to increase from 71332 in 2025 to 86081 in 2049-50 - this is an increase of 20.7 % over the 25 years.

Table 4b: Property totals (cumulative) by AMP

Year	Total Properties-excl voids (000s)
2029-30 (end of AMP8)	75.236
2034-35 (end of AMP9)	78.330
2039-40 (end of AMP10)	81.073
2044-45 (end of AMP11)	83.686
2049-50 (end of AMP12)	86.081

Figure 3: Total Resource Zone Properties (excl. voids)



5. Baseline Supply Demand Balance DYAA

Lincolnshire Bourne

Lincolnshire Bourne

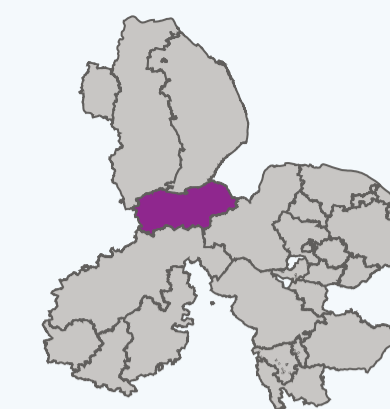


Figure 4: Lincolnshire Bourne baseline supply demand balance to 2050 for Dry Year Annual Average conditions

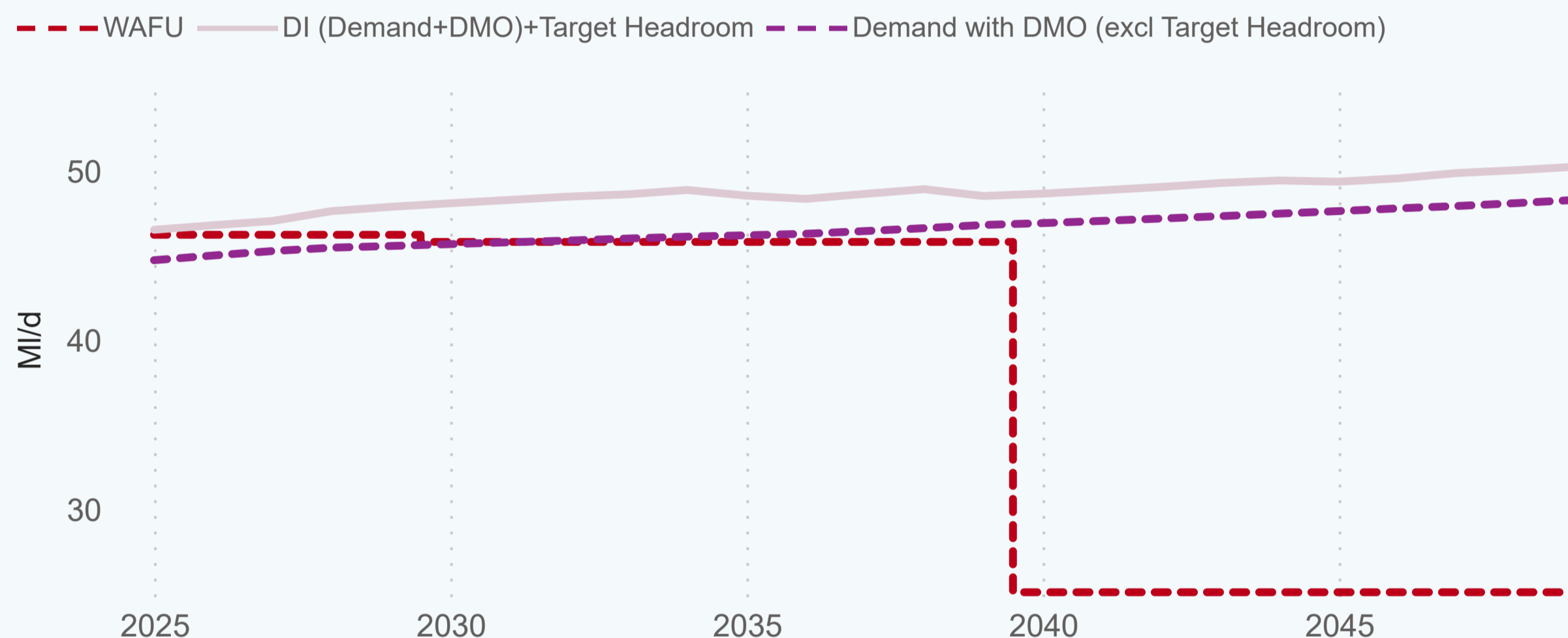


Table 5a: Baseline supply demand balance 2025 - 2050 for DYAA conditions

	2025-26 (start of AMP8)	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
Water Available For Use	39.2	39.2	38.8	38.8	18.1	18.1
Net Transfers	7.0	7.0	7.0	7.0	7.0	7.0
Total Water Available For Use	46.2	46.2	45.8	45.8	25.1	25.1
Distribution Input	44.7	45.6	46.1	46.8	47.5	48.3
Target Headroom	1.8	2.3	2.8	1.7	2.0	2.0
Supply Demand Balance	-0.3	-1.7	-3.1	-2.7	-24.3	-25.1

Table 5b: Baseline demand forecast (without preferred demand management options)

	2025-26 (start of AMP8)	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
Water delivered measured household	19.4	20.6	21.7	22.8	23.8	24.5
Water delivered unmeasured household	4.0	3.4	2.9	2.5	2.1	2.1
Total Leakage	6.2	6.3	6.3	6.3	6.3	6.4
Water delivered measured non-household	15.1	15.2	15.2	15.2	15.2	15.4
Water delivered unmeasured non-household	0.1	0.1	0.1	0.1	0.1	0.1
Distribution Input	44.7	45.6	46.1	46.8	47.5	48.3

5.1 DYAA BL supply demand summary: Lincolnshire Bourne

Baseline Supply Demand Balance: This zone is expected to go into deficit by 2025 (under the preferred baseline scenario - as described in section 3.3).

- Demand Forecast: Baseline household demand (measured and unmeasured) is forecast to change from 23.3 MI/d in 2025 to 26.5 MI/d in 2050, a percentage change of 13.8 %.
- Baseline Leakage: is forecast to change from 6.2 MI/d in 2025 to 6.4 MI/d by 2050.
- Baseline Non-Household demand: is expected to change from 15.1 MI/d to 15.4 MI/d.
- Baseline Distribution Input: is expected to change from 44.7 MI/d to 48.3 MI/d by 2050.

Nb. 'Deficit' is one outcome of the calculation WAFU minus Distribution Input (including Target Headroom).

6. Baseline Supply Demand Balance DYCP

Lincolnshire Bourne

Lincolnshire Bourne

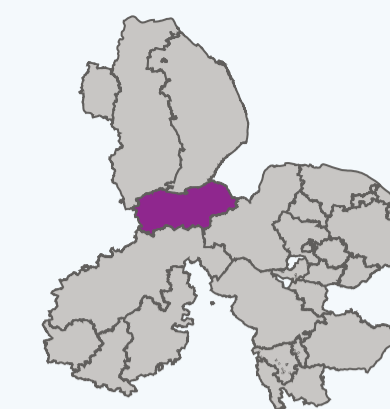


Figure 5: Lincolnshire Bourne baseline supply demand balance to 2050 for Dry Year Critical Period conditions

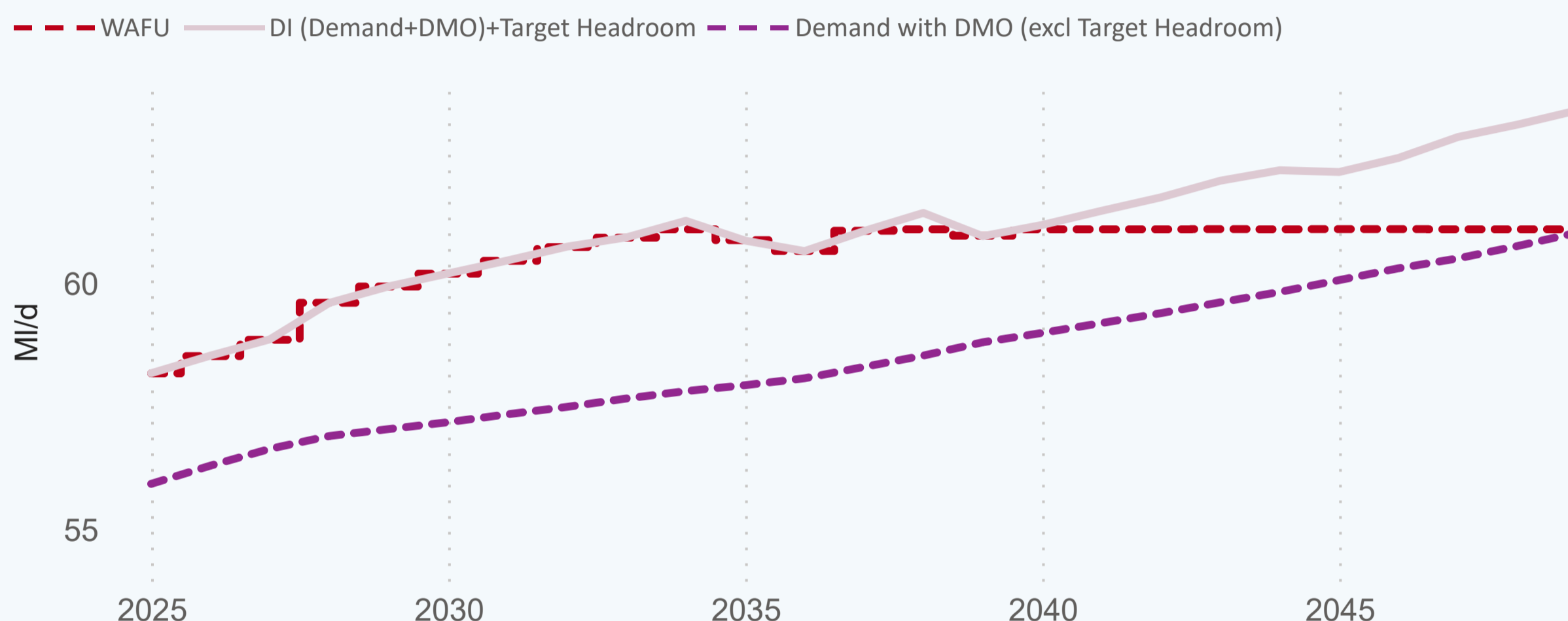


Table 6b: Baseline demand forecast with DYCP conditions (without preferred demand management options)

	2025-26 (start of AMP8)	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
Water delivered measured household	25.5	27.2	28.6	30.2	31.6	32.7
Water delivered unmeasured household	5.4	4.7	4.0	3.4	3.0	2.9
Total Leakage	6.2	6.3	6.3	6.3	6.3	6.4
Water delivered measured non-household	18.7	18.9	18.9	18.8	18.9	19.1
Water delivered unmeasured non-household	0.1	0.1	0.1	0.1	0.1	0.1
Distribution Input	55.9	57.0	57.8	58.8	59.8	61.0

Table 6a: Baseline supply demand balance 2025 - 2050 for DYCP conditions

	2025-26 (start of AMP8)	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
Water Available For Use	54.1	54.1	54.1	54.1	54.1	54.1
Net Transfers	4.1	5.8	7.0	6.9	7.0	7.0
Total Water Available For Use	58.2	59.9	61.1	61.0	61.1	61.1
Distribution Input	55.9	57.0	57.8	58.8	59.8	61.0
Target Headroom	2.2	2.9	3.5	2.2	2.5	2.5
Supply Demand Balance	0.0	0.0	-0.2	0.0	-1.2	-2.4

6.1 DYCP BL supply demand summary: Lincolnshire Bourne

Baseline Supply Demand balance: This zone will go into deficit immediately

- Demand Forecast: Baseline household demand (measured and unmeasured) is forecast to change from 30.9 MI/d in 2025 to 35.6 MI/d in 2050, a percentage change of 15.1 %.
- Baseline Leakage: is forecast to change from 6.2 MI/d in 2025 to 6.4 MI/d by 2050.
- Baseline Non-Household demand: is expected to change from 18.7 MI/d to 19.1 MI/d.
- Baseline Distribution Input: is expected to change from 55.9 MI/d to 61.0 MI/d by 2050.

Nb. 'Deficit' is one outcome of the calculation WAFU minus Distribution Input (including Target Headroom).



7. Demand forecast and PCC



Lincolnshire Bourne

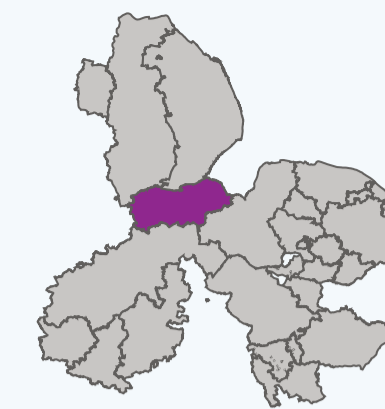


Figure 6: Lincolnshire Bourne DYAA DI with and without demand management strategy

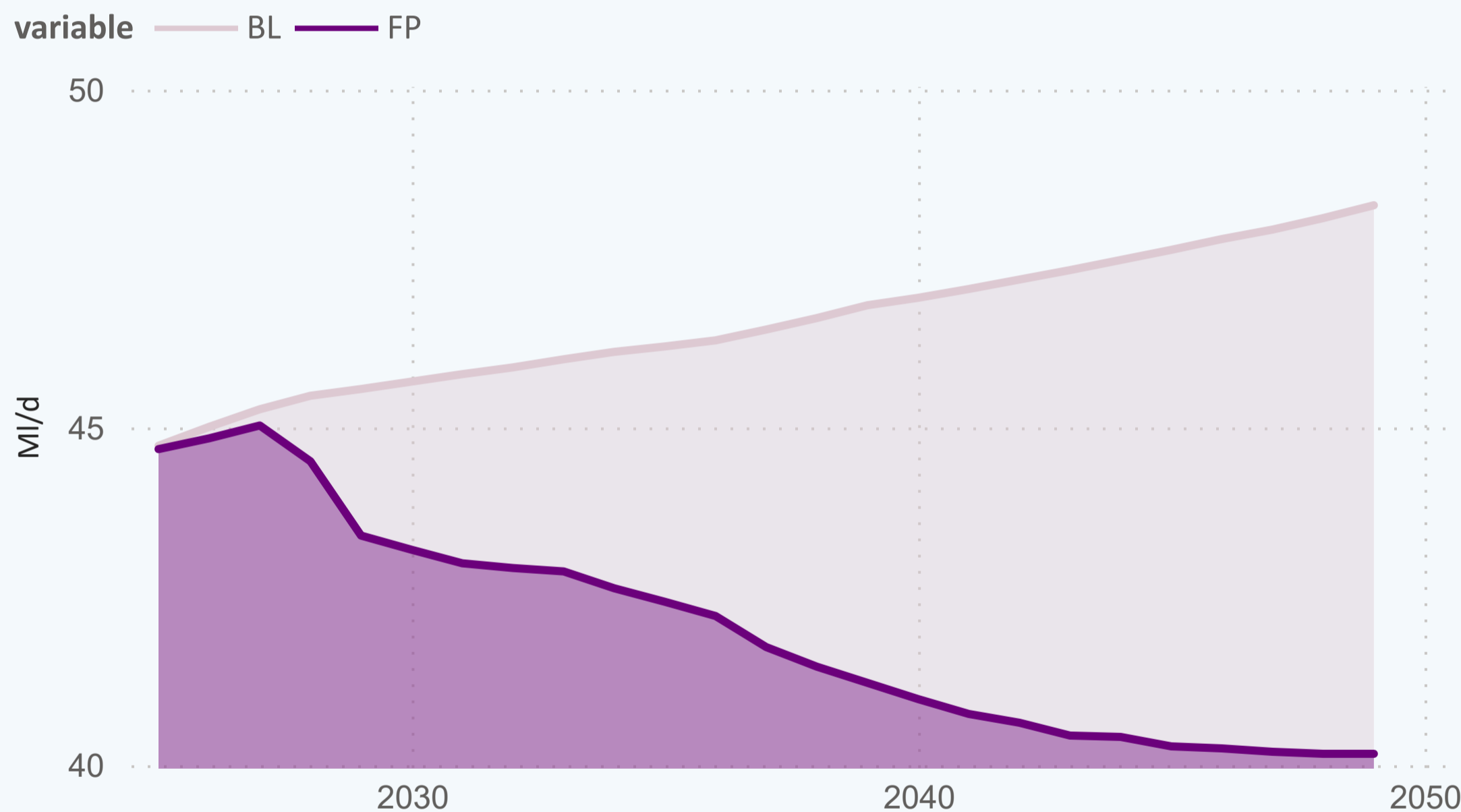


Table 7a: Demand - baseline and final plan

variable	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
BL	45.6	46.1	46.8	47.5	48.3
FP	43.4	42.6	41.2	40.4	40.2

7.2 Demand Lincolnshire Bourne (see Table 7a)

Baseline demand is expected to increase from 44.7 (MI/d) in 2025 to 48.3 (MI/d) in 2050. With demand management options in place, demand is expected to be 40.2 (MI/d).

7.1 PCC Lincolnshire Bourne (see Table 7b)

Per Capita Consumption (PCC) in the base year 2025/26 is 125.9 (l/h/d) measured and 200.7 (l/h/d) unmeasured.

The weighted average PCC (l/h/d) comes in at 134.1 (l/h/d) in 2025/26. This is forecast to fall to 108.0 (l/h/d) in the Final Plan forecast as demand management option savings are realised and customers switch from unmeasured to measured status

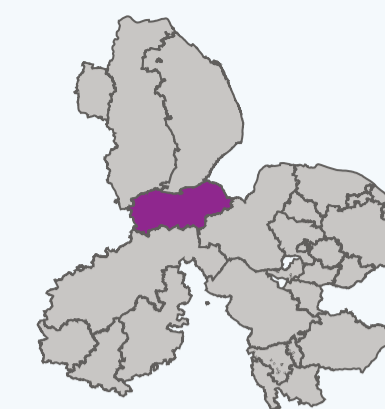
Table 7b: DMO strategy Final Plan

	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
BL demand forecast(DYAA)	132.1	131.6	132.5	132.4	132.4
FP demand forecast(DYAA)	123.1	118.4	113.7	109.9	108.0
% change BL to FP	-6.8%	-10.0%	-14.2%	-17.0%	-18.4%



8. Demand management options

Lincolnshire Bourne



8.1 Regional overview:

Across the entirety of the Anglian Water region our demand management strategy will comprise three strongly interlinked programs:

Water metering program:

- We intend to complete our current smart meter rollout which will replace our entire meter stock over 10 years (2 AMPs), noting that 1.1M smart meters will be installed across Anglian Water by 2025. The information resulting from 'smart metering' will help inform our customers regarding their water usage and will assist in our ability to influence this behaviour. It will also help with our ability to detect leakage, significantly reducing plumbing losses and customer supply pipe leaks.

Leakage reduction

- Our aim is to reduce leakage by more than 45MI/d from 2025 to 2050 across the whole Anglian Water area, building upon our ambitious program of leakage reduction in AMP7 (14% reduction of more than 27MI/d across the region by 2025).

Water efficiency measures

- New technologies and interventions will help promote the careful use of water. Additional water efficiency programs will include: the promotion of 'Smart' devices; further development of our Multi-utility web-portal; garden advice; support for vulnerable customers with plumbing loss and cspl; Community reward schemes. As part of our revised draft WRMP24 we have developed and included 'water efficiency visits' and leakage reduction measures for our Non-Household customers.

Figure 7: DMO strategy Final Plan for Lincolnshire Bourne

For full chart key see table below

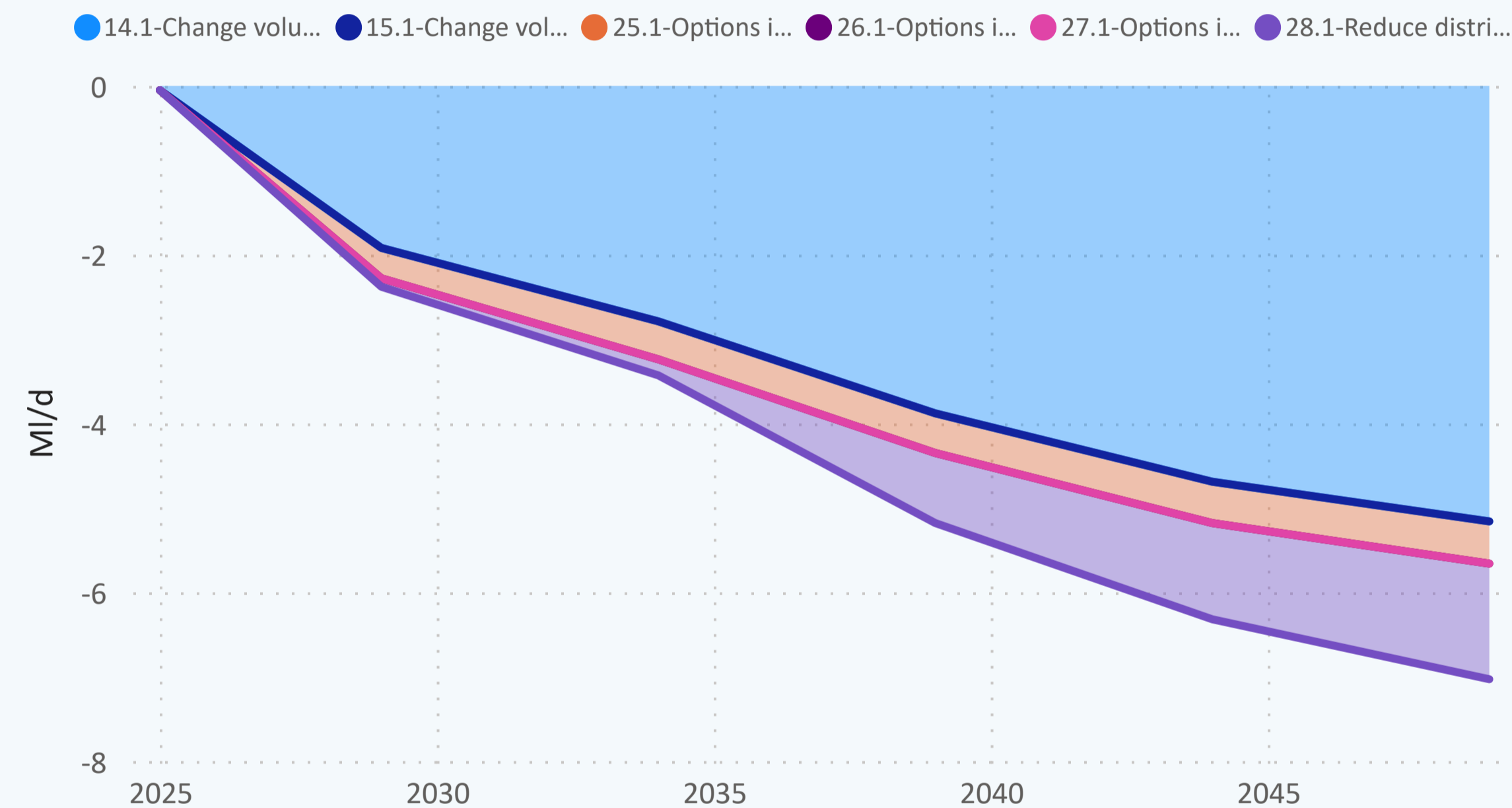


Table 8: DMO strategy Final Plan for Lincolnshire Bourne

	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
14.1-Change volume delivered to measured households(-ve)	-1.9	-2.8	-3.9	-4.7	-5.2
15.1-Change volume delivered to unmeasured households(-ve)	0.0	0.0	0.0	0.0	0.0
25.1-Options impacting on measured Household - USPL (-ve)	-0.4	-0.5	-0.5	-0.5	-0.5
26.1-Options impacting on unmeasured Household - USPL (-ve)	0.0	0.0	0.0	0.0	0.0
27.1-Options impacting on Void properties - USPL (-ve)	0.0	0.0	0.0	0.0	0.0
28.1-Reduce distribution losses (-ve)	-0.1	-0.2	-0.8	-1.1	-1.4



9. Final Plan Supply Demand Balance DYAA

Lincolnshire Bourne

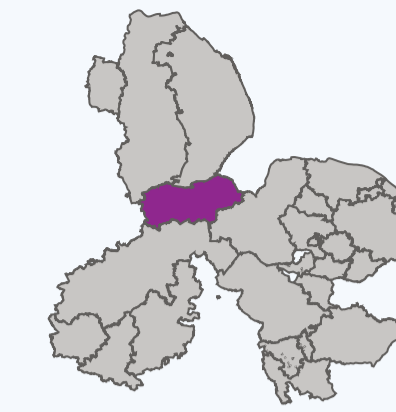


Figure 8: Lincolnshire Bourne final plan SDB to 2050 for Dry Year Annual Average conditions

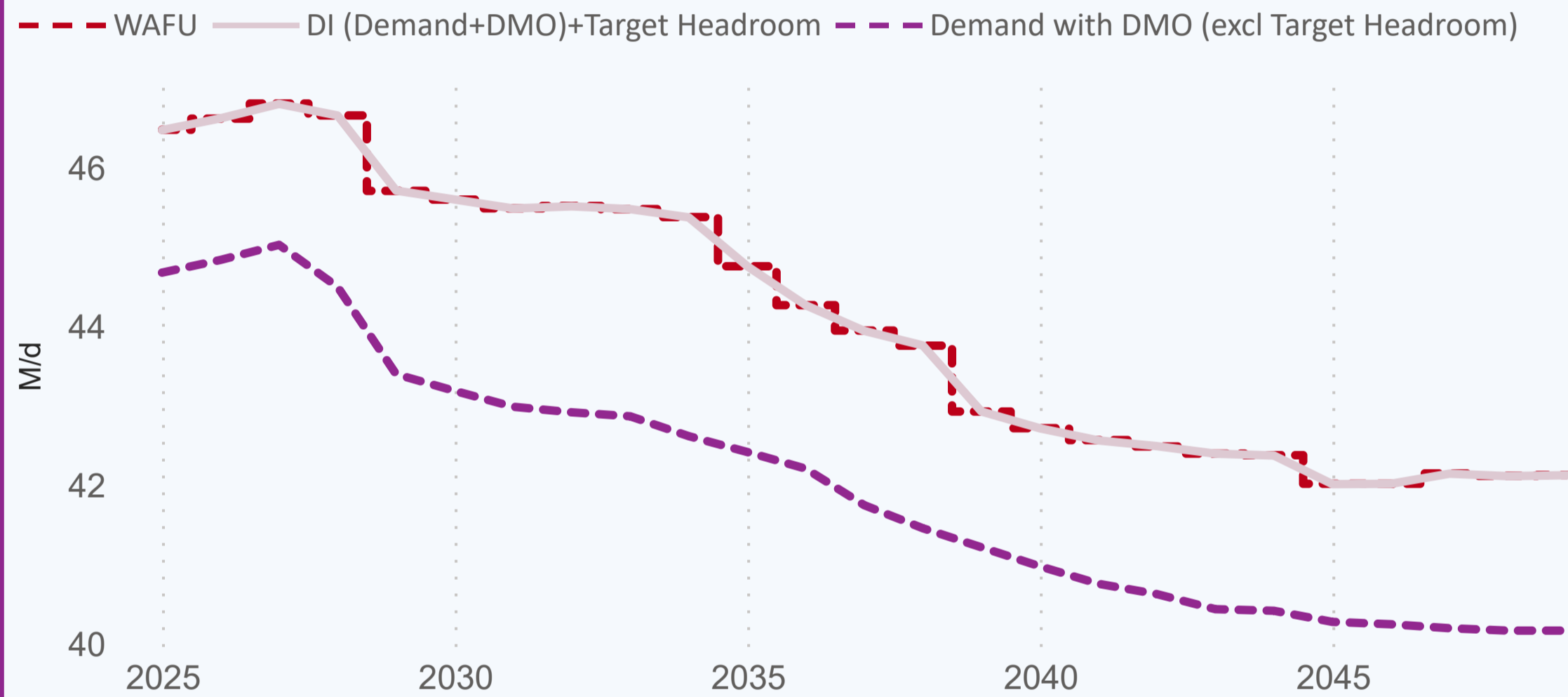


Table 9a: final plan SDB to 2050 for Dry Year conditions

	2025-26 (start of AMP8)	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
Water Available For Use	41.4	41.4	38.8	38.8	18.1	18.1
Net Transfers	5.1	4.3	6.6	4.1	24.3	24.0
Total Water Available For Use	46.5	45.7	45.4	42.9	42.4	42.1
Distribution Input	44.7	43.4	42.6	41.2	40.4	40.2
Target Headroom	1.8	2.3	2.8	1.7	2.0	2.0
Supply Demand Balance	0.0	0.0	0.0	0.0	0.0	0.0

Table 9b: Final Plan demand forecast for DYAA conditions (with preferred demand management options)

	2025-26 (start of AMP8)	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
Water delivered measured household	19.3	18.7	18.9	18.9	19.1	19.3
Water delivered unmeasured household	4.0	3.4	2.9	2.5	2.1	2.1
Total Leakage	6.2	5.8	5.7	5.0	4.7	4.5
Water delivered measured non-household	15.1	15.0	14.7	14.3	14.0	13.8
Water delivered unmeasured non-household	0.1	0.1	0.1	0.1	0.1	0.1
Distribution Input	44.7	43.4	42.6	41.2	40.4	40.2

9.1 DYAA FP supply demand summary: Lincolnshire Bourne

The zone is in balance.

- Demand Forecast: Final Plan household demand (measured and unmeasured) is forecast to change from 23.3 MI/d in 2025 to 21.4 MI/d in 2050, a percentage change of -8.2 %.
- Final Plan Leakage is forecast to change from 6.2 MI/d in 2025 to 4.5 MI/d by 2050.
- Final Plan Non-Household demand is expected to change from 15.1 MI/d to 13.8 MI/d.
- Final Plan Distribution Input is expected to change from 44.7 MI/d to 40.2 MI/d by 2050.



10. Final Plan Supply Demand Balance DYCP

Lincolnshire Bourne

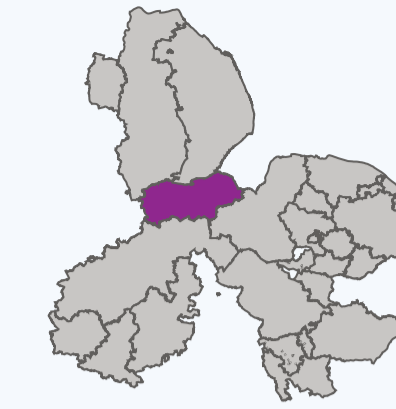


Figure 9: Lincolnshire Bourne baseline supply demand balance to 2050 for Dry Year Critical Period conditions

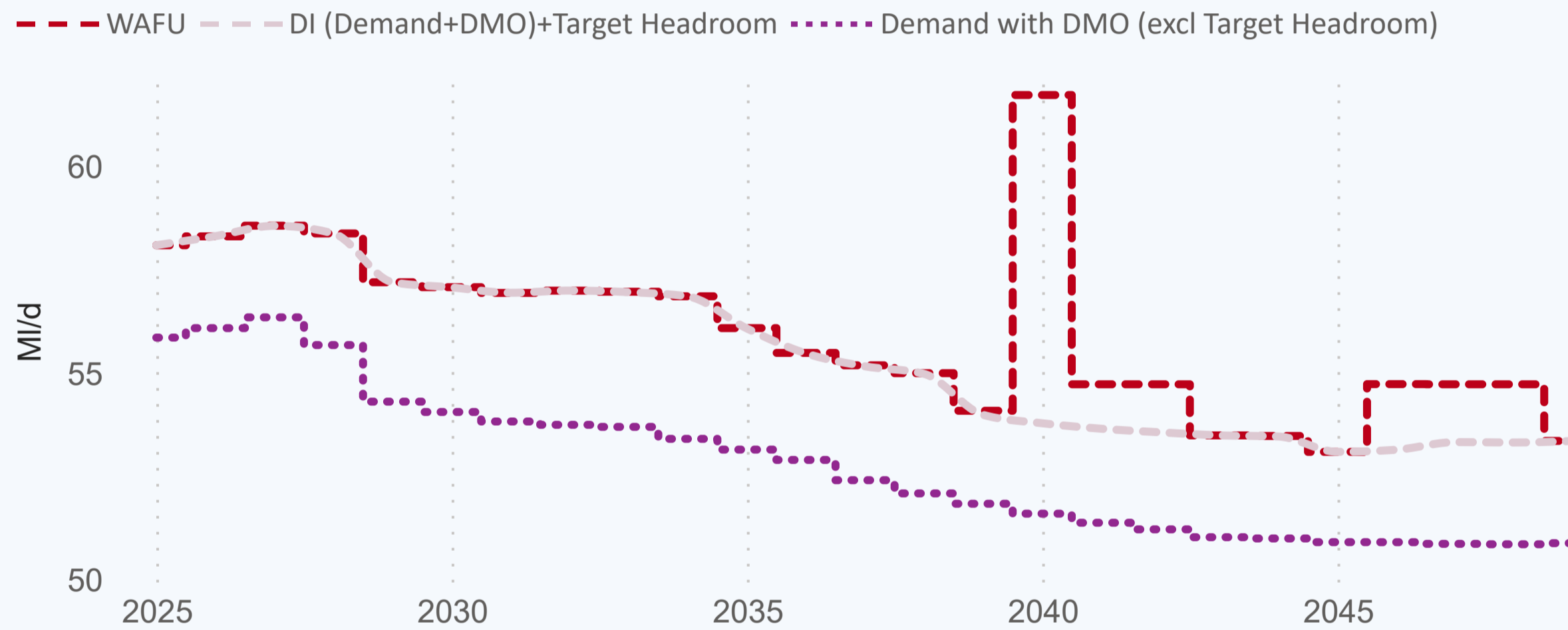


Table 10b: Final Plan demand forecast for DYCP conditions (with preferred demand management options)

	2025-26 (start of AMP8)	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
Water delivered measured household	25.4	24.7	25.1	25.2	25.5	25.9
Water delivered unmeasured household	5.4	4.7	4.0	3.4	3.0	2.9
Total Leakage	6.2	5.8	5.7	5.0	4.7	4.5
Water delivered measured non-household	18.7	18.7	18.2	17.7	17.4	17.2
Water delivered unmeasured non-household	0.1	0.1	0.1	0.1	0.1	0.1
Distribution Input	55.9	54.3	53.4	51.8	51.0	50.9

Table 10a: Final Plan supply demand balance 2025 - 2050 for DYCP conditions

	2025-26 (start of AMP8)	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
Water Available For Use	54.1	54.1	54.1	54.1	54.1	54.1
Net Transfers	4.0	3.1	2.8	0.0	-0.6	-0.7
Total Water Available For Use	58.1	57.2	56.9	54.1	53.5	53.4
Distribution Input	55.9	54.3	53.4	51.8	51.0	50.9
Target Headroom	2.2	2.9	3.4	2.2	2.5	2.5
Supply Demand Balance	0.0	0.0	0.0	0.1	0.0	0.0

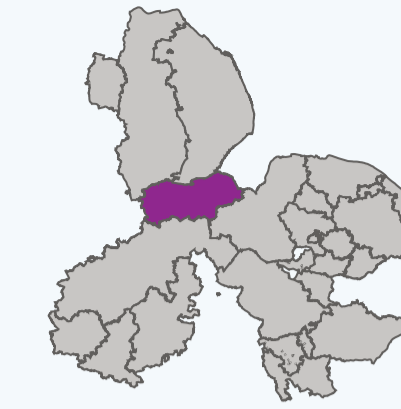
10.1 DYCP BL supply demand summary: Lincolnshire Bourne

The zone is in balance.

- Demand Forecast: Final Plan household demand (measured and unmeasured) is forecast to change from 30.8 MI/d in 2025 to 28.8 MI/d in 2050, a percentage change of -6.7 %.
- Final Plan Leakage: is forecast to change from 6.2 MI/d in 2025 to 4.5 MI/d by 2050
- Final Plan Non-Household demand: is expected to change from 18.7 MI/d to 17.2 MI/d.
- Final Plan Distribution Input: is expected to change from 55.9 MI/d to 50.9 MI/d by 2050.



11. Supply Side Strategy



Lincolnshire Bourne

Table 11a: Total Water Available for use Baseline and Final Plan

	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
WAFU - BL	48.4	45.8	45.8	25.1	25.1
WAFU - FP	45.7	45.4	42.9	42.4	42.1

11.1 Supply side strategy options.

For details on the feasible options list for Lincolnshire Bourne WRZ please refer to the Supply-Side Option Development technical supporting document.

Figure 10 Water Available for Use (WAFU) - baseline (BL) and final plan (FP)

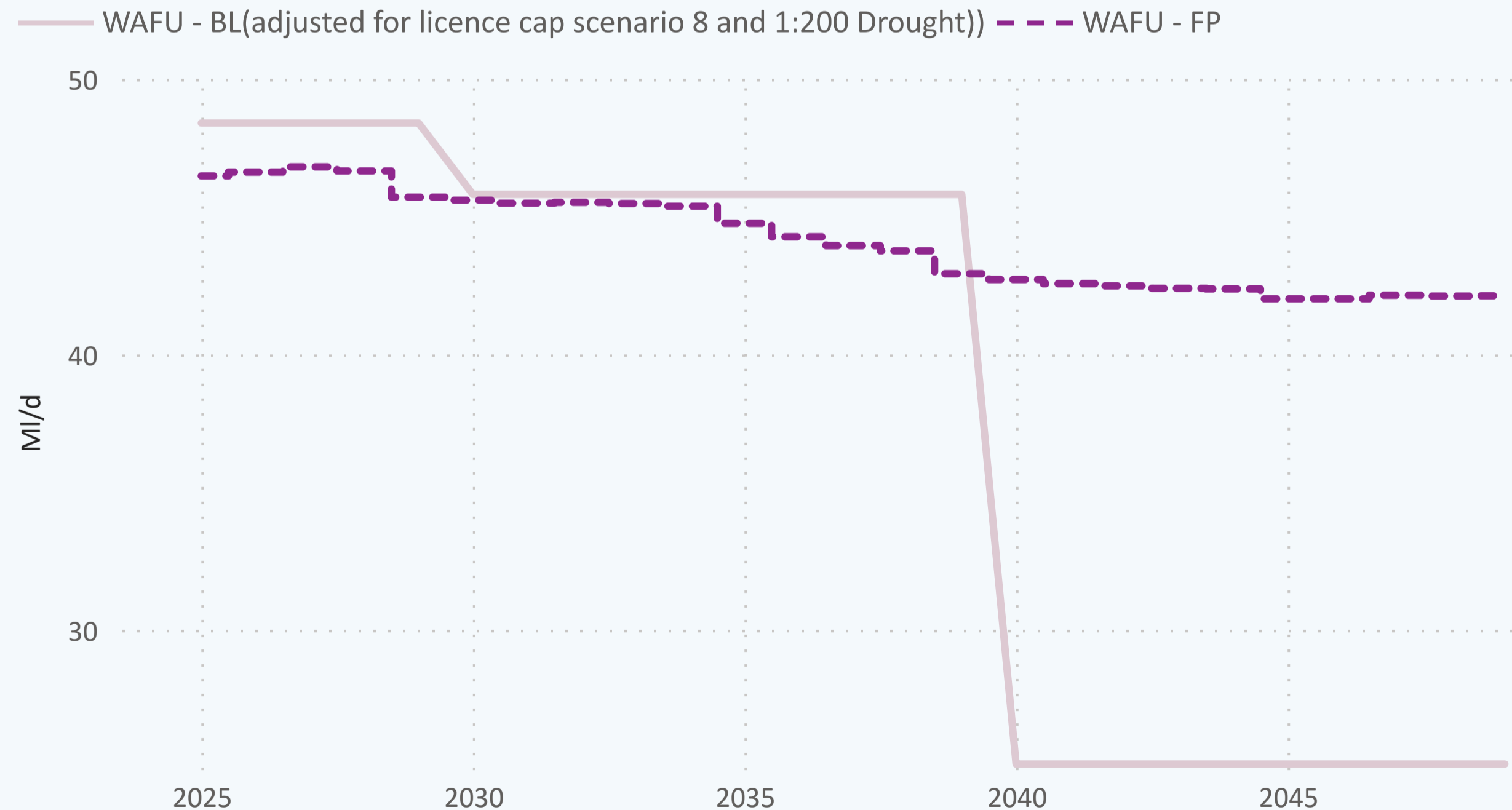


Table 11b: Preferred supply side options

Option ID	First Option Name
EE03	Adjustment to existing potable water export
EI04	Adjustment to existing potable water import
LC04	Adjustment for Licence cap scenario 8
LNB1	Ruthamford North to Bourne potable transfer (20 MI/d)

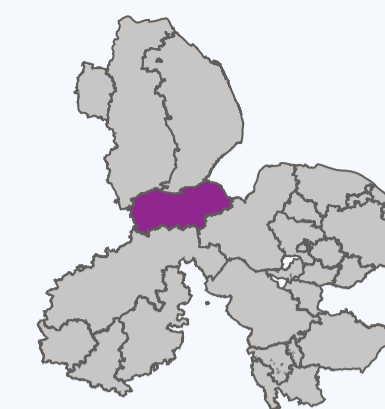


12. Non-Household consumption

Lincolnshire Bourne



Lincolnshire Bourne

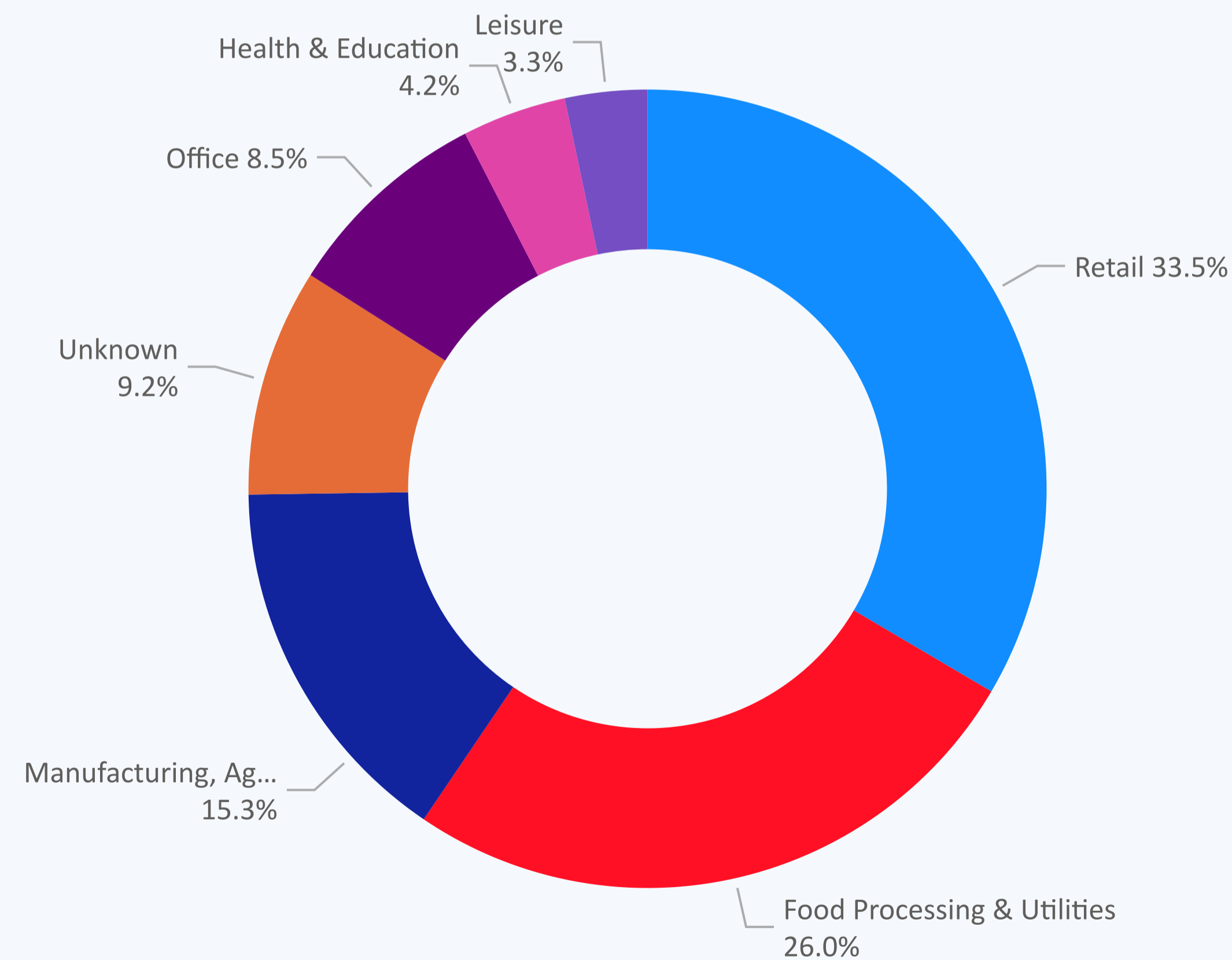
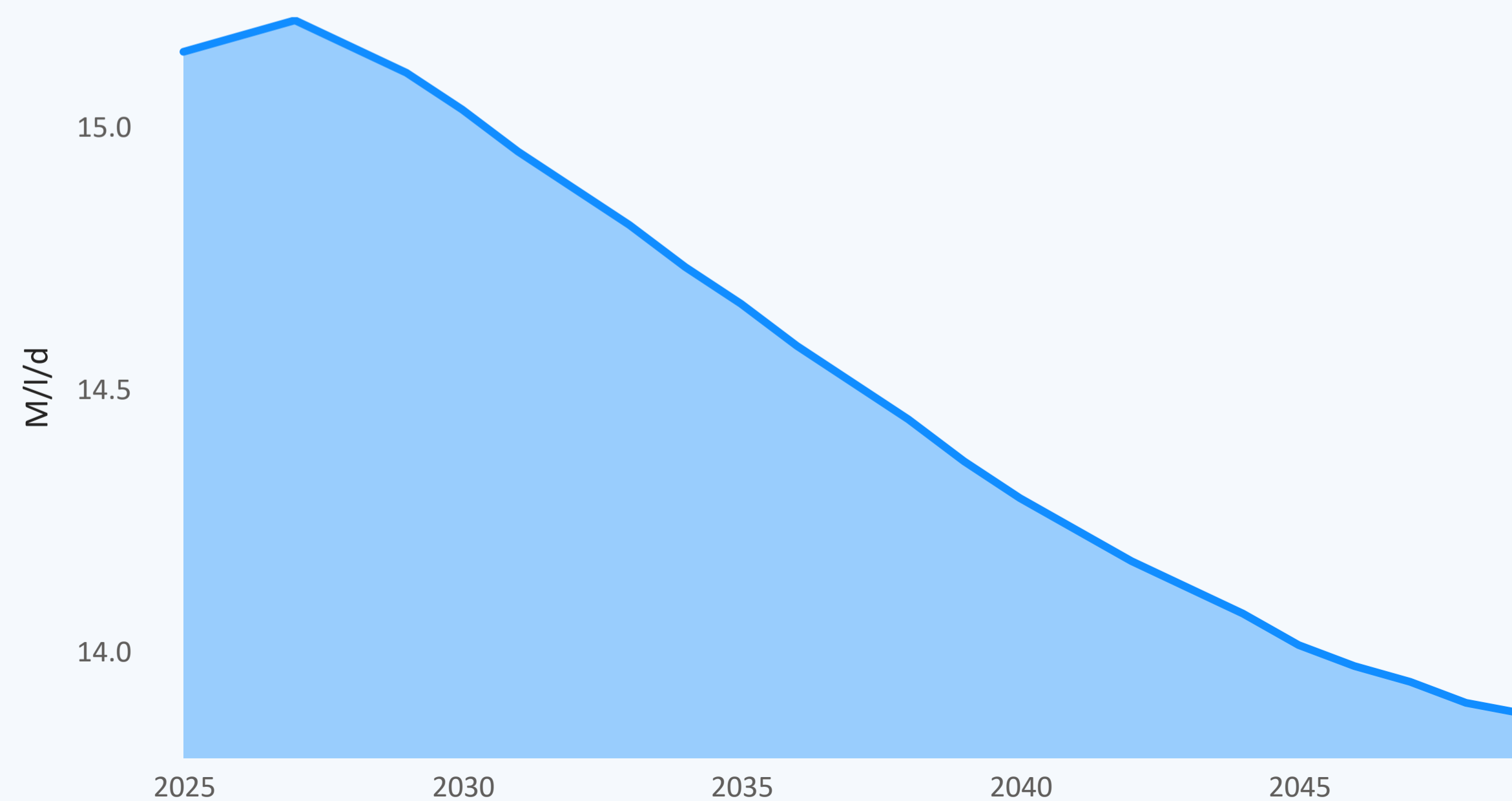


12.1 Non-Household demand Lincolnshire Bourne

In 2025, 15.1 MI/d of Non-Household demand (measured and unmeasured) is expected. In 2049 it is expected to be 13.8 MI/d, which is a -8.72% change between the years.

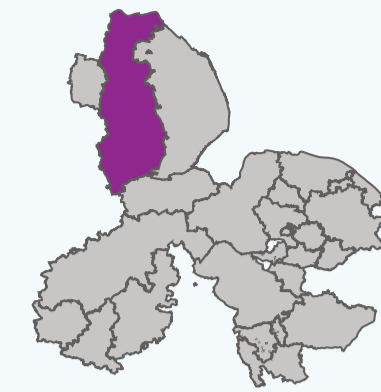
Figure 12: % Non-Household modelled sectors within resource zone

Figure 11: Non-Household demand forecast 2025-2050



3. Deployable Output summary DYAA

Lincolnshire Central



3.1 Resource Zone geography: Lincolnshire Central:

The Central Lincolnshire WRZ covers an area of 2953 sq. km and extends south from the Humber. It includes groundwater abstraction from the Lincolnshire Limestone and a surface water abstraction from the River Trent. It is based on the supply systems for Scunthorpe and Lincoln.

3.2

Baseline deployable output (including 1:500 drought): *202.3 MI/d*

Deployable output reductions

Restoring sustainable abstraction (recent actual average): *-21.8 MI/d*

Reductions to achieve environmental destination (BAU+): *-65.5 MI/d* by 2040.

Climate change: *-1.8 MI/d* by 2050.

Baseline deployable output reduces by a total of *-89.1 MI/d* by 2050 a reduction of 44.0%.

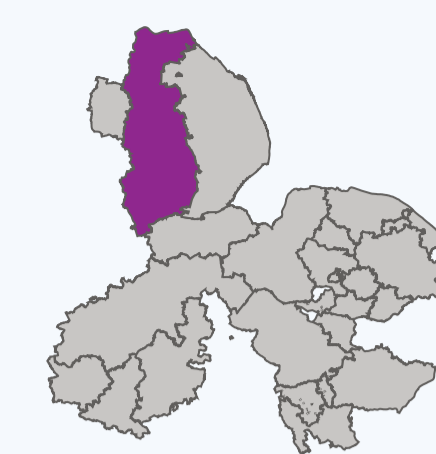
Table 3: supply characteristics (all values are MI/d)

	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
DO pre forecast changes	202.3	202.3	202.3	202.3	202.3
Change in DO due to climate change	-1.2	-1.3	-1.5	-1.6	-1.8
DO reductions to restore sustainable abstraction	-8.0	-21.8	-21.8	-21.8	-21.8
DO reductions for Environmental Destination	0.0	0.0	0.0	-65.5	-65.5
Change in DO from drought measures	0.0	0.0	0.0	0.0	0.0
Final DO	193.1	179.2	179.0	113.4	113.2
Raw water losses (-ve)	-10.9	-10.9	-10.9	-10.9	-10.9
Outage Allowance (-ve)	-2.1	-2.1	-2.0	-2.0	-2.0
WAFU (own sources)	180.1	166.2	166.1	100.5	100.3
Net Transfers	-55.0	-41.3	-38.2	20.8	17.8
Other benefits	11.07	11.42	0.00	7.00	7.00
Total Water Available for Use	136.1	136.3	127.9	128.2	125.1

3.3 The baseline Deployable Output data presented in this section represents the Environment Agency's preferred sustainability reduction licence cap scenario. This includes recent actual average caps to time limited licences in 2022-24 and caps to all other permanent licences by 2030. The impact of 1:500 drought resilience has also been applied from 2025 rather than the preferred scenario of 2039/2040. These factors apply to the baseline forecast only. For the final plan forecast we have applied our best value scenario for licence caps, which was developed following an iterative process to deliver licence caps as early as possible. The transition to 1:500 drought resilience occurs in 2039/40 in the final plan forecast. Further information is available in the WRMP24 Decision Making technical supporting document, section 6.



4. Population & Housing



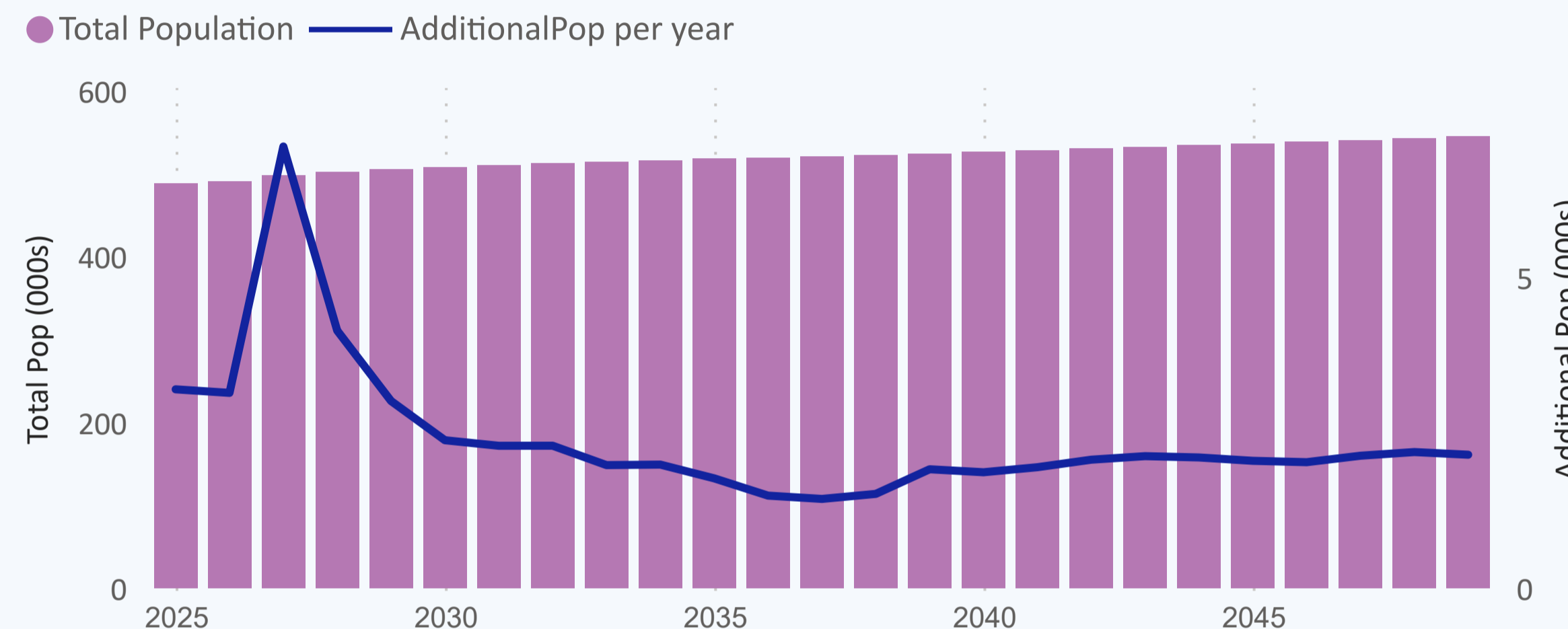
Lincolnshire Central

4.1 Over the WRMP period, population in Lincolnshire Central is set to increase from 487979 in 2025 to 545059 in 2049-50 - this is an increase of 11.7 % over the 25 years.

Table 4a: Population totals (cumulative) by AMP

Year	Total Population (000s)
2029-30 (end of AMP8)	505.377
2034-35 (end of AMP9)	516.303
2039-40 (end of AMP10)	524.420
2044-45 (end of AMP11)	534.520
2049-50 (end of AMP12)	545.059

Figure 2: Total Resource Zone Population

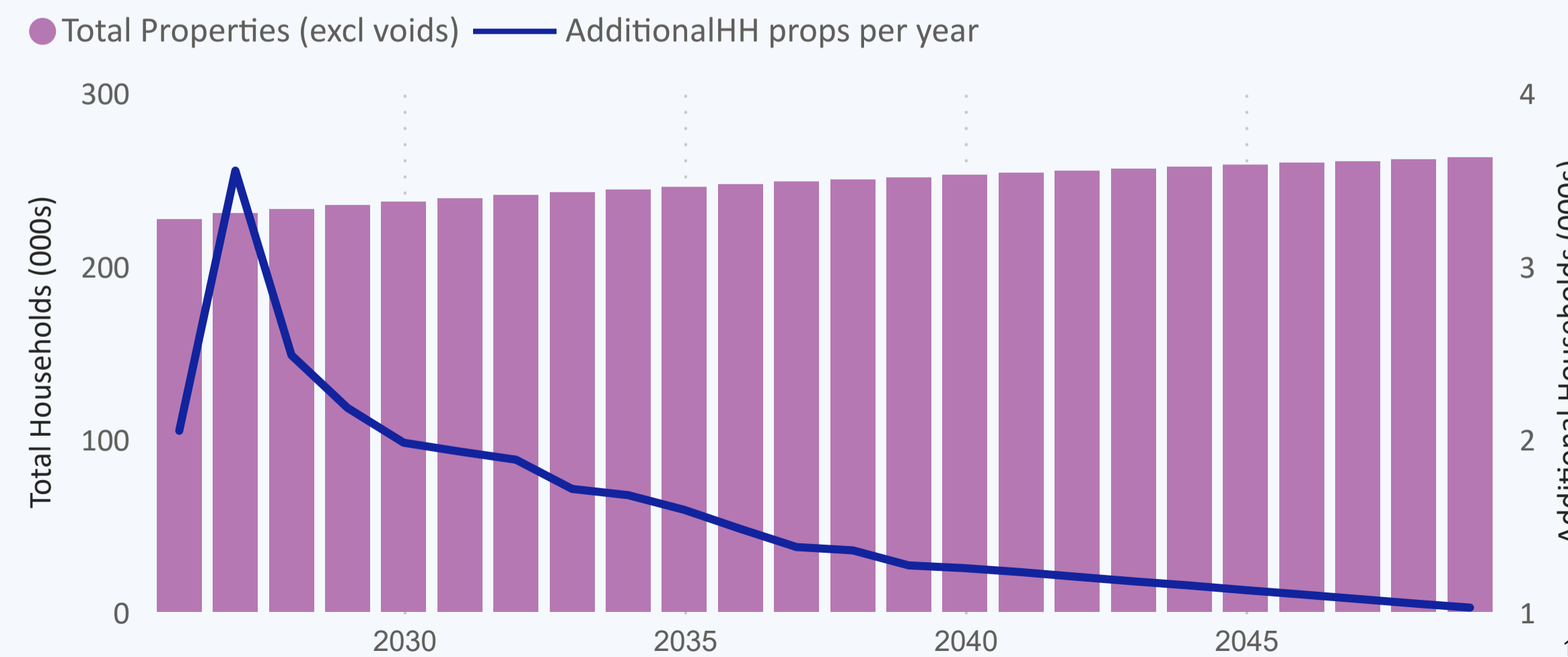


4.2 Over the WRMP period, property numbers in Lincolnshire Central are set to increase from 224702 in 2025 to 262548 in 2049-50 - this is an increase of 16.8 % over the 25 years.

Table 4b: Property totals (cumulative) by AMP

Year	Total Properties-excl voids (000s)
2029-30 (end of AMP8)	234.955
2034-35 (end of AMP9)	244.116
2039-40 (end of AMP10)	251.176
2044-45 (end of AMP11)	257.182
2049-50 (end of AMP12)	262.548

Figure 3: Total Resource Zone Properties (excl. voids)



5. Baseline Supply Demand Balance DYAA

Lincolnshire Central

Lincolnshire Central

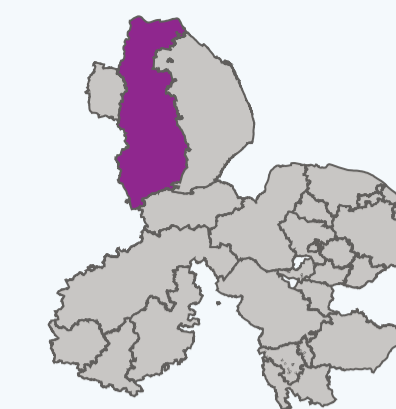


Figure 4: Lincolnshire Central baseline supply demand balance to 2050 for Dry Year Annual Average conditions

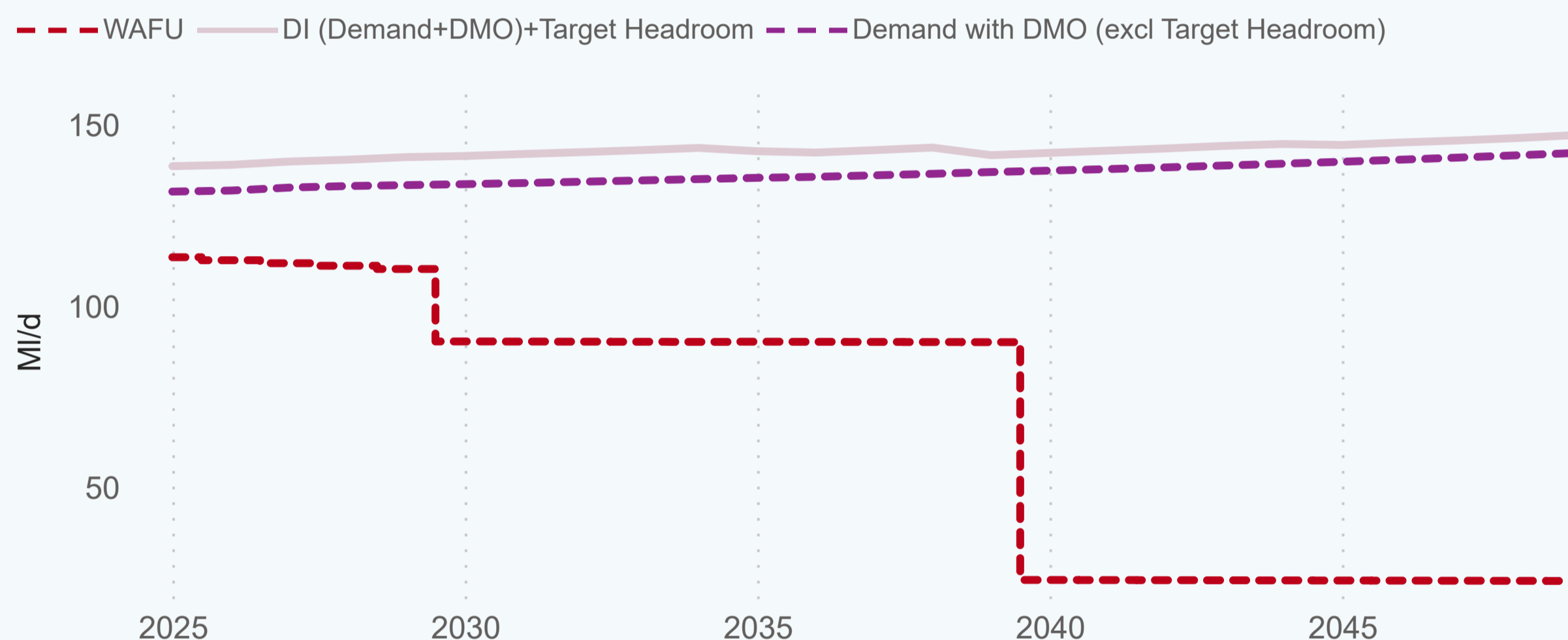


Table 5a: Baseline supply demand balance 2025 - 2050 for DYAA conditions

	2025-26 (start of AMP8)	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
Water Available For Use	180.2	180.1	166.2	166.1	100.5	100.3
Net Transfers	-66.8	-69.9	-76.0	-76.0	-76.0	-76.0
Total Water Available For Use	113.4	110.2	90.1	90.1	24.4	24.3
Distribution Input	131.5	133.3	135.0	136.9	139.2	142.2
Target Headroom	7.0	7.7	8.6	4.7	5.4	4.9
Supply Demand Balance	-25.1	-30.8	-53.4	-51.5	-120.2	-122.8

Table 5b: Baseline demand forecast (without preferred demand management options)

	2025-26 (start of AMP8)	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
Water delivered measured household	53.3	56.6	59.7	62.8	65.5	67.2
Water delivered unmeasured household	19.5	17.2	14.9	13.0	11.6	11.4
Total Leakage	18.7	18.6	18.5	18.5	18.5	18.6
Water delivered measured non-household	41.2	42.1	42.9	43.6	44.6	46.0
Water delivered unmeasured non-household	0.2	0.2	0.2	0.2	0.2	0.2
Distribution Input	131.5	133.3	135.0	136.9	139.2	142.2

5.1 DYAA BL supply demand summary: Lincolnshire Central

Baseline Supply Demand Balance: This zone is expected to go into deficit by 2025 (under the preferred baseline scenario - as described in section 3.3).

- Demand Forecast: Baseline household demand (measured and unmeasured) is forecast to change from 72.9 MI/d in 2025 to 78.6 MI/d in 2050, a percentage change of 7.9 %.
- Baseline Leakage: is forecast to change from 18.7 MI/d in 2025 to 18.6 MI/d by 2050.
- Baseline Non-Household demand: is expected to change from 41.2 MI/d to 46.0 MI/d.
- Baseline Distribution Input: is expected to change from 131.5 MI/d to 142.2 MI/d by 2050.

Nb. 'Deficit' is one outcome of the calculation WAFU minus Distribution Input (including Target Headroom).

6. Baseline Supply Demand Balance DYCP

Lincolnshire Central

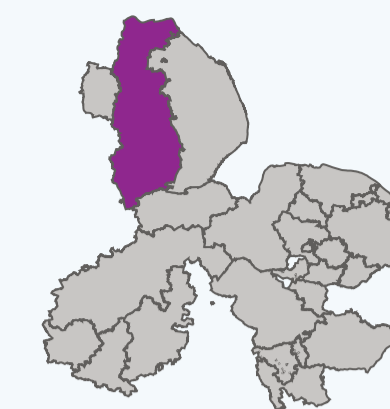


Figure 5: Lincolnshire Central baseline supply demand balance to 2050 for Dry Year Critical Period conditions

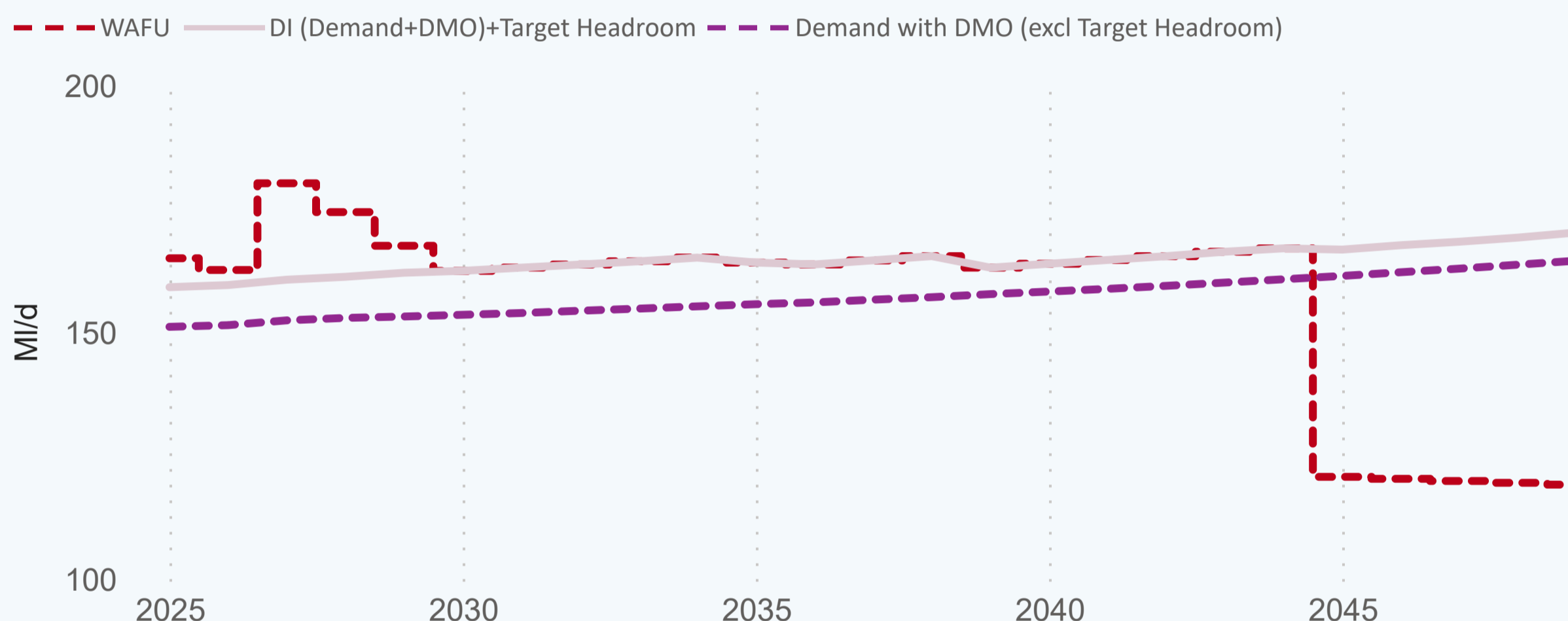


Table 6b: Baseline demand forecast with DYCP conditions (without preferred demand management options)

	2025-26 (start of AMP8)	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
Water delivered measured household	62.9	66.8	70.7	74.6	78.2	80.5
Water delivered unmeasured household	24.0	21.1	18.3	16.1	14.4	14.1
Total Leakage	18.7	18.6	18.5	18.5	18.5	18.6
Water delivered measured non-household	46.8	47.9	48.8	49.5	50.7	52.3
Water delivered unmeasured non-household	0.2	0.2	0.2	0.2	0.2	0.2
Distribution Input	151.1	153.2	155.3	157.8	160.8	164.5

Table 6a: Baseline supply demand balance 2025 - 2050 for DYCP conditions

	2025-26 (start of AMP8)	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
Water Available For Use	227.8	227.8	227.8	227.8	227.8	180.5
Net Transfers	-62.8	-60.2	-62.6	-64.7	-60.8	-61.3
Total Water Available For Use	165.0	167.6	165.2	163.1	167.0	119.1
Distribution Input	151.1	153.2	155.3	157.8	160.8	164.5
Target Headroom	8.0	8.9	9.9	5.4	6.3	5.7
Supply Demand Balance	5.9	5.5	0.0	0.0	0.0	-51.1

6.1 DYCP BL supply demand summary: Lincolnshire Central

Baseline Supply Demand balance: This zone is not expected to go into deficit

- Demand Forecast: Baseline household demand (measured and unmeasured) is forecast to change from 86.8 MI/d in 2025 to 94.7 MI/d in 2050, a percentage change of 9.0 %.
- Baseline Leakage: is forecast to change from 18.7 MI/d in 2025 to 18.6 MI/d by 2050.
- Baseline Non-Household demand: is expected to change from 46.8 MI/d to 52.3 MI/d.
- Baseline Distribution Input: is expected to change from 151.1 MI/d to 164.5 MI/d by 2050.

Nb. 'Deficit' is one outcome of the calculation WAFU minus Distribution Input (including Target Headroom).



7. Demand forecast and PCC



Lincolnshire Central

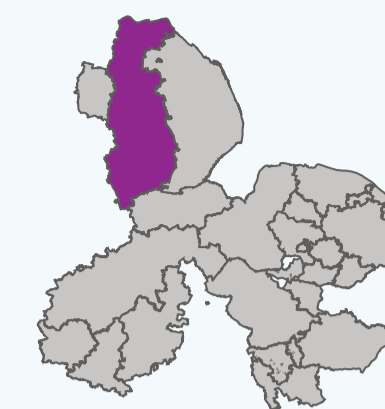


Figure 6: Lincolnshire Central DYAA DI with and without demand management strategy

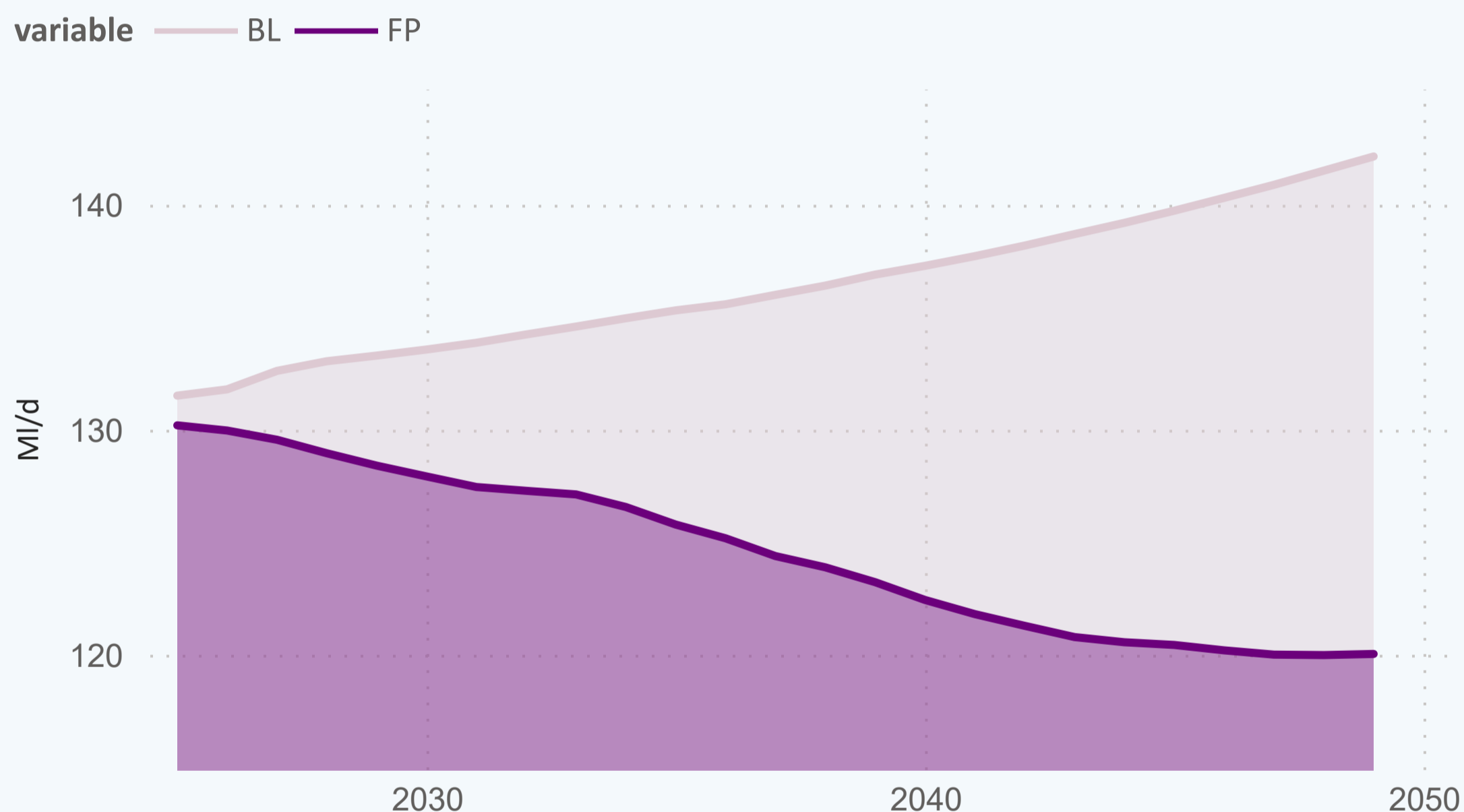


Table 7a: Demand - baseline and final plan

variable	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
BL	133.3	135.0	136.9	139.2	142.2
FP	128.4	126.6	123.2	120.6	120.0

7.2 Demand Lincolnshire Central (see Table 7a)

Baseline demand is expected to increase from 131.5 (MI/d) in 2025 to 142.2 (MI/d) in 2050. With demand management options in place, demand is expected to be 120.0 (MI/d).

7.1 PCC Lincolnshire Central (see Table 7b)

Per Capita Consumption (PCC) in the base year 2025/26 is 126.6 (l/h/d) measured and 204.7 (l/h/d) unmeasured.

The weighted average PCC (l/h/d) comes in at 140.4 (l/h/d) in 2025/26. This is forecast to fall to 115.1 (l/h/d) in the Final Plan forecast as demand management option savings are realised and customers switch from unmeasured to measured status

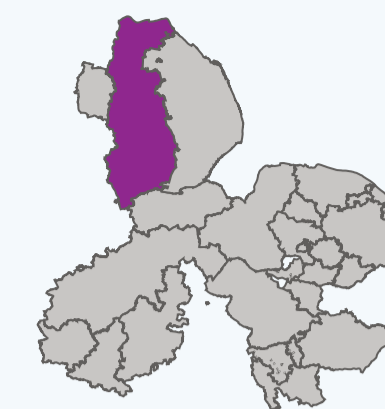
Table 7b: DMO strategy Final Plan

	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
BL demand forecast(DYAA)	137.6	136.6	136.8	136.6	136.7
FP demand forecast(DYAA)	132.3	127.4	121.9	116.9	115.1
% change BL to FP	-3.9%	-6.7%	-10.9%	-14.4%	-15.8%



8. Demand management options

Lincolnshire Central



8.1 Regional overview:

Across the entirety of the Anglian Water region our demand management strategy will comprise three strongly interlinked programs:

Water metering program:

- We intend to complete our current smart meter rollout which will replace our entire meter stock over 10 years (2 AMPs), noting that 1.1M smart meters will be installed across Anglian Water by 2025. The information resulting from 'smart metering' will help inform our customers regarding their water usage and will assist in our ability to influence this behaviour. It will also help with our ability to detect leakage, significantly reducing plumbing losses and customer supply pipe leaks.

Leakage reduction

- Our aim is to reduce leakage by more than 45MI/d from 2025 to 2050 across the whole Anglian Water area, building upon our ambitious program of leakage reduction in AMP7 (14% reduction of more than 27MI/d across the region by 2025).

Water efficiency measures

- New technologies and interventions will help promote the careful use of water. Additional water efficiency programs will include: the promotion of 'Smart' devices; further development of our Multi-utility web-portal; garden advice; support for vulnerable customers with plumbing loss and cspl; Community reward schemes. As part of our revised draft WRMP24 we have developed and included 'water efficiency visits' and leakage reduction measures for our Non-Household customers.

Figure 7: DMO strategy Final Plan for Lincolnshire Central

For full chart key see table below

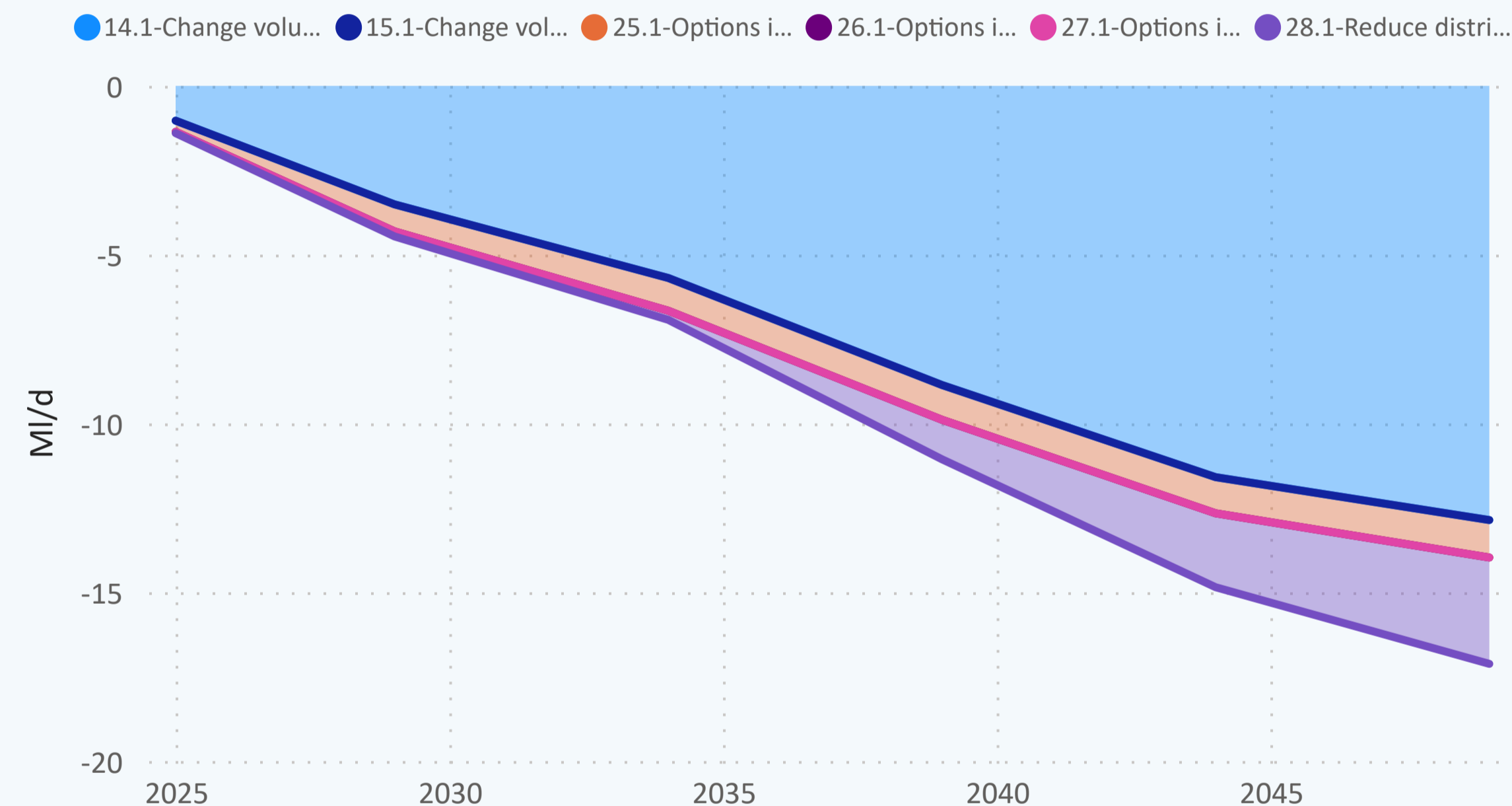


Table 8: DMO strategy Final Plan for Lincolnshire Central

	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
14.1-Change volume delivered to measured households(-ve)	-3.5	-5.7	-8.9	-11.6	-12.9
15.1-Change volume delivered to unmeasured households(-ve)	0.0	0.0	0.0	0.0	0.0
25.1-Options impacting on measured Household - USPL (-ve)	-0.8	-1.0	-1.0	-1.1	-1.1
26.1-Options impacting on unmeasured Household - USPL (-ve)	0.0	0.0	0.0	0.0	0.0
27.1-Options impacting on Void properties - USPL (-ve)	0.0	0.0	0.0	0.0	0.0
28.1-Reduce distribution losses (-ve)	-0.2	-0.3	-1.2	-2.2	-3.2



9. Final Plan Supply Demand Balance DYAA

Lincolnshire Central

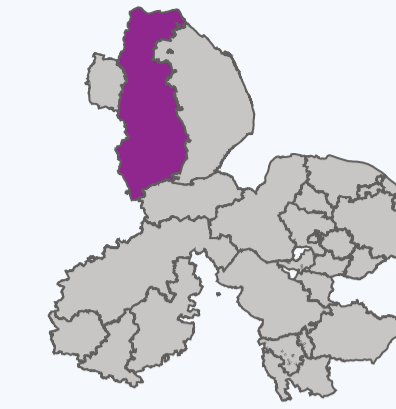


Figure 8: Lincolnshire Central final plan SDB to 2050 for Dry Year Annual Average conditions

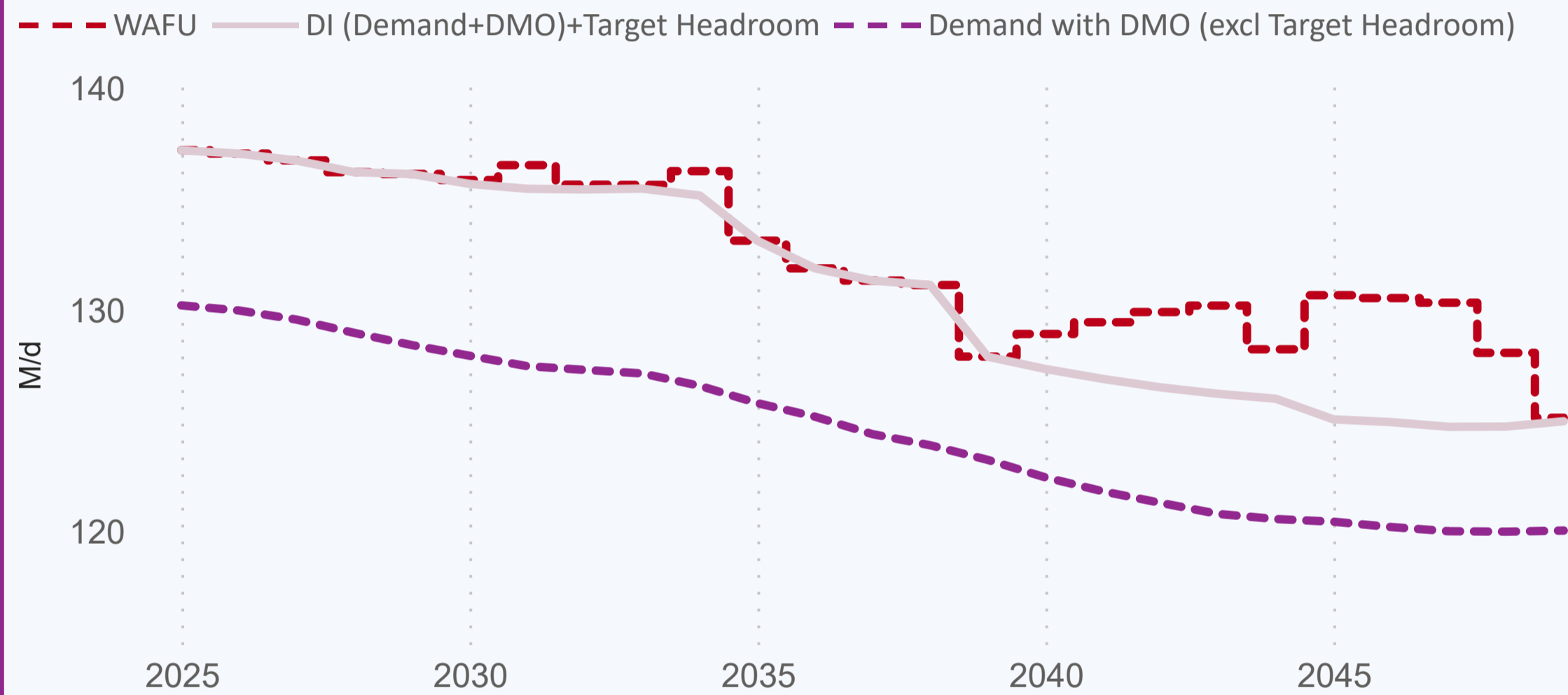


Table 9a: final plan SDB to 2050 for Dry Year conditions

	2025-26 (start of AMP8)	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
Water Available For Use	191.2	191.2	177.6	166.1	107.5	107.3
Net Transfers	-54.0	-55.0	-41.3	-38.2	20.8	17.8
Total Water Available For Use	137.2	136.1	136.3	127.9	128.2	125.1
Distribution Input	130.2	128.4	126.6	123.2	120.6	120.0
Target Headroom	7.0	7.7	8.6	4.7	5.4	4.9
Supply Demand Balance	0.0	0.0	1.1	0.0	2.2	0.2

Table 9b: Final Plan demand forecast for DYAA conditions (with preferred demand management options)

	2025-26 (start of AMP8)	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
Water delivered measured household	52.3	53.0	54.0	53.9	53.9	54.4
Water delivered unmeasured household	19.5	17.2	14.9	13.0	11.6	11.4
Total Leakage	18.4	17.6	17.2	16.3	15.2	14.2
Water delivered measured non-household	40.9	40.9	40.4	39.9	39.7	39.9
Water delivered unmeasured non-household	0.2	0.2	0.2	0.2	0.2	0.2
Distribution Input	130.2	128.4	126.6	123.2	120.6	120.0

9.1 DYAA FP supply demand summary: Lincolnshire Central

The zone is in balance.

- Demand Forecast: Final Plan household demand (measured and unmeasured) is forecast to change from 71.8 MI/d in 2025 to 65.7 MI/d in 2050, a percentage change of -8.5 %.
- Final Plan Leakage is forecast to change from 18.4 MI/d in 2025 to 14.2 MI/d by 2050.
- Final Plan Non-Household demand is expected to change from 40.9 MI/d to 39.9 MI/d.
- Final Plan Distribution Input is expected to change from 130.2 MI/d to 120.0 MI/d by 2050.



10. Final Plan Supply Demand Balance DYCP

Lincolnshire Central

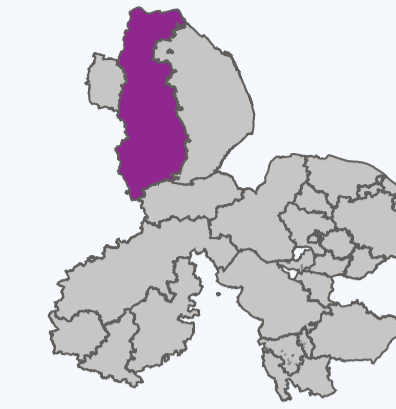


Figure 9: Lincolnshire Central baseline supply demand balance to 2050 for Dry Year Critical Period conditions

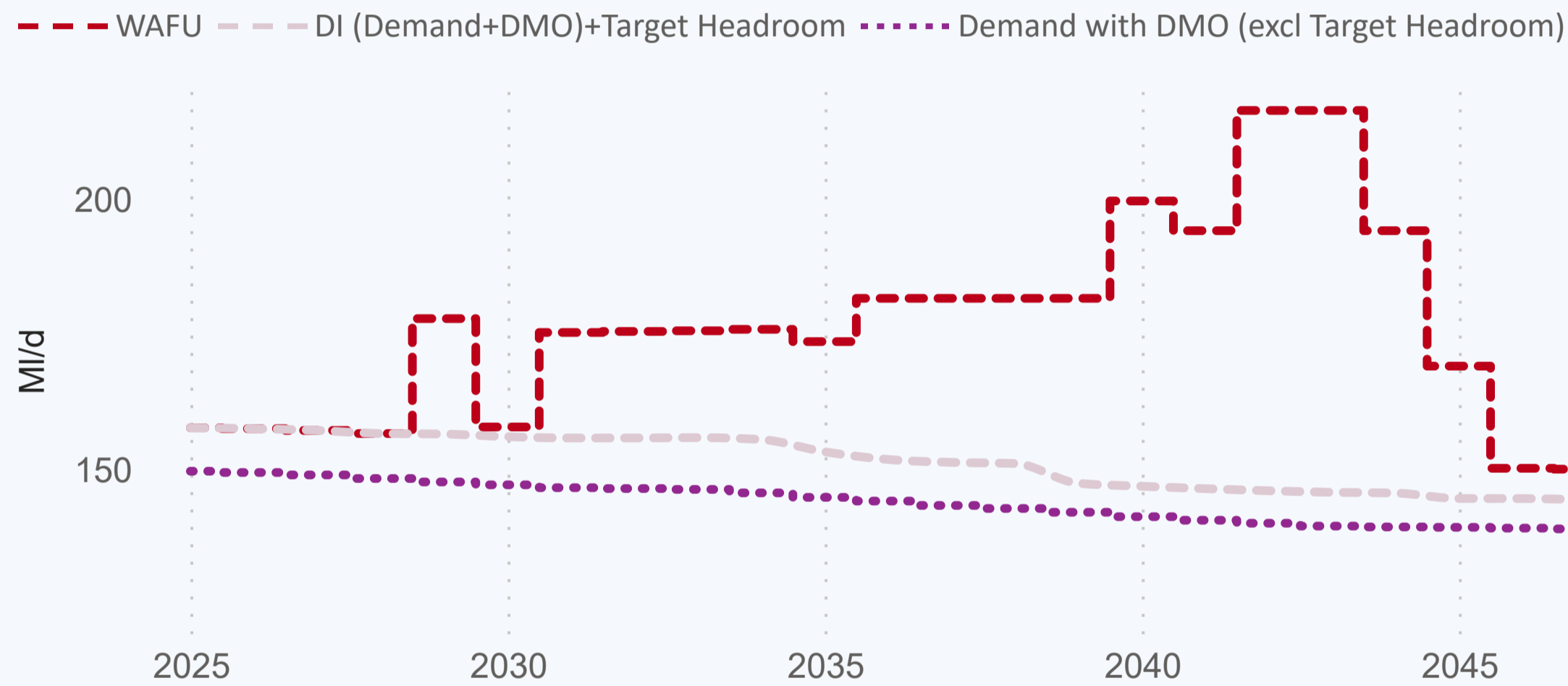


Table 10a: Final Plan supply demand balance 2025 - 2050 for DYCP conditions

	2025-26 (start of AMP8)	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
Water Available For Use	227.8	227.8	231.0	227.8	234.8	187.5
Net Transfers	-70.1	-49.9	-55.1	-46.1	-40.6	-37.0
Total Water Available For Use	157.7	177.9	175.9	181.7	194.2	150.5
Distribution Input	149.7	147.7	145.6	142.1	139.3	139.2
Target Headroom	8.0	8.9	9.9	5.4	6.3	5.7
Supply Demand Balance	0.0	21.4	20.4	34.2	48.6	5.6

Table 10b: Final Plan demand forecast for DYCP conditions (with preferred demand management options)

	2025-26 (start of AMP8)	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
Water delivered measured household	61.7	62.8	64.1	64.2	64.4	65.3
Water delivered unmeasured household	24.0	21.1	18.3	16.1	14.4	14.1
Total Leakage	18.4	17.6	17.2	16.3	15.2	14.2
Water delivered measured non-household	46.5	46.5	46.0	45.4	45.2	45.4
Water delivered unmeasured non-household	0.2	0.2	0.2	0.2	0.2	0.2
Distribution Input	149.7	147.7	145.6	142.1	139.3	139.2

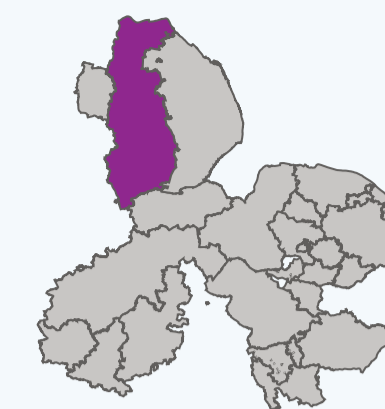
10.1 DYCP BL supply demand summary: Lincolnshire Central

The zone is in balance.

- Demand Forecast: Final Plan household demand (measured and unmeasured) is forecast to change from 85.7 MI/d in 2025 to 79.4 MI/d in 2050, a percentage change of -7.3 %.
- Final Plan Leakage: is forecast to change from 18.4 MI/d in 2025 to 14.2 MI/d by 2050
- Final Plan Non-Household demand: is expected to change from 46.5 MI/d to 45.4 MI/d.
- Final Plan Distribution Input: is expected to change from 149.7 MI/d to 139.2 MI/d by 2050.



11. Supply Side Strategy



Lincolnshire Central

Table 11a: Total Water Available for use Baseline and Final Plan

	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
WAFU - BL	121.3	98.3	90.1	24.4	24.3
WAFU - FP	136.1	136.3	127.9	128.2	125.1

11.1 Supply side strategy options.

For details on the feasible options list for Lincolnshire Central WRZ please refer to the Supply-Side Option Development technical supporting document.

Figure 10 Water Available for Use (WAFU) - baseline (BL) and final plan (FP)

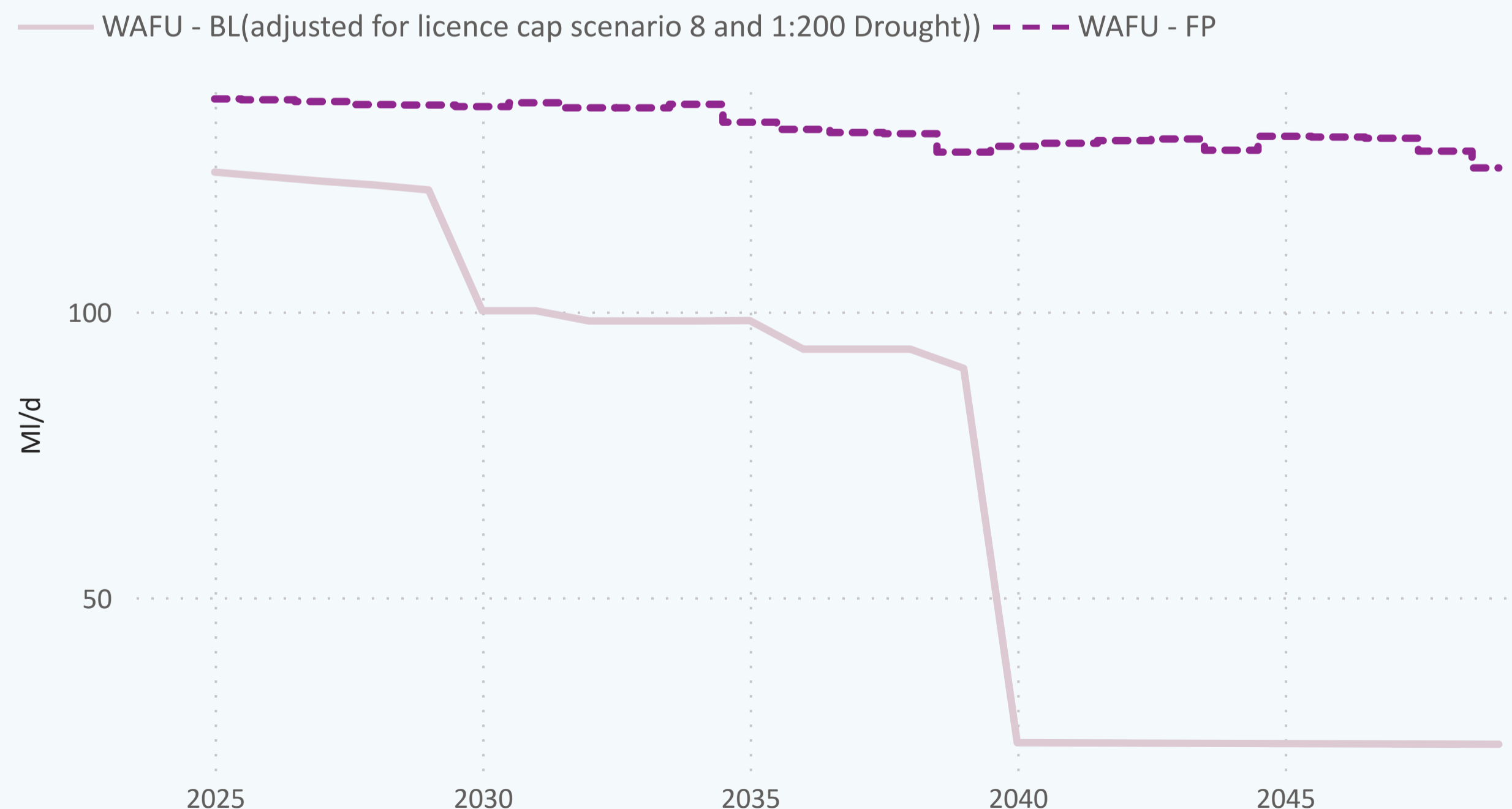


Table 11b: Preferred supply side options

Option ID	First Option Name
EE04	Adjustment to existing potable water export
EI05	Adjustment to existing potable water import
LC05	Adjustment for Licence cap scenario 8
LNC16	Ruthamford North to Lincolnshire Central potable transfer (20 MI/d)
LNC25	Lincolnshire East to Lincolnshire Central potable transfer (29 MI/d)
LNC28	Trent trade
LNC30	Hall WTW surface water enhancement

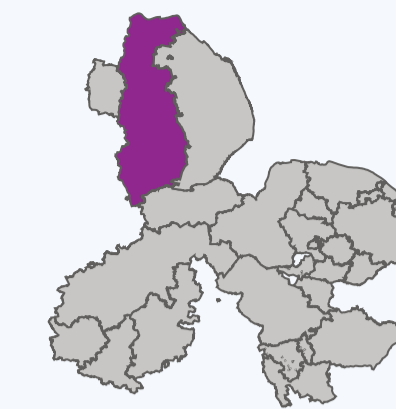




12. Non-Household consumption

Lincolnshire Central

Lincolnshire Central

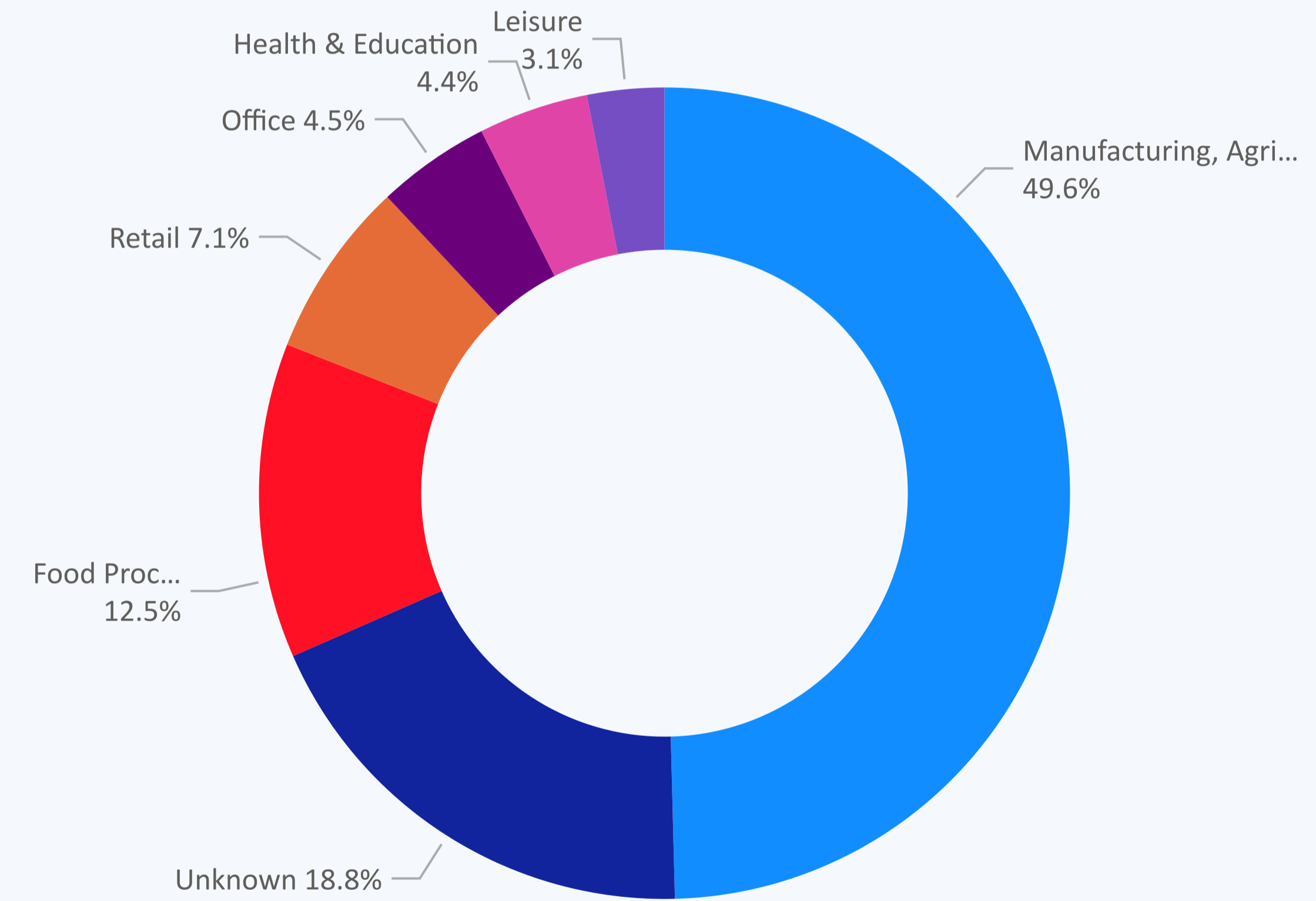
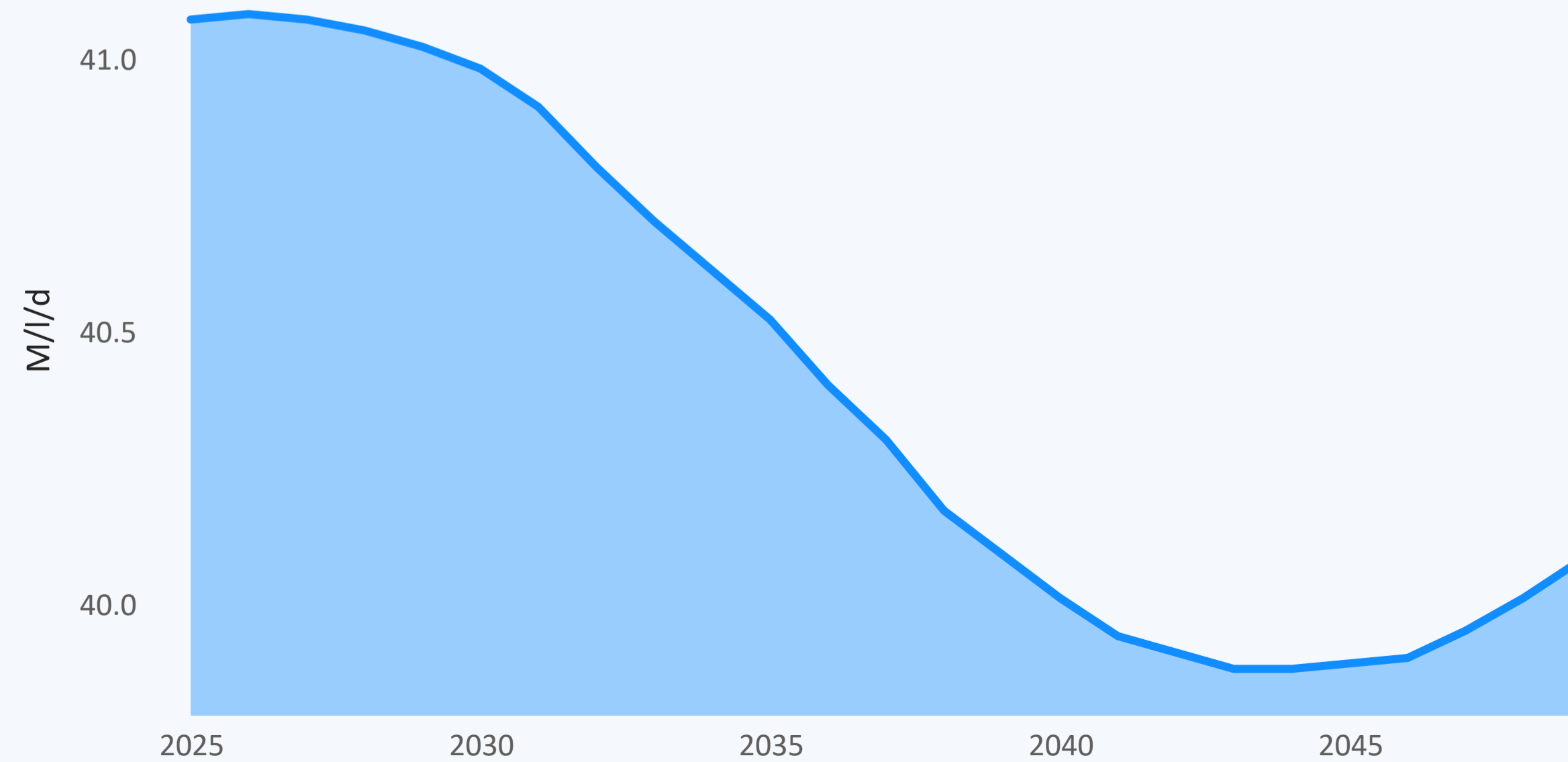


12.1 Non-Household demand Lincolnshire Central

In 2025, 41.1 MI/d of Non-Household demand (measured and unmeasured) is expected. In 2049 it is expected to be 39.9 MI/d, which is a -2.87% change between the years.

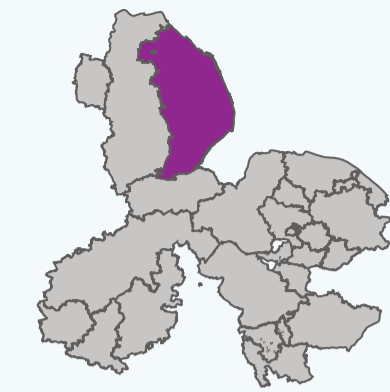
Figure 12: % Non-Household modelled sectors within resource zone

Figure 11: Non-Household demand forecast 2025-2050



3. Deployable Output summary DYAA

Lincolnshire East



3.1 Resource Zone geography: Lincolnshire East:

The East Lincolnshire WRZ covers an area of 2785 sq. km, extending from Humber to the Wash and is based on the supply systems for Grimsby, Louth, Skegness, and Boston. The supplies are primarily groundwater abstractions from the Lincolnshire Chalk, Lincolnshire Limestone and Spilsby Sandstone. There is also surface water abstraction from the Louth Canal into Covenham pumped storage reservoir.

3.2

Baseline deployable output (including 1:500 drought): *162.7 MI/d*

Deployable output reductions

Restoring sustainable abstraction (recent actual average): *-33.4 MI/d*

Reductions to achieve environmental destination (BAU+): *-16.7 MI/d* by 2040.

Climate change: *0.0 MI/d* by 2050.

Baseline deployable output reduces by a total of *-50.0 MI/d* by 2050 a reduction of 30.7%.

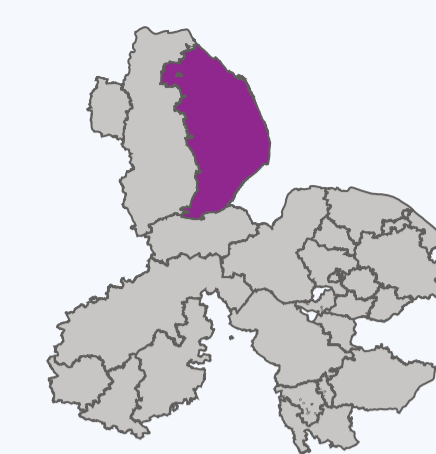
Table 3: supply characteristics (all values are MI/d)

	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
DO pre forecast changes	162.7	162.7	162.7	162.7	162.7
Change in DO due to climate change	0.0	0.0	0.0	0.0	0.0
DO reductions to restore sustainable abstraction	-11.5	-33.4	-33.4	-33.4	-33.4
DO reductions for Environmental Destination	0.0	0.0	0.0	-16.7	-16.7
Change in DO from drought measures	0.0	0.0	0.0	0.0	0.0
Final DO	151.2	129.4	129.4	112.7	112.7
Raw water losses (-ve)	-8.2	-8.2	-8.2	-8.2	-8.2
Outage Allowance (-ve)	-2.9	-2.8	-2.7	-2.7	-2.7
WAFU (own sources)	140.2	118.4	118.5	101.8	101.8
Net Transfers	-36.5	-48.5	-27.2	-62.9	-65.5
Other benefits	11.50	43.65	16.10	66.10	66.10
Total Water Available for Use	115.2	113.5	107.4	105.0	102.4

3.3 The baseline Deployable Output data presented in this section represents the Environment Agency's preferred sustainability reduction licence cap scenario. This includes recent actual average caps to time limited licences in 2022-24 and caps to all other permanent licences by 2030. The impact of 1:500 drought resilience has also been applied from 2025 rather than the preferred scenario of 2039/2040. These factors apply to the baseline forecast only. For the final plan forecast we have applied our best value scenario for licence caps, which was developed following an iterative process to deliver licence caps as early as possible. The transition to 1:500 drought resilience occurs in 2039/40 in the final plan forecast. Further information is available in the WRMP24 Decision Making technical supporting document, section 6.



4. Population & Housing



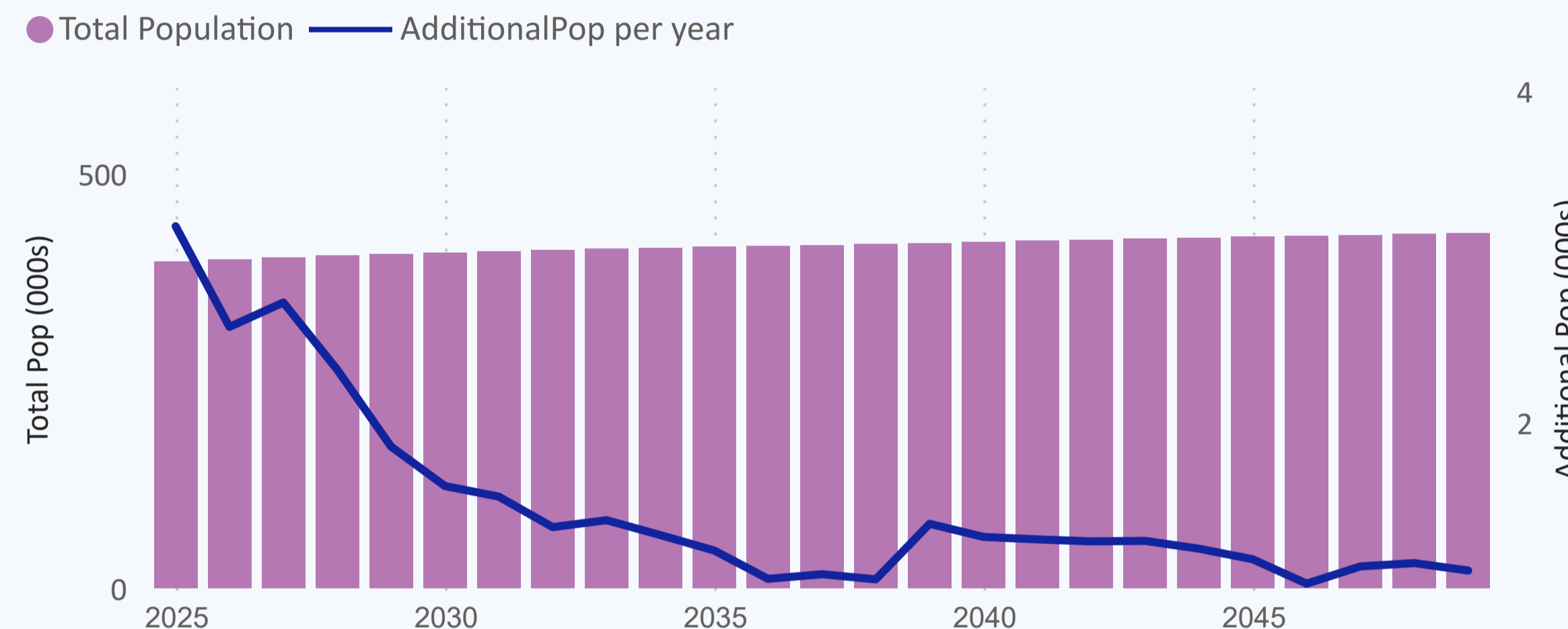
Lincolnshire East

4.1 Over the WRMP period, population in Lincolnshire East is set to increase from 393919 in 2025 to 428461 in 2049-50 - this is an increase of 8.8 % over the 25 years.

Table 4a: Population totals (cumulative) by AMP

Year	Total Population (000s)
2029-30 (end of AMP8)	403.390
2034-35 (end of AMP9)	410.656
2039-40 (end of AMP10)	416.464
2044-45 (end of AMP11)	422.872
2049-50 (end of AMP12)	428.461

Figure 2: Total Resource Zone Population

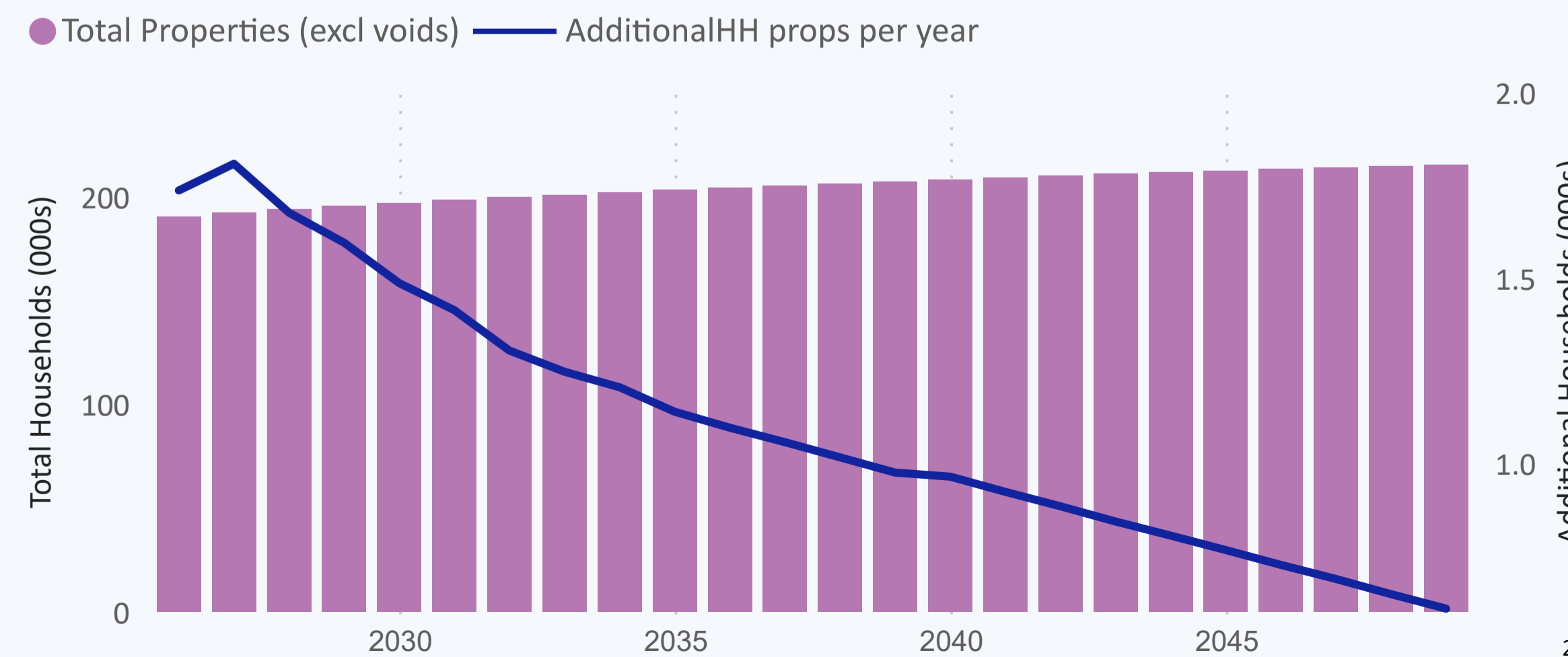


4.2 Over the WRMP period, property numbers in Lincolnshire East are set to increase from 188608 in 2025 to 215215 in 2049-50 - this is an increase of 14.1 % over the 25 years.

Table 4b: Property totals (cumulative) by AMP

Year	Total Properties-excl voids (000s)
2029-30 (end of AMP8)	195.423
2034-35 (end of AMP9)	202.078
2039-40 (end of AMP10)	207.361
2044-45 (end of AMP11)	211.780
2049-50 (end of AMP12)	215.215

Figure 3: Total Resource Zone Properties (excl. voids)



5. Baseline Supply Demand Balance DYAA

Lincolnshire East

Lincolnshire East

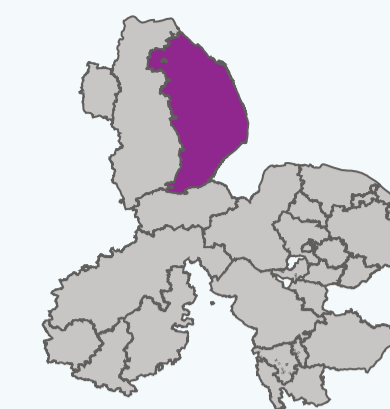


Figure 4: Lincolnshire East baseline supply demand balance to 2050 for Dry Year Annual Average conditions

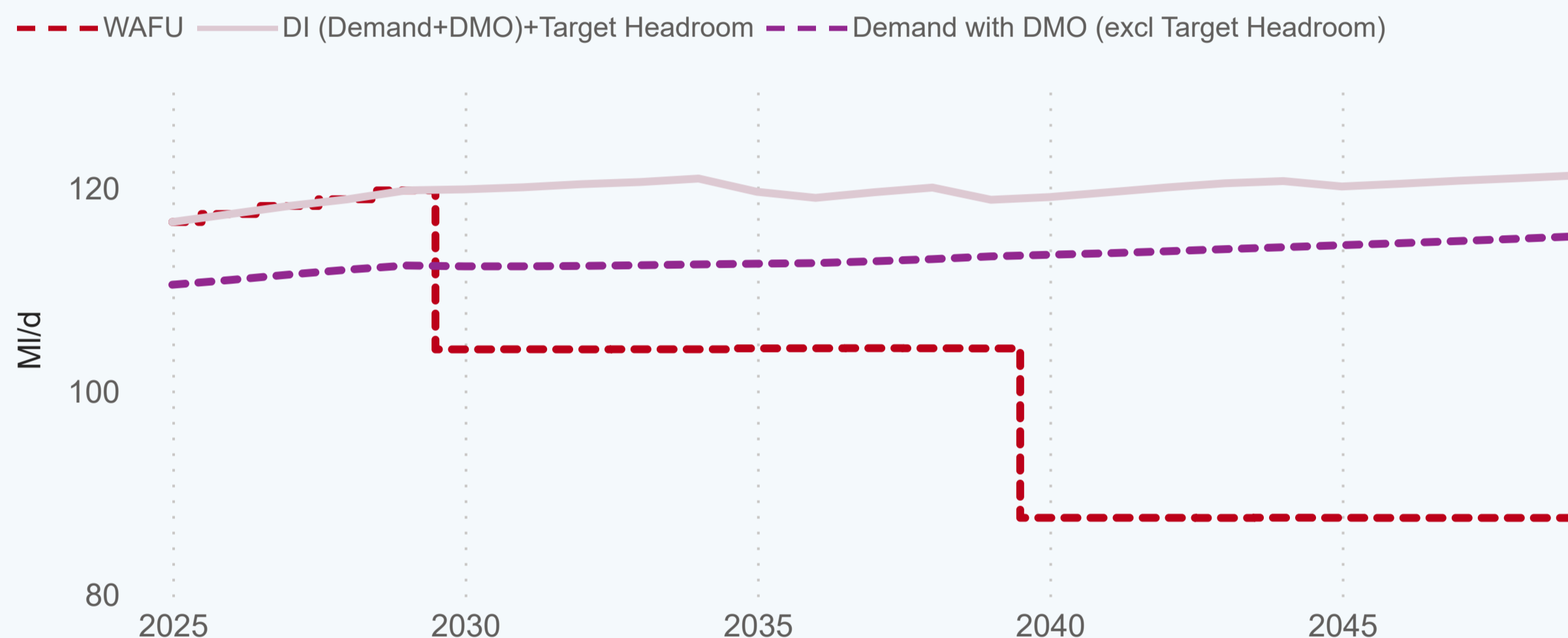


Table 5a: Baseline supply demand balance 2025 - 2050 for DYAA conditions

	2025-26 (start of AMP8)	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
Water Available For Use	140.2	140.2	118.4	118.5	101.8	101.8
Net Transfers	-23.5	-20.4	-14.3	-14.3	-14.3	-14.3
Total Water Available For Use	116.6	119.8	104.1	104.2	87.6	87.5
Distribution Input	110.5	112.4	112.5	113.3	114.2	115.2
Target Headroom	6.2	7.4	8.4	5.6	6.5	6.0
Supply Demand Balance	0.0	0.0	-16.8	-14.6	-33.1	-33.7

Table 5b: Baseline demand forecast (without preferred demand management options)

	2025-26 (start of AMP8)	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
Water delivered measured household	41.2	43.2	45.6	48.0	49.9	50.9
Water delivered unmeasured household	16.5	14.6	12.7	11.1	9.9	9.8
Total Leakage	16.7	16.6	16.5	16.5	16.5	16.6
Water delivered measured non-household	37.3	39.1	38.7	38.6	38.8	39.0
Water delivered unmeasured non-household	0.2	0.2	0.2	0.2	0.2	0.2
Distribution Input	110.5	112.4	112.5	113.3	114.2	115.2

5.1 DYAA BL supply demand summary: Lincolnshire East

Baseline Supply Demand Balance: This zone is expected to go into deficit by 2025 (under the preferred baseline scenario - as described in section 3.3).

- Demand Forecast: Baseline household demand (measured and unmeasured) is forecast to change from 57.7 MI/d in 2025 to 60.7 MI/d in 2050, a percentage change of 5.1 %.
- Baseline Leakage: is forecast to change from 16.7 MI/d in 2025 to 16.6 MI/d by 2050.
- Baseline Non-Household demand: is expected to change from 37.3 MI/d to 39.0 MI/d.
- Baseline Distribution Input: is expected to change from 110.5 MI/d to 115.2 MI/d by 2050.

Nb. 'Deficit' is one outcome of the calculation WAFU minus Distribution Input (including Target Headroom).

6. Baseline Supply Demand Balance DYCP

Lincolnshire East

Lincolnshire East

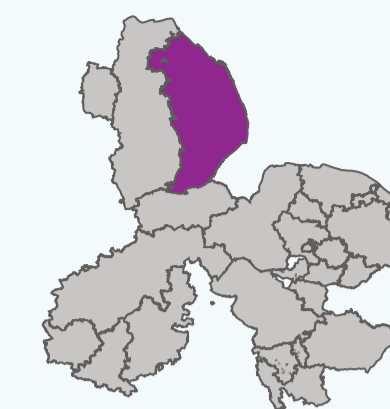


Figure 5: Lincolnshire East baseline supply demand balance to 2050 for Dry Year Critical Period conditions

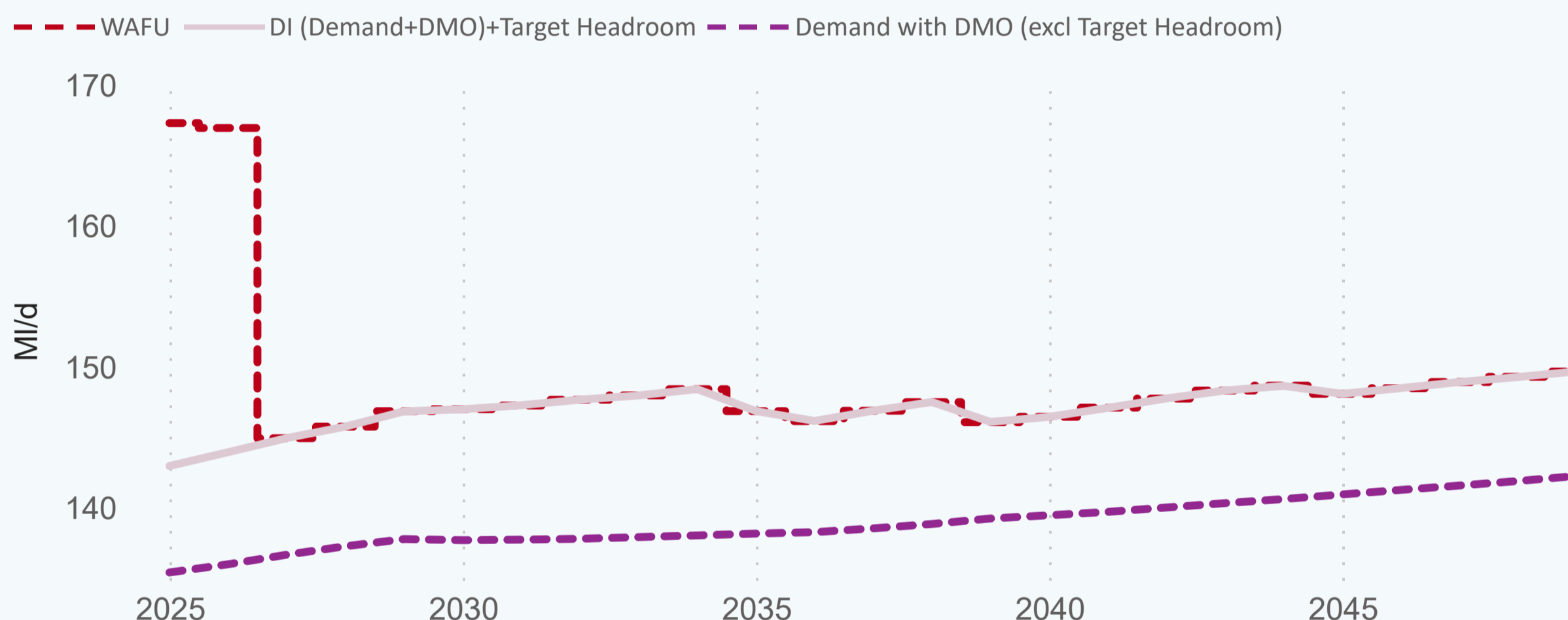


Table 6b: Baseline demand forecast with DYCP conditions (without preferred demand management options)

	2025-26 (start of AMP8)	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
Water delivered measured household	52.2	54.9	58.1	61.4	64.1	65.6
Water delivered unmeasured household	21.7	19.1	16.7	14.7	13.1	12.9
Total Leakage	16.7	16.6	16.5	16.5	16.5	16.6
Water delivered measured non-household	46.0	48.2	47.8	47.6	47.8	48.2
Water delivered unmeasured non-household	0.2	0.2	0.2	0.2	0.2	0.2
Distribution Input	135.4	137.8	138.0	139.2	140.6	142.3

Table 6a: Baseline supply demand balance 2025 - 2050 for DYCP conditions

	2025-26 (start of AMP8)	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
Water Available For Use	178.6	178.6	178.6	178.6	178.6	178.6
Net Transfers	-11.3	-31.8	-30.2	-32.6	-30.0	-29.0
Total Water Available For Use	167.3	146.9	148.4	146.1	148.7	149.7
Distribution Input	135.4	137.8	138.0	139.2	140.6	142.3
Target Headroom	7.6	9.1	10.4	6.9	8.0	7.4
Supply Demand Balance	24.3	0.0	0.0	0.0	0.0	0.0

6.1 DYCP BL supply demand summary: Lincolnshire East

Baseline Supply Demand balance: This zone is not expected to go into deficit

- Demand Forecast: Baseline household demand (measured and unmeasured) is forecast to change from 73.9 MI/d in 2025 to 78.5 MI/d in 2050, a percentage change of 6.3 %.
- Baseline Leakage: is forecast to change from 16.7 MI/d in 2025 to 16.6 MI/d by 2050.
- Baseline Non-Household demand: is expected to change from 46.0 MI/d to 48.2 MI/d.
- Baseline Distribution Input: is expected to change from 135.4 MI/d to 142.3 MI/d by 2050.

Nb. 'Deficit' is one outcome of the calculation WAFU minus Distribution Input (including Target Headroom).

7. Demand forecast and PCC

Lincolnshire East

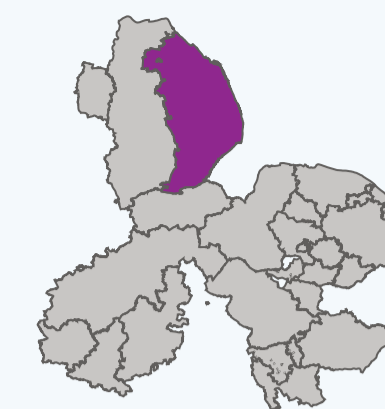


Figure 6: Lincolnshire East DYAA DI with and without demand management strategy

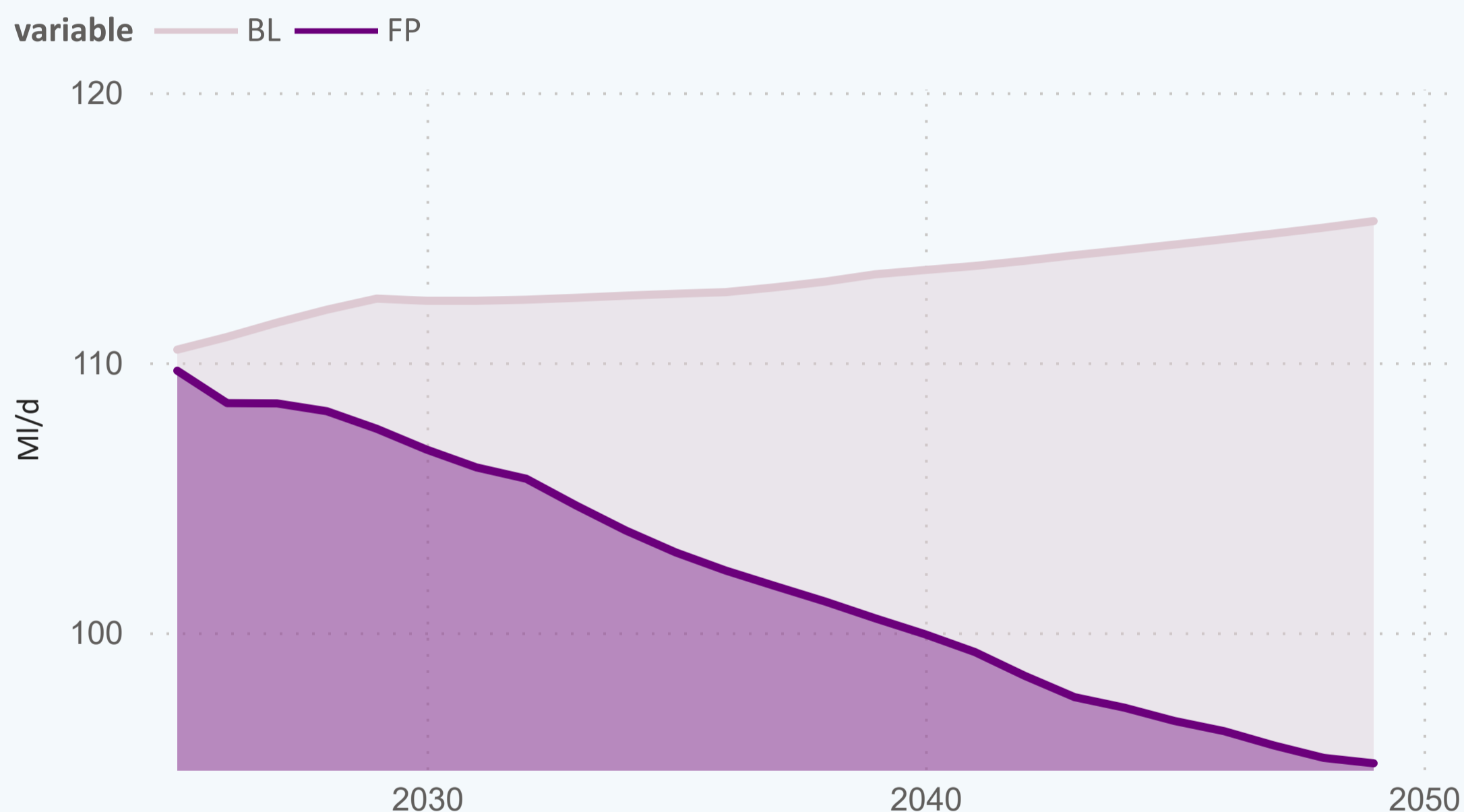


Table 7a: Demand - baseline and final plan

variable	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
BL	112.4	112.5	113.3	114.2	115.2
FP	107.5	103.8	100.5	97.2	95.2

7.2 Demand Lincolnshire East (see Table 7a)

Baseline demand is expected to increase from 110.5 (MI/d) in 2025 to 115.2 (MI/d) in 2050. With demand management options in place, demand is expected to be 95.2 (MI/d).

7.1 PCC Lincolnshire East (see Table 7b)

Per Capita Consumption (PCC) in the base year 2025/26 is 119.4 (l/h/d) measured and 219.2 (l/h/d) unmeasured.

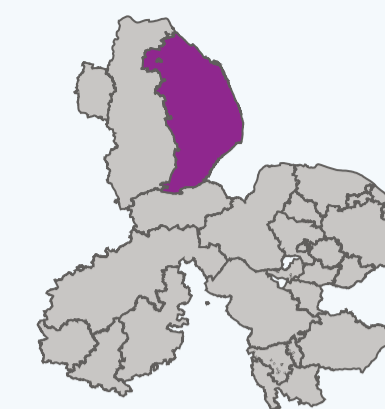
The weighted average PCC (l/h/d) comes in at 136.5 (l/h/d) in 2025/26. This is forecast to fall to 111.7 (l/h/d) in the Final Plan forecast as demand management option savings are realised and customers switch from unmeasured to measured status

Table 7b: DMO strategy Final Plan

	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
BL demand forecast(DYAA)	133.9	132.8	133.1	132.9	132.9
FP demand forecast(DYAA)	128.6	123.8	118.3	113.5	111.7
% change BL to FP	-3.9%	-6.8%	-11.1%	-14.5%	-16.0%

8. Demand management options

Lincolnshire East



8.1 Regional overview:

Across the entirety of the Anglian Water region our demand management strategy will comprise three strongly interlinked programs:

Water metering program:

- We intend to complete our current smart meter rollout which will replace our entire meter stock over 10 years (2 AMPs), noting that 1.1M smart meters will be installed across Anglian Water by 2025. The information resulting from 'smart metering' will help inform our customers regarding their water usage and will assist in our ability to influence this behaviour. It will also help with our ability to detect leakage, significantly reducing plumbing losses and customer supply pipe leaks.

Leakage reduction

- Our aim is to reduce leakage by more than 45MI/d from 2025 to 2050 across the whole Anglian Water area, building upon our ambitious program of leakage reduction in AMP7 (14% reduction of more than 27MI/d across the region by 2025).

Water efficiency measures

- New technologies and interventions will help promote the careful use of water. Additional water efficiency programs will include: the promotion of 'Smart' devices; further development of our Multi-utility web-portal; garden advice; support for vulnerable customers with plumbing loss and cspl; Community reward schemes. As part of our revised draft WRMP24 we have developed and included 'water efficiency visits' and leakage reduction measures for our Non-Household customers.

Figure 7: DMO strategy Final Plan for Lincolnshire East

For full chart key see table below

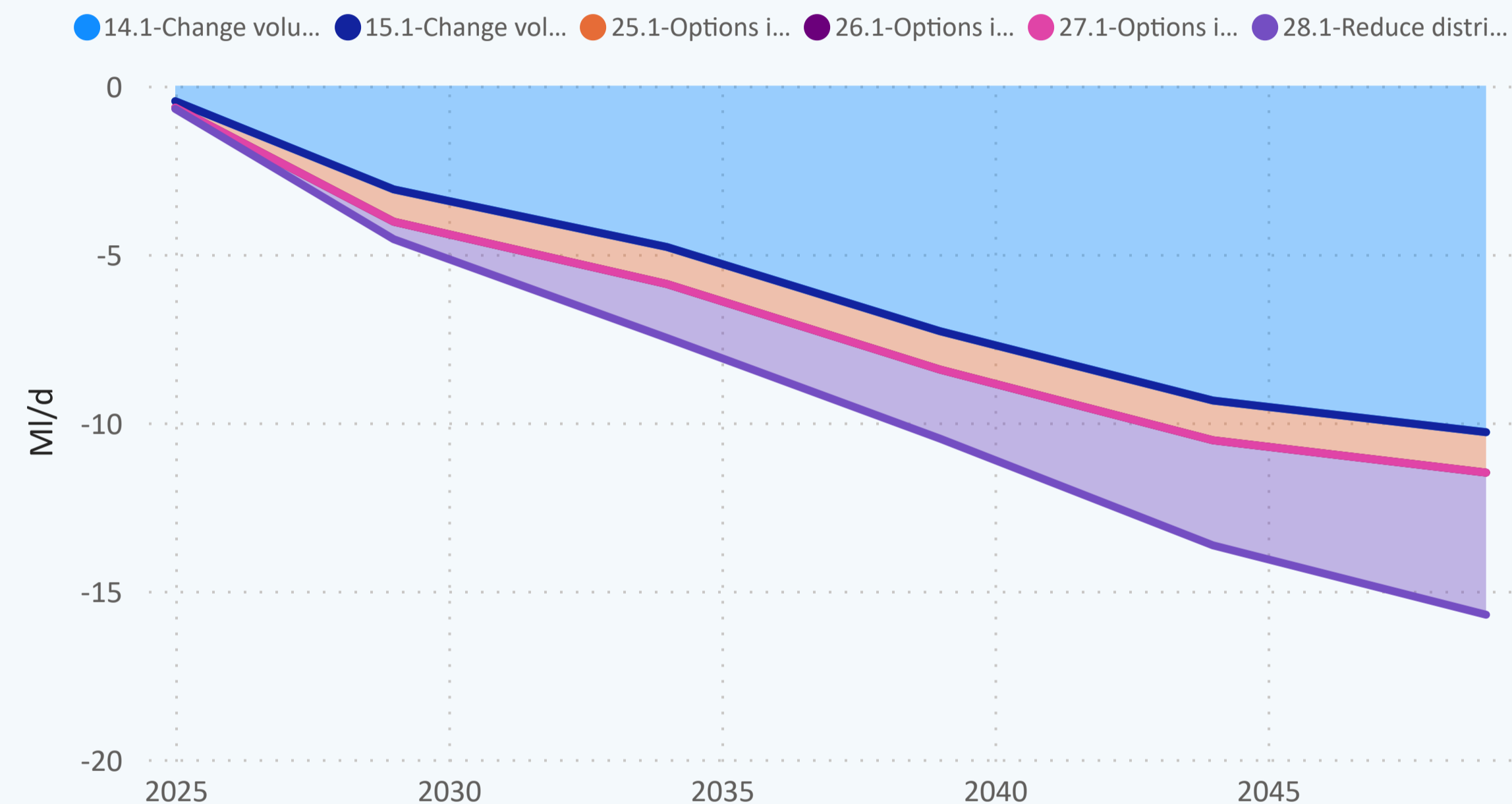


Table 8: DMO strategy Final Plan for Lincolnshire East

	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
14.1-Change volume delivered to measured households(-ve)	-3.1	-4.8	-7.3	-9.4	-10.3
15.1-Change volume delivered to unmeasured households(-ve)	0.0	0.0	0.0	0.0	0.0
25.1-Options impacting on measured Household - USPL (-ve)	-1.0	-1.1	-1.1	-1.2	-1.2
26.1-Options impacting on unmeasured Household - USPL (-ve)	0.0	0.0	0.0	0.0	0.0
27.1-Options impacting on Void properties - USPL (-ve)	0.0	0.0	0.0	0.0	0.0
28.1-Reduce distribution losses (-ve)	-0.5	-1.6	-2.1	-3.1	-4.2



9. Final Plan Supply Demand Balance DYAA

Lincolnshire East

Lincolnshire East

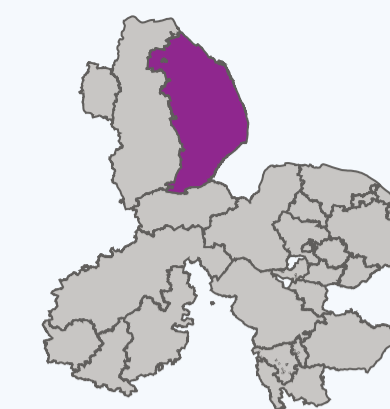


Figure 8: Lincolnshire East final plan SDB to 2050 for Dry Year Annual Average conditions

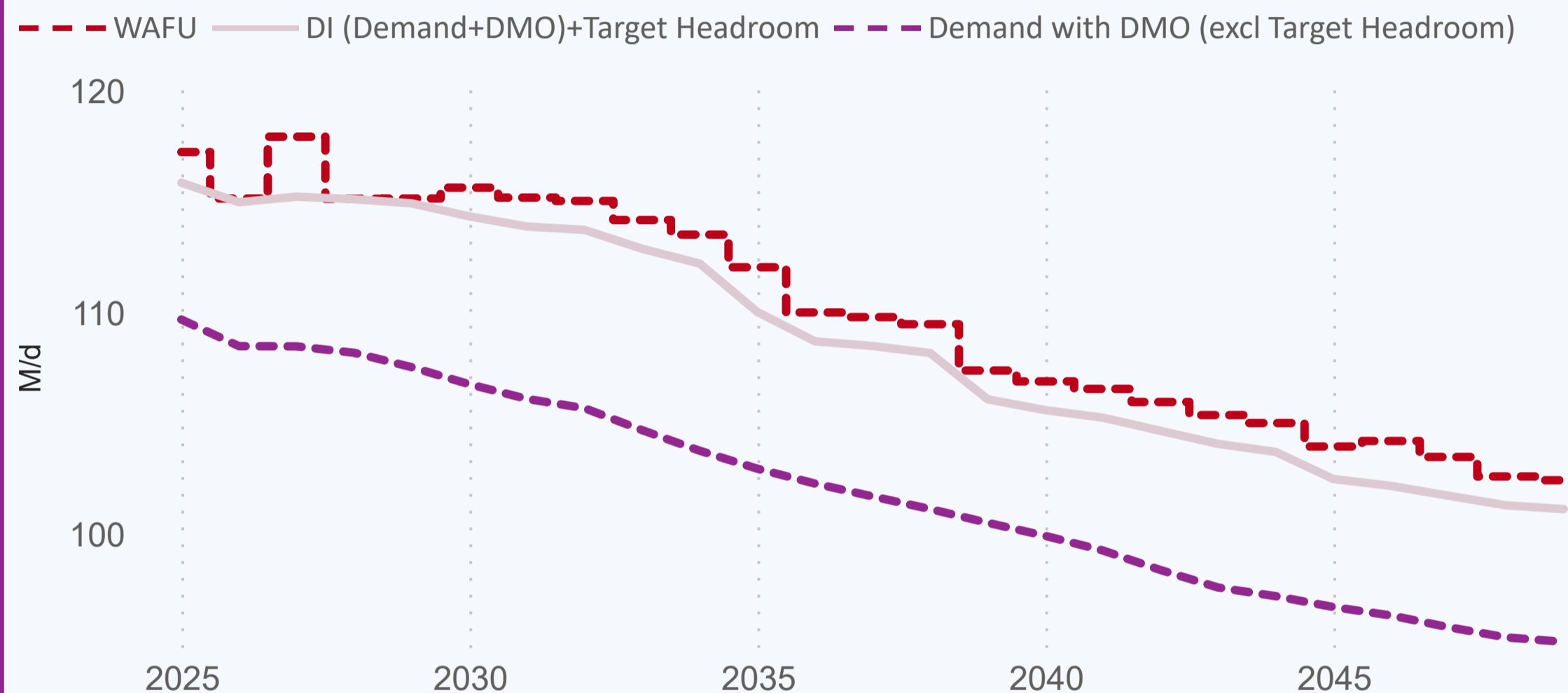


Table 9a: final plan SDB to 2050 for Dry Year conditions

	2025-26 (start of AMP8)	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
Water Available For Use	151.7	151.7	162.0	134.6	167.9	167.9
Net Transfers	-34.4	-36.5	-48.5	-27.2	-62.9	-65.5
Total Water Available For Use	117.2	115.2	113.5	107.4	105.0	102.4
Distribution Input	109.7	107.5	103.8	100.5	97.2	95.2
Target Headroom	6.2	7.4	8.4	5.6	6.5	6.0
Supply Demand Balance	1.4	0.2	1.3	1.3	1.3	1.3

Table 9b: Final Plan demand forecast for DYAA conditions (with preferred demand management options)

	2025-26 (start of AMP8)	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
Water delivered measured household	40.7	40.1	40.8	40.7	40.6	40.6
Water delivered unmeasured household	16.5	14.6	12.7	11.1	9.9	9.8
Total Leakage	16.5	15.1	13.8	13.3	12.2	11.1
Water delivered measured non-household	37.0	37.9	36.4	35.2	34.3	33.5
Water delivered unmeasured non-household	0.2	0.2	0.2	0.2	0.2	0.2
Distribution Input	109.7	107.5	103.8	100.5	97.2	95.2

9.1 DYAA FP supply demand summary: Lincolnshire East

The zone is in balance.

- Demand Forecast: Final Plan household demand (measured and unmeasured) is forecast to change from 57.2 MI/d in 2025 to 50.4 MI/d in 2050, a percentage change of -12.0 %.
- Final Plan Leakage is forecast to change from 16.5 MI/d in 2025 to 11.1 MI/d by 2050.
- Final Plan Non-Household demand is expected to change from 37.0 MI/d to 33.5 MI/d.
- Final Plan Distribution Input is expected to change from 109.7 MI/d to 95.2 MI/d by 2050.



10. Final Plan Supply Demand Balance DYCP

Lincolnshire East

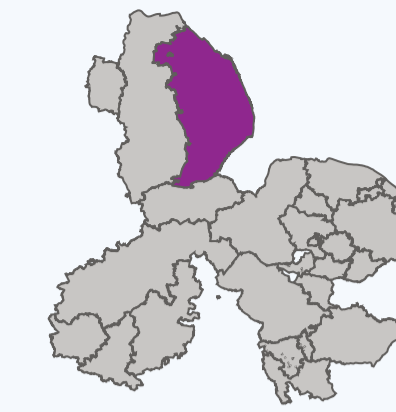


Figure 9: Lincolnshire East baseline supply demand balance to 2050 for Dry Year Critical Period conditions

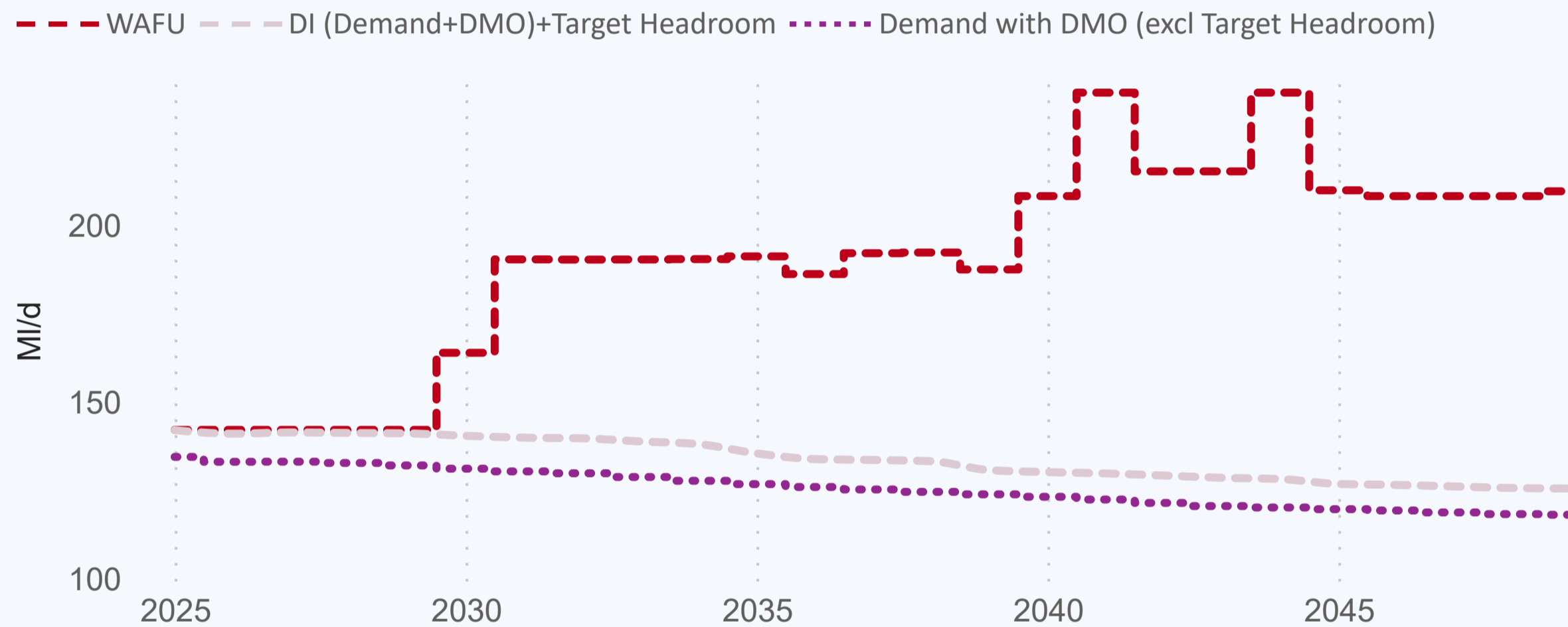


Table 10a: Final Plan supply demand balance 2025 - 2050 for DYCP conditions

	2025-26 (start of AMP8)	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
Water Available For Use	178.6	178.6	200.4	194.7	244.7	244.7
Net Transfers	-36.5	-36.5	-10.0	-7.3	-7.3	-35.2
Total Water Available For Use	142.1	142.1	190.4	187.5	237.5	209.6
Distribution Input	134.5	132.1	127.7	123.9	120.2	118.1
Target Headroom	7.6	9.1	10.4	6.9	8.0	7.4
Supply Demand Balance	0.1	1.0	52.3	56.7	109.3	84.0

Table 10b: Final Plan demand forecast for DYCP conditions (with preferred demand management options)

	2025-26 (start of AMP8)	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
Water delivered measured household	51.7	51.2	52.2	52.3	52.3	52.5
Water delivered unmeasured household	21.7	19.1	16.7	14.7	13.1	12.9
Total Leakage	16.5	15.1	13.8	13.3	12.2	11.1
Water delivered measured non-household	45.7	46.7	44.9	43.4	42.3	41.3
Water delivered unmeasured non-household	0.2	0.2	0.2	0.2	0.2	0.2
Distribution Input	134.5	132.1	127.7	123.9	120.2	118.1

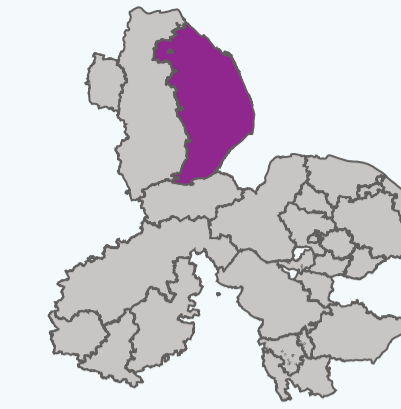
10.1 DYCP BL supply demand summary: Lincolnshire East

The zone is in balance.

- Demand Forecast: Final Plan household demand (measured and unmeasured) is forecast to change from 73.4 MI/d in 2025 to 65.5 MI/d in 2050, a percentage change of -10.8 %.
- Final Plan Leakage: is forecast to change from 16.5 MI/d in 2025 to 11.1 MI/d by 2050
- Final Plan Non-Household demand: is expected to change from 45.7 MI/d to 41.3 MI/d.
- Final Plan Distribution Input: is expected to change from 134.5 MI/d to 118.1 MI/d by 2050.



11. Supply Side Strategy



Lincolnshire East

Table 11a: Total Water Available for use Baseline and Final Plan

	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
WAFU - BL	131.3	126.0	104.2	87.6	87.5
WAFU - FP	115.2	113.5	107.4	105.0	102.4

11.1 Supply side strategy options.

For details on the feasible options list for Lincolnshire East WRZ please refer to the Supply-Side Option Development technical supporting document.

Figure 10 Water Available for Use (WAFU) - baseline (BL) and final plan (FP)

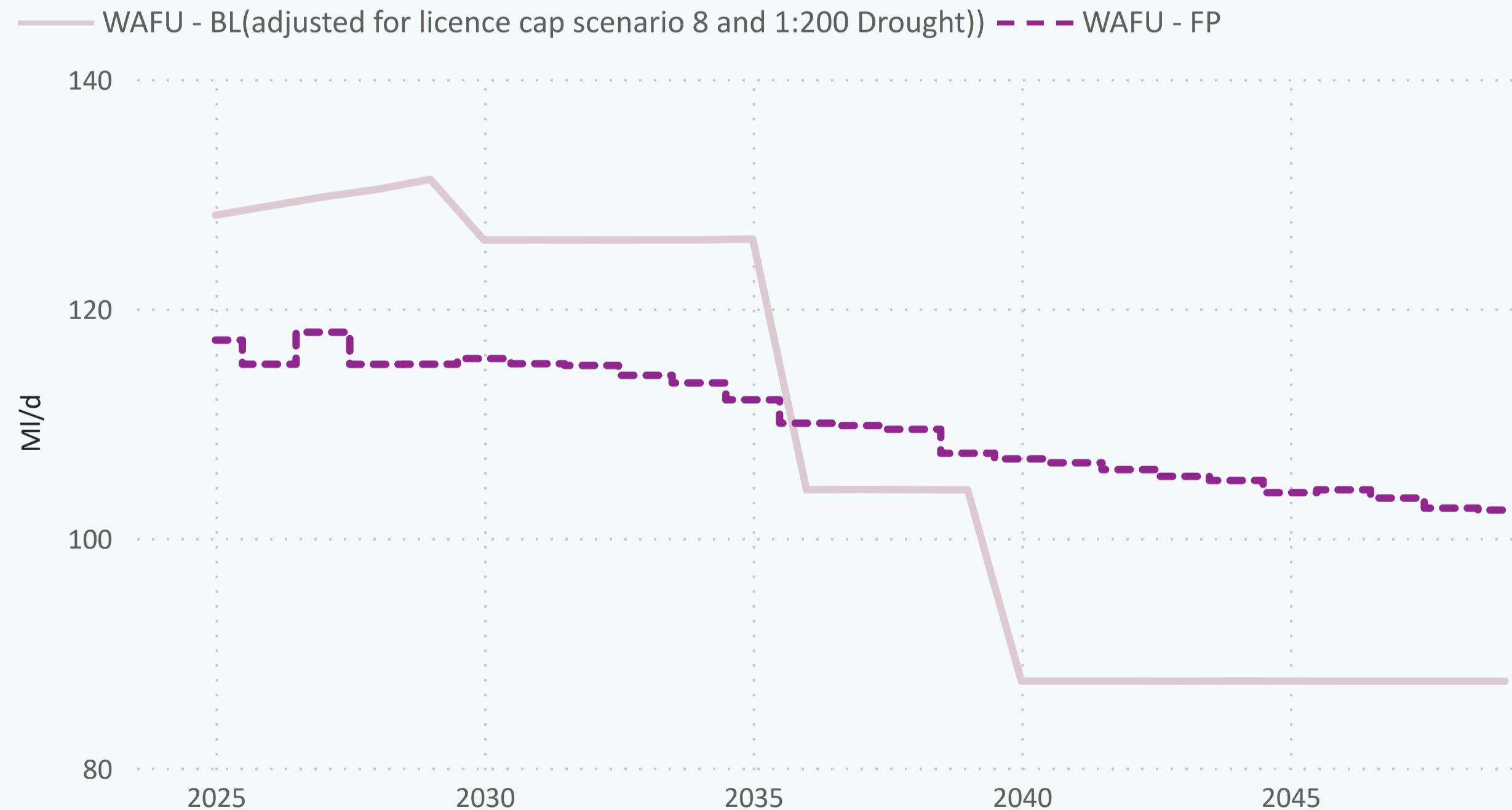


Table 11b: Preferred supply side options

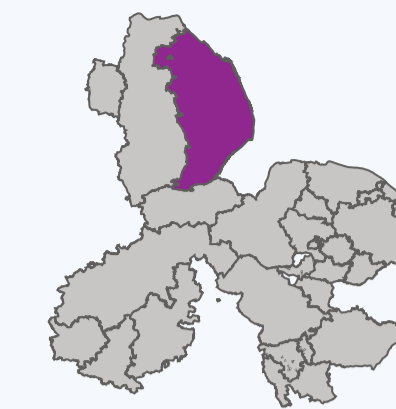
Option ID	First Option Name
EE05	Adjustment to existing potable water export
LC06	Adjustment for Licence cap scenario 8
LNE11	Lincolnshire East Groundwater enhancement
LNE12	Lincolnshire East Surface Water enhancement
LNE3	Lincolnshire East WTW backwash water recovery
LNE6	Mablethorpe desalination Seawater (50 MI/d)



12. Non-Household consumption

Lincolnshire East

Lincolnshire East



12.1 Non-Household demand Lincolnshire East

In 2025, 37.2 MI/d of Non-Household demand (measured and unmeasured) is expected. In 2049 it is expected to be 33.5 MI/d, which is a -9.96% change between the years.

Figure 11: Non-Household demand forecast 2025-2050

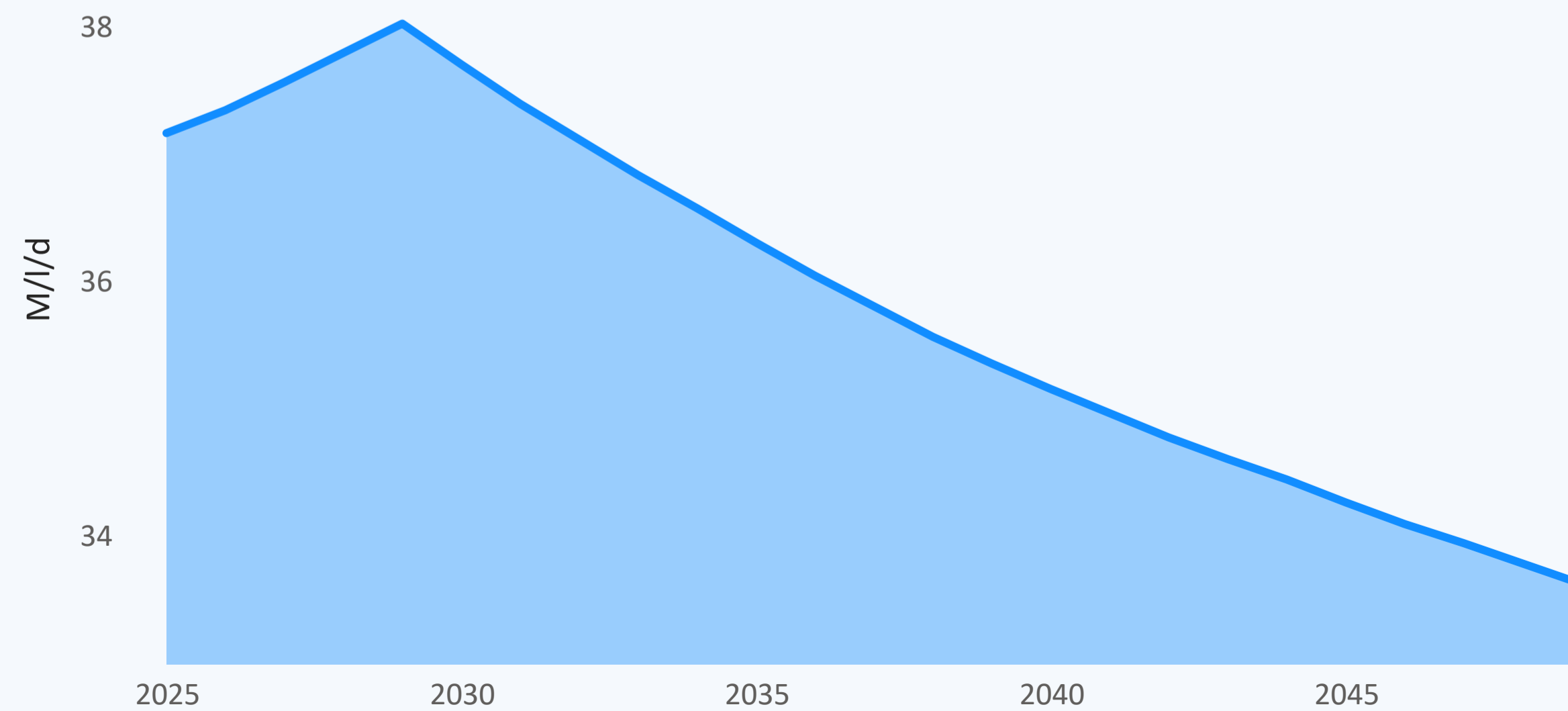
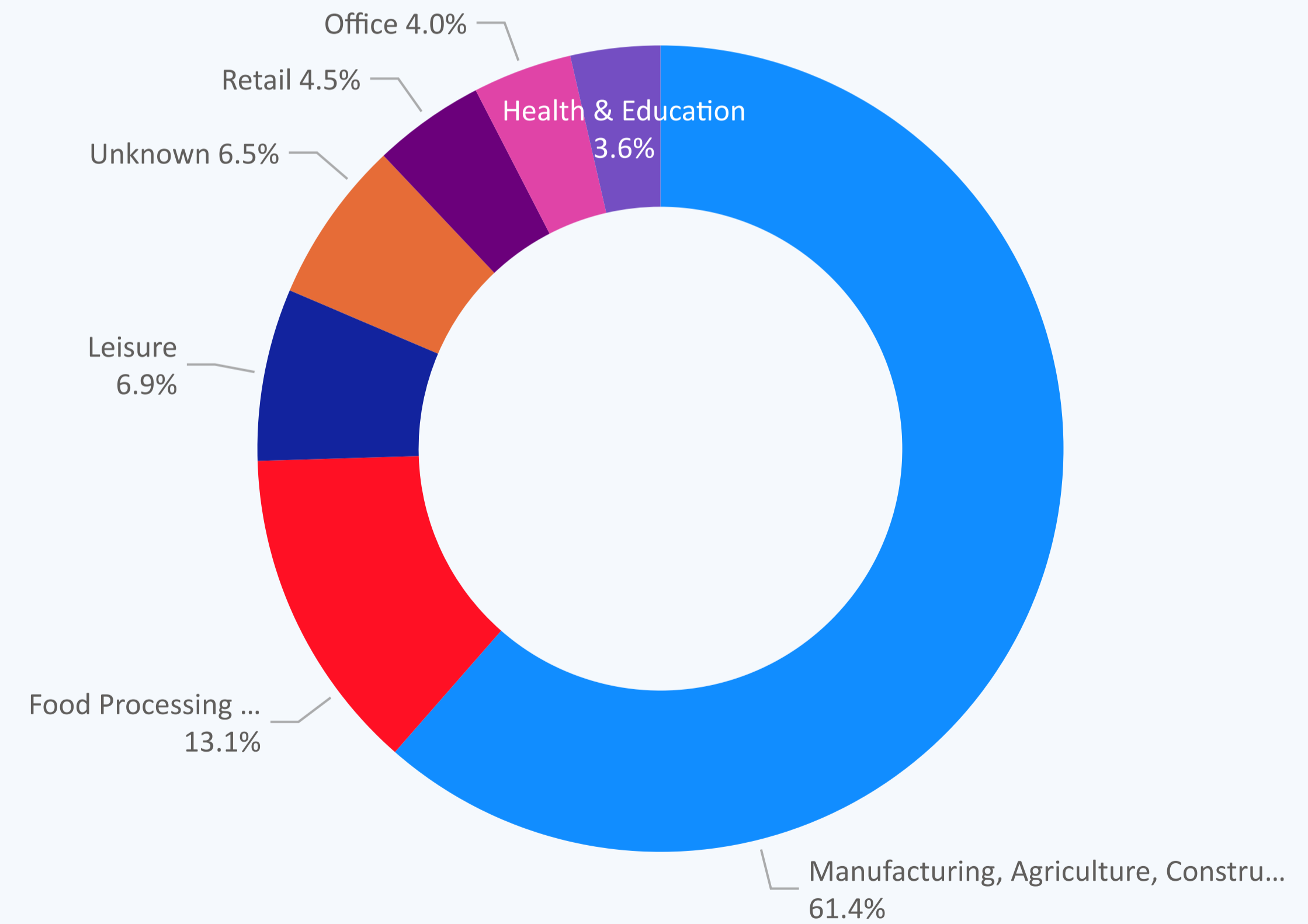
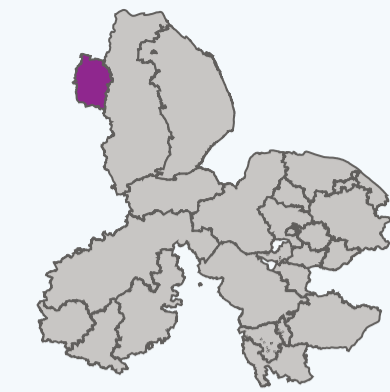


Figure 12: % Non-Household modelled sectors within resource zone



3. Deployable Output summary DYAA

Lincolnshire Retford and Gainsborough



3.1 Resource Zone geography: Lincolnshire Retford and Gainsborough:

The LNN WRZ covers an area of 494 sq. km and lies to the west of the River Trent. The zone is based on the supply systems for Gainsborough and Retford. Customers in the zone receive groundwater abstracted from the Sherwood Sandstone aquifer.

3.2

Baseline deployable output (including 1:500 drought): *24.7 MI/d*

Deployable output reductions

Restoring sustainable abstraction (recent actual average): *-6.3 MI/d*

Reductions to achieve environmental destination (BAU+): *0.0 MI/d*.

Climate change: *0.0 MI/d* by 2050.

Baseline deployable output reduces by a total of *-6.3 MI/d* by 2050 a reduction of 25.5%.

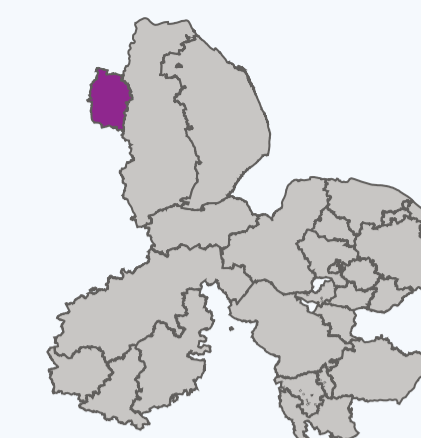
Table 3: supply characteristics (all values are MI/d)

	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
DO pre forecast changes	24.7	24.7	24.7	24.7	24.7
Change in DO due to climate change	0.0	0.0	0.0	0.0	0.0
DO reductions to restore sustainable abstraction	-3.6	-6.3	-6.3	-6.3	-6.3
DO reductions for Environmental Destination	0.0	0.0	0.0	0.0	0.0
Change in DO from drought measures	0.0	0.0	0.0	0.0	0.0
Final DO	21.1	18.4	18.4	18.4	18.4
Raw water losses (-ve)	-1.4	-1.4	-1.4	-1.4	-1.4
Outage Allowance (-ve)	-0.1	-0.1	-0.1	-0.1	-0.1
WAFU (own sources)	19.6	16.9	17.0	17.0	17.0
Net Transfers	0.0	0.0	1.4	0.8	0.2
Other benefits	3.63	3.39	0.72	0.72	0.72
Total Water Available for Use	23.2	20.3	19.1	18.5	17.9

3.3 The baseline Deployable Output data presented in this section represents the Environment Agency's preferred sustainability reduction licence cap scenario. This includes recent actual average caps to time limited licences in 2022-24 and caps to all other permanent licences by 2030. The impact of 1:500 drought resilience has also been applied from 2025 rather than the preferred scenario of 2039/2040. These factors apply to the baseline forecast only. For the final plan forecast we have applied our best value scenario for licence caps, which was developed following an iterative process to deliver licence caps as early as possible. The transition to 1:500 drought resilience occurs in 2039/40 in the final plan forecast. Further information is available in the WRMP24 Decision Making technical supporting document, section 6.



4. Population & Housing



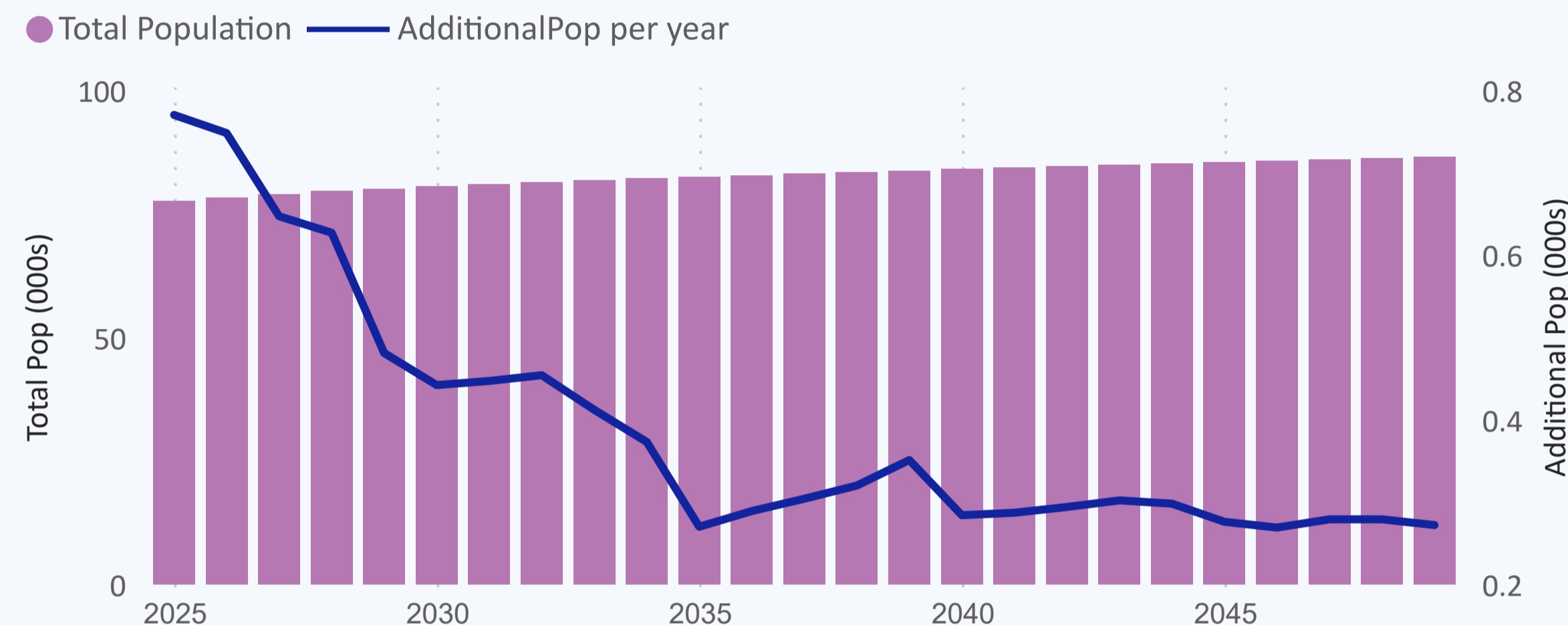
Lincolnshire Retford and Gainsborough

4.1 Over the WRMP period, population in Lincolnshire Retford and Gainsborough is set to increase from 77591 in 2025 to 86596 in 2049-50 - this is an increase of 11.6 % over the 25 years.

Table 4a: Population totals (cumulative) by AMP

Year	Total Population (000s)
2029-30 (end of AMP8)	80.094
2034-35 (end of AMP9)	82.222
2039-40 (end of AMP10)	83.756
2044-45 (end of AMP11)	85.221
2049-50 (end of AMP12)	86.596

Figure 2: Total Resource Zone Population

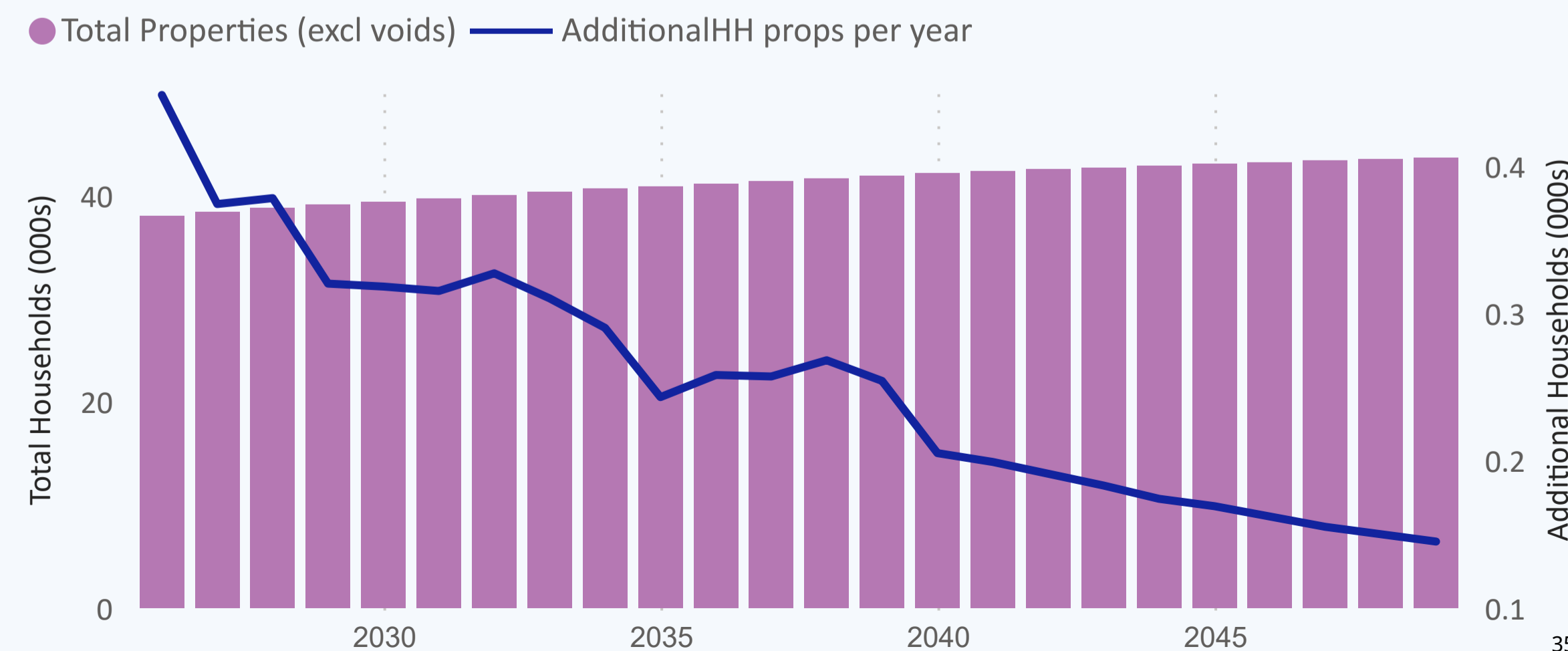


4.2 Over the WRMP period, property numbers in Lincolnshire Retford and Gainsborough are set to increase from 37561 in 2025 to 43654 in 2049-50 - this is an increase of 16.2 % over the 25 years.

Table 4b: Property totals (cumulative) by AMP

Year	Total Properties-excl voids (000s)
2029-30 (end of AMP8)	39.081
2034-35 (end of AMP9)	40.641
2039-40 (end of AMP10)	41.921
2044-45 (end of AMP11)	42.873
2049-50 (end of AMP12)	43.654

Figure 3: Total Resource Zone Properties (excl. voids)



5. Baseline Supply Demand Balance DYAA

Lincolnshire Retford and Gainsborough

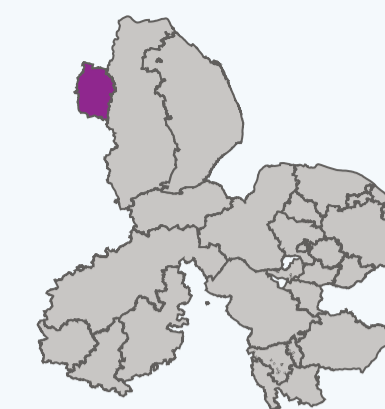


Figure 4: Lincolnshire Retford and Gainsborough baseline supply demand balance to 2050 for Dry Year Annual Average conditions

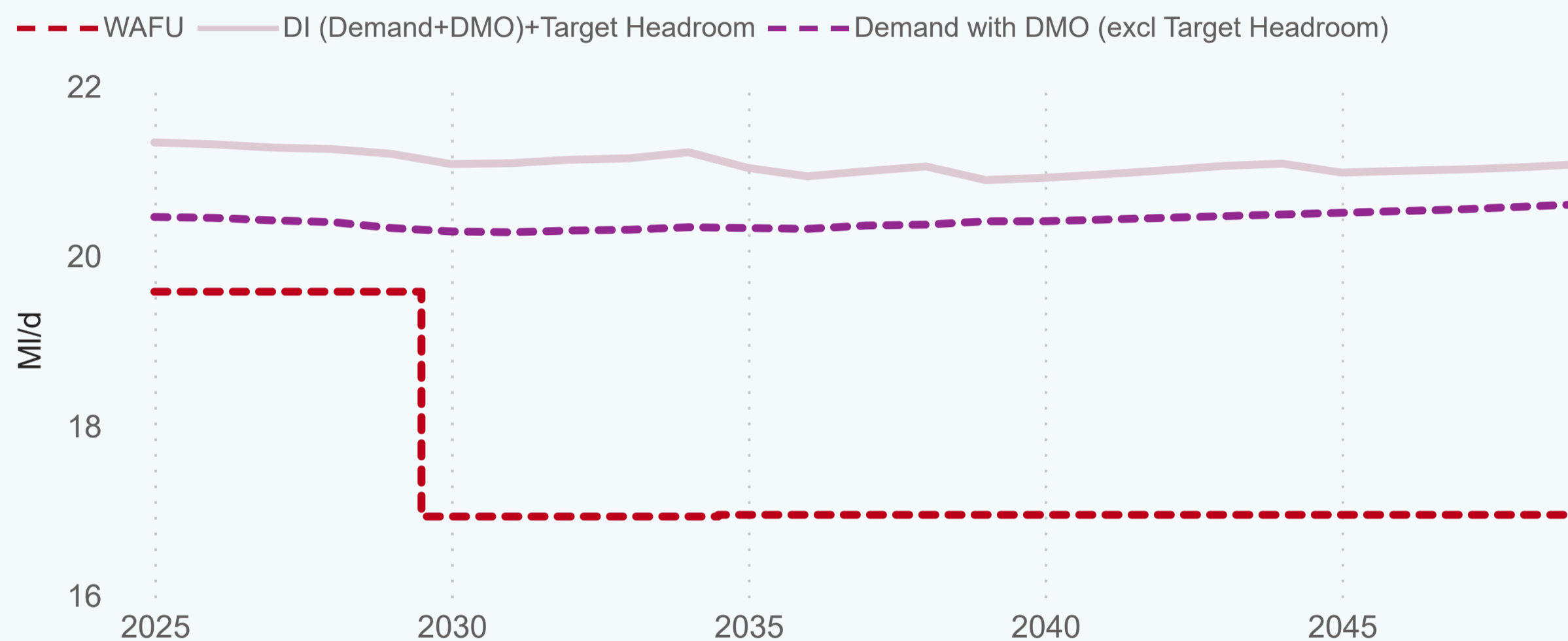


Table 5a: Baseline supply demand balance 2025 - 2050 for DYAA conditions

	2025-26 (start of AMP8)	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
Water Available For Use	19.6	19.6	16.9	17.0	17.0	17.0
Net Transfers	0.0	0.0	0.0	0.0	0.0	0.0
Total Water Available For Use	19.6	19.6	16.9	17.0	17.0	17.0
Distribution Input	20.5	20.3	20.3	20.4	20.5	20.6
Target Headroom	0.9	0.9	0.9	0.5	0.6	0.5
Supply Demand Balance	-1.8	-1.6	-4.3	-3.9	-4.1	-4.1

Table 5b: Baseline demand forecast (without preferred demand management options)

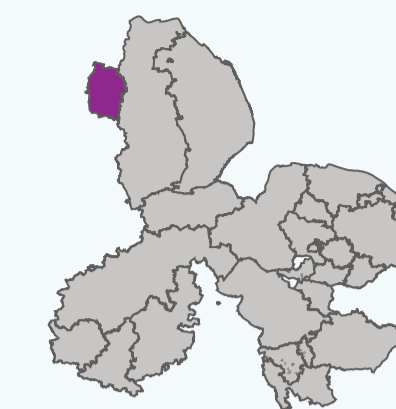
	2025-26 (start of AMP8)	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
Water delivered measured household	8.4	8.9	9.6	10.3	10.8	11.2
Water delivered unmeasured household	3.9	3.4	2.9	2.4	2.1	1.9
Total Leakage	3.2	3.1	3.1	3.1	3.1	3.1
Water delivered measured non-household	5.0	4.9	4.7	4.6	4.5	4.4
Water delivered unmeasured non-household	0.0	0.0	0.0	0.0	0.0	0.0
Distribution Input	20.5	20.3	20.3	20.4	20.5	20.6

5.1 DYAA BL supply demand summary: Lincolnshire Retford and Gainsborough

Baseline Supply Demand Balance: This zone is expected to go into deficit by 2025 (under the preferred baseline scenario - as described in section 3.3).

- Demand Forecast: Baseline household demand (measured and unmeasured) is forecast to change from 12.3 MI/d in 2025 to 13.1 MI/d in 2050, a percentage change of 6.1 %.
- Baseline Leakage: is forecast to change from 3.2 MI/d in 2025 to 3.1 MI/d by 2050.
- Baseline Non-Household demand: is expected to change from 5.0 MI/d to 4.4 MI/d.
- Baseline Distribution Input: is expected to change from 20.5 MI/d to 20.6 MI/d by 2050.

Nb. 'Deficit' is one outcome of the calculation WAFU minus Distribution Input (including Target Headroom).



6. Baseline Supply Demand Balance DYCP

Lincolnshire Retford and Gainsborough

Figure 5: Lincolnshire Retford and Gainsborough baseline supply demand balance to 2050 for Dry Year Critical Period conditions

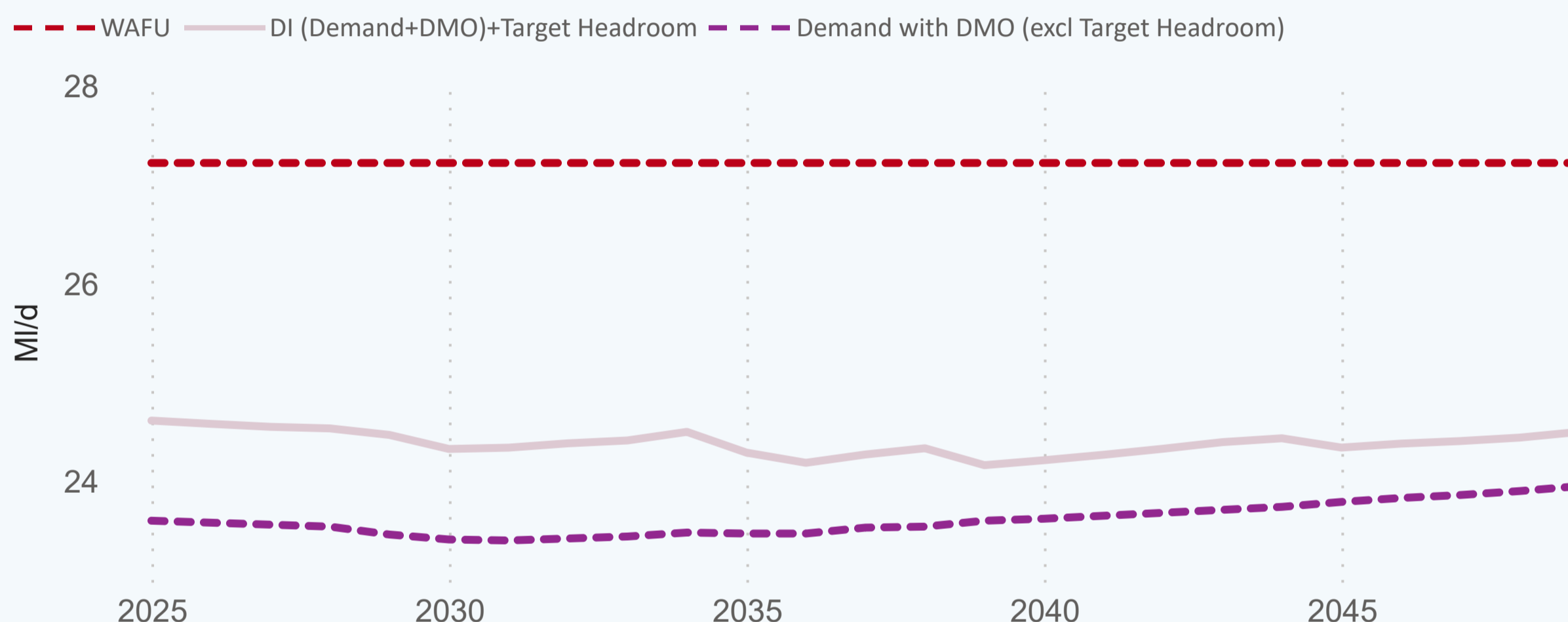


Table 6a: Baseline supply demand balance 2025 - 2050 for DYCP conditions

	2025-26 (start of AMP8)	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
Water Available For Use	27.2	27.2	27.2	27.2	27.2	27.2
Net Transfers	0.0	0.0	0.0	0.0	0.0	0.0
Total Water Available For Use	27.2	27.2	27.2	27.2	27.2	27.2
Distribution Input	23.6	23.5	23.5	23.6	23.7	24.0
Target Headroom	1.0	1.0	1.0	0.6	0.7	0.5
Supply Demand Balance	2.6	2.8	2.7	3.1	2.8	2.7

Table 6b: Baseline demand forecast with DYCP conditions (without preferred demand management options)

	2025-26 (start of AMP8)	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
Water delivered measured household	9.9	10.6	11.4	12.2	12.9	13.4
Water delivered unmeasured household	4.9	4.2	3.6	3.0	2.6	2.4
Total Leakage	3.2	3.1	3.1	3.1	3.1	3.1
Water delivered measured non-household	5.7	5.6	5.4	5.2	5.1	5.0
Water delivered unmeasured non-household	0.0	0.0	0.0	0.0	0.0	0.0
Distribution Input	23.6	23.5	23.5	23.6	23.7	24.0

6.1 DYCP BL supply demand summary: Lincolnshire Retford and Gainsborough

Baseline Supply Demand balance: This zone is not expected to go into deficit

- Demand Forecast: Baseline household demand (measured and unmeasured) is forecast to change from 14.8 MI/d in 2025 to 15.8 MI/d in 2050, a percentage change of 7.0 %.
- Baseline Leakage: is forecast to change from 3.2 MI/d in 2025 to 3.1 MI/d by 2050.
- Baseline Non-Household demand: is expected to change from 5.7 MI/d to 5.0 MI/d.
- Baseline Distribution Input: is expected to change from 23.6 MI/d to 24.0 MI/d by 2050.

Nb. 'Deficit' is one outcome of the calculation WAFU minus Distribution Input (including Target Headroom).

7. Demand forecast and PCC

Lincolnshire Retford and Gainsborough

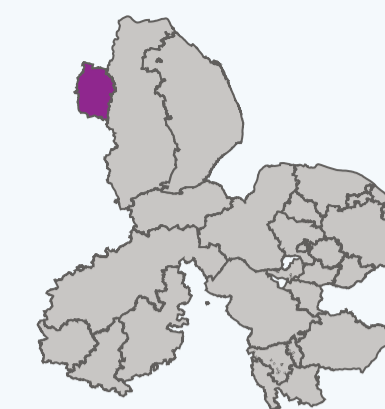


Figure 6: Lincolnshire Retford and Gainsborough DYAA DI with and without demand management strategy

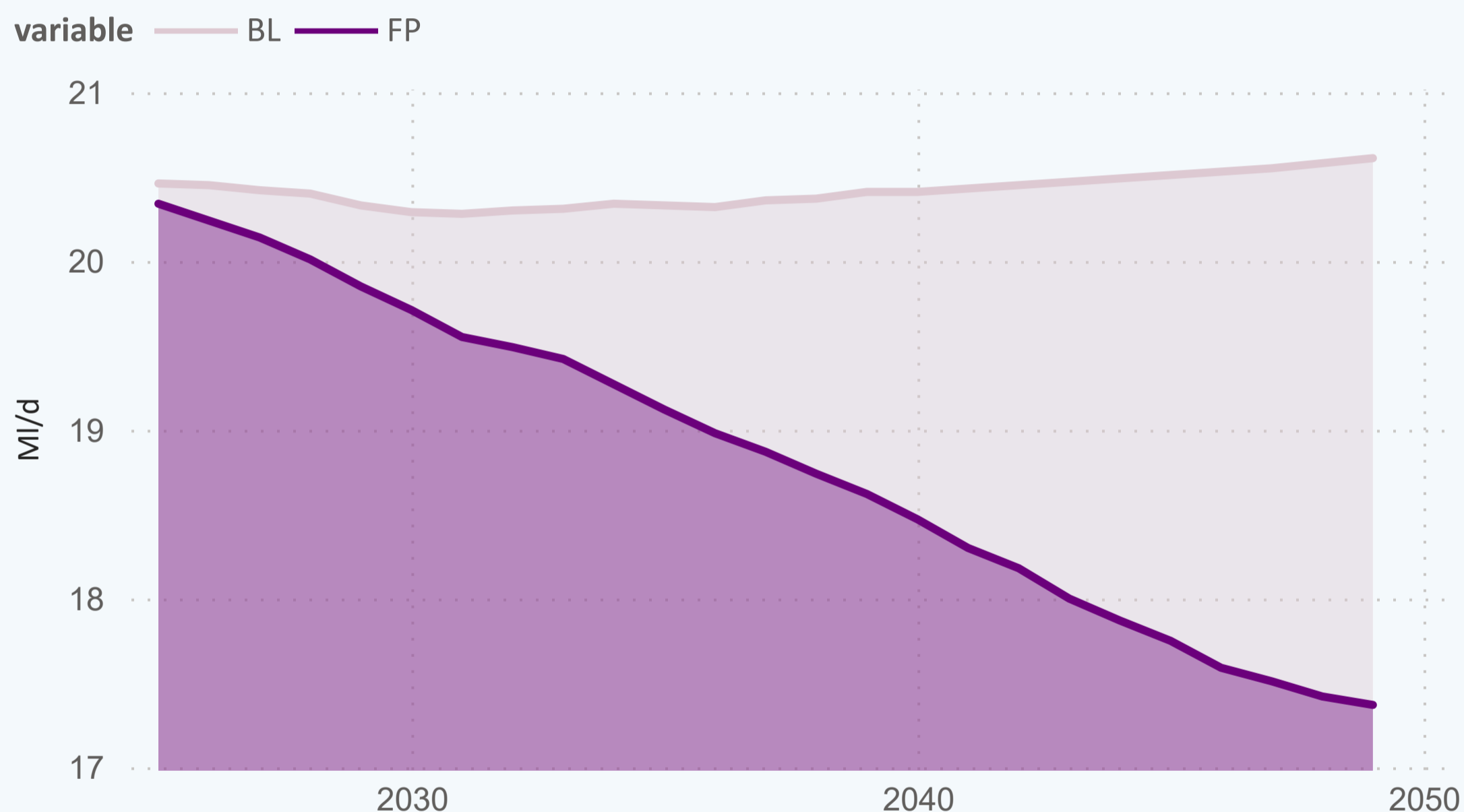


Table 7a: Demand - baseline and final plan

variable	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
BL	20.3	20.3	20.4	20.5	20.6
FP	19.9	19.3	18.6	17.9	17.4

7.2 Demand Lincolnshire Retford and Gainsborough (see Table 7a)

Baseline demand is expected to increase from 20.5 (MI/d) in 2025 to 20.6 (MI/d) in 2050. With demand management options in place, demand is expected to be 17.4 (MI/d).

7.1 PCC Lincolnshire Retford and Gainsborough (see Table 7b)

Per Capita Consumption (PCC) in the base year 2025/26 is 135.7 (l/h/d) measured and 206.4 (l/h/d) unmeasured.

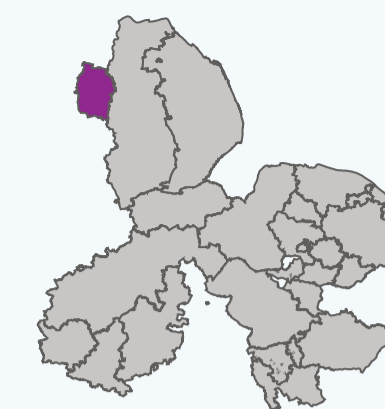
The weighted average PCC (l/h/d) comes in at 152.2 (l/h/d) in 2025/26. This is forecast to fall to 126.4 (l/h/d) in the Final Plan forecast as demand management option savings are realised and customers switch from unmeasured to measured status

Table 7b: DMO strategy Final Plan

	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
BL demand forecast(DYAA)	148.2	146.4	146.3	146.0	145.7
FP demand forecast(DYAA)	145.3	139.9	133.8	128.7	126.4
% change BL to FP	-1.9%	-4.5%	-8.5%	-11.8%	-13.2%

8. Demand management options

Lincolnshire Retford and Gainsborough



8.1 Regional overview:

Across the entirety of the Anglian Water region our demand management strategy will comprise three strongly interlinked programs:

Water metering program:

- We intend to complete our current smart meter rollout which will replace our entire meter stock over 10 years (2 AMPs), noting that 1.1M smart meters will be installed across Anglian Water by 2025. The information resulting from ‘smart metering’ will help inform our customers regarding their water usage and will assist in our ability to influence this behaviour. It will also help with our ability to detect leakage, significantly reducing plumbing losses and customer supply pipe leaks.

Leakage reduction

- Our aim is to reduce leakage by more than 45MI/d from 2025 to 2050 across the whole Anglian Water area, building upon our ambitious program of leakage reduction in AMP7 (14% reduction of more than 27MI/d across the region by 2025).

Water efficiency measures

- New technologies and interventions will help promote the careful use of water. Additional water efficiency programs will include: the promotion of ‘Smart’ devices; further development of our Multi-utility web-portal; garden advice; support for vulnerable customers with plumbing loss and cspl; Community reward schemes. As part of our revised draft WRMP24 we have developed and included ‘water efficiency visits’ and leakage reduction measures for our Non-Household customers.

Figure 7: DMO strategy Final Plan for Lincolnshire Retford and Gainsborough chart key see table below

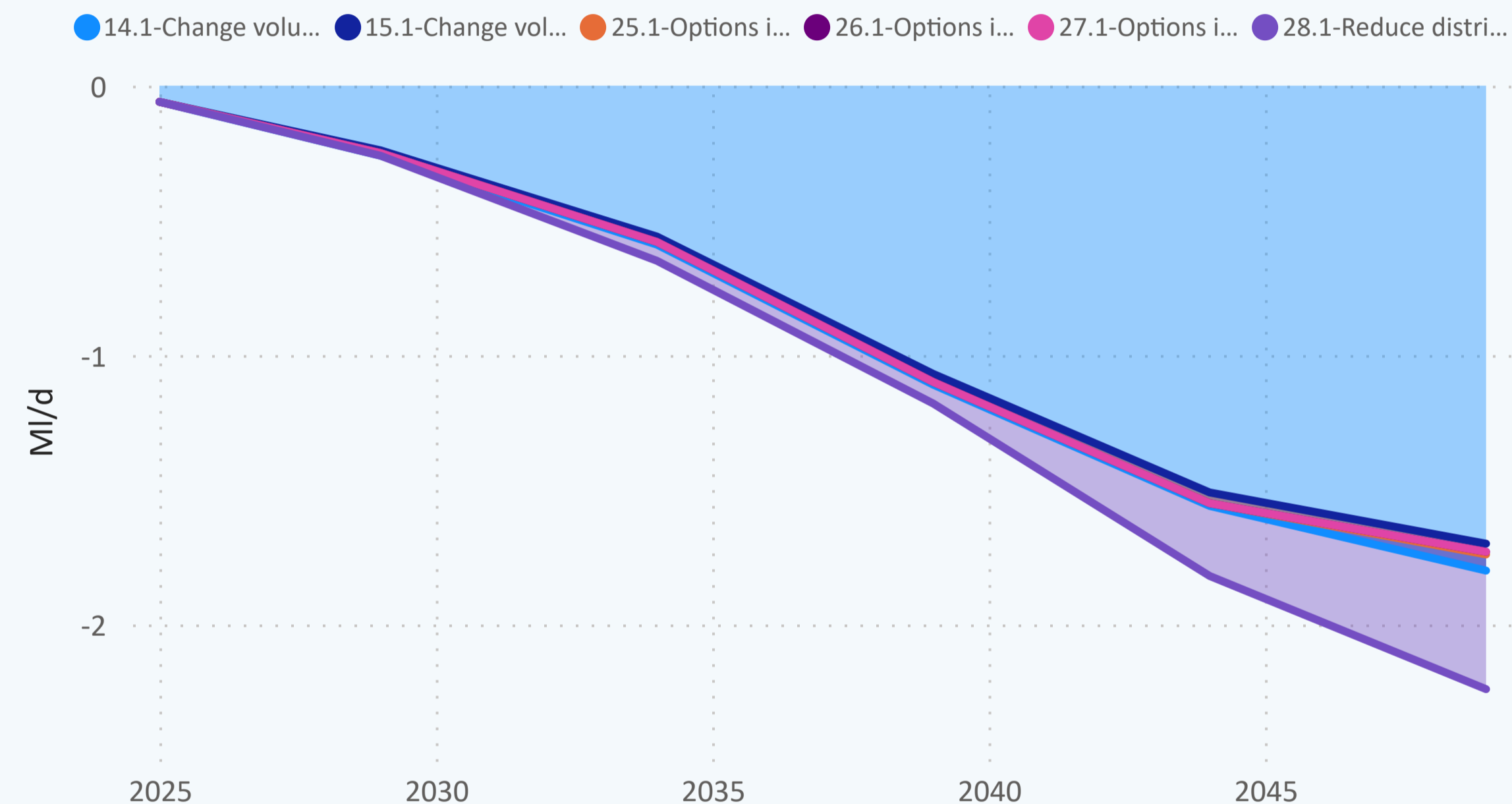


Table 8: DMO strategy Final Plan for Lincolnshire Retford and Gainsborough

	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
14.1-Change volume delivered to measured households(-ve)	-0.3	-0.6	-1.1	-1.6	-1.8
15.1-Change volume delivered to unmeasured households(-ve)	0.0	0.0	0.0	0.1	0.1
25.1-Options impacting on measured Household - USPL (-ve)	0.0	0.0	0.0	0.0	0.0
26.1-Options impacting on unmeasured Household - USPL (-ve)	0.0	0.0	0.0	0.0	0.0
27.1-Options impacting on Void properties - USPL (-ve)	0.0	0.0	0.0	0.0	0.0
28.1-Reduce distribution losses (-ve)	0.0	-0.1	-0.1	-0.3	-0.5

9. Final Plan Supply Demand Balance DYAA

Lincolnshire Retford and Gainsborough

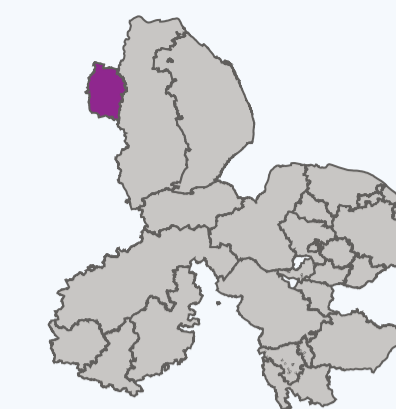


Figure 8: Lincolnshire Retford and Gainsborough final plan SDB to 2050 for Dry Year Annual Average conditions

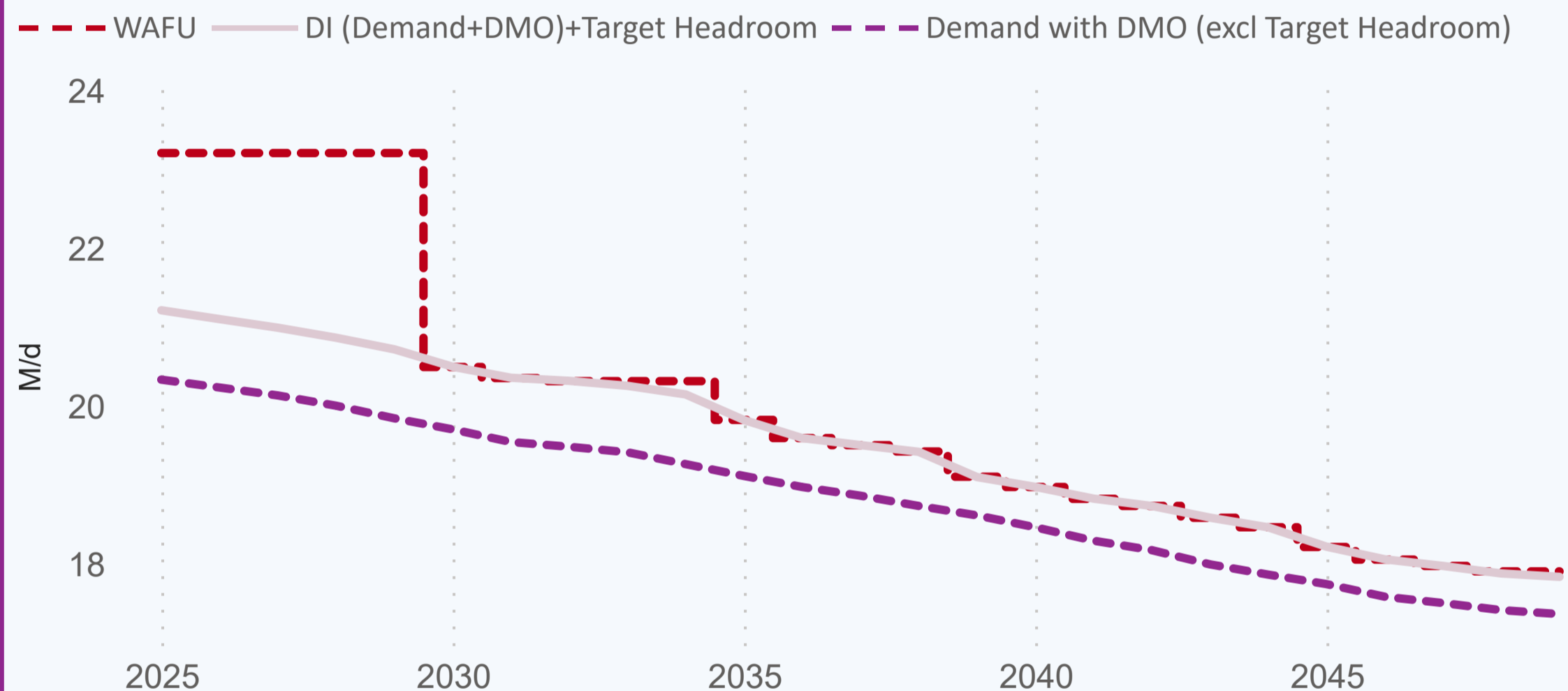


Table 9a: final plan SDB to 2050 for Dry Year conditions

	2025-26 (start of AMP8)	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
Water Available For Use	23.2	23.2	20.3	17.7	17.7	17.7
Net Transfers	0.0	0.0	0.0	1.4	0.8	0.2
Total Water Available For Use	23.2	23.2	20.3	19.1	18.5	17.9
Distribution Input	20.3	19.9	19.3	18.6	17.9	17.4
Target Headroom	0.9	0.9	0.9	0.5	0.6	0.5
Supply Demand Balance	2.0	2.5	0.2	0.0	0.0	0.1

Table 9b: Final Plan demand forecast for DYAA conditions (with preferred demand management options)

	2025-26 (start of AMP8)	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
Water delivered measured household	8.3	8.7	9.0	9.2	9.3	9.4
Water delivered unmeasured household	3.9	3.4	2.9	2.5	2.1	2.0
Total Leakage	3.2	3.1	3.0	3.0	2.8	2.6
Water delivered measured non-household	5.0	4.7	4.3	3.9	3.6	3.4
Water delivered unmeasured non-household	0.0	0.0	0.0	0.0	0.0	0.0
Distribution Input	20.3	19.9	19.3	18.6	17.9	17.4

9.1 DYAA FP supply demand summary: Lincolnshire Retford and Gainsborough

The zone is in balance.

- Demand Forecast: Final Plan household demand (measured and unmeasured) is forecast to change from 12.3 MI/d in 2025 to 11.4 MI/d in 2050, a percentage change of -7.3 %.
- Final Plan Leakage is forecast to change from 3.2 MI/d in 2025 to 2.6 MI/d by 2050.
- Final Plan Non-Household demand is expected to change from 5.0 MI/d to 3.4 MI/d.
- Final Plan Distribution Input is expected to change from 20.3 MI/d to 17.4 MI/d by 2050.



10. Final Plan Supply Demand Balance DYCP

Lincolnshire Retford and Gainsborough

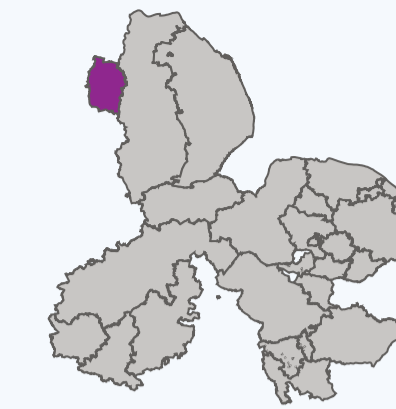


Figure 9: Lincolnshire Retford and Gainsborough baseline supply demand balance to 2050 for Dry Year Critical Period conditions

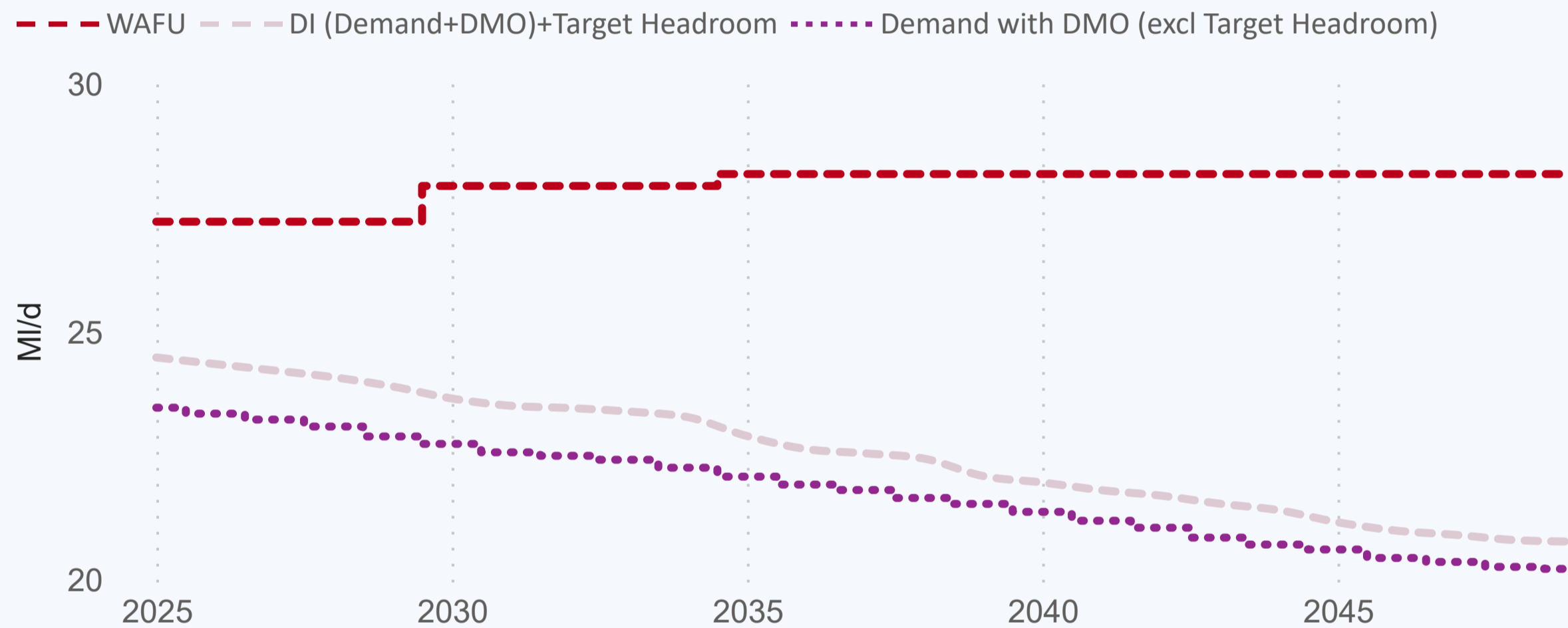


Table 10a: Final Plan supply demand balance 2025 - 2050 for DYCP conditions

	2025-26 (start of AMP8)	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
Water Available For Use	27.2	27.2	27.9	27.9	27.9	27.9
Net Transfers	0.0	0.0	0.0	0.2	0.2	0.2
Total Water Available For Use	27.2	27.2	27.9	28.2	28.2	28.2
Distribution Input	23.5	22.9	22.3	21.5	20.7	20.2
Target Headroom	1.0	1.0	1.0	0.6	0.7	0.5
Supply Demand Balance	2.7	3.3	4.7	6.1	6.8	7.4

Table 10b: Final Plan demand forecast for DYCP conditions (with preferred demand management options)

	2025-26 (start of AMP8)	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
Water delivered measured household	9.8	10.3	10.7	10.9	11.1	11.2
Water delivered unmeasured household	4.9	4.2	3.6	3.1	2.7	2.5
Total Leakage	3.2	3.1	3.0	3.0	2.8	2.6
Water delivered measured non-household	5.6	5.3	4.9	4.5	4.2	3.9
Water delivered unmeasured non-household	0.0	0.0	0.0	0.0	0.0	0.0
Distribution Input	23.5	22.9	22.3	21.5	20.7	20.2

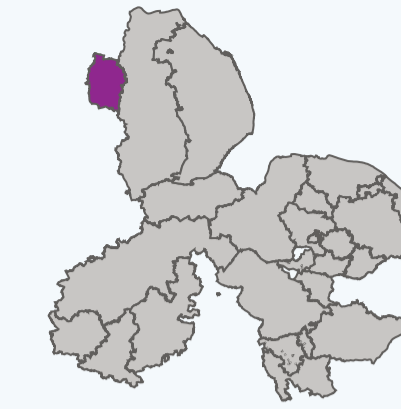
10.1 DYCP BL supply demand summary: Lincolnshire Retford and Gainsborough

The zone is in balance.

- Demand Forecast: Final Plan household demand (measured and unmeasured) is forecast to change from 14.7 MI/d in 2025 to 13.8 MI/d in 2050, a percentage change of -6.4 %.
- Final Plan Leakage: is forecast to change from 3.2 MI/d in 2025 to 2.6 MI/d by 2050
- Final Plan Non-Household demand: is expected to change from 5.6 MI/d to 3.9 MI/d.
- Final Plan Distribution Input: is expected to change from 23.5 MI/d to 20.2 MI/d by 2050.



11. Supply Side Strategy



Lincolnshire Retford and Gainsborough

Table 11a: Total Water Available for use Baseline and Final Plan

	2029-30 (end of AMP8)	2034-35 (end of AMP9)	2039-40 (end of AMP10)	2044-45 (end of AMP11)	2049-50 (end of AMP12)
WAFU - BL	23.2	19.6	17.0	17.0	17.0
WAFU - FP	23.2	20.3	19.1	18.5	17.9

11.1 Supply side strategy options.

For details on the feasible options list for Lincolnshire Retford and Gainsborough WRZ please refer to the Supply-Side Option Development technical supporting document.

Figure 10 Water Available for Use (WAFU) - baseline (BL) and final plan (FP)

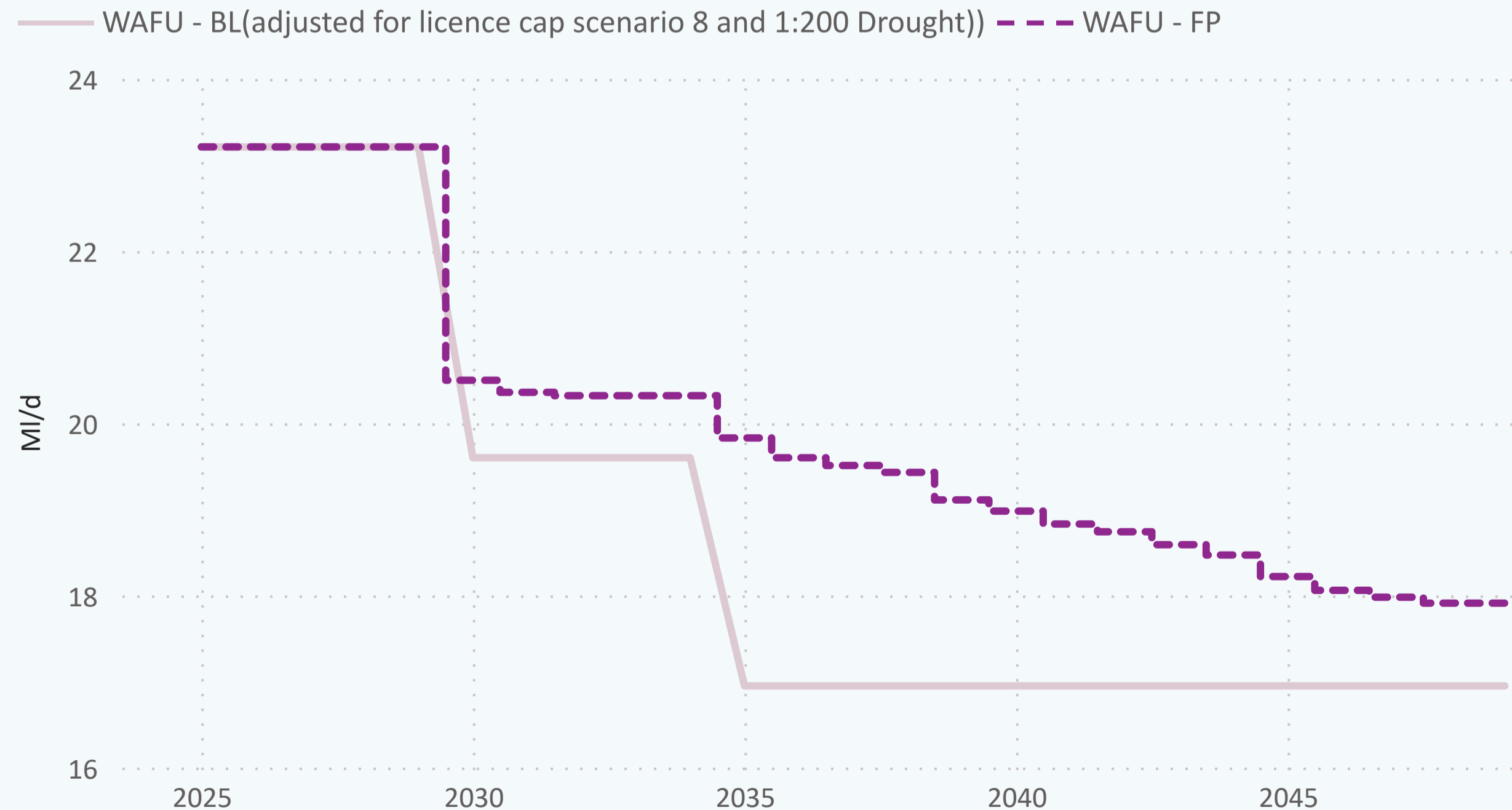


Table 11b: Preferred supply side options

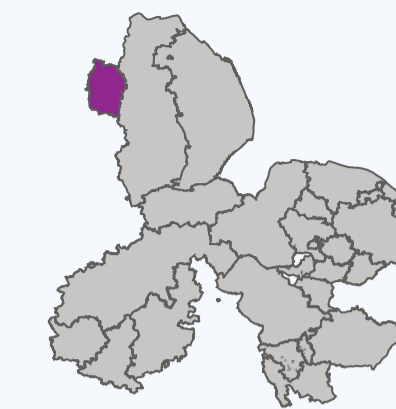
Option ID	First Option Name
EI06	Adjustment to existing potable water import
LC07	Adjustment for Licence cap scenario 8
LNN1	Lincolnshire Central to Lincolnshire Retford and Gainsborough potable transfer (3.5 MI/d)
LNN3	Lincolnshire Retford and Gainsborough resource optimisation



12. Non-Household consumption



Lincolnshire Retford and Gainsborough



12.1 Non-Household demand Lincolnshire Retford and Gainsborough

In 2025, 5.0 MI/d of Non-Household demand (measured and unmeasured) is expected. In 2049 it is expected to be 3.4 MI/d, which is a -31.79% change between the years.

Figure 12: % Non-Household modelled sectors within resource zone

Figure 11: Non-Household demand forecast 2025-2050

