

LEP WATER MANAGEMENT BOARD

10th May 2018, 1.30pm to 3.30pm

The Boardroom, Lancaster House,
36 Orchard Street, Lincoln, LN1 1XX

Paper 0 - Agenda

Time	Item and brief description	Lead	Access/Circulation
1.30pm	Welcome and update on the LEP	Robert Caudwell, Chair	
1.40pm	Update on the Water Management Commission and learning to date	Martin Osborne, consultant	Paper 1 - To follow
2.10pm	Update on WRE	Steve Moncaster/Martin Collison	
2.20pm	AW Water Management Plan - Draft response to consultation and discussion of points/challenge to include on covering letter	David Hickman and Matt Harrison	
3.00pm	Humber Strategy	Deborah Campbell	
3.15pm	DEFRA - 25 year Environment Plan Link with water agenda	Martin Collison	Greater Lincolnshire Response attached
3.25pm	NIC Response	Martin Collison	
3.30pm	Any Other Business	All	

Attendees: Robert Caudwell (chair), Martin Collison, Martin Osborne, David Hickman LCC, Matthew Harrison LCC, Jean Spencer AW, Cllr Eddy Poll LCC, Ruth Carver LEP

Apologies: Paul Vallely AW, Phil Drury BBC,

Awaiting Response:

Andy Bailey, Andy Brown, Barrie Onions, Deborah Campbell, Chris Duffill, Mark Tinsley, Peter Bateson, Richard Wills, Stuart Davy, Steve Moncaster

Anglian Water draft Water Resource Management Plan 2019

1 Overview

The WRMP sets out the challenges facing Anglian Water (and its neighbouring water companies) in ensuring that it can provide sufficient water for customer needs up until 2045.

It considers all of the known and potential pressures on demand and supply and develops strategies incorporating a range of demand reduction and supply increase to ensure enough water. This review of the plan focusses on the impact on Lincolnshire.

The main pressures for an increasing supply-demand issue are:

- Climate change causing a reduction in the amount of water available for abstraction.
- Population and economic growth increasing demand.
- Required reductions in abstraction to mitigate environmental impact.
- A new duty of resilience to ensure supply in a drought with 1:200 annual probability.

The main measures recommended to meet these pressures are:

- Improved water efficiency by customers – particularly driven by smart metering
- Reduced leakage from customer supply pipes and plumbing – also driven by smart metering
- Reduced leakage from Anglian Water pipe networks.
- A strategic grid to improve the ability to move water around the region and neighbouring areas
- Reuse of treated effluent for industrial use on the Humber South Bank freeing up treatment capacity for fully treated water.
- Potential longer term measures including a new reservoir in South Lincolnshire, desalination for coastal areas and other effluent reuse schemes.

Provision for growth

There is an assumption in the plan that the pressures from growth are met by the demand side measures of water efficiency and reduced leakage and that the supply side measures of transfers and increased supply are to meet the climate change, environmental and resilience pressures. This hypothecation of demand side measures to growth is interesting as it potentially sets up an argument that provision for growth could be restricted if demand side measures do not deliver sufficient savings.

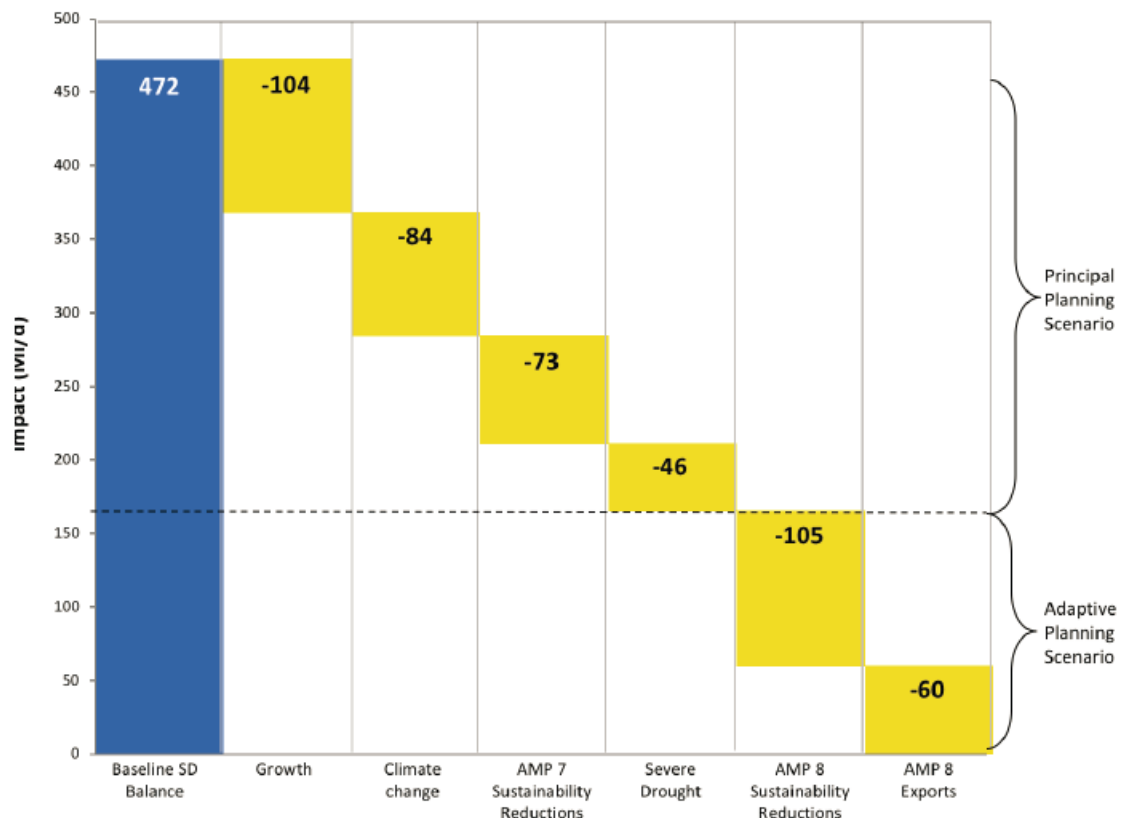
However Anglian Water has a stated policy of ensuring that it does not restrict economic growth through being unable to provide enough water, so it is clearly not the intention to restrict growth. However it would be useful to understand if there would be situations where growth would be restricted because there was insufficient water.

2 Pressures on supply demand balance

Current total water consumption in the Anglian region is approximately 1 100 Ml/d.

The total additional pressures on supply demand balance by 2045 total 472 Ml/d; almost half of the current consumption. The Contribution of each of the individual pressures is shown in the graph below.

Figure 6.1 Pressures on our supply-demand balance (by 2045, DYAA scenario)



The last two rows show potential additional reductions in impact on the environment that may become required over the next 5 years. These include those within the Anglian Water region itself and some in neighbouring regions that have no additional local sources of water. There is an inconsistency in the graph as the text of the report makes clear that the expected sustainability reduction in AMP8 is 57 Ml/d and this is what has been planned for. The growth shows the unlikely worst case scenario of 105 Ml/d.

2.1 Reducing environmental impact

There are issues already of impact on the environment caused by abstraction from both surface water and groundwater. This has been and is being worsened by climate change. The Water Framework Directive imposes a duty to mitigate or reverse this impact.

The programme for AMP7 has now been issued by the Environment Agency after consultation with the water companies. For Anglian Water this includes some mitigation measures to provide work-arounds for the impact but also some significant reductions in abstraction of 73 Ml/d. This programme has a statutory driver of the Water Framework Directive and so must be delivered. There may be some opportunities to permit some environmental impact in the case of severe drought but this is not confirmed.

The potential further reductions in the 2026-2030 period are even greater at 105 Ml/d from the Anglian region and provision of 60 Ml/d to allow Affinity Water and Cambridge Water to meet their legal requirements. Any attempt to argue that those areas should be self-sufficient and should constrain their growth to match their own water resources is unlikely to be accepted by government. Anglian Water customers will benefit from the income from those water exports keeping their own water bills down.

The report also mentions that agriculture will also have to reduce its abstraction significantly to achieve these reductions in environmental impact; however there is no detail of this. The

GLLEP will need to commission a study into this issue as part of a parallel agricultural water resource management plan.

2.2 Providing resilience

The water industry has a new duty of resilience and resilience against drought is a key focus of Defra. This is also a key priority for Anglian Water customers with any requirement to use public standpipes regarded as unacceptable; even in an extreme drought.

Anglian Water has therefore planned to be able to maintain supply to customers (although with hosepipe bans and other restrictions) even in an event with a 1:200 probability in any year. This includes consideration of a sequence of dry years.

This is likely to be a key driver for Anglian Water as the reputational damage and financial penalties for failure to supply would be considerable. The biggest issue is in Central Lincolnshire; which accounts for over half of the required additional supply.

2.3 Climate change

Climate change has been considered both for how it might affect water consumption and for how it impacts on water available for abstraction. The latter is the more significant issue. This has used recommended scenarios for climate change. The impact is particularly significant in Central and South Lincolnshire; which account for about a third of the impact.

2.4 Growth

The estimates for growth have been based on local plans published by local authorities. However these only cover the first 10 to 15 years of the planning period and so the longer term predictions are based on high level predictions from the Office of National Statistics, trends in census data and data from DCLG.

The growth assumptions assume that new developments will include water efficiency measures and will have a per capita consumption of only 110 l/hd/d (compared to a current value of 132) and that over new developments further into the future will use rainwater harvesting and greywater re-use to drive this down to only 80 l/hd/d.

There is an opportunity for the GLLEP to work with Anglian Water to deliver demonstration pilot project developments that achieve these ambitions.

Forecast for non-household (commercial, social and industrial) the demand estimates are based on extrapolating historical trends for each different sector. This is a potential weakness of the predictions for those parts of the region with significant non-household demand. It would be useful if the GLLEP could support development of more accurate figures for this demand.

There is an inconsistency in the plan in that South Lincolnshire is colour coded on the map to indicate a growth of >25% but the accompanying table appears to show a small reduction in supply due to growth. This may be because of assumptions on water efficiency but needs to be clarified.

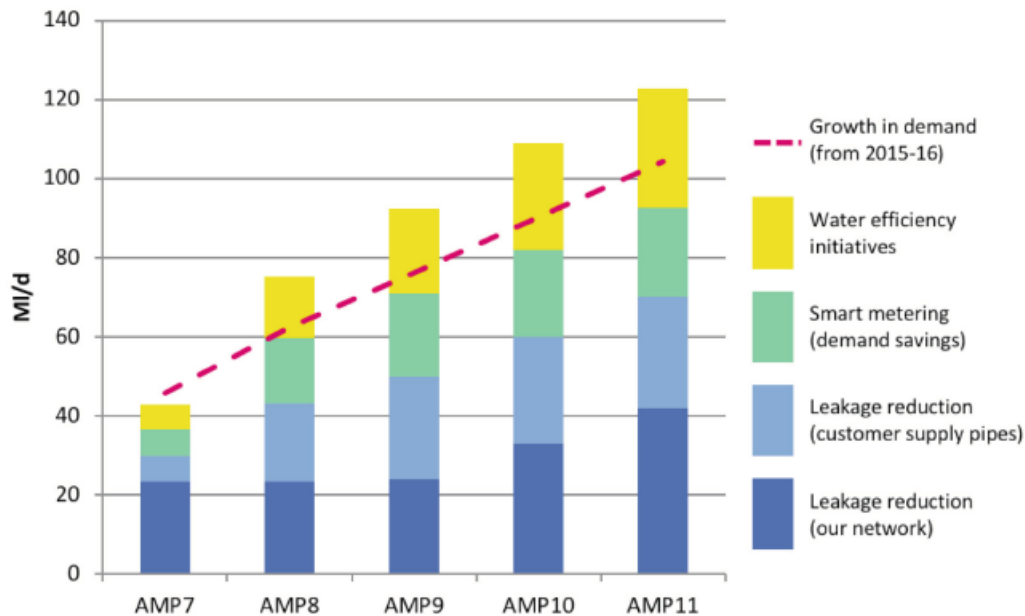
3 Mitigation measures

The WRMP considers a balance of a wide range of potential measures to counter the pressures on supply demand balance. Reductions in demand (including leakage) are expected to counter the increase in demand due to growth, with increases in supply countering the other pressures. The potential AMP8 requirements for further reduction in environmental impact are addressed as part of the “Adaptive plan” which will be developed but not implemented during AMP7.

3.1 Demand reduction

Demand reduction is the largest single component of responding to the pressures. This covers four main strands of work.

Figure 1.5 The cumulative savings of our selected demand management strategy



- Water efficiency measures
- Savings driven by smart metering
- Reduction in leakage from customer supply pipes
- Reduction in leakage from Anglian Water network

These measures do overlap but the plan attempts to ensure that there is no double counting of savings.

There is a potential issue that measuring leakage and measuring savings in demand are not the same. For example the use of smart meters may indicate that more water is being supplied to customers than expected; either because they are using more or because of leaks in their pipework. This therefore immediately reduces the estimate of leakage and can be claimed towards achieving that target. However it hasn't actually contributed to any improvement in the supply demand balance as the water is still being used. It is not clear if this issue has been fully addressed in the plan.

3.1.1 Water efficiency

Water efficiency campaigns are already showing reductions in per capita water use and the very high percentage of properties fitted with a meter helps to drive this. There is good evidence that where water is charged for based on meter readings that there is about a 15% reduction in use.

Anglian Water will continue to push for changing to a metered tariff whenever a property changes hands, which will help to drive this.

3.1.2 Smart metering

Smart metering provides hour by hour information to customers on how much water they are using and what it is costing them. It potentially therefore drives even further water efficient behaviour.

It also helps to allow identification of customer supply pipe leakage so that this amount can be removed from the estimate of leakage from the Anglian Water network.

The additional information on flows – especially at night time also allows better estimation of what the leakage is from the Anglian Water network so that these can be targeted.

3.1.3 Customer supply pipe leakage

When smart metering identifies a leak on the customer supply pipe or within the customer property Anglian Water's action is restricted to notifying the customer how much water is being lost and what it is costing. They are then expecting the customer to resolve the fault to save the water. There does not seem to be an explicit allowance in the plan for customers who do not fix these leaks either because they are unconcerned or because it would be too expensive. It will be important to have a careful selection of key performance indicator here on the reduction in water lost rather than the number of issues identified and removed from the network leakage figure.

3.1.4 Network leakage

Anglian Water already has industry leading performance on leakage and further improvement will be challenging. They are however intending to deliver this. Some of this will be achieved by identifying the real level of leakage through better metering, without actually contributing to the supply demand balance; but a significant improvement will come through improved pressure management including reducing pressure fluctuations and transients.

The plan shows a significant reduction of leakage from the Anglian Water network of 23 MI/d in AMP7 and then no further improvement in AMP8 and AMP9 and then a further improvement to 32 MI/d in AMP10.

A more ambitious programme showing greater improvements was rejected as not being cost beneficial, but there may be other alternatives showing some potential improvement after AMP7 that could be required if water efficiency and customer side leakage measures are not achieving their targets.

This should be considered to avoid any risk of restricting economic growth to maintain supply demand balance.

3.2 Supply increase

The main supply increase measure affecting Lincolnshire in the short term is to change to using treated effluent for industrial supply to the South Humber bank and then upgrade the existing non-potable treatment works to provide water of potable standard.

Longer term options include a new reservoir in South Lincolnshire and potential desalination on the South Humber bank.

3.3 Water transfer infrastructure

Major new trunk mains are proposed running north – south through Lincolnshire to allow better transfer of water around the region. The implications of these for short term disruption to traffic, communities and agriculture need to be considered as they are designed in detail.

Figure 1.8 Scheme selection in the Principal Planning Scenario

