



Water Resources Stakeholder Forum, 27 October 2016

Note of meeting (Version 2)

1. Welcome and Introductions

Richard Aylard welcomed everyone to the meeting. Richard emphasised the importance of the Forum to share the work underway to develop our long term water resources plan and to hear the views and comments from stakeholders. RA provided an update on the water resources planning process, promoted the current conversation with customers and stakeholders on our long-term priorities, referred to as 'Outcomes', and also introduced Paul Leinster, former Chief Executive of the Environment Agency, who we have commissioned to undertake an independent review of our water resources planning process. Highlights since the July Forum included:

- The technical stakeholder meeting (6 October 2016) provided an update on work to examine demand management and resources options. Ahead of the technical meeting we published option feasibility reports and the fine screening report which outlined the constrained list of options proposed to be taken forwards. We requested comments on these reports by the end of October. Richard asked stakeholders to let us know if they wanted copies of the reports or to discuss comments on the reports.
- At the end of August we published the updated work programme, accompanying report and stakeholder programme on www.thameswater.co.uk/wrmp. The next update will be at the end of November.
- Consultation on the Strategic Environmental Assessment (SEA) scoping report for the Water Resources Management Plan has ended. We will publish a response to the comments received in November.

2. Understanding the views and preferences of our customers

The views and preferences of customers are important in shaping our future plans, and this has also been emphasised in the regulatory frameworks published by the Environment Agency (EA) and Ofwat. We are undertaking an engagement programme with customers on water resource matters. Draft materials were shared with stakeholders at the July WRF and the materials amended in response to the comments received. At this session Britain Thinks (BT), the independent research agency appointed to complete this work for us, ran through the highlights to date which are detailed in the meeting slide pack.

Thames Rivers Trust: Have the new competition rules changed how you find out about business customers?

TW: It is still important that the Wholesale business understands the views and preferences of customers as it is still our responsibility to provide water supply. Retailers will have a voice once the market goes live.

Thames Rivers Trust: So you don't see a problem ahead with your relationship with businesses and retailers?

TW: No, water quality and resources remain an issue even after the market opens.

BT provided an overview of the phased research programme and the objectives. The method employed was deliberative, so customers were taken on a journey over the course of the day to



understand their spontaneous view through to a more informed societal view. The results are presented in the powerpoint presentation.

Thames Rivers Trust: In the past, TW has been criticised for advertising to educate customers on water shortages and efficiency – is that going to be an issue this time round?

BT: We can see how that could be the case, but this is something that comes up in our research – people want education.

CIWEM: How did you come up with the 100 day figure for water storage in the TW supply area?

TW: It is a calculated figure reflecting the volume of stored water in our reservoirs and the average daily demand in London.

CIWEM: How does the increase in bills in the presentation relate to actual cost?

TW: The bill increase has been calculated based on forecast infrastructure required to meet the enhanced levels of service.

Atkins: The moral argument with water use that was mentioned – is that new? People used to say that ‘I’ve paid for it; I’m going to use it’?

TW: Customers tell us that we should play our part. Interestingly future customers did not have a strong moral view of water. They thought that we should have a simple system that could be relied on.

BT: There is a bit of a shift generally, which we see in research for other clients – for example we’ve seen it in the attitude to climate change.

ARK: People’s view of water companies has changed – they do think about the wider resource, and if they save water they feel proud.

Albion Water: Did you explain in the session with customers that a 1 in a 500 year event could happen tomorrow, and every year for 3 years?

BT: Yes, the moderator explained that the frequency was on average.

Severn Trent: Did you discuss with customers the possibility of having a lower bill but accepting higher risk?

TW: We have done that in the past and the findings show that customers do not want deterioration in service. This research did present the options on a scale whereby customers could accept higher risk, the status quo or improved services and customers did not propose a reduction in service.

CCG (SBF): Based on the sessions observed CCG supported this view, and stated that there was no appetite from customers for a lower bill for higher risk.

Options

BT outlined the information presented on options. BT stated that there were consistent messages from all the groups favouring high yield, simple, long term solutions which also gave something back to society and were cost effective. There was a preference for options perceived to work with nature and requiring less intensive treatment methods. There were 2 favoured options from all the sessions 1) Teddington Transfer and 2) reservoir.

Teddington Transfer: Customers considered this to be straightforward with few negatives.

Reservoir: Customers recognised that it has a long lead time, that there would be some disruption to the local community; however customers thought this provided a secure, reliable supply and provided wider benefits to society. They did not consider that it would be a negative impact on the landscape.

Water efficiency: customers felt that they had a responsibility to use water efficiently but did not consider that it was as reliable as development of new resources.

Leakage was a significant point of discussion, 24% leakage was considered to be too high. It was perceived as a moral issue that needed to be addressed. Also leakage is considered to be in TW's control in contrast to water efficiency. Customers also recognised that there is a stopping point but don't feel that it has been reached at 24%.

Raw water transfer: customers considered this a simple solution which made sense however there was concern that TW was reliant on other areas and there was a preference for self-reliance.

Reuse: Once customers overcame initial discomfort they supported the idea of reuse/recycling however the negatives (intensive process, high energy) outweighed the positives and they considered it a good back up option in severe drought.

Thames Rivers Trust: Did you explain that reuse is already taking place?

BT: Yes, we explained that reuse already happens in the current supply system and used an average figure of 40-50% reused water.

Thames Rivers Trust: Did you find customers were down on the idea of wastewater reuse?

BT: Customers did not favour reuse as much as some of the other options due to the intensive treatment process rather than concerns over the reuse of treated wastewater effluent.

Sutton & East Surrey Water: How did you decide on the methodology for the research?

BT: We developed a 3 phase approach starting with deliberative research, and then targeting research with more in depth discussions followed by a quantitative survey which we consider will provide robust research results.

GARD: The figures being given to customers are disputed and could change anyway. **Storage and direct-abstraction both involve re-use of some sort** Isn't it false to say that reuse is separate from storage? You are fixing the ground rules. I applaud the exercise, but you must go out to customers on the basis of indisputable facts.

TW: We based the research on the best available information. Some facts may be disputed, and this will always be the case. The materials were reviewed by stakeholders (July WRF) and scrutinised by TW's CCG to ensure they were not misleading. The sessions were run by BT, an independent agency and observed by interested stakeholders and CCG which ensured that the information, and the presentation of it, was fair and neutral. If there are significant changes in data and assumptions we can re-run the research. BT added that the broad principles came out consistently from all the sessions on their preferences for specific options and the reasons for this.

CCG (CCW): How many day of additional supply would the new reservoir provide?

TW: TW confirmed that the new reservoir would provide approximately 80 days additional storage capacity.

GARD challenged that the presentation of options was not clear.

CCG (CCW) queried the costs for Teddington transfer and also the distinction between capex and opex.

TW confirmed these costs were based on current information. This option has the lowest overall total cost. BT stated that customers focused on the overall costs, and in discussion to have a lower operating cost seemed to be more important.

GARD: Why do you separate the Teddington transfer option and the reuse option when they are **essentially the same as both involve re-use of treated effluent** the same?



TW confirmed that the Teddington transfer option is not a reuse option. This option provides compensatory flow over the Weir for additional water that is abstracted further upstream and as such it is not a reuse option. TW stated that this had been clearly explained to customers.

Thames Rivers Trust: The customer desire to have high spending on leakage shows views on cost effectiveness are fluid?

BT: Leakage does seem to be a special case. Customers also thought there was an opportunity to lower costs for leakage reduction with technological innovation.

Albion Water: Is Teddington an emergency option for TW, and if it were to be used as part of WRMP19 would this affect emergency provision?

TW confirmed that in theory it could take all of the water during a drought from Teddington and is currently completing studies to explore the ecological and hydrology impact of doing that.

EA asked if the results are for individuals or collective.

BT explained there were lots of activities to elicit views both individual through worksheets and collectively through discussion and the game.

CIWEM: Was it made clear to customers that reuse would only be used in a situation of water shortage?

BT confirmed that the whole conversation was framed around the options being there for drier periods.

Cotswold Canal Trust: Are there issues with a switch on/switch off approach for reuse

TW agreed that desalination and reuse always have to run at a low level, otherwise they won't work effectively. TW is currently collecting data on this from plants in operation worldwide.

Thames Rivers Trust: The EA are pushing water efficiency in their long term strategy and a focus on reductions in per capita consumption (PCC). Was there an appetite amongst customers for this?

BT: Overall customers felt that TW should be doing more to educate people – such as speaking in schools. But despite this, they felt sceptical of how much water would be saved through education.

CCW stated that it had recently completed research with Southern Water customers and a key finding was that once meters had been fitted and customers saw the relatively small monetary impact on their bill, their interest waned. This research will be published by CCW in November.

EA highlighted that there is a significant difference in PCC between Southern Water and TW and as such there was opportunity for TW to reduce PCC. Post meeting the EA raised concern about underselling water efficiency.

TW clarified that its PCC is 149 l/h/d as reported in AR16 and that the research materials were not intended to undersell water efficiency. TW has an extensive programme of water efficiency and is developing and trialling new approaches.

Programme appraisal criteria

BT stated that customers felt all the criteria were important with cost as the primary criteria, followed by deliverability, sustainability, environment and resilience, then acceptability and adaptability. This also came through when customers developed their own plans.

Severn Trent: Were any issue of intergeneration fairness raised?

BT explained that TW has commissioned a separate piece of research to explore inter-generation fairness and a key finding from this work was that customers are willing to pay for future generations.

Thames Rivers Trust: How did you define the timeframes and did the people have awareness of climate change?

BT explained that this was covered in the introduction for customers and the timeframe was presented in 3 tranches of 5, 25 and 80 years.

GARD: Lots of people in this room could have made an option sound simple or horrendously complex. Each option needs a champion, and to allow the champions to point out down-sides of the alternatives, for example making clear that a reservoir would be disruptive and there are issues with the geology. Otherwise you have misleading information, like Teddington not involving being a reuse scheme.

TW reiterated that the Teddington transfer is not a reuse scheme. The tertiary treated wastewater is transferred upstream of the Weir to compensate for additional flow abstracted upstream, to ensure sufficient flow goes over Teddington Weir. The approach described is one of a Citizen's Jury, this approach was not adopted in this research, a deliberative approach was used which was facilitated by independent moderators.

BT explained that there were detailed, unbiased, descriptions of all the options.

CCG (SBF) stated that having observed some of the sessions he was impressed by the customers and their thought process. And that the information was presented fairly to them. This was reiterated by **EA (David Howarth)** who stated that the options were presented in a fair and even handed way in the workshop with future customers that he observed.

CCG (CCW) expressed interest in the low ranking of the acceptability metric.

BT stated that whilst it was of lower ranking, customers did feel that all the criteria were important. This will be tested in the quantitative survey.

TW confirmed that the TSM on 8 November will present the programme appraisal metrics in more detail.

LUNCH

In the afternoon session **TW** presented updates on the Drought Plan, progress to assess resource and demand management options and the WaterUK long term planning framework.

3. Drought Plan (DP)

TW provide an updated on the DP and explained that whilst the DP is sufficient to manage a drought in the short term, there would potentially be severe environmental consequences and costs for business customers, and the plan would not be robust to drought in the longer term taking account of population growth, climate change impact on water availability and requirements for sustainable catchments.

GARD: Your 1 in 500 drought – how bad is that against the historical record?

TW: It goes beyond the historical record, showing a severe two year drought. This is the most challenging scenario for us. The droughts in the twentieth century have approximately a 1 in 125 year recurrence.

Ofwat: Is your Drought Plan linked to the Water UK report on water resources?

TW: The DP is focused on operational measures required in a drought, the WaterUK study is about planning future water resources.

Thames Rivers Trust: Does TW have to engage with other companies with whom it has import/export arrangements during a drought?

TW: We do have to have a consistent plan with neighbouring companies.

CCW: Given you are looking at more severe scenarios, have you linked up with the Emergency Plans.

TW confirmed that it has considered the implications.

4. Demand Management and Resource options

TW provided a summary of the work completed to review and examine potential demand management and resource options and the next steps. A detailed technical stakeholder meeting had been held on this topic on 6 October 2016. Key points are noted:

- There is a substantial forecast resource deficit in London WRZ of 414 MI/d (WRMP14) rising to over 800 MI/d by 2100 based on historic data. We are looking at the potential impact of more severe droughts than in historic record. It takes a long time to secure approval and develop new resources and we need to start planning now.
- We have a shortlist of demand management options. We consulted Waterwise in development of these options. We are developing demand scenarios and will provide an update in April
- We are undertaking a 4-phase programme of work to look at potential resource options. This work looks beyond discrete options and considers the overall system needs including conveyance and treatment requirements.
- Feasibility reports for options and the fine screening report were published in September for comment by the end of October
- The proposed constrained option list includes reuse (60MI/d Deephams & up to 300 MI/d Beckton); raw water transfers from UU and STW; desalination (Beckton and Thamesmead); reservoir (Abingdon); Teddington Transfer and small options.
- Key points on the raw water transfer : There is an upper limit to avoid significant environmental damage; the discharge would be below Lechlade to avoid damage; there are issues around non-native invasive species and water quality and further work is in hand. There are 2 conveyance options, work to date has demonstrated that the canal will be more complex to construct and operate and risk of moving NNIS is likely to be higher for canal, although there is still a risk of conveyance for the pipeline.
- On reuse, we are continuing work on the appropriate technology, Professor Jeni Colborne, former DWI Chief Inspector, has been engaged on this. TW is also assessing the quantity of reuse that would be acceptable, and land availability is also an issue.
- On desalination work is underway to understand the upper limit due to salinity issues and potential network impacts.
- On direct river abstraction we are undertaking work to understand water quality and ecology impacts of transferring Mogden effluent, and also navigational impacts. We are working with the EA and Port of London Authority.
- There is further work to complete to explore groundwater options, catchment management and inter-zonal transfers.
- Phase 3 of the programme will comprise detailed concept studies for each of the constrained options.

CCG (CCW): Has there been any work to evaluate demand management options?

TW: There are studies now into how effective water efficiency campaigns are, such as in Oxford. TW will cover this at a future meeting.

CIWEM requested the report produced by TW and Waterwise. TW agreed to publish this once finalised. **ACTION TW**

CIWEM: What level of meter penetration will you need to achieve to be able to introduce tariffs?

TW: Customers have told us that we should only consider tariffs once everyone has a meter, otherwise it's unfair. Furthermore tariffs are considered to be a penalty and so to introduce tariffs too soon may discredit the metering programme. We will achieve 70% meter penetration by 2025 and consider this a reasonable point.

CCG (CCW): 2025 is later than expected.

TW: The metering programme presented in WRMP14 was a 10 year programme in London. We have had a slow start due to technology difficulties but we are focused on catching up. We had said that we would explore tariffs in this 5 years to determine the strategy, which we have done and in response to feedback we are focused on the positive incentive scheme in the next 5 years.

CCW: Moving to measured bills is a big shift for customers. Evidence has shown that customers like to take these things gradually. We support this and need to get customers used to metering before introducing tariffs.

Thames Rivers Trust: Are there issues with data from other water companies, in terms of the transfer?

TW: We are working with the other companies, They are not as far ahead in the process but we expect to receive the data we require in the timeframe.

CCT: The canal is still to be confirmed, yes? Zebra mussels are at both ends already – in both rivers – and quagga mussels are further upstream, not in the Gloucestershire canals. It's possible that a pipe would transfer these faster than a canal would. I want a map which shows where invasive species are in each catchment. Cascade should have this information already.

TW confirmed that the canal is still under examination. The work on invasive species was completed by Cascade but there was also input from the academic expert, David Aldridge. TW will explore the availability of maps. **Action TW**

GARD: ~~From~~ **We are** pleased that demand management options are increasing. We will be giving our view on the deployable output of the unsupported Severn Thames Transfer. There's not enough detail to show your underlying workings and we consider that this is a viable option. We question the drought resilience of the reservoir and are willing to share some modelling on this. **We have simulated two historical droughts 'bolted together' in a first** ~~bolted two droughts together in a crude attempt to show a severe drought, which shows the reservoir goes down to~~ **by** 100 Ml/d. The drought resilience is overestimated and the transfer has been underestimated.

We are still finalising our position, but at this point, we support the constrained option list with one exception, the unsupported Severn Thames Transfer.

Albion Water: It would be good to show customers the options that have already been screened out. We have improved logistics and new lower costs on ship tankering.

TW: In an emergency, tankers have a potential role in the DP. We are open to review new information.

5. Update

WaterUK Long term planning framework

TW provided an update on the WaterUK study which looked at long term planning for the industry as a whole. This study emerged from a requirement from the Water Minister to consider how resilient water supply systems are, recognising the more extreme events. The work was completed by a team of consultants and underwent independent review by a team of experts comprising Jim Hall, Steven Wade, Robin Smale and Colin Fenn. The report was published in September 2016. Key points were:

- Timeframe of 50 years to understand the scale of the challenges and potential resource deficits.
- A severe drought would have severe implications, not just for public water supply, but also other sectors of the economy and the environment.
- It was agreed that the best approach was adaptive planning.
- For the south east the study concluded that there was a strong case to undertake investment in view of the potential costs and consequences of failure.

Thames Rivers Trust: Does the WaterUK report fit in with the WRSE work, and will the output of WRSE feed into TW's plan?

TW: Yes, it provides strategic oversight that the regional group and companies need to work up. WRSE will provide output in February which will feed into TW's plan.

CCW: The study referred to a figure of £4 being added to customers bills – is this a national figure?

TW: Yes, as the area with the greatest stress we will need the greatest level of investment. The cost: benefit ratio is therefore higher. We do not have a precise figure yet.

Atkins: The purpose of the Water UK study was to consider the national picture, which hasn't been done before. The report is being fed into the National Infrastructure Commission's assessment.

CCT: The study implies transfer from the Severn to the Thames, how does this fit in?

TW: The study is intended to provide strategic guidance which companies take into account in the development of their own plans.

Atkins: The Water UK study provides a framework. If companies come up with options not considered in the WaterUK study it will likely raise questions.

GARD: Does the geology of areas get taken into account, because the areas have very different geology, and the River Severn flows respond much quicker after a drought.

TW and Atkins confirmed that the geology was taken into account.

CIWEM: I heard that Affinity Water wants a 100MI/d transfer – is that included in TW's forecast deficit.

Affinity confirmed that this is its best estimate of need.

TW confirmed that this has not been included in TW's data and it would be an additional need.

Sustainable abstraction

TW then gave a presentation on a current EA initiative around sustainable catchments which takes a risk based approach and aims to ensure that there is no deterioration in catchments. Companies have been asked to consider existing problems, to return unused licences and to consider where there are areas of growth and if this is likely to cause deterioration. TW is required to confirm that its licences are sustainable or set out how it plans to manage potential impacts by end February 2017. The EA will use this information to inform the National Environment Programme release in April 2017.

Thames Rivers Trust: Is the EA taking vulnerable catchments into account?

EA confirmed that these were not included in this work. **Paul Leinster** supported this and confirmed that Defra is avoiding too many moving parts on this.

Dates for future meetings

8 November 2016: Technical Stakeholder Meeting on programme appraisal and specifically refined metrics and scenario definition (Reading Town Hall)

7 February 2017: Technical Stakeholder Meeting on options (Reading)

16 March 2017: Water Resources Forum (Reading)

Attendees:

Name	Organisation
Alison Murphy	Sutton & East Surrey Water
Andrew Simpson	Dartford BC
Ben Piper	Atkins
Charlotte Hitchmough	ARK
Chris Binnie	CIWEM
David Howarth	Environment Agency
Derek Stork	GARD
Frederick Levett	Ofwat
Harry Hodgson	CCG (SBF)
Helen Charlton	CCG (CCW)
Karen Gibbs	CCWater
Katie Ward	Affinity Water
Ken Burgin	Cotswold Canal Trust
Malcolm Jeffery	Albion Water
Martin Pilbin	RWE
Paul Leinster	Consultant
Peter Spillett	Thames River Trust
Sarah Wardell	Environment Agency
Will MacKveley	Severn Trent Water

Comments received from GARD 15/11/16, Amendments made by TW 18/11/16. The amended text is shown as strikethroughs and yellow highlights.

END