

Meeting note

Tuesday 1 March 2022
10:30 – 12:30

PR24 Cost assessment working group

Attendance

Affinity Water	Martin Hall
Anglian Water	Richard Goodwin
Bristol Water	George Clarke
Dŵr Cymru	Charlotte Beale
Hafren Dyfrdwy	Kay Orsi
Northumbrian Water	Geoffrey Randall
Portsmouth Water	Did not attend
SES Water	Van Dang
Severn Trent Water	Rob Holdway
South East Water	Matt Hersey
South Staffs Water	Daniel Haire
South West Water	Judith Corbyn
Southern Water	Kevin Wightman
Thames Water	Stela Bagasheva
United Utilities	Sam Crook
Wessex Water	Harriet Cutts
Yorkshire Water	Daniel Chubb
Ofwat	Tim Griffiths, Simon Harrow, Daniel Mitchell, Jennie Seymour, Asen Velyov, Paul Martin, Gilda Romano, Eugenia Vela

Introduction

Ofwat opened the meeting and set out the agenda:

- Summary of company responses on additional enhancement data – Ofwat
- Detail on data focus areas – Ofwat
- Nature based solution and net zero data – Ofwat

- Breakout discussion and feedback – all
- Closing remarks – Ofwat

Summary of company responses on additional enhancement data

Ofwat thanked the eight companies that provided responses to the questions posed at the February CAWG about additional enhancement data reporting. Feedback included that companies would appreciate further information on:

- how forecast and historic data will be used for benchmarking;
- when benchmarking will be used as opposed to deep or shallow dives; and
- how long a historical data set is appropriate for estimating costs.

One company highlighted a preference for deep dives over additional data collection and benchmarking.

Key focus areas for reporting additional data identified by most company responses included lead reduction and net zero. Responses also suggested additional data collection on storage, storm overflows and flow to full treatment activity.

When looking at costs and benefits of nature-based solutions companies suggested that splitting intervention types between nature based and traditional solutions.

Additional data reporting focus areas

As a result of the written feedback received and the discussion in the February CAWG, Ofwat presented its key focus areas for additional enhancement data capture. These were lead reduction, raw water deterioration, provision of additional storage and improving discharge quality. Ofwat explained why they were important areas of focus for PR24. The provisional additional data requirement lines were presented in detail (see slide pack).

Nature based solutions and net zero

Ofwat explained that as part of the additional data reporting it had split some lines into grey (traditional infrastructure solutions) and green (nature based) infrastructure. The idea of pure green infrastructure (e.g. ponds, rivers) and hybrid infrastructure (e.g. constructed wetlands, SUDs) was discussed with the Ofwat proposal being that the 'green' line for PR24 reporting will include both green and hybrid as most company interventions will fall in the hybrid activity. Ofwat asked for suggestions for which current enhancement lines may need splitting into grey and green for the business plan data tables (as those presented in pack were just for the historic data request) with an initial list presented.

Ofwat explained that it expects companies to demonstrate the costs and benefits of investment in reducing greenhouse gas emissions where additional costs are requested through enhancement investment lines. Ofwat asked for suggestions for how this data should be presented and if historic data was available to inform this assessment.

Breakout questions

1. Do you agree with focus areas?
 - a) Lead reduction
 - b) Raw water deterioration
 - c) Additional storage
 - d) Improving wastewater quality

Are the proposed data lines clear, proportionate and achievable?

1. Do you agree with the proposed approach to improving nature based solution benchmarking, including:
 - a) Splitting into grey and green interventions
 - b) The use of grey and green categories
 - c) Lines that may need this approach for business plan data tables
2. Do you have any suggestions for data requirements for benchmarking net zero investments?

Breakout group feedback

Do you agree with the focus areas? Are the proposed data lines clear, proportionate and achievable?

- General agreement for the key focus areas.
- Potential additional areas for data reporting flagged by companies included cyber security, more granular reporting of WINEP investigations and surface water separation.

Lead reduction

- Most companies agreed with the additional lines presented, however, some suggested that line descriptions needed to be clearer and use more industry standard terminology to ensure consistent reporting.
- A few companies suggested that as priorities have changed the lead programme may not be as significant as originally thought so the data capture should be proportionate.
- There was some discussion on whether length of pipe was a significant driver of expenditure with some companies suggesting that jobs with longer and shorter pipe work balanced out. Some companies felt that pipe length would be material or could

add to model robustness rather than relying solely on number of jobs. A few companies flagged concerns about the availability and robustness of historic pipe length replaced data.

- Some companies noted that they were not doing some of the additional work listed but acknowledged that a null return for those lines would be simple. A company suggested that there would be no harm reporting the data for a few years to test it and reduce the list if there is no added value.

Raw water deterioration

- Some companies were uncertain on what nature-based solutions would appear in this line. Other companies agreed that catchment management is being undertaken by companies with schemes undertaken to address this driver.
- A company suggested reversing the way the lines are presented. Rather than starting with the driver and then presenting costs to meet it separately by intervention type – grey or green. The lines would be structured starting with the types of intervention with the proportion allocated to each driver.
- One company suggested that a bespoke approach would be required to assess nature-based solutions as they are not comparable. Another company suggested that the benefit or cost drivers of nature-based solutions are diverse (eg volume, area, flow) so difficult to capture them with just one driver.
- One company stated that separately reporting nature-based solutions would be important to avoid negatively impacting the benchmarking of the grey solutions, even if the benchmarking of green solutions is not possible.
- Most companies preferred the use of "distribution input, MI/d, receiving the improved water quality" rather than population equivalence as the metric.
- There was a discussion on how to account for the number water quality parameters improved as this is likely to influence the cost of the solutions. Companies suggested that the scale of water quality improvement is key – especially for the traditional grey solutions. Number of parameters could be added to reporting which could then be tested independently to distribution input or combined to give a scale and quality factor.
- Some companies requested clarity on how to account for third party contributions.

Additional storage

- Several companies suggested that there would not be a lot of historical data on nature-based solutions for additional storage.
- Several companies considered reporting by site rather than scheme would be more appropriate. The number of tanks installed at each site was then considered a company choice and a less significant driver of cost.
- Several companies agreed that effective storage, or where this is not possible, additional storage avoided is the best common metric for measuring the benefit of nature-based SUDs-type schemes. Some companies noted that in some instances the

area of the scheme is important for costing but volume is a more appropriate metric for comparisons.

- A couple of companies questioned whether schemes to reduce flow entering the network – such as surface water separation should have their own line. There was some push back that not all companies are doing these schemes this AMP or at least not in sufficient scale.
- In terms of nature-based solutions, a company suggested that there might be the value in capturing "pre-" and "post-" third-party contributions, whenever partnership is available.

Improving wastewater quality

- Some companies questioned the green infrastructure line in flow to full treatment and if there will be any schemes that fit this description.
- A company identified that for flow monitoring the current data request has both number of investigations and installations, but if the split is being made this should also be on the costs too if they are materially different
- The expenditure for flow monitoring is not just for installing new monitors but can be upgrading ones to be compliant which may mean a mix of activities falling in one line.

Do you agree with the proposed approach to improving nature-based solution benchmarking, including splitting into grey and green infrastructure, the use of grey and green categories, and other lines that require this treatment?

- Most companies supported the splitting of lines into grey and green and the definition and boundaries outlined in the Ofwat slidepack.

Do you have any suggestions for data requirements for benchmarking net zero investments?

- One company proposed three categories of investment – business as usual carbon abatement, low carbon treatment and high carbon treatment but acknowledged that further splitting may be necessary as would more thinking on how this would work in practice.
- Some companies suggested that the concept of data capture is easier in forecast than actuals.
- A couple of companies suggested that a lower cost (capex) often translated into a lower carbon contribution.
- Companies shared that during the optioneering stage, they evaluated embodied and operational carbon, as well as capex and opex (totex), but carbon is not usually a driver when it comes to selecting the final preferred solution.

Post-meeting written feedback

Five companies provided additional information and feedback after the CAWG meeting. We provide a summary of this feedback as follows:

General

- One company provided detailed suggestions for additional data reporting lines many of which overlapped with the proposals in the Ofwat slide pack. The company also proposed additional lines for other areas covering: WINEP, cyber security, process emissions and growth. The company also suggested how these could be incorporated into the current APR.
- One company stated that its preference would be for the assessment of enhancement costs to take the form of an engineering cost review of bottom-up cost benefit appraisal inputs, rather than splitting out costs of activities for separate benchmarking.
- A few companies, although acknowledging the importance of additional data collection and agreed that most of the data would be available and able to be reported, flagged a concern about timescales and resourcing.

Data focus areas

- One company suggested that it has the lead data on length of communication pipe, the length of supply pipe (to compliance point) and number of supply pipes replaced (to compliance point). However, the other data is not currently available.
- One company flagged the potential cost differences between reactive and proactive lead pipe replacements.
- On raw water deterioration a company responded that the costs and variables proposed should be straightforward to report and agreed with the CAWG discussion that it would be better to use works distribution input, MI/d.
- A company suggested tightening the definition to ensure that water deterioration means specifically protecting water quality that is later abstracted to put into supply. It also asked for clarity on whether all catchment management activities are assumed to be nature-based solutions, or if some schemes are excluded, noting that not all catchment management is a nature-based solution.
- One company highlighted that the area metric used for raw water deterioration nature-based solutions may omit point source interventions that can be implemented.
- A company agreed that additional storage is a key area to focus modelling. It agreed that it should be possible to report against the proposed lines but that effective storage may need a more detailed common definition.
- A company highlighted that the lines miss the benefits of smart wastewater networks.

- Rather than effective volume a company suggested that it measures its nature-based interventions to reduce spills in terms of impermeable area delivered m2.
- One company highlighted that one scheme could provide benefit to multiple CSOs so number of CSOs benefitting work be a better benefit driver for nature-based solutions to offset additional storage.

Nature based solutions

- One company confirmed that it considered it important to differentiate the costs between nature-based solutions and grey solutions. The proposed Ofwat approach therefore seems sensible.

Net zero

- One company acknowledged that the data reporting in this area would be challenging
- A company suggested that it should be able to forecast costs and benefits of addressing current process emissions – but historic data may be sparse.

Proposed additional enhancement data reporting

As discussed in the CAWG meeting the additional data reporting requirements will be finalised in April and published on the Ofwat website. We expect reporting in parallel with the 2021–22 APR of both capex and opex expenditure per line below for the years 2020–21 and 2021–22.

The data requirements outlined below take on board the comments received about data focus areas and line definitions. We welcome any further comments to improve the clarity of these lines by **Friday 8 April**.

Lead reduction

Data line name	Units	Description
Expenditure for conditioning water to reduce plumbosolvency	£m	Expenditure to deal with conditioning of water before entering distribution to reduce plumbosolvency. Part of existing 'Meeting lead standards' APR Table 4L.57 to 59.
Expenditure on replacing or relining lead communication pipes	£m	Expenditure on replacing or relining lead communication pipes that are owned by the company. Part of existing 'Meeting lead standards' APR Table 4L.57 to 59.
Number of lead communication pipes replaced or relined	nr	The number of lead communication pipes replaced or relined that are owned by the company. Existing line APR Table 6C.9 (presented for completeness).
Total length of communication pipes replaced or relined	mtrs	The length of pipe replaced or relined from the water main to the underground boundary box or the property boundary.

Expenditure on external lead supply pipes replaced or relined	£m	Expenditure on external lead pipes replaced or relined from the underground boundary box or property boundary to the internal stop tap or above ground boundary box (if fitted).
Number of external lead supply pipes replaced or relined	nr	Number of external lead supply pipes replaced or relined from the underground boundary box or property boundary to the internal stop tap or above ground boundary box (if fitted).
Total length of external lead supply pipes replaced or relined	mtrs	Total length of external lead supply pipes replaced or relined from the underground boundary box or property boundary to the internal stop tap or above ground boundary box (if fitted).
Expenditure on internal lead supply pipes replaced and relined	£m	Expenditure on internal lead supply pipes replaced or relined from the internal stop tap or above ground boundary box to the compliance point (kitchen tap).
Number of internal lead supply pipes replaced or relined	nr	Number of internal lead supply pipes replaced or relined from the internal stop tap or above ground boundary box to the compliance point (kitchen tap).
Total length of internal lead supply pipes or relined	mtrs	Total length of internal lead supply pipes replaced or relined from the internal stop tap or above ground boundary box to the compliance point (kitchen tap).
Expenditure on other lead reduction related activity	£m	This includes any investigation costs and other costs not directly associated with water conditioning or the replacement or relining of communication pipes, and external and internal supply pipes. Part of existing 'Meeting lead standards' APR Table 4L.57 to 59.

Raw water deterioration

Data line name	Units	Description
Expenditure on water treatment assets to address raw water quality deterioration	£m	Expenditure on water treatment assets to improve deteriorating raw water quality prior to abstraction. Part of existing 'Addressing raw water deterioration (THM, nitrates, crypto, pesticides, others)' APR Table 4L.60 to 62.
Distribution input from water treatment works being supplied by improved water quality from spend on water treatment to address raw water quality deterioration	MI/d	Distribution input from water treatment works being supplied by improved water quality from spend on water treatment to address raw water quality deterioration
Expenditure on non-treatment solutions (eg nature-based) to address raw water quality deterioration	£m	Expenditure on non-treatment (eg nature-based solutions which may include catchment management) to improve deteriorating raw water quality prior to abstraction.
Distribution input from treatment works being supplied by improved water quality from spend on non-treatment solutions (eg nature-based) to address raw water quality deterioration	MI/d	Distribution input from treatment works being supplied by improved water quality from spend on non-treatment (eg nature-based) solutions to address raw water quality deterioration
Third party contributions to support the delivery of nature-based solutions to address raw water quality deterioration	£m	Third party contributions to support the delivery of nature-based solutions to address raw water quality deterioration. These costs should not be included in the expenditure line above.

Provision of additional storage

Data line name	Units	Description
Expenditure on schemes to increase storm tank capacity (grey)	£m	Existing APR Table 4M.13 to 15 (presented for completeness)
Expenditure on nature-based schemes that deliver additional effective storage or reduce the need for storm tank storage at sewage treatment works	£m	Expenditure on nature-based schemes that deliver additional effective storage or reduce the need for additional storm tank at sewage treatment works
Additional storm tank storage capacity delivered (grey)	m3	Existing APR Table 7D.24 (presented for completeness)
Volume of additional effective storage for additional storm tanks at sewage treatment works delivered through green infrastructure	m3	Volume of additional effective storage (or avoided volume needed) for additional storm tanks at sewage treatment works delivered through green infrastructure (eg nature-based solutions)
Total number of sewage treatment works sites where additional storage has been delivered	nr	Total number of sewage treatment works sites where additional storage has been delivered (irrespective of number of tanks delivered per site)
Number of sewage treatment works sites where additional storage has been delivered with pumping	nr	Number of sewage treatment works sites where additional storage has been delivered requiring installation of additional pumping (irrespective of number of tanks delivered per site)
Number of sites benefitting from green infrastructure replacing the need for storm tank storage	nr	Number of sewage treatment works sites which benefit from green infrastructure (eg nature-based solution) replacing or reducing the need for storm tank storage
Expenditure on additional storage schemes (grey) in the network to reduce spill frequency at CSOs, etc	£m	Existing APR Table 4M.16 to 18 (presented for completeness)
Expenditure on additional effective network storage through green infrastructure to reduce spill frequency at CSOs, etc	£m	Expenditure on additional effective network storage through green infrastructure (eg nature-based solutions) to reduce spill frequency at CSOs, etc
Additional effective storage delivered in the network (grey)	m3	Existing APR Table 7D.25 (presented for completeness)
Additional effective storage delivered in the network through green infrastructure	m3	Additional effective storage delivered in the network through green infrastructure (eg nature-based solutions)
Total number of individual sites delivering additional network storage (grey)	nr	Total number of individual sites delivering additional network storage (grey, eg storage tanks)
Number of individual sites delivering additional network storage (grey) which include pumping	nr	Number of individual sites delivering additional network storage (grey, eg storage tanks) which required the installation of additional pumping

Number of individual sites delivering additional network storage through green infrastructure	nr	Number of individual sites delivering additional network storage through green infrastructure (eg nature based solutions)
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Improving discharge quality

Data line name	Units	Description
Expenditure on schemes to increase flow to full treatment	£m	Existing lines APR Table 4M.10 – 12 (presented for completeness)
Shortfall in flow to full treatment addressed by schemes	l/s	Existing line APR Table 7D.23 (presented for completeness)
Number of sites with an increase sewage treatment works capacity delivered to address shortfall in flow to full treatment	nr	Number of sites where an increase sewage treatment works capacity has been delivered to address shortfall in flow to full treatment.
Expenditure on schemes with tightened or new sanitary consents	£m	Existing lines APR Table 4M.31-33 (presented for completeness)
Current population equivalent served by schemes with tightened or new sanitary parameter consents	000s	Existing line APR Table 4M.19 (presented for completeness)
Total load received at STWs with ammonia consents of <1mg/l and >1 to <=3mg/l	Kg/BOD5/d	Existing lines APR Table 7D.7 (presented for completeness)
Number of schemes delivered to meet tightened or new sanitary consents	nr	Number of individual schemes delivered with tightened or new sanitary parameters as confirmed in WINEP March 2019 or via PR19 query
Number of STW sites delivered with tightened or new sanitary consents	nr	Number of individual sewage treatment works sites with tightened or new sanitary parameters as confirmed in WINEP March 2019 or via PR19 query
Expenditure on improved flow monitoring at sewage treatment works	£m	Existing lines APR 4M.7-9 (presented for completeness)
Number of new flow monitors installed at sewage treatment works	nr	Number of new or upgraded flow monitors installed at sewage treatment works
Number of installations requiring civils for flow monitoring at STWs	nr	Number of new civils installations for flow monitoring at sewage treatment works as confirmed via PR19 query.
Number of investigations for flow monitoring at STWs	nr	Number of investigations carried out for flow monitoring at sewage treatment works as confirmed via PR19 query.