

Cost Assessment Working Group (CAWG)

Enhancement cost benchmarking

PR24 Cost Assessment Team
1 March 2022



Agenda for call

Number	Item	Lead	Time
1	Welcome	Simon	5 mins
2	Additional enhancement data request responses	Simon	10 mins
3	Data focus areas: lead, raw water deterioration, wastewater storage and quality	Paul, Jennie	20 mins
4	Nature based solutions and net zero	Simon	10 mins
5	Data reporting process and breakout questions	Simon	5 mins
6	Breakout	All	50 mins
7	Future CAWG meetings and closing remarks	Simon	5 mins



Request for feedback

We received **eight emailed responses** to the questions (see below) that we shared following the February CAWG. Thank you again for sending these through. Together with the discussions held in the last CAWG these have informed our thinking in the following slides.

1. What current enhancement areas that are already modelled would benefit from additional historical data and what should this data be?
2. Building on the presentations and discussions in the call what other new areas of potential enhancement spend do we need to focus data gathering on (eg net zero), and does this need to be all companies or a limited number that are already undertaking the work and collecting data?
3. What additional data would we need to help improve the fair assessment of nature based schemes (eg. splitting enhancement lines, additional opex and capex, additional benefits information)?

We remain open to suggestions for enhancement areas where additional historical cost reporting will aid benchmarking at PR24.



Responses

General enhancement assessment approach feedback:

- Several companies request more clarity on how approaches to benchmarking (using both historical and forecast) and deep/shallow dives will be selected during the PR24 process.
- A couple of companies suggested that there may be reliability issues with back casting which will require tight data line definitions and a careful consideration of data length.
- One company disagreed that historical data should be used for benchmarking with a preference for more deep dives and bottom up costing.

Enhancement data focus areas feedback:

- **Lead** - Most of the breakout discussions at the last CAWG and 5 of the 8 written responses specifically highlighted lead reduction as a potential growing issue and a key area to collect additional data to improve benchmarking.
- **Net zero** - Again 5 of 8 companies made reference to net zero and the need for additional data reporting although accepted challenges of data availability and overlap with other areas of investment and enhancement lines.
- **Storage, storm overflow activity and flow to full treatment** – Wastewater flow reduction activities and discharge quality improvement were also frequently suggested across the responses received.

Nature based solution feedback:

- Feedback supported us distinguishing between nature based and traditional solutions, and that these should be assessed separately where appropriate.
- Where companies suggested options for achieving individual benchmarking the splitting of data reporting into grey (traditional) and green interventions was the most popular. The difficulty of reporting and demonstrating the benefits of these solutions was highlighted by companies. Although important the appropriateness and CBA of the selected option will be assessed prior to cost efficiency.



Key areas for additional historical data collection

We have focussed on areas where we are not already capturing data in APRs that were used in PR19 models or where we think that new or separated data may improve a benchmarking models performance including where a mix of green and grey solutions can be delivered.

Lead reduction

There is an increasing focus on lead reduction both in the draft UK Government SPS and identified through schemes proposed for the green economic recovery process in 2021. There are also potential synergies with other activities (eg leakage reduction, metering) that increased focus can help to explore.

The current lead reduction enhancement line includes for a range of activities, predominantly treatment and pipe replacement. The splitting of these activities may help improve the benchmarking – in particular for the pipe replacement activities that can be considered more comparable across companies and suitable for unit cost type modelling.

Provision of additional storage

As a result of the increasing focus on the harm caused by storm overflows, the introduction of DWMPs and updated WINEP guidance we expect to see the provision of storage as one of the key enhancement interventions at PR24.

For benchmarking it will be important to capture the cost drivers used in the current storage models (volume and number of schemes) as well as recognise the importance of nature based solutions in reducing the need for traditional storage solutions. Similar to other lines we have split the current lines into grey and green reflecting that effective storage provided by SUDs and other interventions are increasingly in use.

Raw water deterioration

Raw water deterioration activity is a key area within the water service where nature based solutions are currently employed – primarily through catchment management.

Linked to the feedback on data capture for nature based solutions the splitting of this line may improve the benchmarking of the traditional (treatment) solutions and those nature based ones that are in use and emerging.

Improving discharge quality

Linked to harm from storm overflows and treatment works discharges as well as tightening of consents we see wastewater quality as an important area of focus for additional historic data reporting.

We have added additional lines to reflect benefit/driver data that is already used in PR19 benchmarking models and also identified additional nature based solution intervention lines.



Data detail – Lead

Area	Item	Units	Description
Treatment	Expenditure to deal with conditioning water before entering distribution to reduce plumbosolvency	£m	Part of existing 'Meeting lead standards' APR Table 4L.57 to 59.
Comms pipe	Expenditure on replacing lead communication pipes owned by the company	£m	Part of existing 'Meeting lead standards' APR Table 4L.57 to 59.
	Number of lead communication pipes replaced	nr	Existing line APR Table 6C.9 (presented for completeness)
	Total length of communication pipe	mtrs	New (but comms pipe are predominately short c.2mtrs, is this of value?)
Supply pipe	Expenditure on replacing lead supply pipes to the property boundary	£m	New
	Number of lead supply pipes replaced to the property boundary	nr	New
	Total length of lead supply pipes replaced to the property boundary	mtrs	New
	Expenditure on replacing lead supply pipes to the compliance point (kitchen tap)	£m	New
	Number of lead supply pipes replaced to the compliance point (kitchen tap)	nr	New
	Total length of lead supply pipes replaced to the compliance point (kitchen tap)	mtrs	New

Do you agree this list is clear, proportionate and achievable?



Data detail – Raw water deterioration

Area	Item	Units	Description
Addressing raw water quality deterioration	Expenditure on water treatment assets to address raw water quality deterioration	£m	Part of existing 'Addressing raw water deterioration (THM, nitrates, crypto, pesticides, others)' APR Table 4L.60 to 62.
	Population served with improved water quality from water treatment upgrade schemes to address raw water quality deterioration	000s	New. Do we need to capture the number of water quality parameters addressed need adding?
	Expenditure on nature based solutions (such as catchment management) to address raw water quality deterioration	£m	New
	Population served with improved water quality from nature based solutions to address raw water quality deterioration	000s	New. Do we need to capture the number of water quality parameters addressed need adding?
	Third party contributions to nature based solutions (such as catchment management) to address raw water quality deterioration	£m	New
	Catchment area improved through nature based solutions to address raw water quality deterioration	ha	New

Do you agree this list is clear, proportionate and achievable?

Data detail – Provision of additional storage

Area	Item	Units	Description
Storm tanks at STWs	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 additional storm tanks at STWs	£m	New
	Additional storm tank storage capacity delivered (grey)	m3	Existing APR Table 7D.24 (presented for completeness)
	Volume of additional effective storage or avoided volume needed for additional storm tanks at STWs delivered through nature based schemes	m3	New
	Number of individual storm tanks schemes delivering additional storage	nr	New
	Number of individual nature-based schemes replacing the need for storm tank storage	nr	New
Network 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 (nature based) to reduce spill frequency at CSOs, etc	£m	New
	Additional effective storage delivered in the network (grey)	m3	Existing APR Table 7D.25 (presented for completeness)
	Additional effective storage delivered in the network (nature based)	m3	New
	Number of individual schemes delivering additional network storage (grey)	nr	New
	Number of individual schemes delivering additional network storage (nature based)	nr	New

Data detail – Improving discharge quality

Area	Item	Units	Description
Flow to full treatment	Expenditure on schemes to increase flow to full treatment (grey)	£m	Existing lines APR Table 4M.10 – 12
	Expenditure on schemes to increase flow to full treatment (nature based)	£m	New (tertiary treatment eg reedbed etc)
	Shortfall in flow to full treatment addressed by schemes to increase STW capacity (grey)	l/s	Existing line APR Table 7D.23
	Shortfall in flow to full treatment addressed by schemes to increase STW capacity (nature based)	l/s	New
	Number of schemes delivered to increase STW capacity to address shortfall in flow to full treatment (grey)	nr	New (as already used in PR19 model with above)
	Number of schemes delivered to increase STW capacity to address shortfall in flow to full treatment (nature based)	nr	New
Sanitary parameters	Expenditure on schemes with tightened / new sanitary consents	£m	Existing lines APR Table 4M.31-33
	Current population equivalent served by schemes with tightened / new sanitary consents	000s	Existing line APR Table 4M.19
	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
	Number of schemes to meet tightened / new sanitary consents	nr	New (captured by query process at PR19)
	Number of STW sites with tightened / new sanitary consents	nr	New (captured by query process at PR19)
Flow monitoring at STW	Expenditure on flow monitoring at STWs	£m	Existing lines APR 4M.7-9
	Number of new flow monitors installed at STWs	nr	New
	Number of installations requiring civils for flow monitoring at STWs	nr	New (captured via query process at PR19)
	Number of investigations for flow monitoring at STWs	nr	New (captured via query process at PR19)



Nature based solutions data requirements

We expect the use of nature and catchment-based solutions to increase for PR24 where they can have an important role in delivering multiple benefits for customers, the environment and society. Currently we do not capture sufficiently granular data to identify expenditure on these solution types, the contributions from and to third parties or wider solution benefits. We need to collect robust data to ensure that the costs and benefits of different interventions are clear and cost benchmarking robust.

We have proposed splitting some enhancement lines so that costs and benefits are recorded against grey infrastructure and green infrastructure. We note that some categorise infrastructure as grey, hybrid or mixed, and blue-green. The difference between hybrid and green-blue is that hybrid includes artificially created natural processes (eg constructed wetlands, bioswales, SUDs) which may need some grey infrastructure as part of their construction, whilst in the purest definition green-blue only contains natural features (eg trees, rivers, ponds). We anticipate that the majority of alternative schemes presented by companies will fall in the hybrid category. Therefore, we propose to use ‘grey’ and ‘nature based (green)’ – where nature based (green) is effectively hybrid and blue-green.

Do you agree with this approach for PR24?

We have proposed splitting some current enhancement lines into green and grey for the additional historical data reporting. For forecast business plan data the range of interventions may be across more enhancement lines. At present we consider the following as candidate lines for including green solutions:

Nature based solutions	Water enhancement lines (primary beneficiary)	Waste enhancement lines (primary beneficiary)
Yes	Water WINEP/NEP, raw water deterioration, resilience and improvement to river flows, taste, odour and colour	Some WINEP/NEP (storage / surface water attenuation), resilience
No	Supply-demand balance, metering, low pressure, security (SEMD and cyber), lead	Sludge, odour, chemicals, security (SEMD and cyber), s101a, monitoring, UV



Which enhancement lines will nature based solutions apply to for PR24?

Net zero emissions data requirements

Achieving net zero is an important long-term target for the UK and Welsh governments and the water industry. Ofwat set out its principles for meeting net zero in its January 2021 [Net zero principles position paper](#).

We expect companies to be able to fully demonstrate the costs and benefits of investment in reducing greenhouse gas emissions which are being requested through enhancement investment lines.

The incremental costs and carbon benefits of lower carbon schemes within current enhancement lines (where net zero is not the primary driver) will need to be captured. This will allow the review of the cost benefit analysis of the scheme/programme based on primary benefit and secondary benefit (carbon) and allow us to benchmark the incremental costs of the carbon reduction.

Based on the green recovery submissions we note that some companies are already implementing lower carbon solutions in investment programmes to meet current enhancement drivers. We are considering capturing the costs and benefits of lower carbon schemes beyond those in the green recovery process and welcome your thoughts on what data should be reported.

We are also interested in understanding which enhancement investment areas may already include expenditure on lower carbon schemes and those that may see them in the future for AMP8. This will help identify a need to breakdown the reporting of costs for these lines.

Data reporting process

The tables described in slides 6–9 contain an additional 30 data points compared to what is reported in the APR. These are spread over 7 current enhancement lines. Most of these lines are not new with many captured in business plan data tables as forecasts, or are as a result of splitting out the costs and benefits from currently reported lines in the APR.

We expect to confirm the data lines and definitions in the meeting notes of the next CAWG meeting (30 March 2022).

The additional data points would then be submitted in parallel with the data for the 2021–22 APR.

The data submitted at the 2021–22 APR will be outturn costs and driver data for the years 2020–21 and 2021–22.

We anticipate requesting this data for the business plans and this will add the outturn for 2022–23.



Thoughts on our proposed additional historical data request...

1. Do you agree with focus areas?
 - a) Lead reduction
 - b) Raw water deterioration
 - c) Additional storage
 - d) Improving wastewater qualityAre the proposed data lines clear, proportionate and achievable?
2. 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
3. Do you have any suggestions for data requirements for benchmarking net zero investments?



Future CAWG dates and topics

Future CAWG dates for your diaries:

- 16 March 2022 (base cost data requirements – informed by December consultation)
- 30 March 2022 (enhancement)

Potential topics to cover at future CAWGs on enhancement:

- Net zero
- Resilience enhancement
- Enhancement opex
- Best value assessment

If you have any further comments on the material and discussions – importantly on our potential historical data reporting requirements and timescales – please respond by email by **Tuesday 8 February**



Thank you and questions

Thank
you



If you want to discuss enhancement cost assessment or provide further feedback please contact:

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