

Response to OFWAT consultation:

Consultation on PR24 operational greenhouse gas emissions performance commitments definitions

Consultation on regulatory reporting for the 2022-23 reporting year

1.0 Introduction

The Ofwat consultation documents provide changes to the PR24 operational greenhouse gas emissions performance commitments and regulatory reporting for 2022-23 reporting year. Although the Environment Agency currently has limited regulatory authority within the scope of the proposed changes made in these documents, the changes made are of significant interest to the Environment Agency's wider climate change commitments within the water industry. Therefore, we have provided responses to the consultation questions in an advisory rather than regulatory context, the responses form recommendations that we believe would be useful to consider but are in no way mandatory. We have only provided answers to the questions we feel are most pertinent to our interests.

2.0 Consultation on PR24 operational greenhouse gas emissions performance commitments

Question 1 – In agreement with approach, see answers in relation to reporting consultation (section 3.0).

Question 2 – If sludge moves into EPR (Environmental Permitting Regulations) that might lead to a level regulatory playing field and impact. Trading bioresources might compete with using in house bioresources to displace purchased energy especially in relation to advanced AD – this is a complex issue.

Question 3 – See Q5 answer on reporting (section 3.0) for more detail.

There is no incentive to update emission factors or methodologies used, and there are data and monitoring and operational performance issues with this approach. Inconsistencies may arise across water companies when calculating emissions. Some things are outside CAW like NbS (Nature Based solutions) and CaBA (catchment-based approach), new technology, and sewerage emissions, which therefore may not be accounted for.

Question 4 – See Q5 answer on reporting (section 3.0) for more detail.

Any version in place in 2025 needs to have adopted the IPCC refinement EF (emission factors) or better if supported by a national monitoring programme. A CAW version in place in 2025 as baseline could be used but the impact of revisions that happen between 2025 and 2030 needs to be understood.

3.0 Consultation on regulatory reporting for the 2022-23 reporting year

Q1 – What are your views on the proposed changes to the APR tables listed in appendix A3

Line	Environment Agency comment
11A.1	Burning fossil fuels Scope 1 location – In agreement.
11A.2	Burning fossil fuels Scope 1 market based – In agreement and logical on this and to have both 11A.1 and 11A.2.
11A.3	Fugitive emissions – There is concern about the amount of data available to enable reporting on this. E.g., data on sewerage systems, pumping stations, desludging primary settlement tanks, AD LDAR result in unquantified methane emissions.
11A.5	Have emissions from land, NbS (Nature Based Solutions) and CaBA (Catchment Based Approach) been accounted for.
11A.6	Total scope 1 – Need QA on data and possibly auditing.
11A.7	Total scope 1 - Market based data quality and common consistent protocols and processes, audit and QA as 11A.5
11.A.8 9,10, 11	GHG other types – It would be helpful to list what is meant by “other types”.
11A.12	Purchased electricity – The EA agree with the location based approach.
11A.13	Purchased electricity – The EA agree with the market based approach.
11A.17	In agreement with the total scope 2 location based approach.
11A.18	In agreement with the total scope 2 market based approach.
11A.22	It would be helpful to list GHG “other types.”
11A.25	Purchased electricity – Reporting on extraction, production, transmission, location based distribution is dependent on good data and QA.
11A.26	Purchased electricity – Reporting on extraction, production, transmission, distribution location based is dependent on good data and QA.
11A.27	Purchased heat – Reporting on extraction, production, transmission and distribution emissions is dependent on good data and QA.
11A.28	In agreement.
11A.29	Clarify what is meant by this
11A.30	In agreement.
11A.31	In agreement.
11A.35	GHG “other types” - it would be helpful to list these.
11A.40	emissions reductions from use of insets
11A.45 & 46	Ratio - clean water will vary with weather and demand reduction – this needs explaining in any narrative. Sewage will vary based on rainfall, overflow investment, improved flow monitoring – this also needs explaining in RAG narrative.
11A.47	In agreement.
11A.48	Capital projects (cradle-to-gate): construction (base expenditure) emissions –this links to other reporting sections like 2, 4, 6, 8.
11A.49	new requirement for Capital projects (cradle-to-gate): construction (enhancement expenditure) emissions. This links to other reporting sections like 2, 4, 6, 8*.
11A.50	Capital projects (cradle-to-gate): maintenance emissions – as above *
11A.51	Total capital projects (cradle-to-gate) emissions – as above
11A.52	Capital projects (cradle-to-build): construction (base expenditure) emissions – as above
11A.53	Capital projects (cradle-to-build): construction (enhancement expenditure) emissions – as above
11A.54	Capital projects (cradle-to-build): maintenance emissions – as above

11A.55	Total capital projects (cradle-to-build) emissions as above*
11A.56	Purchased goods and services – as above*

Q5 – Do you have any comments on our approach to continue to align the GHG reporting requirements to the latest version of the Carbon Accounting Workbook?

It is recognised that there needs to be a consistent baseline on process emissions from which progress can be assessed. The version of CAW (carbon accounting workbook) that is in place in 2025 can provide this. However, it is apparent that the current version of CAW uses emission factors (EFs) that are below the IPCC refinement for Nitrous Oxide (N2O) ([2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories – IPCC](#)). Further, even if the EF for N2O in the IPCC refinement was adopted it is unclear whether these are appropriate for the UK water industry and what approach will be taken in future. Water companies may propose and select individual company EFs that reflect their local circumstances and assets which are based on their own enhanced monitoring data. Consistent approaches leading up to the version of CAW in place in 2025 needs to be clear if comparisons and benchmarks are to be meaningful.

Ultimately there is inherent value in obtaining more accurate data on emissions that better reflects the UK situation. In addition per capita total nitrogen influent as well as other wastewater loadings from industrial and commercial sources needs to be confirmed to ascertain if IPCC EFs are indeed appropriate. More accurate EFs and per capita nitrogen loadings may add substantially to total emissions and eventually a more accurate picture will emerge. It is suggested therefore that the CAW in place in 2025 is used but also any updated CAW is also accommodated progressively i.e., to understand a more accurate picture of emissions based on any better data that is available. In the absence of any National Monitoring Programme, it is suggested that the CAW EFs align with best science i.e., IPCC EF of 1.6% and any per capita loading figure available in 2025. In addition, CAW needs to develop further to account for anthropogenic carbon in influent as well.

There are other associated emissions from sewerage networks that are also unquantified, particularly methane.

The CAW is owned by UKWIR and water companies not Ofwat. It is helpful to be aware that there could be a degree of conflict if performance commitments are based on benchmarking and emission reductions. From reviewing the document, there was not any evidence that an auditing process would take place. If there is not one planned, an auditing process is suggested to assure data quality.

Q6 – Do you have any comments on our reporting guidance for GHG intensity ratios.

It is not clear how intensity ratios will be used to reflect any water company performance. The intensity ratio seems to be a useful and clear concept, but it is not apparent what metrics are used to calculate it. The ratios are highly reliant on quality data. Ratios will amplify data and monitoring inconsistencies and would therefore need to be supported by a narrative to explain any variability.

Q7 – Do you have any comments on the proposal to expand the scope of mandatory reporting for operational GHGs (Greenhouse Gas)

Overall expanding the scope of reporting for operational emissions is welcomed and supported. However, calculating gross operational emissions is somewhat reliant on common water company wide approaches as well as accurate data, see comments in relation to Q5. Using common industry wide data for items such as chemical use can ensure consistency however this may also disincentivise or compromise company's ability to seek better data and/or lower carbon supplies.

There needs to be transparency in how performance is being reported across industry to avoid the use of variable and inconsistent reporting approaches. As currently, reporting decisions are left to companies.

It is right that companies provide clarity and balance in any supporting narrative regarding the steps being taken to improve performance.

Q8 – Do you have any comments on the proposal to expand the scope of mandatory reporting for embedded GHGs emissions

Overall, the EA supports the mandatory approach for embedded GHG emissions reporting. However consistent approaches to data in reporting is central to this and it is unclear how good or poor data and reporting will be quality assured. It is also unclear how or if reductions in GHG emissions will be incentivised or penalised via ODI or other mechanisms. There are challenges associated with long supply chains that need to be appreciated and lend themselves to collaborative approaches. This point applies to both embedded and some operational emissions. Some supply chains are long and extend outside the territorial UK area which adds to the complexity and challenges. It is unclear to what extent water companies will adopt recognised protocols such as PAS 2080.

Q9 – Do you have any comments on distinguishing between construction and maintenance activities for the reporting of capital project emissions?

Given the points made above it is important to provide distinction between construction and maintenance activities although absolute definition and clarity is needed to enable meaningful comparisons between companies. There is need for greater clarity if construction and maintenance activities become delivered at the same time. As above, using PAS 2080 and the recommendations set out in UKWIR report 22/CL/01/32 should be adopted.

Q10 – What are the key challenges that need to be considered and addressed in introducing a rating system designed to facilitate increased standardisation and continual improvement in the reporting of embedded emissions?

The accurate reporting of embedded emissions is dependent on several challenges. The scale and variable nature of current and future AMPs (Asset Management Planning) presents substantial data challenges especially given the associated supply lines and data needed to understand embedded emissions. Accounting processes within companies are not mature or consistent. It is unclear the degree of auditing that might be undertaken or whether data quality is adequately incentivised. There are particular investment step changes and cycles that might further add to these challenges.

Q11 – Are there are any particular frameworks or approaches our traffic light system should consider in determining differing levels of progress and what expected progress should look like?

It is suggested that the traffic light system assess whether water companies have acknowledged troublesome emission areas and whether they have appropriate mitigation for these areas in place. Transparency is needed when reporting emissions, therefore an audit trail should be available for third party accreditors to assess. The audit trail could include emission factors used and data sources including data gathered from supply chain partners (close collaboration with supply chain partners to understand data and what it represents, this should be explained in audit trail). The traffic light system should also assess if allocation of emissions has been undertaken and if so, the reason explained. Water companies should conduct life cycle assessments on chemicals and the traffic light system should assess for this. There should be evidence of collaboration with other water companies on reporting to keep the methods and data used consistent across industry. Regarding guidance and frameworks, Defra produces guidance on carbon reporting – Defra.gov.uk – Guidance on how to measure and report your GHGs - https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file

</69282/pb13309-ghg-guidance-0909011.pdf> . The GHG protocol scope 3 standard - [Corporate Value Chain \(Scope 3\) Standard | Greenhouse Gas Protocol \(ghgprotocol.org\)](#) is recommended. Additionally, the UKWIR guidance – calculating whole life/totex carbon is also recommended - [Calculating whole life /totex carbon \(ukwir.org\)](#).

Q12 – Do you have any comments on requesting a SWOT analysis that covers both operational and embedded emissions?

EA welcomes SWOT analyses as a useful part of the reporting process. Ideas for the elements of SWOT:

Weaknesses:

- Regarding operational emissions, true emission values may be unknown due to reliance on emission factors and a lack of rigorous monitoring. Emission factors are a constantly changing science and relying on one version of CAW may not be the most appropriate method.
- Regarding embedded emissions – reporting is reliant on data provided by third party operators and may not be at the standards required.
- Climate change may disrupt the level of emissions being generated - climate change impacts may damage assets more frequently leading to frequent replacement which may generate more embedded emissions, how has this been factored in? Climate change impacts may also affect biological processes and increase the amount of emissions being released during processes.
- New research has shown that methane could be generated from sewer conveyance systems in high amounts, the absence of monitoring in place here is failing to capture these emissions therefore higher than reported operational emissions may be being generated (this research can be shared with Ofwat if requested).
- Lack of low carbon concrete available to purchase for water companies may lead to higher than necessary carbon emissions.
- For estimating embedded emissions - different calculation methods may be used by water companies, this may cause inconsistencies when estimating emissions.
- Regulatory requirements for reduction of Phosphorous will lead to the use of more chemicals and therefore more emissions will need to be reported.

Opportunities:

- The opportunity for water companies to collaborate with each other on commonalities that they share in the carbon reporting process will ensure consistency is achieved. This point relates to emission factors/calculation methodologies/standards and frameworks used and the opportunity for water companies to share data for where their purchases might originate from the same supplier e.g., chemical suppliers. This needs to start now.
- The government and industry net zero initiative will provide the impetus necessary to achieve net zero.
- The urgency of climate change will increase steer from government/regulators to guide companies to achieve net zero. This timeframe will be up to 2030 and beyond.
- The opportunity to engage and build relationships with supply chain partners will ensure accurate reporting of emissions, this must begin now.
- A quick net-zero transition will generate more economic opportunities and greater profits in the long term.
- As technology advances, the trend of newer equipment will be towards lower carbon emissions.

Threats:

- A four-degree climate pathway becomes inevitable, conditions generate a downward spiral leading to decreased performance/efficiency overtime and tipping points being reached leading to more emissions (severe and unlikely).

- Political regime changes lead to a decreased focus on achieving net zero and the climate crisis leading to looser regulation and less focus for reporting carbon emissions (moderately impacting and not unlikely).
- An economic crisis occurs leading to economic and social repercussions that hamper the route to net-zero and carbon reporting process including shortages of low carbon materials and net-zero technology materials (impacting and not unlikely).
- War and confrontation break out leading to a change in priorities (Severe and unlikely).
- Societal dependence on new and toxic chemicals and a need to use different carbon intensive technologies to treat water (impacting and unlikely).