

Regulators' Alliance for Progressing
Infrastructure Development

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Standard gate one key themes and assessment overview



About this document

This document sets out the key themes which have emerged from RAPID's assessment of the submissions at standard gate one. The document has two intended purposes. The first is to describe common themes that emerged across the submissions and assessments and to identify areas of focus before gate two, which should be acted upon by the solution sponsors. The second is to enable stakeholders with an interest in more than one solution to understand common themes without needing to read all the draft decision documents and letters.

Responding to Ofwat's draft decisions

The solution sponsors and other interested parties can now respond to the draft decisions. Representations are invited by email to rapid@ofwat.gov.uk and the representation period will close at 5pm on 8 October 2021. All representations will be considered before our final decisions are published on 16 November 2021.

We will publish representations on our website at www.ofwat.gov.uk/regulated-companies/rapid, unless you indicate that you would like your representation to remain unpublished. We will also share representations with our partner regulators, (Ofwat, the Environment Agency and the Drinking Water Inspectorate) as well as Natural England and Natural Resources Wales. Information provided as representations, including personal information, may be published or disclosed in accordance with access to information legislation – primarily the Freedom of Information Act 2000 (FoIA), the General Data Protection Regulation 2016, the Data Protection Act 2018, and the Environmental Information Regulations 2004. For further information on how we process personal data please see our [privacy policy](#).

If you would like the information that you provide to be treated as confidential, please be aware that under the FoIA there is a statutory Code of Practice which deals, among other things, with obligations of confidence. In view of this, it would be helpful if you could explain to us why you regard the information you have provided as confidential. If we receive a request for disclosure of the information, we will take full account of your explanation, but we cannot give an assurance that we can maintain confidentiality in all circumstances. An automatic confidentiality disclaimer generated by your IT system will not, of itself, be regarded as binding on Ofwat.

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1. Introduction

The purpose of this publication is to set out an overview of the decisions made across strategic regional water resource solution submitted for the standard gate one assessment by solution sponsors and highlight areas of focus for the next gated period. Further information concerning the submissions, queries raised and the RAPID draft decisions for each solution and letters to each company can be found on the RAPID webpages of the Ofwat website www.ofwat.gov.uk/regulated-companies/rapid.

The assessment process is overseen by RAPID, with input from the partner regulators (Ofwat, the Environment Agency and the Drinking Water Inspectorate). The Environment Agency together with Natural England and, where a solution impacts Wales, Natural Resources Wales, have reviewed the environmental sections of the submissions, and provided feedback to RAPID. The Consumer Council for Water provided input to the assessment on customer engagement.

We would like to thank all of the water companies and Canal & River Trust for their engagement, collaboration, and innovation during this stage in the gated process.

1.1 Background

At PR19 Ofwat allowed a £469 million ring-fenced development fund for companies to investigate and develop strategic water resource solutions that benefit customers, protect and enhance the environment and benefit wider society. This was in response to Ofwat identifying limited cross-company, strategic water resource solutions being proposed in the last round of water resources management plans and company business plans, yet these will be vital over the next five to 15 years to meet future demands. This funding provides companies with the ability and certainty to accelerate the development of solutions to be ‘construction ready’ for the 2025–2030 period; it encourages joint working, enables additional analysis where required and provides outputs with greater certainty than would be available without it.

Delivery of these solutions is subject to a formal gated process where decisions are made on delivery penalties and solution funding progression. The details of gate allowances, activities at each gate and delivery incentives are described in more detail in ‘[PR19 final determinations: Strategic regional water resource solutions](#)’. The Regulator’s Alliance for Progressing Infrastructure Development (RAPID) supports and oversees the development of the solutions that benefit from this funding. Working with the partner regulators, Natural England, Natural Resources Wales and the Consumer Council for Water; RAPID’s role in the gated process is to assess the progress made in development of each solution and to provide advice and recommendations to enable Ofwat to make decisions on continued ring-fenced funding for solution progression.

1.2 Purpose of the gated process

The purpose of the gated process is to ensure at each gate that:

- companies are progressing strategic water resource solutions that have been allocated funding at PR19;
- costs incurred in doing so are efficient; and
- solutions merit continued investigation and development during the period 2020 to 2025.

The process is intended to support companies in progressing the investigation and development of solutions more quickly to the 'construction ready' state.

1.3 Purpose of gate one

At gate one the focus is on eliminating solutions that are demonstrated to be unsuitable, no longer require further development funding or will not benefit from the structured gate process. All solutions have a range of risks, some more material than others.

Gate one has highlighted a number of risks which require further investigation. Additional risks may emerge through the work planned in advance of gate two and these will need to be mitigated. At gate one, we expect solutions to progress unless they are shown not to be viable or there is another showstopper, which cannot be mitigated.

1.4 Assessment process at gate one

The assessment was made on the basis of evidence presented in the submission and responses to queries. The assessment of each solution determines:

- whether the solution (and which of its options) should progress through the gated process and continue to use the development allowance to support this;
- whether sufficient work has been carried out on a solution and the evidence provided in the submission is of sufficient quality to demonstrate that; and if not, what remedial actions are required to get solutions back on track.
- the level of delivery incentive penalty, if appropriate, that should apply in the light of the quality and completeness of the evidence, including, for gate one, what proportion of the penalty can be mitigated by delivering the remediation actions;
- whether expenditure has been allocated to the solution in line with the PR19 final determination and the submission has evidenced that it has been incurred efficiently;
- whether there should be any change to solution partnering arrangements; and
- confirmation of subsequent gate activities for the solution.

The work completed on the solution, which was presented in the submission, was assessed against the criteria of: robustness, consistency, and uncertainty. We also assessed the assurance provided by Boards. At gate one, solutions are expected to be developed to a standard suitable for submitting into draft regional plans or draft Water Resource Management Plans (WRMPs). Further information about the assessment process can be found in the '[Strategic regional water resource solutions: guidance for 2021](#)', which was published in June 2021.

2. Summary of gate one submissions and draft decisions

Evidence of investigations for 15 solutions was submitted at gate one. Ofwat has agreed that all solutions should be funded to continue investigations to gate two. All submissions were assessed as good or satisfactory and consequently no delivery incentive penalties are being applied.

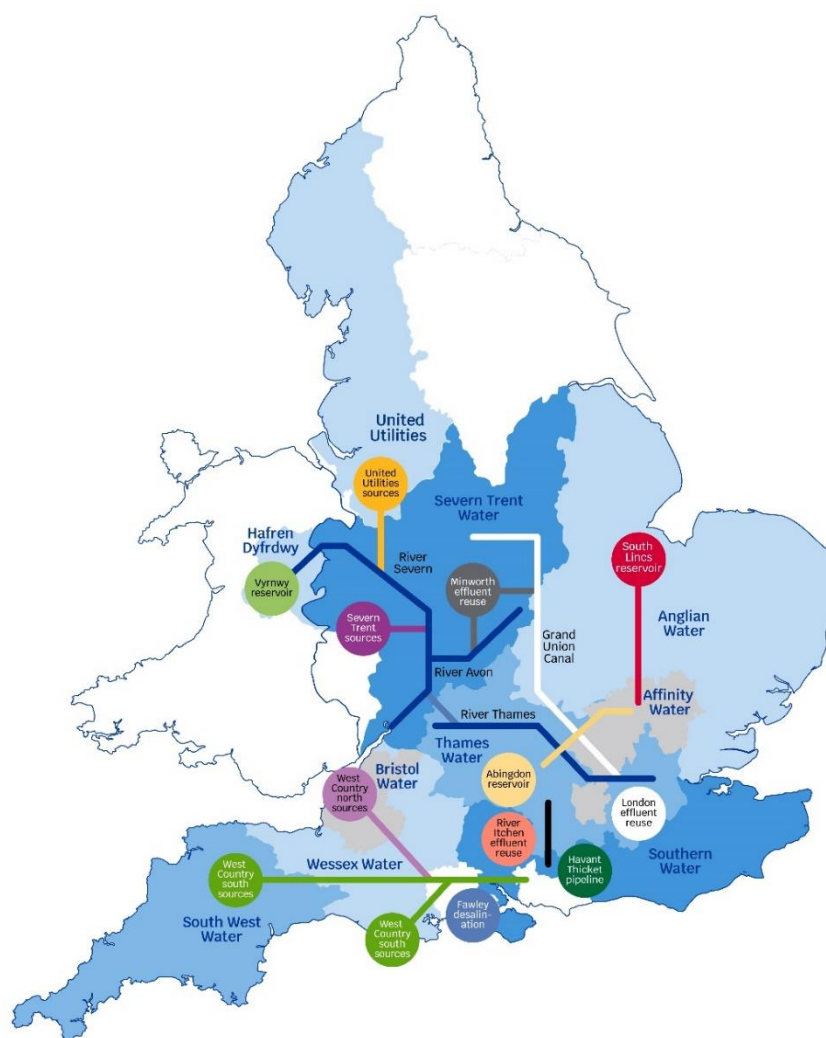


Figure 1: Solutions in the programme at gate one

All solutions are funded to continue investigations. All options within solutions should continue except the Roadford pumped storage and transfer options of West Country South sources and West Country Southern transfer. Funding is reduced for this solution accordingly. We also propose that these two solutions are combined into one due to their interdependence on each other.

The expenditure of all solutions at gate one, except the River Severn to River Thames transfer, has been assessed as appropriate and efficient and will be allowed. Insufficient evidence was

provided in two areas of spend for this solution and a financial challenge of £831,000 has been made until further sufficient evidence is provided during the representation period.

The United Utilities sources solution and the Vyrnwy Aqueduct solution will be combined to form a new single solution, as proposed by the solutions' sponsor.

One new solution, Fens reservoir and Anglian to Cambridge transfer, proposed by Anglian Water and Cambridge Water, has applied to join the programme at gate one. This solution will join the programme and be funded for investigation to gate two.

3. Assessment themes

Overall, the solution owners have made good progress developing their solutions and identifying issues which need to be resolved for gate two. The common methodologies and approaches developed by the All Company Working Group (ACWG) have been particularly beneficial in driving consistency of approach.

The submissions cover a wide range of infrastructure solutions that are, as expected, at differing levels of development. Overall, the level of development of these submissions was broadly at the level that we would expect for standard gate one. The progress so far lays a solid foundation for the work required before standard gate two. The key dependency before standard gate two is completion of the regional plans which will inform decisions around progression. While the programme is in a good position there are areas that require additional focus in the run-up to gate two that we wish to highlight. These are presented below.

3.1 Solution costs

The costs of the individual solutions are not material to the decisions made at gate one. However, they are included in this document for interest and transparency. Solution costs will be an important factor in the regional plans although decisions on which come forward will be based on achieving best value rather than least cost. Going forward, submissions should demonstrate that the costs are consistent, reliable and present them at increasing levels of granularity.

The solution costs have been calculated using a methodology developed by the ACWG. This means that the derivation of costs is comparable across the solutions. It also means that the costs are not directly comparable with the figures included in the last round of water resource management plans (WRMP19). The cost of the solutions is likely to change as additional risk mitigation is added or as the allowance for optimism bias is reduced. It is important that all risk mitigations are costed so that solution costs are compared fairly in the regional plans.

Table 1 presents the range of estimated costs across each of the solutions. The numbers below represent the range of the total planning period's indicative solution cost net present value (NPV) for each of the options within a solution reported for maximum utilisation. The £/Megalitre (Ml) figures were calculated by dividing total planning period indicative solution cost NPV in £s by the total planning period solution benefit NPV in Ml, calculated by companies using the ACWG cost consistency methodology and reported in Section 10 of each submission. Those solutions without a £/Ml figure in the table above did not report the total planning period solution benefit NPV in the main submission.

		Gate one Submission			
		Min Solution Cost NPV (£ million)	Max Solution Cost NPV (£ million)	Min £/Ml	Max £/Ml
Package 1	SESRO	£ 1,051.4	£ 1,437.7	804.79	2,472.35
	T2AT	£ 184.2	£ 402.6	413.81	756.17
	T2ST	£ 604.5	£ 1,307.9	930.45	2,107.95
Package 2	SLR	£ 1,257.7	£ 1,814.4	1,189.32	2,044.68
	A2AT	£ 622.5	£ 1,229.5	892.01	1,974.21
	Fenland	£ 1,154.9	£ 1,471.3	2,008.48	2,558.73
	GUC	£ 500.0	£ 1,160.0	-	-
Package 3	London Reuse	£ 275.5	£ 2,381.7	448.50	1,820.32
	Minworth	£ 25.8	£ 482.6	32.54	364.13
Package 4	Vrynwy	£ 25.1	£ 271.1	35.91	177.89
	UU Sources	£ 9.2	£ 545.3	115.11	1,094.49
	STW Sources	£ 27.3	£ 80.5	96.45	215.08
	STT	£ 67.0	£ 1,706.0	89.85	1,978.42
Package 5	WCS Sources	£ 174.2	£ 967.0	-	-
	WCS Transfer	£ 168.6	£ 277.0	-	-

3.2 Gate one costs

All solutions underspent against their gate one allowances.

Table 2 compares gate one spend with the gate one allowances.

Solution	SESRO	T2AT	T2ST	SLR	A2AT	GUC	London Reuse	Minworth	United Utilities sources	Vrynwy Aqueduct	Severn Trent Sources	Severn To Thames Transfer	WCS Sources	WCS Transfer
Gate one allowance, (£m) (2017-18 prices)	12.17	1.09	1.50	3.86	1.15	1.80	6.29	0.9	0.72	1.47	0.53	6.66	0.55	0.40
Gate one spend, (£m) (2017-18 prices)	1.75	0.86	0.80	2.50	0.55	1.62	2.78	0.74	0.67	1.09	0.31	4.49	0.52	0.31

3.3 Best value planning

We want to see further consideration of the wider resilience, social and economic benefits of solutions. This should include local economic and amenity value. Fully exploring this will be vital for the development of best value plans. It will also be important should the solutions progress to apply for land use planning permission, either under the Planning Act 2008 or through local planning routes.

Best value should be a focus of the preparation for gate two. Consideration should be broadened to consider local economic and amenity value added. As part of this, solution owners should provide clarity over how the different decision and valuation processes being promoted will align. As set out in the water resources planning guideline, solution owners should use a range of planning techniques and various qualitative and quantitative valuation methods to demonstrate which solutions deliver best value outcomes in the regional context.

3.4 Water resources modelling

At the time of the gate one submissions many solutions were waiting for results of the regional plan modelling reconciliation process to determine deployable output and utilisation, where they were dependent on availability from other solutions. Therefore, in some cases minimal water resources modelling had been undertaken for the gate one submission, with solution owners recognising this would be a gate two activity. The regional reconciliation process began in earnest in September 2021. This, and further modelling by the regional groups, will provide the required information for gate two. At gate two, solution owners should take account of the regional modelling results as a priority, supporting the refinement of solutions, and thoroughly investigating their likely utilisation.

While we understand the importance of the regional modelling and the ongoing work informing the development of best value regional plans, this process is about accelerating the exploration of the solutions. In some cases, more could have been done to fast-track solution-specific modelling for gate one and funding was allowed for this purpose. This needs to accelerate for gate two.

3.5 Anticipated utilisation

The frequency and volume at which a solution is used (its utilisation) at both peak and average demand is particularly important for an effective environmental assessment of both the aquatic impacts and operational carbon emissions. At gate one it was understood there would be large uncertainty surrounding the utilisation of solutions. Submissions that were assessed as "good" in this area provided a qualitative description of a likely range of utilisation and ran a range of quantitative scenarios of utilisation rates to provide an understanding of the sensitivity and uncertainty. A thorough explanation of how utilisation

would be further refined for gate two, beyond simply relying on regional modelling, was provided in some cases and contributed to the "good" assessment, particularly discussion and analysis of possible operating rules. The expectations for gate two will build on this.

3.6 Interactions between solutions

Investigations of the interactions between solutions were evidenced in some of the gate one submissions. For gate two assessments more complex interactions should be conducted, detailing how each solution contributes to solving the regional and national planning problems. In-combination assessments should be conducted to review all potential environmental impacts and explore conjunctive use water resource benefits. Solution sponsors should also review the environmental opportunities presented by the solutions. For example, the potential to alleviate low flow issues in rivers by moving abstractions / discharges or by transferring water in such a way that augments river flows sustainably.

3.7 Water resources benefits

Gate two investigations should provide strong, clear evidence of the justification of the need for a solution, as was identified for the majority of solutions at gate one. For gate two, this should include the wider need from other sectors where possible, such as agriculture and energy including emerging technologies such as hydrogen production, together with an exploration of how other sectors might use water which is available when not needed for public water supply, to increase utilisation (where appropriate) and enable third party contributions to the costs. Explanation of the methodologies used to calculate the water resource benefits were evident in some submissions at gate one and will be expected again in future submissions as further assessments are undertaken. For gate two, the full range of wider resource benefits of the solutions should be reassessed and refined post regional modelling at both average and peak following WRMP24 guidance¹, referencing 1:500 drought resilience values. Thorough consideration of climate change impacts on deployable output in line with WRMP24 methodology will be expected using the latest available UKCP18 climate predictions and gate two submissions will be expected to thoroughly explain the approach taken.

3.8 Wider resilience benefits

The assessment of wider resilience benefits of each solution was broadly in line with expectations for gate one. It was recognised that the scope and potential in this area is highly dependent on solution type, some solutions having much greater potential in this area than others. Expectations for gate two will be that these are further explored for each

¹ [Water resources planning guideline - GOV.UK \(www.gov.uk\)](https://www.gov.uk/guidance/water-resources-planning-guideline)

solution and that reference to relevant regional modelling metrics alone will not be sufficient. The wider resilience benefits of each solution should be reassessed and refined following the regional modelling outputs, thoroughly exploring best value approaches. Consideration should be made as to how the solutions enhance operational supply resilience, for example to mitigate single points of failure. Wider resilience aspects including flood risk management, climate change adaptation and supporting the resilience of the natural environment will be expected, including how the solutions enhance resilience for significant aquatic habitats, such as chalk streams. Where benefits are provided to third parties, those parties should contribute a fair share of the costs according to their own responsibilities and the benefits they realise.

3.9 Meeting net zero commitments

Our Gate one assessment of solution submissions appreciated that assessments of the carbon implications of the solution would contain a significant degree of uncertainty given the stage of solution development. Therefore, gate one assessments focused on consideration of carbon in line with WRMP24 guidance. Attention was paid, during the assessment, to the citations of the relevant company and regional policies, frameworks and methodologies proposed within the submissions to support an increased focus on reducing carbon emissions through the next gates. We saw statements of alignment with the water sector's commitment to net zero by 2030² for operational emissions in many submissions, along with recognition of the carbon ambition developed by the ACWG. There was a recognition that the water sector has come a long way in recent years in its approach to carbon reduction. Gate two assessments will look for evidence of how these policies, frameworks and approaches are driving down wholelife carbon within the solution design. We would like to see solutions embracing innovative designs and opportunities to generate or be powered by renewable energy and/or sequester carbon and exploring joint opportunities with other sectors. Evidence may be sought as to whether a focus on carbon reduction has been able to drive down solution costs. The level of uncertainty associated with the solution carbon assessments will be expected to reduce as solutions are refined through the gated process.

3.10 Drinking water quality

The engagement with regulators and information provided on drinking water quality risks, stakeholder engagement and Drinking Water Safety Plans (DWSPs) was broadly what we would expect for gate one.

We expect to see further development of DWSPs, water quality monitoring, including for emerging contaminants, and wider stakeholder engagement for gate two. This early engagement is particularly important with customers who will be affected by a change in raw

² [Water UK – Net Zero 2030 Routemap](#)

water sources, which often lead to changes in taste and hardness, to ensure that there are no issues with acceptability and for planning any interim mitigation that may be required.

3.11 Stakeholder engagement

The stakeholder engagement conducted for standard gate one was broadly what we would expect at this stage. It tended to focus on regulatory engagement and engagement with direct partners. However, gate two will require wider and more detailed engagement. In particular, stakeholder engagement should be extended to consider both customers and regions affected by the solutions. This should include customers directly affected by the solution, such as those living or working nearby. All solutions should engage with the CCW throughout the gated process.

3.12 Environmental assessments

Many areas of environmental assessment are at early screening and scoping stages, which is expected at this level of development for many of the solutions. The environmental data and monitoring plans which underpin the evidence base for the assessments are progressing but need to be developed at pace in places. As more information comes from regional planning and operational utilisation details are progressed, these aspects should be fully incorporated within individual solution designs. This will allow environmental risks and opportunities to be more fully identified and addressed in subsequent detailed assessments.


Key environmental concerns relate to the potential impacts on protected habitats and species, water resources and water quality. Formal statutory assessments will need to be addressed in future submissions including those required by the Habitats Regulations and the Water Environment (Water Framework Directive) Regulations. Potential risks already identified from invasive non-native species for some solutions needs to be further investigated. Biodiversity and environmental net gain and natural capital assessments need to be progressed using the latest available guidance.

Where solutions affect Wales, work is required on any elements that impact on Welsh ecosystem resilience. This will help achieve the sustainable management of natural resources as well as helping to achieve goals set out in the Well-being of future Generations Act. Any proposal which has implications for Wales must meet the requirements of this Act and the Environment (Wales) Act. This is in addition to the natural capital and biodiversity net gain requirements for England.

3.13 Delivery incentives

For gate one delivery incentives a framework was put in place that considers submission timing, quality and progress through a two-stage assessment.

No change is proposed to the gate one delivery incentives for gate two. No changes were put forward by the companies and Ofwat proposes carrying forward the incentives framework with the same delivery incentive percentages applying to gate two allowances. This is appropriate because both gates one and two are feasibility stages. Gate three incentives will need to work differently, and we will make proposals on these in advance of standard gate two, taking account of any proposals for gate three incentives from Portsmouth Water or Southern Water at accelerated gate two.



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