STRATEGIC REVIEW OF CHARGES 2027-33: FINAL DETERMINATION APPENDICES

12 November 2026

WICS Economic regulation for Scotland's water

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1. We asked, you said, we did

1.1. Overview

1.1.1. This appendix summarises the feedback received in response to the Draft Determination consultation, sets out WICS' assessment of the issues raised by respondents, and explains how consultation responses have informed the Final Determination.

1.1.2. The appendix is structured as follows:

- Background; and
- Analysis of consultation responses.

1.2. Background

1.2.1. WICS published its Draft Determination for SRC27 on 30 June 2026 and invited stakeholders to provide views on its proposals. The consultation was an important part of the determination process, enabling stakeholders to comment on the proposed balance among outcomes, investment, charges, customer protection, and performance monitoring before the Final Determination was issued.

1.2.2. The consultation ran from 30 June 2026 to 1 September 2026. Responses were invited through an online consultation portal, by email and in writing. Alongside the formal consultation, WICS engaged with key stakeholders through bilateral and multilateral meetings and discussions to explain the Draft Determination and answer questions about the consultation process.

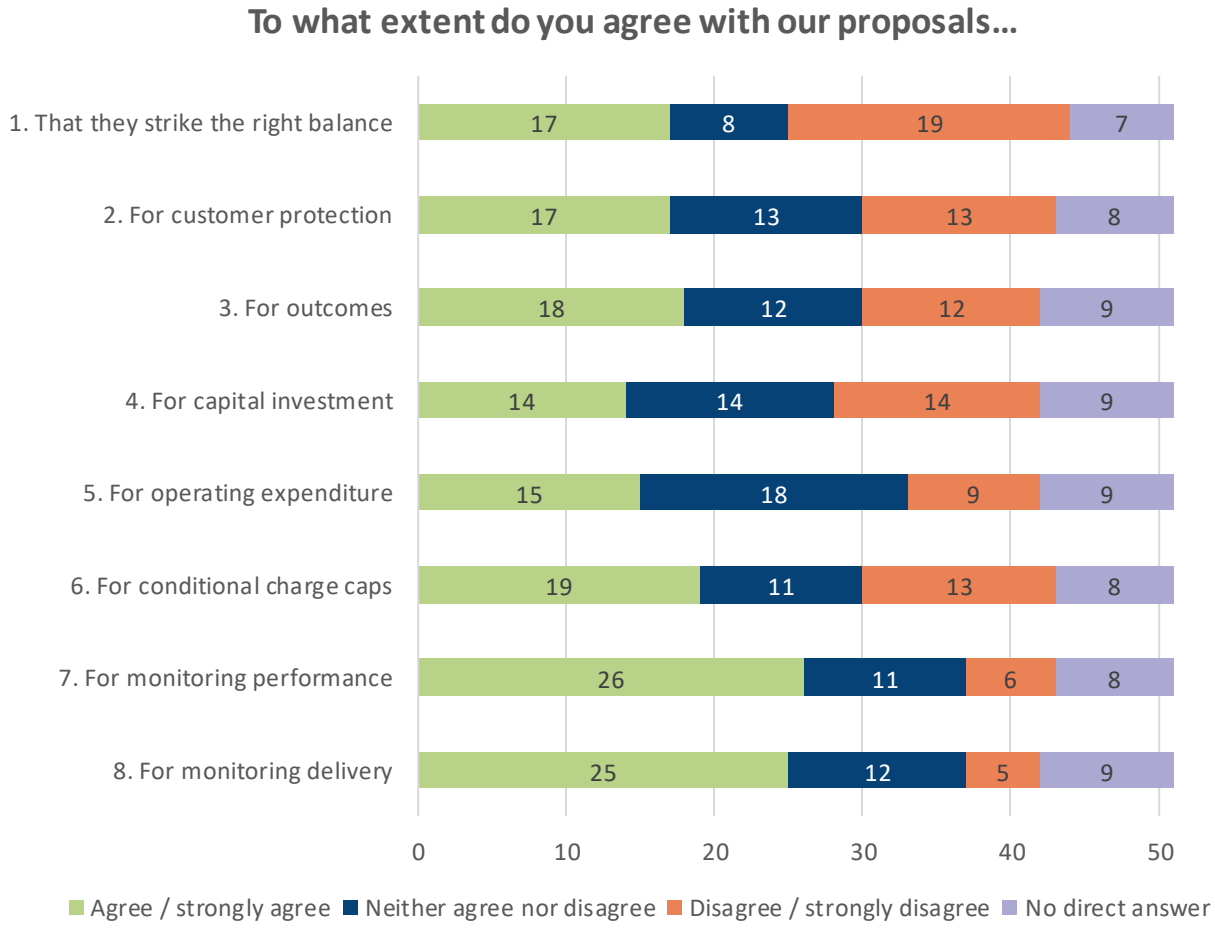
1.2.3. The consultation asked 9 questions, where respondents were asked to indicate the extent to which they agree with our proposals (Strongly agree/Agree/Neither agree nor disagree/Disagree/Strongly disagree/No response) and were asked to explain in free-form text the reason why. The questions were as follows:

- Question 1: To what extent do you agree that the draft determination strikes the right balance between outcomes, investment and charges? Please explain your answer, including which aspects of outcomes, investment or charges most influenced your view.
- Question 2: To what extent do you agree that our proposals provide sufficient customer protection in SRC27? Please explain your answer, including any additional customer protections you think should be introduced.
- Question 3: To what extent do you consider that our proposed targets for outcomes are appropriate? Please explain your answer, including which targets or areas most influenced your view.

- Question 4: To what extent do you agree with our proposal for capital investment? Please explain your answer, including which areas of investment most influenced your view.
- Question 5: To what extent do you agree with our proposal for operating expenditure? Please explain your answer, including which areas of operating expenditure most influenced your view.
- Question 6: To what extent do you agree with our proposal to introduce a conditional charge cap? Please explain your answer.
- Question 7: To what extent do you agree with our proposals for monitoring Scottish Water's performance over SRC27? Please explain your answer, including which areas of performance monitoring most influenced your view.
- Question 8: To what extent do you agree with our proposals for monitoring the delivery of Scottish Water's investment programme? Please explain your answer, including which aspects of the Investment Planning and Prioritisation Framework (IPPF) most influenced your view.
- Question 9: Additional comments on the Draft Determination

1.2.4. Responses were received from a range of stakeholders, including Scottish Water, quality regulators, customer and consumer representatives, local authorities, industry bodies and individual customers. These responses provided a range of perspectives on the proposals set out in the Draft Determination. Figure 1 below illustrates the spread of all responses we received by question.

Figure 1: Summary of consultation responses



1.2.5. Section 1.3 summarises the feedback received, our assessment of the issues raised, and how that feedback informed the Final Determination.

1.3. Analysis of consultation responses

1.3.1. We received 51 responses to our Draft Determination consultation, of which 20 were from organisations including Scottish Water and 31 were from individuals.

1.3.2. This section summarises the responses received to the Draft Determination consultation and sets out our assessment of the key issues raised by respondents. It reviews feedback for each consultation question, identifies the main themes emerging from responses, and explains how this feedback has informed our Final Determination. The section concludes with our analysis of cross-cutting themes within all responses for all questions.

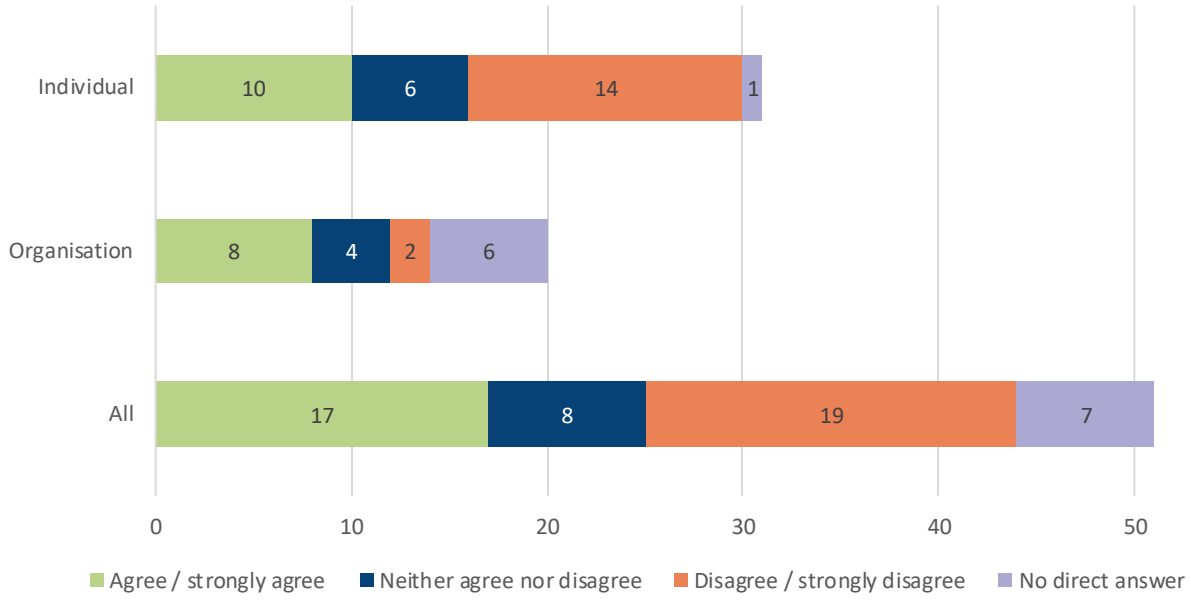
Question 1: To what extent do you agree that the draft determination strikes the right balance between outcomes, investment and charges? Please explain your answer, including which aspects of outcomes, investment or charges most influenced your view.

1.3.3. Table 1 and Figure 2 summarise respondents' views on Question 1. These quantitative results provide an overview of support for the proposal, while the analysis below summarises the qualitative feedback from respondents and highlights the key issues raised.

Table 1: Summary of responses to Question 1

Respondent type	Responses	Agree / strongly agree	Neither agree nor disagree	Disagree / strongly disagree	No direct answer
Individual	31	10	6	14	1
Organisation	20	7	2	5	6
All	51	17	8	19	7

Figure 2: Summary of responses to Question 1



Scottish Water's response

1.3.4. Scottish Water considers that, taken as a whole, the Draft Determination does not strike the right balance between outcomes, investment and charges. It considered that, in the round,

the proposals in the Draft Determination create a package that does not provide a sufficient level of funding to deliver the outcomes expected.[1]

1.3.5. Key points raised by Scottish Water included:

- Scottish Water agreed it can go further on most performance commitments, though two outcomes cannot be improved beyond its Final Business Plan targets;[2]
- The Draft Determination applies an insufficiently evidenced efficiency challenge, including assumptions on frontier efficiency and real price effects;[3]
- Several operating and capital expenditure adjustments require further evidence or refinement;[4]
- Household growth assumptions for the remainder of the 2021-27 period are above most recent actuals and up-to-date forecasts, which creates a funding gap over the 2027-33 period;[5]
- Scottish Water would need to utilise some of the additional investment allowance from the Draft Determination if it is to deliver a number of the more stretching outcome targets proposed by WICS;[6]
- In the Scottish model, the risks associated with underfunding are greater than the risks associated with overfunding, given that any surplus funding would ultimately be reinvested for customers or returned through future charges;[7] and
- The Final Determination should restore a number of expenditure allowances, revise efficiency assumptions and incorporate mechanisms to address cost and revenue uncertainty.[8]

1.3.6. Scottish Water proposed changes, including:

- Reducing the ongoing efficiency challenge;
- Reinstating certain operating and capital expenditure allowances;

[1] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraphs 2.1.4 and 2.2.1.
[2] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraph 2.2.5.
[3] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraphs 2.2.10 to 2.2.20.
[4] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraphs 2.2.9 and 2.2.23.
[5] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraphs 2.2.27 and 2.2.28.
[6] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraph 2.2.5.
[7] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraphs 2.2.6 to 2.2.8.
[8] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraphs 2.2.24, 2.2.26, 2.3.2 and 2.3.7.

- Revising household growth assumptions or introducing an uncertainty mechanism; and
- Providing additional funding to support delivery of enhanced outcomes.

Stakeholder responses

1.3.7. Stakeholders broadly accepted the need for substantial investment to maintain drinking-water quality, resilience, environmental performance and service standards. They welcomed WICS's scrutiny of costs, the efficiency challenge, the lower charge profile and the principle that customers should not pay in advance for uncertain costs. Support was explicitly conditional on transparency, affordability and demonstrable value.

1.3.8. Consumer Scotland welcomed the proposed CPI+2% charge path and the scrutiny applied by WICS to protect consumers from paying more than necessary. While recognising support for investment to address long-term challenges and improve outcomes, it emphasised that consumer acceptance of higher charges depended on clear evidence of value for money, transparent reporting of outcomes and robust accountability for delivery. Consumer Scotland also highlighted the importance of protecting vulnerable consumers from affordability pressures and ensuring that investment decisions deliver sustainable long-term benefits for both current and future customers. It welcomed the Draft Determination emphasis on measurable outcomes and clear accountability for delivery, and noted that there should be a focus on the outcomes that matter most to customers. [9]

1.3.9. The Independent Customer Group's (ICG) view was that the direction of the Draft Determination is a positive one for customers. It welcomed the strengthened performance expectations in priority areas for customers, the proposed lower charge cap and conditional charge cap mechanisms, and the proposed framework for monitoring performance in investment, outcome and output delivery. The ICG's primary concern was whether the assumptions on costs, efficiencies and performance underpinning the Draft Determination were fully deliverable, given the resulting risks and potential need to reprioritise investment during the regulatory period.[10]

1.3.10. DWQR welcomed the scale of investment proposed in the Draft Determination and supported the balance struck between affordability and long-term needs. It considered the proposed investment programme necessary to address drinking water quality risks and improve resilience, while noting delivery challenges. DWQR also welcomed the proposed performance framework, supported stretching but achievable targets, and emphasised the

[9] Consumer Scotland (2026), 'Strategic Review of Charges 2027-33: Draft Determination', 1 September 2026, pp.5-10.
[10] Independent Customer Group (2026), 'Water Industry Commission's Draft Determination for SRC27: ICG response', 1 September 2026, paragraphs 8 and 11 to 13.

need for flexibility to address emerging risks and changing priorities during the regulatory period.[11]

1.3.11. SEPA welcomed the Draft Determination's support for continued investment and acknowledged the challenge of balancing investment with affordability. However, it considered that the proposed funding may not fully reflect the scale of investment needed to meet current and future environmental obligations, climate change challenges and net-zero ambitions. SEPA also expressed concern that the "study first, invest later" approach could understate future investment requirements and delay the delivery of environmental improvements. While supporting the use of stretching outcome targets, it called for greater ambition in areas including pollution incidents, leakage reduction, water demand reduction and climate change mitigation.[12]

Responses by other organisations and individuals

1.3.12. Respondents who answered 'agree' or 'strongly agree' gave several reasons, including:

- 6 respondents supported the balance with several citing the need for value for money;
- 2 respondents commented on more action being required on leakage and demand reduction targets; and
- 9 respondents provided no further comment.

1.3.13. Respondents who answered 'disagree' or 'strongly disagree' gave several reasons, including:[13]

- 5 respondents cited charge levels and the affordability of the CPI+2% charge increase;
- 5 respondents cited outcomes, covering the need to ensure outcomes are appropriately defined (e.g., covering firefighting) to the level of stretch in outcomes, especially in relation to environmental performance;[14] and
- 2 respondents cited concerns over executive remuneration;
- 4 responses related to policy areas such as the rateable value methodology for calculating drainage charges and concern over the impact of data centre policies on water availability;
- 1 respondent also commented on Ethical Business Practice and Regulation (EBP&R); and
- 3 respondents provided no further comment.

[11] DWQR (2026), 'Strategic Review of Charges 2027-33: Draft Determination', 31 August 2026, pp.1-3.
[12] SEPA (2026), 'SEPA feedback on WICS Draft Determination of charges 2027/2033', 31 August 2026, pp.1-7.
[13] The responses do not add to 18 on the basis that some responses raised more than one issue. The other respondent who disagreed was Scottish Water, which is covered above.
[14] This includes one response that also cited charge levels and another response that also commented on EBP&R.

1.3.14. Respondents who answered 'neither agree nor disagree' cited similar reasons to those set out by both sets of respondents above.

Our assessment in the Final Determination

1.3.15. We have considered the consultation responses, Scottish Water's representations and the new evidence. Taken together, this evidence has informed the changes we have made to the Final Determination, while maintaining the focus on long-term investment, affordability, value for money, and customer protection.

1.3.16. Compared to the Draft Determination, we have made the following changes in the Final Determination:

- We maintained the majority of outcome targets and adopted a tailored approach for addressing the 8 outcome targets for which Scottish Water provided a counter proposal;
- We maintained a similar level of investment, where we allowed more investment than the Draft Determination in areas with more evidence, but reduced our additional allowance for unallocated investment due to lack of evidence;
- We accept Scottish Water's proposed use of the unallocated investment for the removal of a further 18 Unsatisfactory Intermittent Discharges, reduced leakage and reduced sewer flooding. This aligns with feedback received from respondents, including SEPA; and
- We increased our allowance for operating and other expenditure based on accepting most of Scottish Water's evidence and updating our analysis with some offsetting adjustments.

1.3.17. These adjustments have led to an increase in the maximum allowed for charge cap from 2.0-2.3% in the Draft Determination to 2.5-2.8% in the Final Determination (including the conditional charge caps). We sought to balance the additional funding requested by Scottish Water in its consultation response with concerns raised by some customers about affordability. On this basis, we robustly challenged Scottish Water's additional evidence in order to mitigate the potential full impact on customer charges.

1.3.18. We received some feedback on the outcomes framework and individual measures. We consider these measurable aspects of service-level performance, spanning a range of areas. We consulted on the outcome measures as part of the draft business plan guidance in 2024, which then informed our final methodology in December 2024. Furthermore, these underpinned the basis for customers' review of the business plan as part of the deliberative research. We therefore consider it appropriate to use these measures. However, we will review the outcome framework and measures in future Strategic Reviews of Charges, learning the lessons from SRC27.

1.3.19. There was also some feedback on charging based on property rateable values for non-household drainage. The Scottish Government's policy for non-household drainage charges is that they should generally be based on rateable value. This is set out in the Principles of Charging for the 2027-33 regulatory period issued by the Scottish Ministers under section 29D of the Water Industry (Scotland) Act 2002. The final Principles of Charging also requested that, by 2029, Scottish Water review the wholesale tariff to encourage water efficiency, for implementation over the remainder of the 2027-33 period, and that WICS review the directions for the default retail tariff accordingly. This provides a route to consider wider questions about tariff design over the medium term, including how charges apply to different types of non-household customers, subject to remaining consistent with the Principles of Charging.

1.3.20. Two respondents had concerns over capacity and other matters related to the provision of water for firefighting, including in relation to the outcome measures. It is Scottish Water's responsibility as the operator to comply with all relevant legislation and engage with relevant stakeholders. We will engage with Scottish Water on the matters raised.

1.3.21. The Final Determination responds directly to the key issues raised during consultation. It strengthens protections for customers, reflects new evidence where appropriate, and reinforces the principle that customers should only pay for investments and costs that are necessary, efficient, and deliverable.

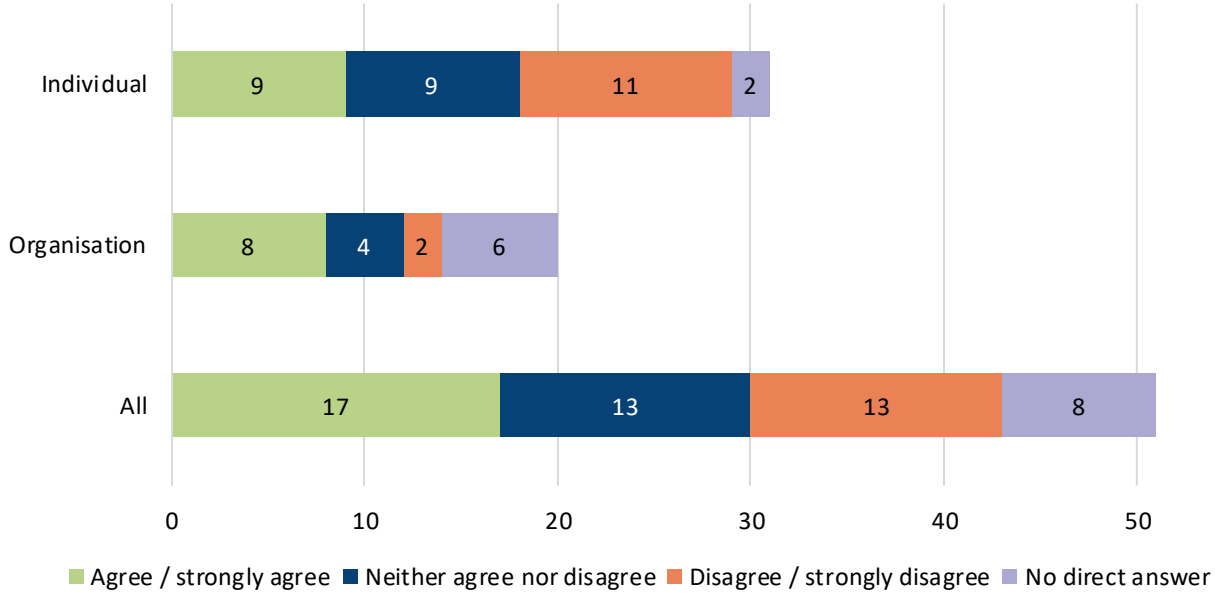
Question 2: To what extent do you agree that our proposals provide sufficient customer protection in SRC27? Please explain your answer, including any additional customer protections you think should be introduced.

1.3.22. Table 2 and Figure 3 summarise respondents' views on Question 2. These quantitative results provide an overview of support for the proposal, while the analysis below summarises the qualitative feedback from respondents and highlights the key issues raised.

Table 2: Summary of responses to Question 2

Respondent type	Responses	Agree / strongly agree	Neither agree nor disagree	Disagree / strongly disagree	No direct answer
Individual	31	9	9	11	2
Organisation	20	8	4	2	6
All	51	17	13	13	8

Figure 3: Summary of responses to Question 2



Scottish Water's response

1.3.23. Scottish Water considered that customer protection should encompass not only the affordability of charges but also the provision of the levels of service and outcomes that current and future customers expect.[15] It explained it does not believe the Draft Determination provides sufficient protection for current and future customers against the risk of reduced investment and associated outcome impacts.[16]

1.3.24. Key points raised by Scottish Water included:

- Customer research indicated support for the overall package of investment, outcomes and charges proposed in Scottish Water's final business plan;[17]
- Uncertainty mechanisms can be a useful tool but should be broader and more comprehensive;[18]
- The proposed conditional charge cap for the West Central Bioresources (WCB) project is unnecessary and may create funding uncertainty, delay delivery and increase overall costs;[19] and

[15] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraph 3.1.2.
[16] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraph 3.2.1.
[17] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraph 3.1.3.
[18] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraphs 3.2.4 and 3.2.6.
[19] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraphs 3.2.8 and 3.2.9.

- The conditional charge cap for West Central Bioresources could undermine the flexibility of the investment programme and the objective of maintaining a smooth profile of charges over time.[20]

1.3.25. Scottish Water proposed changes, including:[21]

- Expanding the uncertainty mechanism to cover real price effects, household growth and cash collection rates;
- Allowing limited upward and downward adjustments to charges, capped at +/-0.5% per year, during the latter part of the regulatory period;
- Removing the conditional charge cap for the WCB project; and
- Lowering the threshold for an interim determination from 10% to 5% of annual turnover (on a net present value basis).

Stakeholder responses

1.3.26. Consumer Scotland generally welcomed the customer protection measures proposed in the Draft Determination, particularly the CPI+2% charge path and the use of safeguards such as conditional charge caps. It emphasised, however, that affordability would remain a concern, especially for low-income and vulnerable households, and called for continued scrutiny of any future increase in charges. Consumer Scotland supported the proposed high materiality threshold for interim determinations and considered that such mechanisms should be used only as a last resort in order to minimise financial impacts on customers and maintain stability in charge paths.[22]

1.3.27. Consumer Scotland also highlighted Scottish Water's Priority Services Register (PSR) as an important safeguard for customers in vulnerable circumstances. While it welcomed the proposed investment in this area, it noted that the Draft Determination provided limited detail on how the proposed funding would be used, the outcomes it would deliver, and how success would be measured. It questioned whether the proposed level of investment and ambition would be sufficient to significantly expand PSR participation and support. Consumer Scotland identified areas for further development by the water sector, including affordability assessment, support for customers in vulnerable circumstances, and arrangements for representing consumer interests in decisions on future charge variations.[23]

1.3.28. Similarly, the Independent Customer Group (ICG) welcomed the principle that customers should not pay in advance for costs that may not materialise during the regulatory period,

[20] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraph 3.2.9.
[21] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraphs 3.3.1 and 3.3.2.
[22] Consumer Scotland (2026), 'Strategic Review of Charges 2027-33: Draft Determination', 1 September 2026, pp.12-17.
[23] Consumer Scotland (2026), 'Strategic Review of Charges 2027-33: Draft Determination', 1 September 2026, pp.12-17.

including through the proposed conditional allowance for the West Central Bioresources project.[24]

Responses by other organisations and individuals

1.3.29. Respondents who answered 'agree' or 'strongly agree' gave several reasons, including:

- 3 respondents considered that setting a charge cap is an appropriate approach to customer protection, with 1 of these respondents requesting further clarification on how the unused charging headroom can or cannot be used in future years;
- 2 respondents commented that the proposed protections for non-household customers are effective and adequate;
- 2 respondents commented that the Draft Determination protects customers best through controlled costs, which are clearly linked to service improvements and investment needs, and which allow sustained investment to ensure resiliency and service reliability;
- 1 respondent noted the conditional charge caps are a sensible structural innovation and that the three-pillar safeguards framework is a proportionate development of the SRC21 approach; however, that respondent also suggested that the conditions for the price caps should be better defined and that the performance-related pay safeguard could be further strengthened;
- 1 respondent noted Scottish Water has scope to strengthen its own customer protection measures; and
- 8 respondents provided no further comment.

1.3.30. Respondents who answered 'disagree' or 'strongly disagree' gave several reasons, including:[25]

- 3 respondents cited affordability concerns, with two of these focusing on non-household charges based on rateable values;
- 3 respondents expressed concerns around AI and data centres;
- 2 respondents called for a stronger linkage between price rises and outcome performance;
- 2 respondents did not consider safeguards to be strong enough, suggesting the use of claw-back mechanisms to return money to customers in case of underperformance by Scottish Water; and
- 2 respondents provided no further comment.

[24] Independent Customer Group (2026), 'Water Industry Commission's Draft Determination for SRC27: ICG response', 1 September 2026, paragraph 8.
[25] The other respondent who disagreed was Scottish Water, which is covered above.

1.3.31. Respondents who answered 'neither agree nor disagree' cited similar reasons to those set out by both sets of respondents above.

Our assessment in the Final Determination

1.3.32. We confirm in the Final Determination the use of all proposed safeguards from the Draft Determination, namely the conditional charge caps, requiring a delivery plan and baseline, a WICS-led Water Industry Investment Group. We also confirm the 10% materiality threshold for triggering an interim determination.

1.3.33. In relation to Consumer Scotland's point about the Priority Service Register (PSR), we received a response from Scottish Water outlining the broad areas covered by the investment in the PSR. This includes service enhancements, communications, registration channels, measurement capabilities, awareness campaigns and partnership working. However, Scottish Water confirmed that it is still developing the detailed delivery strategy. We therefore request that Scottish Water engage with Consumer Scotland and other representative bodies on its delivery strategy to ensure that the money is targeted towards the highest-priority customer needs and outcomes.

1.3.34. We have added further definition on the conditions for uncertain cost items in line with the feedback received.

1.3.35. One Licensed Provider considered that WICS should remove the default retail tariff. However, we continue to consider that default tariff provides an important safeguard to non-household customers. Some respondents raised further comments regarding charging structures in relation to incentives for water efficiency. As set out above, Scottish Water will review the wholesale tariff to encourage water efficiency by 2029, for implementation over the remainder of the 2027-33 period, and WICS will review the directions for the default retail tariff accordingly. Other customers commented on the use of rateable values as a basis of charging. We cover this point in the summary of Question 1 above.

1.3.36. In line with the summary of Question 1 above. We sought to balance the additional funding requested by Scottish Water in its consultation response with concerns raised by some customers about affordability. On this basis, we robustly challenged Scottish Water's additional evidence in order to mitigate the potential full impact on customer charges.

Question 3: To what extent do you consider that our proposed targets for outcomes are appropriate? Please explain your answer, including which targets or areas most influenced your view.

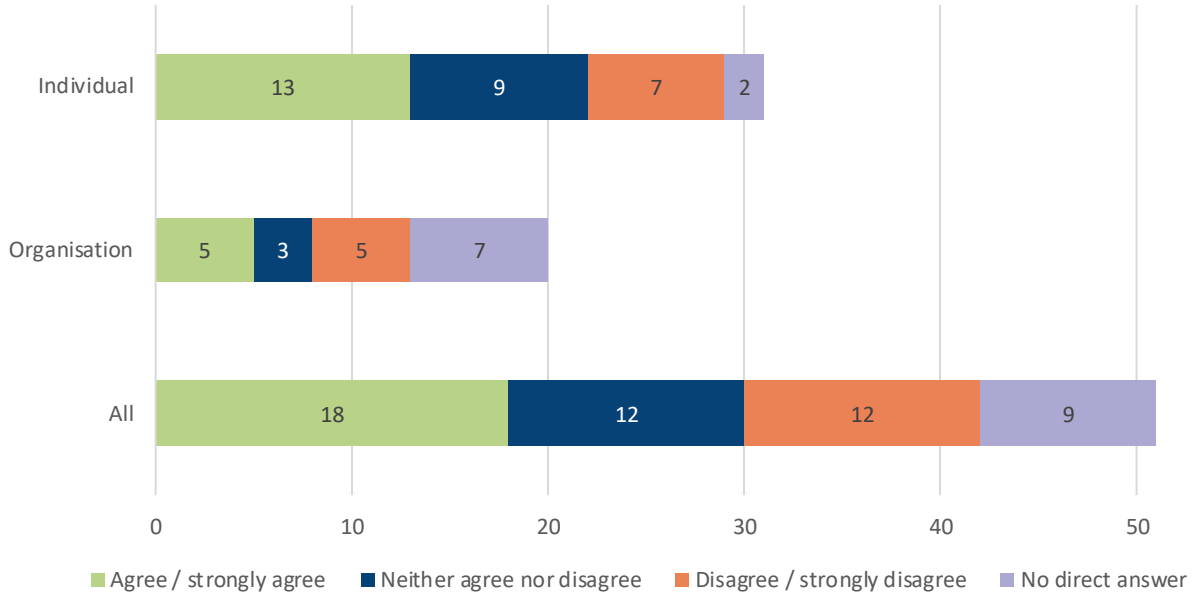
1.3.37. Table 3 and Figure 4 summarise respondents' views on Question 3. These quantitative results provide an overview of the level of support for the proposal, while the analysis below

summarises the qualitative feedback received from respondents and highlights the key issues raised.

Table 3: Summary of responses to Question 3

Respondent type	Responses	Agree / strongly agree	Neither agree nor disagree	Disagree / strongly disagree	No direct answer
Individual	31	13	9	7	2
Organisation	20	5	3	5	7
All	51	18	12	12	9

Figure 4: Summary of responses to Question 3



Scottish Water's response

1.3.38. Scottish Water explained that it does not consider the levels of stretch in leakage, per capita consumption, repeat interruptions to supply, discolouration contacts, drinking water compliance, and WWTW permit compliance to be deliverable.[26] In its response to the Draft Determination, of the 18 outcomes that had a more stretching target or were questioned, Scottish Water accepted the proposed performance on 8 outcomes, but proposed revised forecasts for the remaining 8 outcomes, dependent on utilising the £168m in unallocated

[26] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraph 2.3.2.

investment to achieve the revised forecast. Scottish Water aligned with its target from its final business plan for a further two outcomes.[27]

1.3.39. Scottish Water considered that increased performance on outcomes beyond the levels proposed in the final business plan is contingent on the Final Determination:

- confirming the allocation of the £168m proposed in the Draft Determination; and
- addressing the concerns we have raised in the Draft Determination regarding the proposed efficiency and/or cost challenges.[28]

1.3.40. Scottish Water also explained that it focused on the opening position for the regulatory period and the 2032-33 end position in proposing revised forecasts in the Draft Determination response. It proposed confirming the annual profile baseline in the delivery plan.[29]

Stakeholder responses

1.3.41. Consumer Scotland welcomed the Draft Determination's emphasis on measurable outcomes and clear accountability for delivery. Consumer Scotland considered that it is important that customers can clearly understand the benefits they are expected to receive in return for higher charges. Consumer Scotland considered that the success of the regulatory framework should ultimately be assessed by the difference it makes to customer experiences and consumer wellbeing.[30]

1.3.42. DWQR welcomed the proposed suite of outcome performance measures. It noted that, subject to the introduction of appropriate governance arrangements, these measures should provide a valuable framework for assessing performance, supporting risk-based decision-making, and informing future investment priorities.[31]

1.3.43. SEPA noted that, as outcomes are WICS performance metrics, any resolution of misalignment or agreement on final positions is ultimately a matter for WICS to determine.[32]

1.3.44. Specific feedback on individual outcomes is covered in each outcome area in Chapter 4 of the Final Determination.

[27] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraphs 2.2.5 and 4.3.1.
[28] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraph 4.1.5.
[29] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraph 4.1.5.
[30] Consumer Scotland (2026), 'Strategic Review of Charges 2026-33: Draft Determination', 1 September 2026, p.6.
[31] DWQR (2026), 'Strategic Review of Charges 2027-33: Draft Determination', 31 August 2026, p.2.
[32] SEPA (2026), 'SEPA feedback on WICS Draft Determination of Charges 2027-2033', 31 August 2026, p.4.

Responses by other organisations and individuals

1.3.45. Respondents who answered 'agree' or 'strongly agree' gave several reasons, including:

- 5 identified reliability of supply, leakage reduction, water quality and/or sewer flooding as priorities;
- 3 supported the framework and the additional ambition in the Draft Determination; and
- 10 provided no further comment.

1.3.46. Respondents who answered 'disagree' or 'strongly disagree' gave several reasons, including:

- 2 considered that performance falls short, given the scale of investment proposed or the increase in charges;
- 3 requested further improvements on unsatisfactory intermittent discharges and environmental performance;
- 4 considered that the outcome measures should be expanded to include a broader set of measures, such as volumes and flows for firefighting, storm overflow spill frequency and duration and engagement with licensed providers;
- 1 respondent also expressed concerns about the overall framework; and
- 4 provided no further comment.

1.3.47. Respondents who answered 'neither agree nor disagree' raised similar points to those highlighted above.

1.3.48. Overall, we consider that respondents welcomed stronger targets for leakage, sewer flooding, drinking-water quality, and reliability, and supported WICS challenging Scottish Water to improve. There was support for ambitious performance targets, provided they are aligned with credible evidence and with recognition that delivering these targets will require adequate funding.

1.3.49. Some respondents questioned whether the outcomes were sufficiently ambitious for the scale of investment, particularly regarding wastewater outcomes. Another concern was that the outcome framework was not broad enough, with insufficient focus on genuine customer outcomes and no measures related to firefighting.

1.3.50. Specific feedback on individual outcomes is covered in each outcome area in Chapter 4 of the Final Determination.

Our assessment in the Final Determination

1.3.51. We received broad support for the additional stretch for sixteen of the outcomes proposed by Scottish Water. We maintain this challenge for eight of them.

1.3.52. For the remaining eight and some of the environmental outcomes, we propose a range with a minimum performance level aligned with the Ministerial Objectives and a stretch target. This applies to outcomes where there is greater uncertainty over performance (e.g., repeat interruptions to supply, recognising that it is a new outcome measure), or where there is an expectation of full compliance (e.g., serious pollution incidents).

1.3.53. For all outcomes, we set targets for years 3 (2029-30) and 6 (2032-33). Scottish Water has the flexibility to set annual targets for each outcome for the remaining years, subject to alignment with the targets in the Final Determination for years 3 (2029-30) and 6 (2032-33), and to at least maintain performance levels in each year. The Ministerial Objectives also require Scottish Water to maintain or improve service levels in the 2027-33 regulatory period compared to the position at 31 March 2027 and make improvements in the four areas that matter most to customers:

- Drinking water quality;
- Reliability of supply;
- Reduction in leakage; and
- Protection from internal sewer flooding.

1.3.54. We also reiterate the principles for the outcomes from the Final Methodology, including:[33]

- Annual targets should be stretching while maintaining the incentive for outperformance;
- Scottish Water should engage with stakeholders to ensure that they have confidence in the measures and targets; and
- WICS and Scottish Water should assess performance against the measures set out in the Final Determination.

1.3.55. We address several of the individual points raised on outcomes in each outcome area in Chapter 4 of the Final Determination.

Question 4: To what extent do you agree with our proposal for capital investment? Please explain your answer, including which areas of investment most influenced your view.

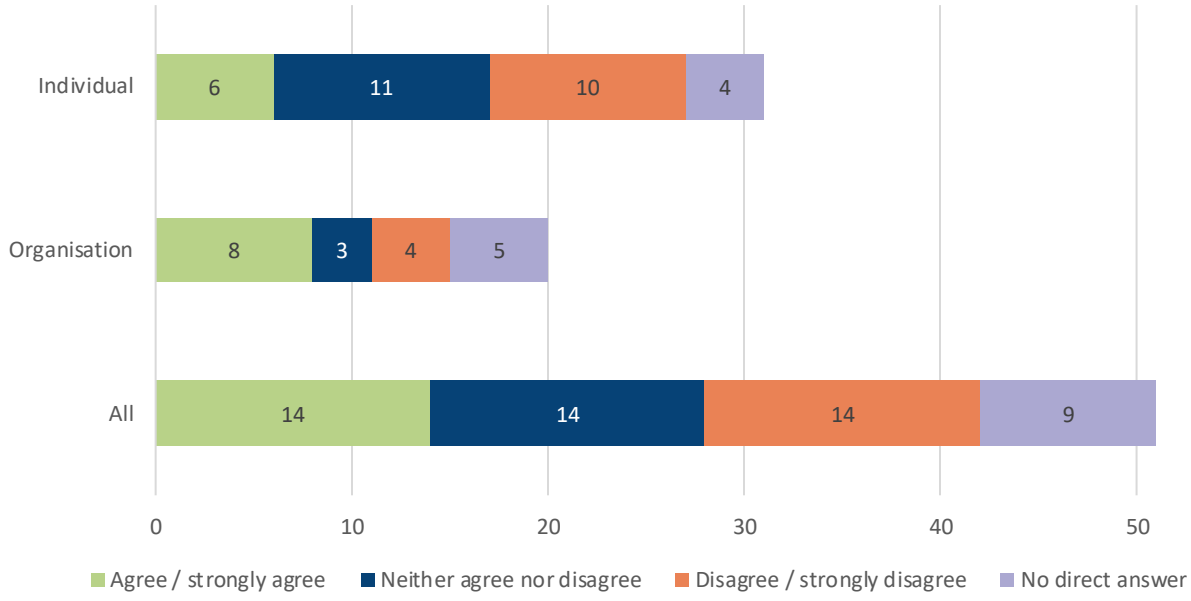
1.3.56. Table 4 and Figure 5 summarise respondents' views on Question 4. These quantitative results provide an overview of the level of support for the proposal, while the analysis below summarises the qualitative feedback received from respondents and highlights the key issues raised.

[33] WICS (2024), 'Strategic Review of Charges 2027-2033: Final Methodology', 12 December 2024, p.133.

Table 4: Summary of responses to Question 4

Respondent type	Responses	Agree / strongly agree	Neither agree nor disagree	Disagree / strongly disagree	No direct answer
Individual	31	6	11	10	4
Organisation	20	8	3	4	5
All	51	14	14	14	9

Figure 5: Summary of responses to Question 4



Scottish Water's response

1.3.57. Scottish Water agreed that the Draft Determination broadly recognises the need for increased investment and accepted a number of WICS' proposed cost challenges following further review. However, it requested that several capital expenditure adjustments should be reversed or further refined.[34]

1.3.58. Key points raised by Scottish Water included:

- Scottish Water accepted some of the capital cost challenges proposed in the Draft Determination but argued that the majority should be reversed, resulting in the reinstatement of around £100 million of investment allowances;[35]

[34] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraph 5.2.2.
[35] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraph 5.2.8.

- Scottish Water considered that elements of its final business plan had already incorporated efficiency improvements and cost challenges, reducing the need for additional adjustments;[36]
- Scottish Water proposed using the £168 million of unallocated investment funding included in the Draft Determination to support delivery of revised outcome commitments;[37] and
- Additional independent assurance was provided on deliverability, with Turner & Townsend concluding positively on internal capability, delivery partner capability and market readiness.[38]

1.3.59. Scottish Water proposed changes including: [39]

- Reinstating around £100 million of capital expenditure allowances removed through cost challenges;
- Reversing the adjustments relating to frontier efficiency and labour cost inflation;
- Provide allowance for real price effects through an uncertainty mechanism;
- Reinstating project allowances where additional evidence had been provided to support need, scope and deliverability; and
- Reducing allowances for some specific areas where Scottish Water has reviewed the project scope since the final business plan.

1.3.60. Appendix 2 addresses the points from Scottish Water's feedback on investment in detail.

Stakeholder responses

1.3.61. Consumer Scotland highlighted the importance of considering long-term value and intergenerational fairness, noting the risk that lower-cost interventions or the deferral of investment could transfer costs and unresolved risks to future customers.[40] It welcomed the additional £50 million proposed in the Draft Determination for sewer flooding, noting that this reflected a priority consistently identified through its deliberative consumer research. It considered the additional funding a positive example of consumer priorities informing regulatory decisions and expected it to provide greater assurance that sewer flooding risks and impacts would be addressed, while emphasising the importance of measuring and

[36] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraph 5.2.12.
[37] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraph 5.2.4.
[38] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraph 5.2.3.
[39] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraph 5.3.4.
[40] Consumer Scotland (2026), 'Strategic Review of Charges 2027-33: Draft Determination', 1 September 2026, p.27.

communicating the resulting benefits to consumers.[41] Consumer Scotland emphasised that the use of the additional investment allowances should be subject to clear governance, transparency and accountability, with reporting demonstrating how funding decisions delivered value for money and tangible benefits for customers and communities.[42]

1.3.62. The ICG considered that the Draft Determination represented an attractive package for customers, combining a lower charging profile with £168 million of additional investment in service areas important to customers, improved outcomes in priority areas and safeguards for uncertain costs. However, it emphasised that, alongside value for money, customers expected Scottish Water to maintain high-quality water and wastewater services and did not want service standards to decline.[43]

1.3.63. DWQR welcomed our Draft Determination and was broadly supportive of the proposed investment programme, considering the underlying drinking water quality drivers to be justified and the investment necessary to maintain and operate Scotland's drinking water infrastructure effectively, protect public health and support the industry's long-term vision. DWQR nevertheless highlighted the scale of the delivery challenge and that it intends to seek further assurance from Scottish Water that the programme remains deliverable and that operational efficiency challenges do not adversely affect essential activities or asset maintenance.[44]

1.3.64. SEPA welcomed several positive aspects of the Draft Determination, including support for continued investment and improvement. However, there was concern that the proposed level of funding may not reflect the scale of investment required to address these challenges.[45] SEPA supported the principle of "study first, invest later" but considered that further investment might be required to address needs that emerged from studies during the period.[46] It considered that the "study first, invest later" approach risks delaying the delivery of statutory objectives.

Responses by other organisations and individuals

1.3.65. Respondents who answered 'agree' or 'strongly agree' gave several reasons, including:

- 7 respondents recognised the need for investment to provide resilient and reliable water and wastewater infrastructure;

[41] Consumer Scotland (2026), 'Strategic Review of Charges 2027-33: Draft Determination', 1 September 2026, p.18.
[42] Consumer Scotland (2026), 'Strategic Review of Charges 2027-33: Draft Determination', 1 September 2026, p.33.
[43] Independent Customer Group (2026), 'Water Industry Commission Draft Determination for SRC27: ICG response', 1 September 2026, p.3.
[44] DWQR (2026), 'Strategic Review of Charges 2027-33: Draft Determination', 31 August 2026, pp.1-2.
[45] SEPA (2026), 'SEPA Feedback on WICS Draft Determination of Charges 2027/33', 31 August 2026, p.2
[46] SEPA (2026), 'SEPA Feedback on WICS Draft Determination of Charges 2027-2033', 31 August 2026, p.3.

- 2 respondents covered other areas, including demand management, the need for more sustainable blue-green solutions and concern over data centres; and
- 5 respondents provided no further comment.

1.3.66. Several respondents also welcomed WICS review and challenge of the programme and expected continued scrutiny of costs, delivery and benefits delivered.

1.3.67. Respondents who answered 'disagree' or 'strongly disagree' gave several reasons, including:[47]

- 2 respondents considered that WICS had not challenged Scottish Water's proposals enough;
- 2 respondents sought improvements to planning, delivery and funding for new capacity to ensure that there is an adequate water supply for firefighting;
- 2 respondents suggested changes to how investment is funded;
- 2 respondents raised concerns that shareholders would benefit from a larger investment programme;
- 3 respondents raised other points, including concern over how asset maintenance requirements are determined, concern over delivery constraints, while another considered that investment should be increased further; and
- 2 respondents provided no further comment.

1.3.68. Respondents who answered 'neither agree nor disagree' raised similar points to those above.

Our assessment in the Final Determination

1.3.69. Overall, we consider that the consultation responses reinforce the need for a substantial programme of investment, while also demonstrating that support for investment is closely linked to confidence that expenditure is necessary, efficient, deliverable and capable of delivering clear benefits for customers and the environment. The responses also underline the importance of balancing current affordability with long-term resilience and intergenerational fairness, and of retaining sufficient flexibility to respond as evidence and investment needs develop during the period.

1.3.70. One respondent raised concerns that the Draft Determination's capital maintenance allowance relied too heavily on asset age and volume-based management approaches. The respondent considered these approaches insufficiently risk-based to optimise infrastructure resilience and considered that investment should instead be informed by asset condition, criticality and the consequences of failure. The respondent questioned allowing significant maintenance expenditure while requiring Scottish Water to improve its asset management

[47] The other respondent who disagreed was Scottish Water, which is covered above.

evidence base during the 2027-33 period. The respondent therefore called for clearer regulatory consequences if improvement milestones were not met, robust scrutiny of the external assurance underpinning Scottish Water's management approaches, and demonstrable progress towards a more mature, risk-based approach to asset management during the 2027-33 period.

1.3.71. We recognise the points raised by the respondent and consider that Scottish Water needs to make further progress in its understanding of asset condition, criticality, and the consequences of failure. As such, we will review Scottish Water's progress against the milestones set out in its Draft Determination consultation response and consider future steps to ensure it continues to make progress. We will also consider the scope for specific external assurance in this area.

1.3.72. Our Final Determination reinstated a large proportion of the investment Scottish Water requested, where it was well supported by the new evidence, but updated and confirmed cost challenges where limited new evidence was provided. We accepted Scottish Water's proposed investment reductions and adjusted the productivity challenge we applied. We also further reduced investment allowances based on the latest project investment appraisal cost estimates for several water projects.

1.3.73. All of these adjustments resulted in a relatively small reduction of the total investment allowed from £7,946 million in the Draft Determination to £7,922 million in the Final Determination. The total investment falls within the mid- to upper-range for investment that can be delivered efficiently, recognising that some delivery risk remains.

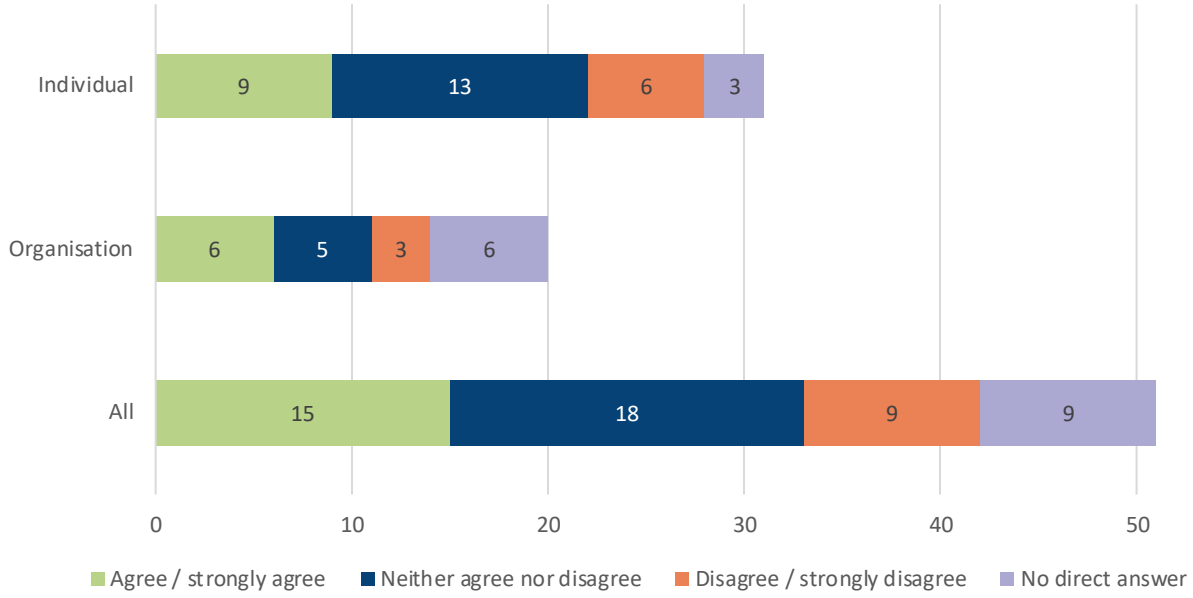
Question 5: To what extent do you agree with our proposal for operating expenditure? Please explain your answer, including which areas of operating expenditure most influenced your view.

1.3.74. Table 5 and Figure 6 summarise respondents' views on Question 5. These quantitative results provide an overview of support for the proposal, while the analysis below summarises the qualitative feedback from respondents and highlights the key issues raised.

Table 5: Summary of responses to Question 5

Respondent type	Responses	Agree / strongly agree	Neither agree nor disagree	Disagree / strongly disagree	No direct answer
Individual	31	9	13	6	3
Organisation	20	6	5	3	6
All	51	15	18	9	9

Figure 6: Summary of responses to Question 5



Scottish Water's response

1.3.75. Scottish Water considered that the Draft Determination does not provide sufficient funding for operating expenditure. It considered that the combined impact of the proposed efficiency assumptions and cost adjustments would reduce the funding available for investment and consequently the outcomes delivered to customers.[48]

1.3.76. Key points raised by Scottish Water included:

- The Draft Determination applies an effective ongoing efficiency challenge of around 2% per year, which Scottish Water considered is unsupported by evidence, inconsistent with wider UK regulatory practice and risks undermining delivery of Ministerial Objectives;[49]
- Scottish Water considered the increase in the frontier efficiency challenge from 0.8% to 1.0% is not supported by recent regulatory precedent and cited the CMA's PR24 redetermination, which adopted a frontier shift assumption of 0.7% for the water sector; [50]
- The Draft Determination should provide a higher allowance for operating costs associated with returning PFI assets. Scottish Water considered that it should recover

[48] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraph 6.2.1.
[49] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraph 6.2.2.
[50] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraph 6.2.2.

actual costs until efficiencies can be realised through operational changes and the WCB investment; [51]

- Scottish Water challenged reductions relating to energy costs, arguing that they would require Scottish Water to outperform upper-quartile efficiency benchmarks;[52] and
- Updated analysis of bad debt and local authority collection rates indicates that cash collection performance may deteriorate as charges increase. Scottish Water estimated that a further £81 million may be required to address the impact of lower cash collection rates over the 2027-33 period.[53]

1.3.77. Scottish Water proposed changes, including:[54]

- Reducing the frontier efficiency challenge from 1.0% to 0.8% per year;
- Providing full funding for forecast increases in energy costs and other operating cost pressures, including additional chemical costs;
- Allowing Scottish Water to recover expected operating costs associated with returning PFI assets until mid-2031, after which efficiency savings could be reflected in allowances; and
- Expanding the uncertainty mechanism to include changes in customer cash collection rates and associated working capital requirements.

Stakeholder responses

1.3.78. Consumer Scotland highlighted that Scottish Water should consider prevention and behaviour change alongside traditional operational efficiencies. Consumer Scotland considered that behavioural change such as lower consumption could enable Scottish Water to reduce avoidable expenditure as well as protect both infrastructure and the environment. Consumer Scotland welcomed Scottish Water's energy purchasing strategy but sought greater transparency on future energy cost risks and how these would be managed to protect affordability and long-term outcomes. It also sought greater transparency and reporting on bad debt levels and management arrangements, emphasising the importance of monitoring affordability risks, customer impacts and the effectiveness of debt recovery practices. [55]

[51] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraphs 6.2.4 to 6.2.6.
[52] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraph 6.2.9.
[53] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraphs 6.2.11 and 6.2.12.
[54] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraphs 6.3.1 and 6.3.2.
[55] Consumer Scotland (2026), 'Strategic Review of Charges 2027-33: Draft Determination', 1 September 2026, pp.27-29.

1.3.79. DWQR sought assurances that the agreed programme remains deliverable within the regulatory period and that any operational efficiency challenges do not adversely impact essential activity or the maintenance of assets.[56]

Responses by other organisations and individuals

1.3.80. Respondents who answered 'agree' or 'strongly agree' gave several reasons, including:

- 5 respondents welcomed the scrutiny of operating expenditure in ensuring value-for-money, with 2 of these respondents requesting close monitoring during the period to ensure that these efficiencies do not come at the expense of service delivery;
- 1 respondent called for incentives alongside smart meter roll-out for operational demand and reduced expenditure; and
- 9 provided no further comment.

1.3.81. Respondents who answered 'disagree' or 'strongly disagree' gave several reasons, including:[57]

- 4 respondents considered that the efficiency challenge should be greater;
- 2 respondents raised concerns regarding traffic management costs in connection to hydrant works that have increased 300% in a year and the lack of transparency of those costs; and
- 2 provided no further comment.

1.3.82. Respondents who answered 'neither agree nor disagree' raised similar points to those above. One respondent also noted that the treatment of returning PFI sites merits further scrutiny, recognising the inherent uncertainty in their operating costs. The respondent requested a more explicit mechanism for reviewing returning PFI costs.

Our assessment in the Final Determination

1.3.83. Overall, we consider that the consultation responses reinforce the need for Scottish Water to have sufficient funds to provide a reliable water service, while also ensuring that its operating expenditure is efficient and that any increases are well evidenced.

1.3.84. We have taken this on board in our Final Determination. We have fully accepted the evidence Scottish Water provided for chemical costs, bad debt, and costs for returning PFI works; partially accepted the evidence for its energy costs; and did not accept its evidence for national insurance contributions.

[56] DWQR (2026), 'Strategic Review of Charges 2027-33: Draft Determination', 31 August 2026, p.2.
[57] The other respondent who disagreed was Scottish Water, which is covered above.

1.3.85. We updated our productivity efficiency challenge to begin at 0.8% per annum in 2027-28, increasing to 1% by 2032-33. This ensures that we continue to challenge Scottish Water on efficiency while reflecting the recent downgrades in short- to medium-term forecasts of economy-wide productivity. The efficiency challenge remains at a level that is more demanding than the final business plan assumption.

1.3.86. We also updated our analysis of actual costs (e.g., PFI contract costs in 2025-26) and forecasts (e.g., cost inflation).

1.3.87. We confirm that we will collect more granular information on bad debt management and revenue collection rates as part of the regulatory accounts and annual return submission from Scottish Water. This also aligns with the feedback from Consumer Scotland.

1.3.88. As we have allowed additional funding for returning PFI sites, in line with Scottish Water's suggested transition, we do not consider that a separate mechanism covering uncertain future costs at these sites is necessary (see paragraph 1.3.82).

1.3.89. All these adjustments resulted in an increase in the total operating expenditure allowed, from £3,401 million in the Draft Determination to £3,505 million in the Final Determination; however, the PFI contract expenditure allowance decreased slightly from £435 million to £421 million.

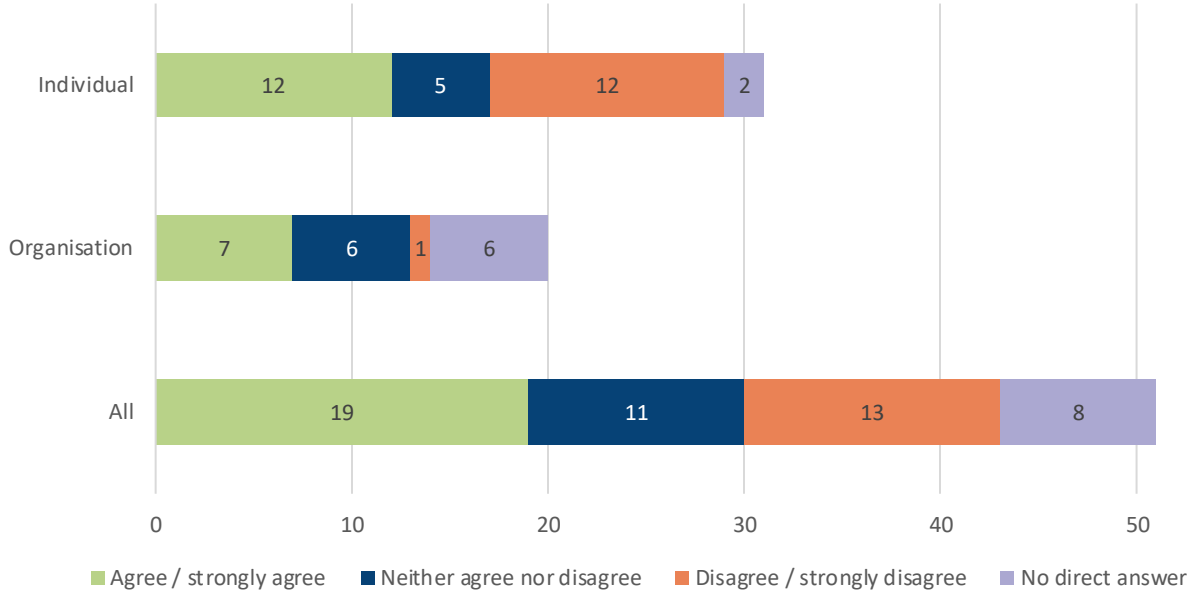
Question 6: To what extent do you agree with our proposal to introduce a conditional charge cap? Please explain your answer.

1.3.90. Table 6 and Figure 7 summarise respondents' views on Question 6. These quantitative results provide an overview of the level of support for the proposal, while the analysis below summarises the qualitative feedback received from respondents and highlights the key issues raised.

Table 6: Summary of responses to Question 6

Respondent type	Responses	Agree / strongly agree	Neither agree nor disagree	Disagree / strongly disagree	No direct answer
Individual	31	12	5	12	2
Organisation	20	7	6	1	6
All	51	19	11	13	8

Figure 7: Summary of responses to Question 6



Scottish Water's response

1.3.91. Scottish Water raised concerns regarding the Draft Determination's proposal to apply a conditional charge cap to the West Central Bioresources (WCB) project. Scottish Water considered that the proposal would create significant funding uncertainty, increase planning and delivery risk, and potentially delay project delivery.[58] Scottish Water further considered that any delays could reduce the operating cost efficiencies expected from the project during SR27 and, consequently, reduce the funding available for investment elsewhere in the programme.[59]

1.3.92. Scottish Water explained that the conditional charge cap was unnecessary from a customer-protection perspective and considered that customer interests could be adequately protected through existing performance-monitoring arrangements and the IPPF process.[60] Scottish Water further considered that the proposal was inconsistent with the objective of maintaining a dynamic investment programme and achieving a smooth profile of investment and charges over time.[61]

1.3.93. Scottish Water also expressed concern that the proposal could create a circularity in project delivery, whereby Scottish Water may be unable to commit to procurement activities without funding certainty. However, Scottish Water may be unable to demonstrate costs

[58] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraphs 1.3.24, 3.2.8, 7.2.1 and 7.2.2.
[59] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraph 7.2.3.
[60] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraphs 3.2.9, 3.3.1 and 7.2.6.
[61] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraphs 3.2.9, 7.2.4, 7.2.5 and 7.2.6.

without first undertaking procurement. Scottish Water considered that if the requirements to access the cap proved difficult to satisfy, it could be exposed to construction cost risks beyond its reasonable control, thereby increasing overall project costs.[62]

1.3.94. More broadly, Scottish Water considered that making approximately £225 million of funding contingent on a single project reduced the flexibility of the overall investment programme.[63] Scottish Water noted that, if the project did not proceed during the 2027-33 period, the funding would be removed rather than reprioritised through the IPPF process. This could potentially create funding pressures in future regulatory periods when the project and other investment priorities would need to be funded simultaneously.[64] Scottish Water, therefore, considered that the conditional charge cap could undermine intergenerational fairness by creating sharper future increases in investment requirements and customer charges in future periods.[65]

1.3.95. Scottish Water also noted that it already provides transparency on financial performance and investment delivery, and that the IPPF provides an established mechanism to consider any required reprioritisation of investment.[66] Scottish Water further considered that making funding contingent on the delivery of the West Central Bioresources project would not materially reduce the risk of cost overruns elsewhere in the programme, as any such issues would be visible through performance reporting and subject to stakeholder scrutiny.[67]

1.3.96. Regarding the conditional charge caps for uncertain costs, Scottish Water supported the principle and use of uncertainty mechanisms where costs arise from factors outside management control.[68] Scottish Water proposed an alternative approach, which did cover additional pension contributions.[69]

[62] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraph 7.2.2.
[63] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraphs 7.2.4, 7.2.5 and 7.2.9.
[64] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraphs 7.2.4 and 7.2.5.
[65] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraphs 3.2.9, 7.2.4, 7.2.5 and 7.2.6.
[66] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraph 7.2.8.
[67] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraph 7.2.11.
[68] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraph 1.3.22
[69] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraphs 1.3.23, 2.2.28 and 5.3.4

1.3.97. Scottish Water also considered that, given its financing arrangements and limited ability to absorb in-period shocks, the threshold for interim determinations should be reduced from 10% to 5% of annual revenue (on a net present value basis).[70]

Stakeholder responses

1.3.98. Consumer Scotland welcomed the use of conditional charge caps and considered them an effective mechanism for protecting customers from paying more than necessary and from paying in advance for uncertain costs. Consumer Scotland considered that this approach provides greater assurance that any future increase in charges will be supported by robust evidence and transparent decision-making.[71]

1.3.99. Consumer Scotland also emphasised the importance of transparency in the operation of any conditional charging mechanism. In particular, Consumer Scotland considered that customers and stakeholders should have visibility of the evidence required to trigger additional charges, the outcomes expected to be delivered, and the opportunities available for stakeholder scrutiny before any increase in charges is approved. Consumer Scotland considered that such transparency would be important in maintaining customer confidence that charges are only increased where costs are justified and demonstrably in customers' interests.

1.3.100. Similarly, the Independent Customer Group (ICG) welcomed the principle that customers should not pay in advance for costs that may not materialise during the regulatory period, including through the proposed conditional allowance for the West Central Bioresources project.[72]

Responses by other organisations and individuals

1.3.101. Respondents who answered 'agree' or 'strongly agree' gave several reasons, including:

- 8 respondents supported the principle of conditional charge caps as a mechanism to protect customers;
- 2 respondents also supported the principle but sought further clarification on the evidence required. 1 of these respondents also sought confirmation that lower revenue from reduced consumption due to the deployment of smart meters would not be recoverable under the mechanism; and
- 9 respondents provided no further comment.

[70] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraphs 3.2.10 and 3.3.1
[71] Consumer Scotland (2026), 'Strategic Review of Charges 2027-33: Draft Determination', 1 September, p.30.
[72] Independent Customer Group (2026), 'Water Industry Commission Draft Determination for SRC27: ICG response', 1 September 2026, paragraph 8.

1.3.102. Respondents who answered 'disagree' or 'strongly disagree' gave several reasons, including:[73]

- 5 respondents had concerns over the conditional charge cap transferring risk and cost onto customers, with some also citing wider affordability concerns;
- 1 respondent had concern over the environmental impact of West Central Bioresources; and
- 6 respondents provided no further comment.

1.3.103. Respondents who answered 'neither agree nor disagree' raised similar points to those highlighted above.

1.3.104. Overall, consultation responses demonstrated support for the principle that customers should not be required to fund uncertain costs in advance. The responses also highlight the importance of transparency, clear governance arrangements, and appropriate safeguards to ensure that any future uplift in charges is justified and demonstrably in customers' interests.

Our assessment in the Final Determination

1.3.105. We confirm the approach to conditional charge caps as an appropriate and proportionate safeguard for customers. It provides protection against customers' funding costs before uncertainties are resolved, while allowing Scottish Water to continue project development. We therefore apply the conditional charge cap for the West Central Bioresources project in this Final Determination.

1.3.106. However, we recognise that the conditional charge cap mechanism needs to remain proportionate to avoid causing delivery risks or additional costs. Therefore, our approach is based on an objective, procedural review of the evidence. Its purpose is to enhance transparency in the West Central Bioresources project while protecting customers from potential cost escalation. We have set out the process in the Final Determination for Scottish Water to access the conditional charge cap.

1.3.107. Regarding the conditional charge caps on uncertain costs, we have carefully considered Scottish Water's alternative uncertainty mechanism, including further engagement with Scottish Water on it. We decided that our methodology for applying these mechanisms from the Draft Determination remains the most appropriate for the Final Determination. We do not accept Scottish Water's proposal for an uncertainty mechanism for household growth; however, we partially accept its proposal for revenue collection rates and require further information to be provided throughout the regulatory period to monitor these. We

[73] The other respondent who disagreed was Scottish Water, which is covered above.

also do not make a further adjustment for real price effects as Scottish Water envisages; however, we do refine our approach.

1.3.108. The Final Determination conditional price cap for uncertain costs is set at 0.3% and covers lower revenue collection rates, energy and capital cost inflation above CPI inflation. It cannot be used to recover any other revenue or cost items, which was a concern for respondents in the consultation. We also provide details on the approach to the mechanism and outline the process for applying for it through the annual Scheme of Charges submission.

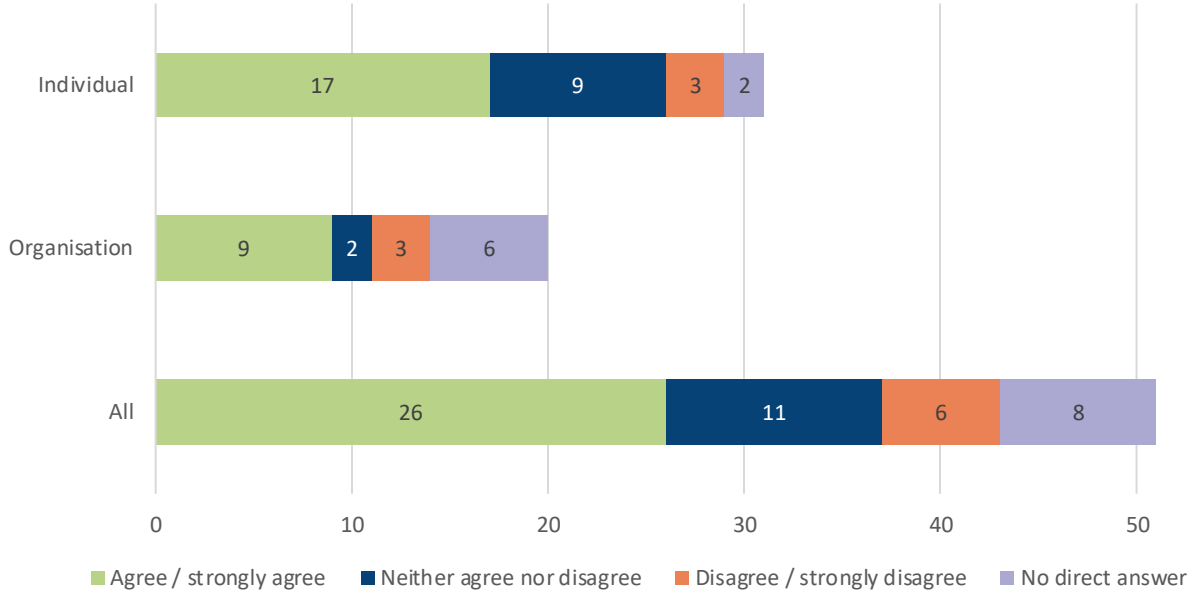
Question 7: To what extent do you agree with our proposals for monitoring Scottish Water's performance over SRC27? Please explain your answer, including which areas of performance monitoring most influenced your view.

1.3.109. Table 7 and Figure 8 summarise respondents' views on Question 7. These quantitative results provide an overview of the level of support for the proposal, while the analysis below summarises the qualitative feedback received from respondents and highlights the key issues raised.

Table 7: Summary of responses to Question 7

Respondent type	Responses	Agree / strongly agree	Neither agree nor disagree	Disagree / strongly disagree	No direct answer
Individual	31	17	9	3	2
Organisation	20	9	2	3	6
All	51	26	11	6	8

Figure 8: Summary of responses to Question 7



Scottish Water's response

1.3.110. Scottish Water broadly supported the proposed monitoring and governance framework but considered that reporting requirements should be proportionate in terms of cost and impact on the investment programme. Furthermore, Scottish Water considered that any decisions relating to performance-related pay (PRP) should remain a matter for Scottish Water's governance arrangements rather than for WICS.[74]

1.3.111. Key points raised by Scottish Water included:

- Scottish Water supported the use of the IPPF as a mechanism for addressing funding pressures and changing investment priorities during the regulatory period as well as for managing uncertain costs that arise following the Final Determination and which are not otherwise addressed through uncertainty mechanisms;[75]
- Scottish Water broadly welcomed the principles underpinning the proposed approach for the performance-related pay (PRP) framework. It emphasised that decisions on whether, and to what extent, employees should receive performance-related pay should remain matters for Scottish Water's Board and Remuneration Committee, subject to the normal approval arrangements with the Scottish Government;[76] and
- Scottish Water expressed concern that WICS' proposed in-the-round assessment of performance prior to PRP payments could introduce an additional element of

[74] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: Consultation Response', 1 September 2026, paragraphs 8.1.1, 8.1.3 and 8.2.5.
[75] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: Consultation Response', 1 September 2026, paragraphs 8.2.1 and 8.3.1.
[76] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraphs 8.2.3 and 8.2.5.

judgement and reduce the certainty of the framework.[77] Scottish Water considered that this could weaken the scheme's incentive properties and, if perceived as overly restrictive, affect employee motivation.[78]

Stakeholder responses

1.3.112. Consumer Scotland welcomed WICS' focus on placing the customer voice at the heart of SRC27 and emphasised that any material changes to commitments, investment priorities or outcomes during 2027-33 should be assessed against the Final Determination and the proposals consumers supported. It called for clear and transparent processes, including scrutiny, consumer engagement and reporting mechanisms, to ensure consumer support is not undermined during delivery, and stressed that any assessment of support for proposed changes should be based on robust, transparent and proportionate engagement that accurately reflects consumer views in decision-making.[79]

1.3.113. Consumer Scotland supported a more transparent, outcomes-focused performance framework and emphasised that reporting should clearly demonstrate how investment, risk and performance decisions translate into consumer outcomes. It called for greater transparency on the impacts of delays or changes to investment programmes, the trade-offs involved in decision-making, and the implications for expected consumer benefits, to strengthen accountability and confidence that investment is delivering outcomes that matter to customers and communities.[80]

1.3.114. Consumer Scotland considered that customers have a limited understanding of Scottish Water's executive pay and performance-related pay arrangements. It also considered that WICS should provide assurance that any reported outperformance reflects genuine improvements in customer outcomes and that any associated rewards are proportionate to the value delivered. [81]

1.3.115. The Independent Customer Group also welcomed the proposed performance monitoring to ensure that investment is aligned with the Final Determination and that Scottish Water is delivering on outcomes and outputs for customers. It emphasised that the customer voice should remain central throughout the 2027-33 period and called for a robust

[77] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, p.47, paragraph 8.2.6.
[78] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, pp.47-48, paragraphs 8.2.6 and 8.2.8.
[79] Consumer Scotland (2026), 'Strategic Review of Charges 2027-33: Draft Determination Consultation Response', 1 September 2026, pp.30-31.
[80] Consumer Scotland (2026), 'Strategic Review of Charges 2027-33: Draft Determination Consultation Response', 1 September 2026, pp.31-32.
[81] Consumer Scotland (2026), 'Strategic Review of Charges 2027-33: Draft Determination', 1 September 2026, pp.37-38.

stakeholder-led mechanism, including customer representation, to collectively consider any future reprioritisation of investment. [82]

1.3.116. SEPA and DWQR highlighted the importance of maintaining sufficient flexibility to address emerging drinking water, environmental and compliance risks, while ensuring that any reprioritisation remains visible to stakeholders and subject to appropriate scrutiny.[83, 84]

Responses by other organisations and individuals

1.3.117. Respondents who answered 'agree' or 'strongly agree' gave several reasons, including:[85]

- 4 respondents supported our proposals for reporting, covering several areas such as the frequency of reporting;
- 4 respondents welcomed the inclusion of outcome targets to drive delivery;
- 1 respondent supported the proposals but suggested wider monitoring of areas such as affordability, customer confidence and distributional impacts of charging methodologies;
- 1 respondent commented on the linkage between Scottish Water's performance and Executive remuneration; and
- 15 provided no further comment.

1.3.118. Respondents who answered 'disagree' or 'strongly disagree' gave several reasons, including:

- 2 respondents considered that the proposals for performance monitoring should go further with additional sanctions for underperformance;
- 1 respondent highlighted concern over the accuracy of Scottish Water's reporting and requested further assurance;
- 2 respondents requested updated service level agreements with Scottish Water relating to firefighting; and
- 1 provided no further comment.

1.3.119. Respondents who answered 'neither agree nor disagree' raised similar points to those above. One further point raised was concern over WICS chairing WIIG and the level of oversight of investment delivery. The respondent requested that WICS set out its rationale for accepting the role as chair.

[82] Independent Customer Group (2026), 'Water Industry Commission's Draft Determination for SRC27: ICG response', 1 September 2026, paragraphs 8 and 12.
[83] SEPA (2026), 'SEPA Feedback on WICS Draft Determination of Charges 2027-2033', 31 August 2026, p.3.
[84] DWQR (2026), 'Strategic Review of Charges 2027-33: Draft Determination', 31 August 2026, p.3.
[85] One further respondent was Scottish Water, which is covered above.

Our assessment in the Final Determination

1.3.120. Our Final Determination confirms and strengthens the arrangements for monitoring Scottish Water's performance. This aligns with the positive feedback received on these elements of the Draft Determination.

1.3.121. The Final Determination sets out further details on the delivery plan process and the regulatory change process. In line with feedback from both Consumer Scotland and the Independent Customer Group, we consider it crucial that the delivery plans remain consistent with the basis on which customers supported the final business plan and which underpinned the assurances relating to the Determination commanding customer support.

1.3.122. One respondent asked for more information on WICS rationale for accepting the role of chairing WIIG. This was accepted on the basis that it aligns with WICS broader performance monitoring role.

1.3.123. WICS has now taken responsibility for chairing the stakeholder group, the Water Industry Investment Group (WIIG), focusing on ensuring Scottish Water is:

- delivering investment in line with WICS' Final Determination and delivery plans;
- delivering the outcomes and outputs for customers it has committed to deliver; and
- ultimately, delivering on the Ministerial Objectives.

1.3.124. Following the group meetings, WICS will produce a short report summarising the outcomes and setting out any significant factors regarding the delivery of the investment programme and, ultimately, Ministerial Objectives. This will ensure that Scottish Water is held to account for delivery over the 2027-33 regulatory period.

1.3.125. In relation to comments in the context of firefighting, it is Scottish Water's responsibility as the operator to comply with all relevant legislation. We will engage with Scottish Water on these matters raised.

1.3.126. This confirmed approach also applies to Question 8 below.

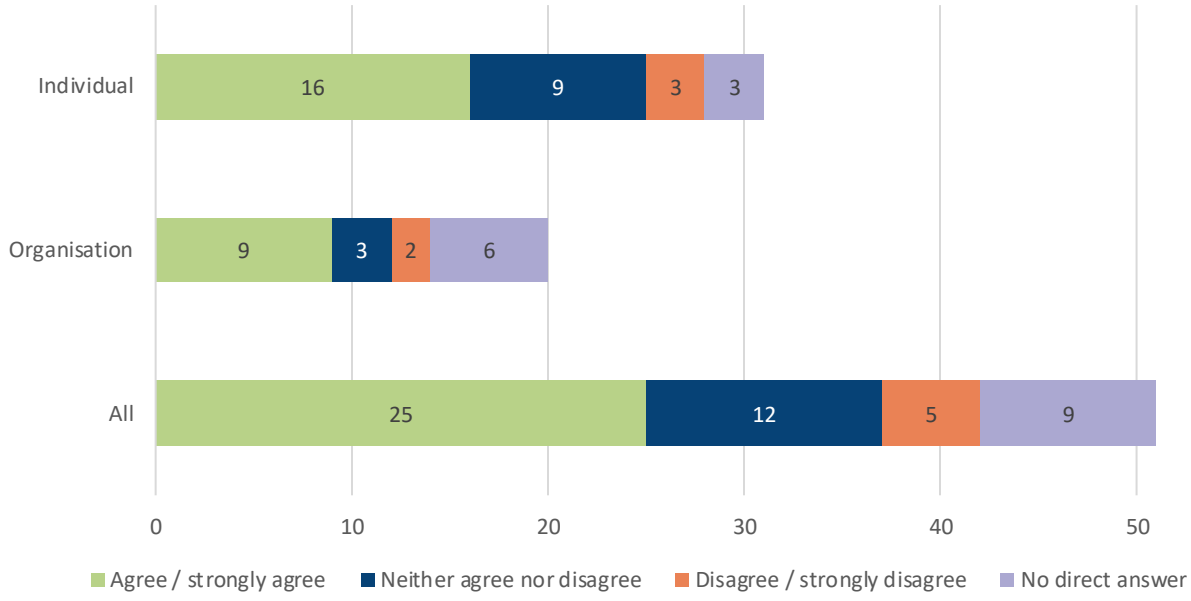
Question 8: To what extent do you agree with our proposals for monitoring the delivery of Scottish Water's investment programme? Please explain your answer, including which aspects of the Investment Planning and Prioritisation Framework (IPPF) most influenced your view.

1.3.127. Table 8 and Figure 9 summarise respondents' views on Question 8. These quantitative results provide an overview of the level of support for the proposal, while the analysis below summarises the qualitative feedback received from respondents and highlights the key issues raised.

Table 8: Summary of responses to Question 8

Respondent type	Responses	Agree / strongly agree	Neither agree nor disagree	Disagree / strongly disagree	No direct answer
Individual	31	16	9	3	3
Organisation	20	9	3	2	6
All	51	25	12	5	9

Figure 9: Summary of responses to Question 8



Scottish Water's response

1.3.128. Scottish Water welcomed WICS' proposals to strengthen monitoring and reporting during the 2027-33 period and committed to providing a delivery plan aligned with the Final Determination. It also emphasised the importance of maintaining a proportionate, risk-based monitoring framework that remains focused on customer and environmental outcomes, whilst being integrated with the Investment Planning and Prioritisation Framework (IPPF) and existing governance arrangements.[86]

1.3.129. Key points raised by Scottish Water included:

[86] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraphs 9.1.1 to 9.3.1.

- Scottish Water committed to providing annual updates to the delivery plan, alongside annual reporting on outcomes, outputs and investment delivery through the Annual Return process;[87]
- The IPPF should remain the primary mechanism for reviewing delivery progress, addressing changes in circumstances and funding, and facilitating stakeholder input on investment prioritisation;[88] and
- The monitoring framework should be able to recognise external delivery risks and provide mechanisms for discussing their implications.[89]

Stakeholder responses

1.3.130. Consumer Scotland considered that resulting changes to commitments for the 2027-33 period should be supported by robust evidence, rigorous scrutiny and meaningful consideration of consumer views to ensure they remain aligned with consumers' priorities and expectations.[90]

1.3.131. Consumer Scotland welcomed WICS' proposed safeguards across price, monitoring and incentives. Consumer Scotland supported transparent, publicly accessible reporting that clearly demonstrates the benefits delivered to consumers, explains performance against commitments and outcomes achieved, and sets out the impacts of any delays, deferrals or reprioritisation of investment, thereby strengthening accountability and public confidence.[91] Consumer Scotland highlighted the value of local and regional reporting where feasible, noting that national-level measures can mask significant variation in performance and customer experience across Scotland.[92] Furthermore, it highlighted the importance of ensuring that stakeholders can understand both the causes of underperformance and the actions being taken to address it.[93]

1.3.132. Consumer Scotland also emphasised the need for a more strategic and transparent approach to benefits realisation and proposed developing a strategic framework to track anticipated and realised benefits over time. It considered that monitoring should provide

[87] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraph 9.1.2.
[88] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraph 9.2.2.
[89] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraph 9.2.4.
[90] Consumer Scotland (2026), 'Strategic Review of Charges 2027-33: Draft Determination', 1 September 2026, pp.32-33.
[91] Consumer Scotland (2026), 'Strategic Review of Charges 2027-33: Draft Determination', 1 September 2026, pp.33-34.
[92] Consumer Scotland (2026), 'Strategic Review of Charges 2027-33: Draft Determination', 1 September 2026, pp.19-25, 35.
[93] Consumer Scotland (2026), 'Strategic Review of Charges 2027-33: Draft Determination', 1 September 2026, pp.30-36.

an evidence base to support future decisions and ensure that resources remain focused on the areas delivering the greatest value to customers and communities.[94]

1.3.133. Consumer Scotland, SEPA, DWQR and other stakeholders highlighted the need for a clear and publicly accessible baseline against which Scottish Water can be held to account throughout the regulatory period. Respondents sought greater visibility of what has been delivered, what benefits have been realised, and where investment has been deferred, reprioritised or removed, together with clear explanations for those decisions.[95, 96, 97]

Responses by other organisations and individuals

1.3.134. Respondents who answered 'agree' or 'strongly agree' gave several reasons, including:

- 7 respondents supported our proposals for reporting of the investment programme covering several areas, including enhanced accountability;
- 1 respondent supported the proposals, but requested greater detail on the operation of the conditional charge cap for uncertain costs;
- 1 respondent supported the proposals but suggested broader monitoring of areas such as affordability, customer confidence and distributional impacts of charging methodologies;
- 1 respondent commented on the linkage between Scottish Water's performance and Executive remuneration;
- 1 respondent agreed with reservations, but sought more detail on the consequences of underperformance; and
- 14 provided no further comment.

1.3.135. Respondents who answered 'disagree' or 'strongly disagree' gave several reasons, including:

- 1 respondent had concerns that the in-period process for agreeing changes to the delivery plan would reduce accountability and sought that funding be returned to customers for undelivered investment;
- 1 sought further incentives for additional investment;
- 2 respondents sought further engagement from Scottish Water on its delivery plan with respect to firefighting; and
- 1 provided no further comment.

[94] Consumer Scotland (2026), 'Strategic Review of Charges 2027-33: Draft Determination', 1 September 2026, pp.10-11.
[95] Consumer Scotland (2026), 'Strategic Review of Charges 2027-33: Draft Determination', 1 September 2026, p. 31.
[96] SEPA (2026), 'SEPA Feedback on WICS Draft Determination of Charges 2027-2033', 31 August 2026, pp.2-3.
[97] DWQR (2026), 'Strategic Review of Charges 2027-33: Draft Determination', 31 August 2026, p.2.

Our assessment in the Final Determination

1.3.136. The approach set out above in paragraphs 1.3.120 and 1.3.121 also applies to Question 8 of the consultation, as the confirmed approach also relates to how we will monitor Scottish Water's delivery of the investment programme. As set out above, the Final Determination provides further details on the regulatory change process. This achieves a balance between flexibility and the need to hold Scottish Water to account for delivery.

1.3.137. In line with feedback from both Consumer Scotland and the Independent Customer Group, we consider it crucial that the delivery plans remain consistent with the basis of which customers supported the final business plan and which underpinned the assurances relating to the Determination commanding customer support. If there are material deviations, then we expect Scottish Water to evidence that the changes command customer support.

1.3.138. In relation to comments in the context of firefighting, it is Scottish Water's responsibility as the operator to comply with all relevant legislation and engage with relevant stakeholders when developing its investment plans. We will engage with Scottish Water on these matters raised.

1.3.139. Our Final Determination confirms that we will comment on Scottish Water's performance through our annual report on Scottish Water's performance. Our public comment and the associated reputational impact remain an important consequence of underperformance under our existing powers.

2. Review of the investment programme

2.1. Overview

2.1.1. For reference, figures for investment and expenditure in this document are given in 2024-25 prices unless otherwise stated. Figures for bills and customer savings are given in 2026-27 prices unless otherwise stated.

2.1.2. This appendix provides further detail for Chapter 5 Capital investment and how WICS has reviewed and analysed the investment projects and programmes of work within Scottish Water's final business plan.

2.1.3. WICS used several approaches for the review based on criteria such as the overall 2027-33 cost for the investment areas within the investment programmes, the availability of benchmarking data from England and Wales companies, the availability of investment cases, the development maturity of the proposed projects and programmes of work, and others.

2.1.4. These approaches include the following:

- Testing the investment with Scottish Water's regulators, DWQR and SEPA, where appropriate;
- Review of investment cases;
- Review of asset maintenance investment (by reviewing Scottish Water's Management Approach policies);
- Benchmarking of projects and programmes of work;
- External engineering review of projects and programmes by engineering consultants; and
- Review of Scottish Water's evidence on investment efficiency.

2.1.5. Table 9 below provides a summary overview of the 4 main approaches applied to each investment programme within the areas covered by the business plan technical appendices. Note that Scottish Water's proposal for Real Price Effects (last line in table) has been reviewed separately and our assessment is captured in Chapter 5 Investment allowances.

2.1.6. The remainder of the appendix is structured as follows:

- Background and methodology of approaches used (as listed in paragraph 2.1.4);
- Review of investment related to drinking water quality and continuity;
- Review of investment related to water environment and managing quantity of flows;
- Review of investment related to growth in connections;
- Review of investment related to other areas (climate change adaptation and mitigation, support services and other);

- Review of Scottish Water's evidence on overall investment efficiency;
- Review of the deliverability of the proposed investment programme;
- Review of Scottish Water's improvement plans; and
- Overall conclusions from the review of the investment plan.

Table 9: Approaches for reviewing investment allowances by area

Technical Appendix Area	Investment Programme	Investment (2024-25 prices; £m)	Investment case review	Asset maintenance (Management Approach) review	Benchmarking review	External engineering review
TA001 - Water Quality	Water Treatment	1,294	✓	✓		✓
TA001 - Water Quality	Water Storage	318	✓			✓
TA001 - Water Quality	Water Distribution	64		✓		
TA001 - Water Quality	Lead Management	36			✓	
TA001 - Water Quality	Raw Water and Catchment Management	9				
TA002 - Water Continuity	Abstraction, Sources and Raw Water Transfers	427	✓	✓		✓
TA002 - Water Continuity	Water Treatment	7	✓			
TA002 - Water Continuity	Water Transmission (trunk mains and strategic pipelines)	99	✓	✓		
TA002 - Water Continuity	Water Pumping Stations	48		✓		
TA002 - Water Continuity	Water Distribution	686	✓	✓	✓	
TA002 - Water Continuity	Resilience and Growth	126	✓			
TA002 - Water Continuity	Other Programmes	377	✓	✓	✓	✓
TA003 - Water Environment	Waste Water Treatment	983	✓	✓	✓	✓
TA003 - Water Environment	Waste Water Bioresource Treatment	157	✓		✓	✓
TA003 - Water Environment	Water Treatment Works Sludge Storage	17	✓			
TA003 - Water Environment	Waste Water Sewer Networks	413	✓	✓	✓	✓
TA003 - Water Environment	Waste Water Other – Region Wide	291	✓	✓		
TA003 - Water Environment	Water Abstraction - Water Resources Environmental Monitoring and Compliance	6		✓		
TA003 - Water Environment	Water Reservoir Compensation Compliance and RBMP Enhancement	40		✓		
TA003 - Water Environment	Other PFI Transfers	7				

Technical Appendix Area	Investment Programme	Investment (2024-25 prices; £m)	Investment case review	Asset maintenance (Management Approach) review	Benchmarking review	External engineering review
TA004 - Managing Quantity of Flows	Asset Repair, Refurbishment and Replacement (AR3)	603	✓	✓		✓
TA004 - Managing Quantity of Flows	Enhancement	367	✓		✓	✓
TA005 - Enabling Growth	Waste water Growth	319	✓		✓	✓
TA005 - Enabling Growth	Water Growth	71	✓		✓	
TA005 - Enabling Growth	Infrastructure Investment	123			✓	
TA005 - Enabling Growth	Service Relocations	38			✓	
TA006 - Climate Adaptation	Enhancement to Scotland's natural capital	7				
TA006 - Climate Adaptation	Increase biodiversity beyond statutory levels	5				
TA006 - Climate Adaptation	Understand the implications of climate change and risks to service resilience	2				
TA007 - Climate Mitigation	Process Emissions	15			✓	
TA007 - Climate Mitigation	Carbon Capture	29			✓	
TA007 - Climate Mitigation	Pilot activities	16		✓	✓	
TA010 - West Central Bioresources	West Central Bioresources	557		✓		✓
TA015 - Customer and Communities	Customer Research	2				
TA015 - Customer and Communities	Priority Service Register Improvements	4				
TA015 - Customer and Communities	Digital Developments for Customer Experience enhancements	5				
TA015 - Customer and Communities	Access to assets	6				
TA015 - Customer and Communities	Campaigns & marketing	4				

Technical Appendix Area	Investment Programme	Investment (2024-25 prices; £m)	Investment case review	Asset maintenance (Management Approach) review	Benchmarking review	External engineering review
TA017 - Digital	Efficient planning & delivery	17		✓		
TA017 - Digital	Risk and Security	46		✓		
TA017 - Digital	Commodities & Infrastructure	44		✓		
TA017 - Digital	Intelligent Decision Making	1		✓		
TA018 - Transformation & Innovation	Enable Innovation	23				
TA018 - Transformation & Innovation	Lighthouse projects	5				
TA018 - Transformation & Innovation	Research and Hydro Nation	4				
Support Services	Juniper	110	✓			
Support Services	Maintain existing fleet	115		✓		
Support Services	Maintain existing offices and estates	66		✓		
Support Services	Maintain existing renewable energy	18				
Support Services	Maintain scientific equipment	7				
Real Price Effects	Real Price Effects	60				
	Total	**8,093**				

2.2. Background and methodology of approaches used

2.2.1. This section explains the methodology WICS used under each approach for reviewing the different aspects of the investment programme as outlined in paragraph 2.1.4:

- Testing the investment with Scottish Water's regulators, DWQR and SEPA, where appropriate;
- Review of investment cases;
- Review of asset maintenance investment (by reviewing Scottish Water's Management Approach policies);
- Benchmarking of projects and programmes of work; and
- External engineering review of projects and programmes by engineering consultants.

2.2.2. The outcomes of applying each approach are explained in the subsequent sections for investment in water (2.3), wastewater (2.4), growth (2.5) and other areas (2.6).

Testing the investment with Scottish Water's regulators

2.2.3. For our Draft Determination, we wrote to DWQR and SEPA requesting their views on the final business plan, recognising that a large proportion of Scottish Water's investment programme is to ensure compliance with regulatory requirements.

2.2.4. In relation to the areas that apply to DWQR (water quality) and SEPA (water environment), we asked the respective regulators for their views on:

- the main drivers of Scottish Water's proposed investment programme, including which projects and programmes are required to meet statutory requirements and which are more discretionary;
- the proposed outcome measures and Scottish Water's performance forecasts; and
- any other issues relevant to WICS' determination.

2.2.5. We also had further engagement with DWQR and SEPA on specific aspects of Scottish Water's investment programme, based on questions that arose from the review of investment cases.

Review of investment cases

2.2.6. This sub-section explains how we undertook an engineering review of the investment case information for asset maintenance, enhancement and growth projects which exceed £6 million in value. It covers the following:

- A summary of the information requirements from WICS' SRC27 Final Methodology and the evidence Scottish Water provided in the final business plan;

- The prioritisation approach we used for selecting a sample for our engineering review; and
- Our approach for reviewing the investment case information.

Information requirements from WICS' SRC27 Final Methodology and Scottish Water's submission

2.2.7. Recognising that at the time of the final business plan Scottish Water's investment proposals would be at different stages of maturity, we adopted a tailored approach to how we would review Scottish Water's proposed investment programme that involves an element of enhancement and growth investment.

2.2.8. We based our approach on the different stages of a project's maturity based on Scottish Water's investment gates, as shown in Table 10.

Table 10: Scottish Water's investment gates

Stage	Gate	Description
Development gates	30	Initiation (of need to develop options for an intervention)
	40	(Strategic) Option Appraisal
	50	Option(s) confirmation
	70	Promotion of project
	80	Commitment - Project approval
Commitment stage	90	Commitment - Delivery approval
Delivery gates	100	Project acceptance
	110	Financial closeout
	120	Project closed

2.2.9. Table 11 provides our associated information requirements based on these gates.[98]

Table 11: Tailored approach to reviewing Scottish Water's investment proposals

Investment stage	Information requirements	Our confirmed approach
Early stage of development (Pre Scottish Water internal Gate 50)	• Programmes of work • Assumptions for indicative costings and outputs	Test the reasonableness of Scottish Water's assumptions and conduct high-level benchmarking

[98] WICS (2024), 'Strategic Review of Charges 2027-2033: Final Methodology', 12 December 2024, pp. 121-122.

Investment stage	Information requirements	Our confirmed approach
Mature stage of development (Scottish Water internal Gates 50 to 90, inclusive)	• Programmes of work • Discrete projects where investment ≥ £6 million • Forecast costs • Outputs • Interim milestones for when Scottish Water expects a decision for the project to be committed	Review the investment case (see below) in more detail, examining factors such as: • the justification for investment, taking account of the views of DWQR and SEPA • the options considered and proposed scope • assumed costs and evidence of efficiency • wider benefits such as the impact on natural and social capital Assessment of efficiency
Investment in delivery (Post Scottish Water internal Gate 90)	• Programmes of work • Discrete projects where investment ≥ £6 million • Costs (in real prices and outturn prices) • Outputs • Project milestones	Same as above. We consider that assessing efficiency at this stage would inform the assessment in the previous stage, rather than revisiting the allowance for investment post-commitment.

2.2.10. We required Scottish Water to provide standard information within investment cases for all projects and aggregated programmes of work which are in development and post-commitment, i.e. Scottish Water's internal Gate 50 onwards when Scottish Water conducts a strategic options review.[99] The standard information covered the following areas:

- **Need/Options**: the range of options considered (both traditional and non-traditional) to meet the need for an investment, including the risk of not doing anything, recognising that a 'do nothing' option still has a cost associated with it. We also acknowledge that in some cases, Scottish Water may have less flexibility in deciding how and when to deliver investment outcomes, particularly if the situation is urgent and/or poses a high risk to public health;
- **Quality regulator engagement**: whether the investment has the support of the quality regulators, DWQR and SEPA;
- **Climate change adaptation and policy development**: how the investment will support climate change adaptation and align with the Scottish Government's policy development work;

[99] WICS (2024), 'Strategic Review of Charges 2027-2033: Final Methodology', 12 December 2024, pp. 122-123.

- **Cost-benefit analysis (CBA)**: the cost-benefit analysis undertaken to select the proposed solution, taking account of factors such as the level of risk associated with the different options and benefits in terms of what the investment is expected to achieve. Scottish Water should also consider non-financial costs and benefits such as the carbon impact (both operational and embodied carbon), natural and social capital;[100]
- **Efficiency**: evidence that the proposed costs for the proposed solution are efficient, which could be evidenced through different methods such as comparisons to past projects or the use of industry cost benchmarks (efficiency is covered in more detail below) or external assurance on the robustness of the cost estimates;
- **Cost sharing with partners**: whether the investment involves partners, recognising the expectation in the Commissioning letter for Scottish Water to continue working closely with partners to identify more sustainable solutions (such as the adoption of blue-green infrastructure and utilising existing legislation, such as section 29e[101] to explore innovative solutions) and, if so, how costs will be shared with the partners, including the funding arrangements;
- **Customer and community views**: if Scottish Water has already engaged with communities in terms of project design, how those community views have informed the choice of the proposed solution; and
- **Clarity of benefits**: the output(s) and benefits that will be delivered from the proposed solution and the outcomes that the investment will contribute to in the context of the Objectives of the Scottish Ministers and Scottish Water's contribution to the sector vision.

2.2.11. The methodology also applied a monetary threshold for how the information is grouped. If a project has total costs above £6 million (not just forecast costs for the 2027-33 period) or is novel or contentious, an individual investment case should be submitted. Projects for less than £6 million and not novel or contentious can be grouped into programmes of work, and an investment case should be submitted for each programme.[102]

2.2.12. WICS provided a methodology clarification in its feedback to Scottish Water on the draft business plan, stating that Scottish Water should clearly explain the rationale for the investment need, as well as the assumptions for the benefits and the costing of the investment pre-Gate 50, within the final business plan submission. This included explaining the methodology used to calculate the estimates and the underpinning assumptions.[103]

[100] Natural and social capital are two capitals that form the six capitals approach. The six capitals approach covers financial, manufactured, intellectual, human, social and relationships and natural capital. See Association of Chartered Certified Accountants, 'Integrated reporting and performance management', webpage.
[101] Section 29e of the Water Industry (Scotland) Act 2002.
[102] WICS (2024), 'Strategic Review of Charges 2027-2033: Final Methodology', 12 December 2024, pp. 122-124.
[103] WICS (2025), 'WICS feedback on Scottish Water's draft business plan', 15 October 2025, p. 87.

2.2.13. In the final business plan submission, Scottish Water provided the following investment case documents:

- Project bridging documents and Project Investment Appraisals (PIAs)[104] for 14 asset maintenance projects and for 47 enhancement and growth projects;
- 50 Management Approach documents for asset maintenance investment in programmes of work and projects;[105]
- 25 evidence packs for programmes of work and groupings of projects where each project is less than £6 million in total value.

Prioritisation approach for selecting a sample for review

2.2.14. WICS developed a methodology to prioritise projects and programmes for review based on their value (in 2024-25 prices) and the maturity of the available investment case information (i.e. the last approved gate of Scottish Water's project development process). WICS applied this methodology to the data contained in 'Table X', which is the detail underpinning the business plan Table 5. The methodology is explained in the following paragraphs.

2.2.15. As per paragraph 2.2.11 the SRC27 Final Methodology applied a threshold of at least £6 million in total costs (not just costs forecast for the 2027-33 period) for providing an investment case. The first step of the methodology was to focus the review on projects or programmes of work which had a total value in the 2027-33 period of more than £6 million. This filter was applied to the full project cost, encompassing all investment needs to be addressed, recognising that Table X splits a single project into separate lines for each Need.

2.2.16. The second step was to exclude all investments subject to other reviews:

- a programme of works (i.e. covers many sites across a wide geography) – this was reviewed through benchmarking, review of the Management Approaches, and external engineering review;
- investment related to returning PFI assets – this was subject to an external engineering review; and
- investment in Part 3 assets[106] that relate to background growth not attributable to a development – this was reviewed through benchmarking.

[104] For an overview of how Scottish Water's PIAs at different stages (1, 2, 3a, 3b and 4) map to project development gates, see Figure 24 in Scottish Water (2026), 'SR27 Final Business Plan: Technical Appendix 8 - Investment Planning', 26 February 2026, p.45.

[105] This does not include an additional Management Approach (MA076 - Wastewater Studies), which was shared by Scottish Water through the query process. We also reviewed MA076.

[106] Part 3 assets include the local bulk infrastructure, such as trunk mains and trunk sewers, water service reservoirs, wastewater pumping systems and some SUDS.

2.2.17. The remaining sample included only discrete named projects with total 2027-33 costs of at least £6 million – a total of 106.

2.2.18. In line with our methodology, the third step was to prioritise the projects based on project value and the last approved development gate. For project value, the higher the project's 2027-33 cost, the higher the priority score we assigned (ranging from 1 to 3 points, with projects costing less than £6 million in the 2027-33 period receiving 0 points). Regarding project maturity, projects in development/pre-commitment received the highest priority, followed by projects in pre-development (rated 1-3 points, with projects that had already started on site receiving 0 points). The two priority sub-scores were then combined to create an overall priority score ranging from 1 to 6.

2.2.19. The fourth step was to focus the review on the projects which have an individual investment case submitted with the final business plan. Finally, the following adjustments to the resulting list were made:

- Project 'North Berwick WwTW – UWWTD Compliance' was excluded from the list as it had already undergone an external engineering review (see results in section 2.5);
- Project 'S-WW-140325-Stirling WWTW Growth and CM' (which did not have an individual investment case) was added to the list because it can be reviewed alongside project '5363112919 New Bandeath WwTW – Growth';
- Project 'SR21 Mannofield WTW' (which costs £1 million in the 2027-33 period in 2024-25 prices) was added to the list because the evidence for it was included in the same evidence pack as project 'SR21 Mannofield WTW - Ceramic'; and
- Project 'SR21 Daer WTW' was added to the list (its total value in the 2027-33 period was £5.998 million, which is just under the £6 million threshold from Step 1) because it was covered by the same evidence pack as project 'Daer WTW - DEVELOP - Strategic Replacement'.

2.2.20. Based on this approach, we reviewed the 63 projects listed in Table 12 (ordered by decreasing priority score).

Table 12: List of projects for engineering review by WICS

Investment Code	Investment Name	Value over 2027-33 (2024-25; £m)	Last approved gate	Primary Technical Appendix
5363112528	SR21 Juniper House Refurbishment	110	Gate 70	Support Services
5363112919	New Bandeath WwTW - Growth	50	Gate 50	Enabling Growth
5363118737	S-WW-140325-Stirling WWTW Growth and CM	36	Gate 40	Enabling Growth
5363113077	SR21 Turriff WTW	142	Gate 50	Water Quality
5363113079	SR21 Glendevon WTW	53	Gate 50	Water Quality
5363113086	SR21 Mannofield WTW - Ceramic	63	Gate 50	Water Quality
5363113110	SR21 Mannofield WTW	1	Gate 50	Water Quality
5363113087	SR21 Bradan_WTW Future Plan	50	Gate 50	Water Quality
5363110201	W571 - Dolphin Road Glasgow	15	Gate 70	Wastewater Flows
5363110202	NE60 Cavendish Avenue area Perth	10	Gate 50	Wastewater Flows
5363110861	Lomond Scheme - Distributed Control System DCS replacement or renewal	24	Gate 50	Water Continuity
5363110875	Balmore WTW HV Asset Replacement	12	Gate 50	Water Continuity
5363111113	Kinning Park WwPS - Asset Replacement	49	Gate 50	Water Environment
5363111130	ALLANFEARN STC NH711475 - REPLACEMENT OF DIGESTER 1 AND 2	19	Gate 70	Water Environment
5363112312	Allanfearn WwTW - Treatment and bioresource	55	Gate 40	Water Environment
5363112893	Dunbar WwTW - Growth	36	Gate 60	Water Environment
5363112894	Dalderse WwTW - Growth	16	Gate 50	Water Environment
5363112948	Erskine WwTW - Growth	19	Gate 70	Enabling Growth
5363113090	SR21 Stornoway WTW	49	Gate 50	Water Quality
5363113108	Lintrathen WTW - OT - ASD and Disinfection Upgrades	11	Gate 70	Water Quality
5363113113	SR21 ASD - Blairlinnans WTW	12	Gate 70	Water Quality
5363113225	Invercannie 1924 Aqueduct Conduit Replacement	28	Gate 70	Water Continuity
5363113405	Loch Katrine New Aqueduct North End Long Chamber to South End Long Chamber	22	Gate 50	Water Continuity
5363113603	Fauldhouse WwTW River Almond Ww WFD Improvements	11	Gate 50	Water Environment

Investment Code	Investment Name	Value over 2027-33 (2024-25; £m)	Last approved gate	Primary Technical Appendix
5363117633	Turriff WwTW - Capital Maintenance	14	Gate 70	Water Environment
5363110167	AVSE - Growth (capex) Seafield	18	0	Enabling Growth
5363110205	719-1 Queen Street Dumfries	8	Gate 50	Wastewater Flows
5363110206	IFOS Empire Way and Dominion Road Gretna - 347 2	9	Gate 50	Wastewater Flows
5363110207	EFOS - Barron Terrace and Waggon Road Leven	7	Gate 60	Wastewater Flows
5363110870	Glenhove TWP - HV Asset Replacement	7	Gate 50	Water Continuity
5363110880	SR21 Tiree Resilience	21	Gate 40	Enabling Growth
5363110881	SR21 Taymouth Growth	16	Gate 30	Enabling Growth
5363111111	Troqueer WWPS - Site Replacement	7	Gate 50	Water Environment
5363111134	Shieldhall WWTW - Control System Replacement	10	Gate 50	Water Environment
5363111141	Shieldhall WwTW - HV Refurbishment	8	Gate 50	Water Environment
5363111172	MA037 Castle Moffat CWT	12	0	Water Quality
5363111742	North Lodge Rd WWPS1 Pumping Main Replacement Phase 3	12	Gate 30	Wastewater Flows
5363112574	Persley Growth from Aberdeen Strategy	19	0	Enabling Growth
5363112576	Nigg Growth small option	19	0	Enabling Growth
5363112906	Rosewell WwTW Growth	9	Gate 50	Enabling Growth
5363112907	Roslin WwTW Growth	7	Gate 50	Enabling Growth
5363112911	Meigle WwTW - Growth	7	Gate 50	Enabling Growth
5363112912	Oldmeldrum WwTW - Growth	8	Gate 70	Enabling Growth
5363112935	Ballater WwTW - Growth	6	Gate 70	Enabling Growth
5363113036	RCI Tiree DMA Sandaig	6	Gate 70	Water Continuity
5363113095	SR21 ES Torra WTW	6	Gate 70	Water Quality
5363113099	SR21 Camphill WTW	21	Gate 40	Water Quality
5363113111	SR21 Penwhirn WTW	25	Gate 30	Water Quality
5363113129	SR21 Glenlatterach WTW	25	Gate 30	Water Quality
5363113139	SR21 Londornoch WTW	47	Gate 30	Water Quality
5363113179	Greenock WTW	12	0	Water Quality

Investment Code	Investment Name	Value over 2027-33 (2024-25; £m)	Last approved gate	Primary Technical Appendix
5363113549	SW1670 - Borrowmeadow Road Stirling	8	Gate 70	Wastewater Flows
5363113565	IFOS - Peatville Terrace Edinburgh - E1537	6	Gate 50	Wastewater Flows
5363113592	Daer WTW - DEVELOP - Strategic Replacement	31	0	Water Quality
5363113124	SR21 Daer WTW	6	Gate 60	Water Quality
5363113593	Carron Valley WTW - DELIVER - Taste & Odour Improvements	19	0	Water Quality
5363113601	Persley WwTW River Don WW WFD Improvement	7	Gate 70	Water Environment
5363117623	Assynt WOA - Maryburgh Trunk Main	6	Gate 70	Water Continuity
5363117638	Pathhead WwTW - Capital Maintenance	6	Gate 60	Water Environment
5363113083	SR21 ES Glenfarg WTW upgrade	51	Start On Site	Water Quality
5363110889	Edinburgh Lothians Castle Moffat Hopes - Resilience and Growth	7	Gate 30	Water Continuity
5363112317	Turret - Legacy Sludge	11	Gate 80	Water Environment
5363112903	Balmaha WwTW - Growth	7	Gate 80	Water Environment
	Total	**1,426**		

Approach for reviewing the investment case information

2.2.21. In addition to developing a prioritisation approach for selecting a sample of projects to review, WICS also developed internal guidance for assessing investment cases and other information submitted to support the investment plan. The assessment also served as a tool to confirm whether Scottish Water has and is following a robust framework and appropriate governance processes for appraising projects.

2.2.22. WICS conducted an in-the-round qualitative assessment of the sample of investment cases identified in Table 12. Each investment case was scored using a Red-Amber-Green as defined in Table 13 based on how well it has met WICS' criteria, described further below.

Table 13: RAG scoring scale for assessing investment cases

Score	Definitions for pre-G50 investment cases	Definitions for post-G50 investment cases	Impact on Determination
Red	The investment case did not robustly demonstrate the need for investment or WICS had significant concerns over the cost estimates.		Investment for this project or programme is not allowed, or is allowed subject to further evidence.
Amber	The investment case robustly demonstrates the need for investment, however; WICS had reservations about the appropriateness of the assumptions or the approach used to estimate costs and benefits.	The investment case meets the Need/Options criterion, however one of the following is true: • WICS had reservations about how well the other criteria are met, or • the investment case did not meet all other primary criteria (as defined in Table 14).	A project-specific efficiency challenge may be appropriate in addition to the overall efficiency challenge applied to the whole investment plan.
Green	WICS had no material concerns about the quality of the evidence in the investment case.	The investment case met all primary criteria.	Investment for this project or programme is allowed, only subject to the overall efficiency challenge applied to the whole investment plan.

2.2.23. Following the SRC27 Final Methodology, the approach distinguished between projects and programmes that had not been developed in detail and had not reached Scottish Water's Gate 50 milestone, and those that had passed Gate 50 and should have at least a strategic options appraisal.

2.2.24. Regarding the information on pre-G50 investments, WICS required Scottish Water to clearly explain the rationale for the investment need as well as the assumptions for the benefits and costs of the investment within the final business plan submission. This included explaining the methodology used to calculate the estimates, as well as the underpinning assumptions (see paragraph 2.2.12).

2.2.25. Regarding the information on post-G50 investments, the SRC27 Final Methodology required these investment cases to cover 8 areas, as outlined in paragraph 2.2.7. The 8 areas had been categorised as primary and secondary as per Table 14 to simplify the assessment and recognise that the secondary criteria may not be applicable for each investment case, or the consequences of not meeting the criteria might have a smaller impact. The three criteria on cost-benefit analysis, efficiency and clarity of benefits were grouped together as they all related to aspects of the cost-benefit analysis.

Table 14: Categorisation of the 8 areas required within an investment case

<table>
<tr><th colspan="2">Area/Criterion name</th><th>Category</th></tr>
<tr><td colspan="2">Need/Options</td><td>Primary</td></tr>
<tr><td colspan="2">Quality regulator engagement</td><td>Primary</td></tr>
<tr><td colspan="2">Climate change adaptation and policy development</td><td>Secondary</td></tr>
<tr><td rowspan="3">Cost-benefit analysis (grouped CBA)</td><td>Cost-benefit analysis (CBA)</td><td rowspan="3">Primary</td></tr>
<tr><td>Efficiency</td></tr>
<tr><td>Clarity of benefits</td></tr>
<tr><td colspan="2">Cost sharing with partners</td><td>Secondary</td></tr>
<tr><td colspan="2">Customer and community views</td><td>Secondary</td></tr>
</table>

2.2.26. In addition to the methodology requirements, for investment post-Gate 50, WICS also assessed the likelihood of the project being completed within the 2027-33 period.

2.2.27. Table 15 and Table 16 list the questions used for assessing the investment cases from Table 12 for pre-G50 and post-G50 projects, respectively, and explain how the RAG status has been applied to each criterion.

Table 15: Questions for assessing pre-G50 project investment case information

Question	Comment
Assessment of Needs & Options	
1. Is sufficient evidence of the needs provided? (Calculated)	Each need in the investment case was assigned a score based on the level of evidence provided as per the scoring matrix below: 4 - Stage 1 Project Investment Appraisal (PIA), regulatory enforcement notice or similar are provided or evidenced 3 - Sufficient information regarding the needs provided in Stage 2 or Stage 3a/b PIAs 2 - A simple list of needs is provided in the PIA(s) with only limited evidence for the need 1 - Needs not presented clearly in the PIA(s) 0 - No information provided on why the project is needed The sum of the scores for all needs was then divided by the maximum score this project could receive (the number of needs multiplied by the highest score 4) to get an overall percentage score. If the overall percentage was higher than 66%, WICS assessed there was sufficient evidence to assess the needs. If it was between 33% and 66%, the evidence of needs is adequate but not detailed. If it was below 33%, there was insufficient evidence to assess the needs.
2. Does the investment case clearly demonstrate the need for the project?	Yes/No/Maybe/Not Applicable A manual assessment using WICS' judgement based on the percentage score in Question 1. If the answer was "No", then this criterion was assigned a "Red" RAG status.
3. Is the assumed solution appropriate to the identified needs?	Yes/No/Maybe/Not Applicable
Overall RAG scoring for Needs & Options assessment	If the answer to Question 2 was "No", then a "Red" status was assigned (i.e. WICS considers the needs are not confirmed). If the answers to Question 2 and Question 3 were "Yes", then a "Green" status was assigned (i.e. WICS considered the need was confirmed and the options were appropriate to the needs). Otherwise, an "Amber"

Question	Comment
	status was assigned (i.e. WICS considered the evidence to assess needs and options were insufficient).
Assessment of Regulatory engagement	
4. Is there evidence the regulator has been engaged in respect to the project?	Yes/No/Maybe/Not Applicable
Overall RAG scoring for Regulatory Engagement assessment	If the answer to Question 4 is "No", then a "Red" status was assigned. If the answer was "Yes", then a "Green" status was assigned. Otherwise, an "Amber" status was assigned.
Assessment of Cost estimate	
5. Is the cost reasonable and appropriate for the assumed solution?	Yes/No/Not enough information
6. What confidence level does WICS have that the cost estimate is reasonable?	High/Low/Undetermined/Not Applicable
7. If the cost estimate is assessed as unreasonable, does the cost estimate appear too low or too high?	Too low/Too high/Not Applicable
Overall RAG scoring for Cost Estimate assessment	If the answer to Question 5 was "No", then a "Red" status was assigned (i.e., WICS considers the validity of the cost estimate not confirmed). If the answer was "Yes", then a "Green" status was assigned (i.e. WICS considered that based on the information provided the cost estimate appeared reasonable for the proposed solution/option). Otherwise, an "Amber" status was assigned (WICS had reservations regarding the reasonableness or efficiency of the cost).
Assessment of Benefits & Risks	
8. Can the assumed solution reasonably deliver the benefits identified?	Yes/No/Maybe/Not Applicable
9. What is the confidence level that the assumed solution can be delivered in the 2027-33 period?	High/Low/Undetermined/Not Applicable
Overall RAG scoring for Benefits and Risk assessment	If the answer to Question 8 was "No", then a "Red" status was assigned. If the answer is "Yes" but the answer to Question 9 was "Low", then an "Amber" status

Question	Comment
	was assigned. If the answers to question 8 was “Yes” and 9 was "High", then a "Green" status was assigned. Otherwise, an "Amber" status was assigned.
Overall assessment	
Overall assessment	Assessed as "Red" if either the Needs & Options RAG is "Red" or if the Cost estimate RAG was "Red" (i.e. WICS considered that the investment case did not robustly demonstrate the need for the investment). Assessed as "Green" if both of these criteria had a "Green" status and the RAG status of at least one of the other two criteria (Regulatory engagement or Benefits & Risks) was also "Green" (i.e. WICS considered that the investment case met all primary criteria). Otherwise, the investment case was assessed as "Amber" (i.e. WICS had reservations about how well the criteria was met).

Table 16: Questions for assessing post-G50 project investment case information

Question	Comment
Assessment of Needs & Options	
1. Is sufficient evidence of the needs provided? (Calculated)	Each need in the investment case was assigned a score based on the level of evidence provided as per the scoring matrix below: 4 - Stage 1 Project Investment Appraisal (PIA), regulatory enforcement notice or similar are provided or evidenced 3 - Sufficient information regarding the needs provided in Stage 2 or Stage 3a/b PIAs 2 - A simple list of needs was provided in the PIA(s) with only limited evidence for the need 1 - Needs not presented clearly in the PIA(s) 0 - No information provided on why the project is needed The sum of the scores for all needs was then divided by the maximum score this project could receive (the number of needs multiplied by the highest score of 4) to get an overall percentage score. If the overall percentage was higher than 66%, WICS assessed that there was sufficient evidence to assess the needs. If it was

Question	Comment
	between 33% and 66%, the evidence of need was adequate but not detailed. If it was below 33%, there was insufficient evidence to assess the needs.
2. Does the investment case clearly demonstrate the need for the project?	Yes/No/Maybe/Not Applicable A manual assessment using WICS' judgement based on the percentage score in Question 1. If the answer was "No", then this criterion was assigned a "Red" RAG status.
3. Is the number of long-list options appropriate?	Yes/No/Maybe/Not Applicable
4. Is the number of short-list options appropriate?	Yes/No/Maybe/Not Applicable
5. Are the options described in sufficient detail?	Yes/No/Maybe/Not Applicable
6. Is a base case (do nothing/do minimum) included?	Yes/No/Maybe/Not Applicable
7. Is the proposed solution appropriate to address the needs?	Yes/No/Maybe/Not Applicable If the answer was "No", then this criterion was assigned a "Red" RAG status.
8. Does the solution fully address the needs (i.e. eliminate all risks)? (Calculated)	Each need in the investment case is assigned a score for the base case risk level (i.e. for the Business as Usual case) and for the level of risk reduction indicated from the proposed solution. An average risk score was calculated for the base case and the proposed solution case across all project needs. The solution was considered to fully address the needs only if there was 100% risk reduction.
9. Does the proposed solution offer a **significant** level of risk reduction? (Calculated)	If the risk reduction calculated for Question 8 was at least 50%, that was considered significant. If it was between 20% and 50%, it was considered uncertain. If it was below 20%, it was considered marginal and this criterion was assigned a "Red" RAG status.
10. Is the level of risk reduction commensurate with the scale and timing of the project?	Yes/No/Maybe/Not Applicable A manual assessment using WICS' judgement based on the automated answers to Questions 8 and 9.
Overall RAG scoring for Needs & Options assessment	If the answer was "No" to Questions 2 or 7 or the reduction in risk is <20% for Question 9, then a "Red" status was assigned (i.e. WICS considered that the needs were not confirmed). If at least 5 of the questions from 3 to 10 are answered "Yes",

Question	Comment
	then a "Green" status was assigned (i.e., WICS considered the need confirmed and the options appropriate to the needs). Otherwise, an "Amber" status was assigned (i.e., WICS considered the evidence for assessing needs and options insufficient).
Assessment of Regulatory engagement	
11. Is there evidence the regulator has been engaged in respect to the project?	Yes/No/Maybe/Not Applicable
12. Does the investment have the support of quality regulators (DWQR/SEPA)?	Yes/No/Maybe/Not Applicable
13. If not supported, has SW provided a sufficient explanation why this is the case?	Yes/No/Maybe/Not Applicable
Overall RAG scoring for Regulatory Engagement assessment	If the answer to Question 11 is “No”, then a "Red" status was assigned. If there has been engagement and either the regulator supports the project or, if not, Scottish Water has provided sufficient explanation, then a "Green" status was assigned. Otherwise, an "Amber" status was assigned.
Assessment of Cost estimate	
14. Are estimated costs provided for each short-listed option?	Yes/No/Not Applicable
15. Is a cost estimate provided for the proposed solution?	Yes/No/Not Applicable
16. Is a detailed cost breakdown provided for the proposed solution?	Yes/No/Not Applicable Question is applicable only if answer to Question 15 was "Yes".
17. Is the costing methodology explained along with key assumptions?	Yes/No/Not Applicable
18. Does WICS agree the methodology and the assumptions are sufficiently robust?	Yes/No/Not Applicable
19. Are the results of a whole-life cost (NPC) analysis provided?	Yes/No/Not Applicable
20. Is the proposed solution the lowest whole-life cost option?	Yes/No/Not Applicable

Question	Comment
21. Has a reasonable explanation been provided why the lowest whole life cost estimate has not been selected?	Yes/No/Not Applicable Question was applicable only if answer to Question 20 was "No".
22. Is the cost information sufficient for WICS to assess the cost? (Calculated)	If at least 6 of the previous 8 questions have been answered as "Yes", then it was considered there was sufficient cost information to allow further assessment. If that was not the case, then WICS asked Scottish Water for further information through the final business plan query process.
23. Is the cost of the proposed option/solution as set out in the PIA the same as the cost in Table X? (Calculated)	Yes/No/No data
24. Is the cost difference between Table X-LBE acceptable (<8%)? (Calculated)	Yes/No/No data
25. Is the cost estimate considered reasonable for the scope of the proposed option/solution?	Yes/No/Not enough information This was an open check for material disparity between the estimate presented and the scope of the solution. Based on the information provided, the cost of similar projects known to WICS or in the final business plan and the experience of the reviewing Engineer.
26. What confidence level does WICS have that the cost estimate is reasonable?	Low/High/Undetermined/Not Applicable
27. If the cost estimate is assessed as unreasonable, does the cost estimate appear too low or too high?	Too low/Too high/Not Applicable
28. Has evidence been provided that the costs are efficient? (As evidenced through different methods such as comparisons to past projects or the use of industry cost benchmarks)	Yes/No/Not enough information
Overall RAG scoring for Cost Estimate assessment	If the answer was “No” to Questions 25 and 28, then a "Red" status was assigned (i.e. WICS considers that the validity of the cost estimate is not confirmed). If the answer to both questions was "Yes”, then a "Green" status was assigned (i.e. WICS considered that, based on the information provided, the cost estimate appeared reasonable for the proposed solution/option). Otherwise, an "Amber" status was

Question	Comment
	assigned (i.e. WICS had reservations regarding the reasonableness or efficiency of the cost).
Assessment of Benefits & Risks	
29. Are the benefits for each short-listed option clearly shown?	Yes/No/Not Applicable
30. Are the benefits well evidenced?	Yes/No/Not Applicable
31. Can the proposed solution/option deliver the benefits identified?	Yes/No/Not Applicable
32. Has a carbon impact assessment been made for the short-listed options?	Yes/No/Not Applicable
33. Does the proposed option/solution have the lowest carbon emissions profile?	Yes/No/Not Applicable
34. If NO, is the selection of the proposed solution justified for other reasons?	Yes/No/Not Applicable
35. Are the levels of risk associated with each short-listed option shown?	Yes/No/Not Applicable
36. Are the risks in delivering the proposed solution identified?	Yes/No/Not Applicable
37. Based on the risk information is delivery likely to be on programme and budget?	Yes/No/Not Applicable
Overall RAG scoring for Benefits and Risk assessment	If the answer was “No” to either Questions 31 or 37, then a "Red" status was assigned. If at least 5 of the previous 9 questions had been answered with "Yes, then a "Green" status was assigned. Otherwise, an "Amber" status was assigned.
Assessment of Project delivery	
38. Is the period for project preparation considered reasonable?	Yes/No/Not Applicable
39. Is the period for construction/delivery considered reasonable?	Yes/No/Not Applicable

Question	Comment
40. Is the project likely to be completed in the 2027-33 period? (Calculated)	If WICS assesses that the likely completion date was after the end of the 2027-33 period, then the answer was "Unlikely". If the WICS assessed completion date was within 12 months of the end of the 2027-33 period, then the answer was "Possibly". If more than 12 months, then the answer was "Probably".
Overall assessment	
Overall assessment	Assessed as "Red" if either the Needs & Options RAG was "Red" or if the Cost estimate RAG was "Red" (i.e. WICS considered that the investment case did not robustly demonstrate the need for the investment). Assessed as "Green" if all of the following conditions were true: • all four sub-assessment RAG statuses were "Green", • there was sufficient information to assess the project cost (Question 22), • the cost difference between Table X and the project investment case was acceptable (Question 24), and • the WICS assessed likely completion date was more than 12 months before the end of the 2027-33 period. In other words, WICS considered the investment case met all primary criteria. Otherwise, the investment case was assessed as "Amber" (i.e. WICS had reservations about how well the criteria was met).

Review of asset maintenance investment

2.2.28. Our final methodology explained that a key area for improvement in asset maintenance (which covers asset repairs, replacements, and refurbishments, abbreviated as AR3) was for Scottish Water to develop detailed bottom-up evidence for future asset replacement.[107] This would help us understand whether Scottish Water is effectively maintaining its asset base and not creating challenges or risks for future generations of customers (recognising the Commissioning letter expectation that Scottish Water maintains service). We required Scottish Water to present its asset maintenance proposals at a higher level, based on programmes of work for different asset categories (e.g., water mains, water treatment works). In the context of asset maintenance, we defined programmes of work as investment activities that related to the same type of assets, involved repeatable work with similar construction requirements and risk profiles, and for which the asset location was unknown. For these programmes of work by asset category, we asked Scottish Water to show its assumptions for the:

- proposed number of maintenance interventions;
- proposed unit cost of interventions; and
- overall level of expenditure.

2.2.29. As explained in paragraphs 2.2.7 to 2.2.12, we required Scottish Water to provide standard information within investment cases for all projects and aggregated programmes of work which are in development and post-commitment (post-Gate 50), and to clearly explain the rationale for the investment need as well as the assumptions for the benefits and costing of investment pre-Gate 50. This included explaining the methodology used to calculate the estimates and the underpinning assumptions.

2.2.30. Scottish Water explained in its final business plan that it based all AR3 investment (both for projects and for programmes of work) on Management Approaches (MAs) to ensure the investment is based on consistent decision-making and is fully justified.[108] Scottish Water defined MAs as "policies setting out the criteria under which interventions required to maintain our level of service can be 'triggered' and the cost of this policy approach".[109] Technical appendix 8 also explained how the MAs meet the final methodology requirements from paragraph 2.2.7.

2.2.31. In its final business plan submission, Scottish Water provided 50 MA documents covering £4.7bn of AR3 investment and £0.1bn of enhancement and growth in the 2027-33 period

[107] WICS (2024), 'Strategic Review of Charges 2027-2033: Final Methodology', 12 December 2024, p. 118.
[108] Scottish Water (2026), 'SR27 Final Business Plan: Technical Appendix 8 – Investment Planning', 26 February 2026, p. 48.
[109] Scottish Water (2026), 'Final Business Plan 2027-2033 – Investing in Scotland's Future', 26 February 2026, p. 122.

(2024-25 prices; post-efficiency) as listed in Table 17 below (the investment values in the table are for both AR3 and for enhancement and growth).

2.2.32. The 9 MAs highlighted in orange (namely, MA004, MA017, MA022, MA024, MA043, MA057, MA113, MA114, and MA119) were excluded from our internal review as they cover programmes of work which were included in the external engineering review, as explained in a later sub-section.

2.2.33. For the remaining 41 MAs, WICS undertook a detailed review of 21 of them based on prioritisation criteria. WICS also reviewed an additional Management Approach (MA076 - Wastewater Studies), which was shared by Scottish Water through the query process. This MA is associated with £54 million of (enhancement) investment in the 2027-33 period (2024-25 prices) and is also included in Table 17 below.

2.2.34. WICS applied the following RAG scoring matrix when assessing the MAs:

- Red – WICS had significant concerns/questions over the MA, e.g. on the reasonableness of the cost estimates, the frequency/run rate of interventions in the chosen policy option or the level of risk of the policy. WICS applied a cost challenge.
- Amber – WICS had some concerns/questions over the MA. WICS considered applying a cost challenge, e.g. subject to further clarification from Scottish Water.
- Green – WICS had no concerns over the MA. There was no cost challenge proposed.

Table 17: Investment in 2027-33 by Management Approach

MA number	MA Name	Value over 2027-33 (2024-25 prices; £m; post-efficiency)	Primary Service	Proportion of value over 2027-33 for water	Proportion of value over 2027-33 for wastewater	Proportion of value over 2027-33 for shared assets	Included in the detailed review
MA003	Maintain Pipebridges	49	Wastewater	0%	100%	0%	✓
MA004	Reservoir Safety	300	Wastewater	100%	0%	0%	
MA011	Wastewater Motor Control Centres	32	Wastewater	0%	100%	0%	
MA012	Wastewater Pumping Mains	138	Wastewater	0%	100%	0%	✓
MA013	Wastewater Control Systems	41	Wastewater	0%	100%	0%	✓
MA016	Network Water Quality	60	Water	51%	0%	49%	✓
MA017	Wastewater Treatment Works - Inlet Works	124	Wastewater	0%	100%	0%	
MA018	Ironworks	73	Wastewater	0%	100%	0%	✓
MA022	SCADA PLC HMI	130	Water	100%	0%	0%	
MA023	Wastewater Pumping Stations	144	Wastewater	0%	100%	0%	✓
MA024	Wastewater Bioresource Treatment and De-watering Centres	447	Wastewater	0%	100%	0%	
MA028	Water Catchment Management	9	Shared Services	12%	0%	88%	
MA029	Offices, Property and Estates	66	Shared Services	9%	9%	81%	✓
MA033	Water Filtration	92	Water	100%	0%	0%	✓
MA035	Wastewater Outfalls	7	Wastewater	0%	100%	0%	
MA036	Wastewater Screw Pumps	26	Wastewater	0%	100%	0%	
MA039	Combined Sewer Overflows	23	Wastewater	0%	100%	0%	
MA042	Wastewater Treatment Works - Primary Treatment	77	Wastewater	0%	100%	0%	✓

MA number	MA Name	Value over 2027-33 (2024-25 prices; £m; post-efficiency)	Primary Service	Proportion of value over 2027-33 for water	Proportion of value over 2027-33 for wastewater	Proportion of value over 2027-33 for shared assets	Included in the detailed review
MA043	Wastewater Treatment Works Secondary Tertiary Treatment	203	Wastewater	0%	100%	0%	
MA044	Telemetry	23	Water + Wastewater	54%	46%	0%	
MA049	Wastewater Odour Control Equipment	13	Wastewater	0%	100%	0%	
MA052	WTW Sludge and Washwater	5	Water	100%	0%	0%	
MA053	Scientific Instrument Replacement	7	Shared Services	0%	0%	100%	
MA054	Water and Wastewater Network Modelling	27	Shared Services	0%	0%	100%	
MA056	Renewable Energy Asset Maintenance	18	Shared Services	0%	0%	100%	
MA057	Wastewater Treatment Works Ancillaries	160	Wastewater	0%	100%	0%	
MA058	Water Pumping Stations	48	Water	88%	0%	12%	✓
MA060	Water Distribution Network Valves	32	Water	100%	0%	0%	
MA062	Sewer Structures	19	Wastewater	0%	100%	0%	
MA063	Water Resources Environmental Monitoring & Compliance	45	Water	100%	0%	0%	✓
MA066	Digital	107	Shared Services	0%	0%	100%	✓
MA068	Statutory, Essential and Planned Maintenance	96	Wastewater	37%	63%	0%	✓
MA071	Logistics Vehicles	131	Shared Services	0%	0%	100%	✓

MA number	MA Name	Value over 2027-33 (2024-25 prices; £m; post-efficiency)	Primary Service	Proportion of value over 2027-33 for water	Proportion of value over 2027-33 for wastewater	Proportion of value over 2027-33 for shared assets	Included in the detailed review
MA073	Distribution Infrastructure - Metering and Flow Monitoring	41	Water	100%	0%	0%	✓
MA076	Wastewater Studies	54	Wastewater	0%	100%	0%	✓
MA080	Boreholes and Springs	10	Water	100%	0%	0%	
MA081	Water Sample Points	10	Wastewater	0%	100%	0%	
MA091	High Voltage Assets	79	Water + Wastewater	42%	58%	0%	✓
MA093	WTW Civils & Process Structures	38	Water	100%	0%	0%	
MA094	WTW Process Stages Mechanical & Electrical	59	Water	100%	0%	0%	✓
MA095	WTW Water Quality Instrumentation	57	Water	100%	0%	0%	✓
MA098	Emergency Response	3	Shared Services	0%	0%	100%	
MA111	Water Distribution Mains	554	Water	100%	0%	0%	✓
MA113	Gravity Sewers	302	Wastewater	0%	100%	0%	
MA114	Water Treatment, Chemical Storage and Dosing	143	Water	100%	0%	0%	
MA115	Water Pipebridges	15	Water	100%	0%	0%	
MA116	Strategic Water Infrastructure	150	Water	100%	0%	0%	✓
MA117	Raw Water Intake and Storage	13	Water	100%	0%	0%	
MA118	Water Low Voltage Electrical Systems	30	Water	100%	0%	0%	
MA119	Treated Water Storage and Chlorine Contact Tanks and Pipes	441	Water	70%	30%	0%	
MA120	Site Buildings and Asset Access	96	Water + Wastewater	46%	39%	15%	✓

MA number	MA Name	Value over 2027-33 (2024-25 prices; £m; post-efficiency)	Primary Service	Proportion of value over 2027-33 for water	Proportion of value over 2027-33 for wastewater	Proportion of value over 2027-33 for shared assets	Included in the detailed review
	Total	**4,868**					

Benchmarking of selected projects and programmes of work

2.2.35. As outlined in our methodology, the scope for efficiency covers two elements:

- Catch-up efficiency: the reduction in expenditure to catch up with leading performing companies (i.e. the 'frontier'); and
- Frontier shift: recognition that the leading performing companies will continue to improve due to productivity improvements.

2.2.36. To gain insights on whether a catch-up efficiency challenge was appropriate in certain investment areas, we examined Scottish Water's evidence in two main areas:

- Benchmarking of selected projects and programmes of work; and
- Scottish Water's wider evidence on overall investment efficiency based on benchmarking its cost estimating models.

2.2.37. This subsection focuses on the first area – benchmarking of selected projects and programmes of work. There were two elements to this benchmarking:

- Comparisons against those of other companies in selected investment areas; and
- Comparisons against Scottish Water's historic capital investment in certain areas.

2.2.38. To enable comparisons against other companies in selected investment areas, we examined Ofwat's cost models developed for its 2024 price review (PR24) to understand how Scottish Water's capital costs compare to those of companies in England and Wales. Ofwat developed econometric and unit-cost models to assess company proposals for enhancement investment expenditure, which Ofwat defined as permanent increases or step changes in current service levels or the extension of existing services to new customers. As such, these models covered what we defined as enhancement and growth investment in certain investment areas.[110]

2.2.39. In addition to Ofwat's enhancement models, we also examined other Ofwat data sets published alongside the PR24 final determination that provided the opportunity for benchmarking Scottish Water's capital costs to those of other companies in other investment areas (e.g. water mains renewals).

2.2.40. In line with our EBP&R approach, together with Scottish Water, we examined the applicability of the models and datasets to Scottish Water's proposed investment programme for the 2027-33 regulatory period. In doing so, we focused on two questions:

- Was Scottish Water investing in similar areas over the 2027-33 regulatory period?

[110] Further details of these models are available at Ofwat (2024), 'PR24 final determinations expenditure allowances – enhancement cost modelling appendix', December.

- Was the model or data set applicable to Scotland, recognising differences in environmental and water quality regulations between England and Wales and Scotland?

2.2.41. Based on the answers to these questions, we identified that some models were less applicable to Scottish Water, such as water investigations, as Scottish Water's investment plan did not include investment in these areas.

2.2.42. In its final business plan, Scottish Water provided data and modelling results covering eight areas:[111]

- Phosphorus removal;
- Sanitary parameters tightening;
- Storm overflows;
- Leakage (mains replacement);
- Lead pipe replacement;
- Metering;
- Flow monitoring at wastewater treatment works; and
- Chemicals removal.

2.2.43. Scottish Water explained that its analysis shows it was below or in line with the efficient benchmark used by Ofwat (based on the industry median) in six of the eight areas, with these six areas representing 88% of the value of investment across this set of areas. The two areas where Scottish Water was above the median related to lead pipe replacement and metering.

2.2.44. Scottish Water considered that there are reasons beyond its control for its higher costs in these two areas. Scottish Water considered that Ofwat recognised such factors in how it used the models to determine the allowed investment. In particular, Scottish Water noted that Ofwat set the allowed investment based on the benchmark rather than a company's proposed costs, meaning a company's overall efficiency challenge will reflect its net efficiency position across the different models (i.e. areas where a company's costs are lower than the benchmark will offset areas where costs are higher, resulting in a lower efficiency challenge).

2.2.45. As such, Scottish Water considered that its cost forecasts in these areas are, overall, below or in line with the set of modelled benchmarks used by Ofwat.

2.2.46. Based on our further review of the investment proposed in the final business plan, we identified other investment areas where there was scope to compare Scottish Water's costs

[111] Scottish Water (2026), 'SR27 Final Business Plan: Technical Appendix 12 – Efficiency', 26 February 2026, pp.22-25.

against those of other companies using Ofwat's models and data-sets. These related to the following investment areas:

- Asbestos cement water mains as part of the mains replacement programme;
- Part 4 water growth;
- Part 4 wastewater growth;
- Water infrastructure investment (part 3 water growth funded from infrastructure charges);
- Wastewater infrastructure investment (part 3 wastewater growth funded from infrastructure charges);
- Industrial Emissions Directive;
- Net zero covering carbon capture and process emissions; and
- Pilot activities.

2.2.47. We also identified areas where it was possible to compare Scottish Water's proposed investment over 2027-33 to previous investment projects and programmes. These related to the following investment areas:

- External sewer flooding; and
- Water and wastewater service relocations.

2.2.48. WICS agreed with the sentiment of Scottish Water's point that it is important to consider benchmarking evidence in the round to form an overall assessment. However, this should not preclude applying a targeted, specific cost challenge in areas where we judged there was scope for Scottish Water to further improve its efficiency. As such, we reviewed the benchmarking evidence in each investment area separately to decide whether a further area-specific efficiency challenge was appropriate to capture the opportunities for catch-up efficiency.

2.2.49. Our benchmarking analysis of Scottish Water's costs followed a two-staged approach:

- Examining how Scottish Water's capital costs compared to either those of other companies or its historical expenditure in the relevant investment area; and
- Assessing whether differences in capital costs merited an efficiency challenge, recognising that there may be valid reasons beyond management control that explained differences in company costs.

2.2.50. Table 18 lists the 19 investment areas we benchmarked. Further details behind each benchmarking model are available in the following sections.

Table 18: List of investment areas for benchmarking

Area	Programme	Sub-area ("Investment Area")	Sub-area investment (2024-25 prices; £m)
Water Quality	Lead Management	Lead Communications Pipe Replacement	35
Water Continuity	Water Distribution	Maintain distribution mains - Accelerated Asbestos Cement water mains replacement	143
Water Continuity	Water Distribution	Maintain distribution mains	392
Water Continuity	Other Programmes	Follow market best practice metering requirements	7
Water Environment	Waste Water Treatment	WWTW Improvements	58
Water Environment	Waste Water Bioresource Treatment	Industrial Emissions Directives	41
Water Environment	Waste Water Sewer Networks	Unsatisfactory intermittent discharges	269
Water Environment	Waste Water Sewer Networks	Network monitoring	9
Managing Quantity of Flows	Enhancement	To reduce flood risk to customers impacted by high consequence external sewer flooding where not disproportionately expensive	45
Enabling Growth	Waste water Growth	Provision of Part 4 capacity to meet strategic & local growth requirements	319
Enabling Growth	Water Growth	Provision of Part 4 capacity to meet strategic & local growth requirements	69
Enabling Growth	Infrastructure Investment	Provision of strategic capacity in our networks to meet new demand - Wastewater	69
Enabling Growth	Infrastructure Investment	Enable economic growth - Water	55
Enabling Growth	Service Relocations	Comply with legislative requirements - (Water & Wastewater)	39
Climate Mitigation	Process Emissions	Process Emissions	15
Climate Mitigation	Carbon Capture	Carbon Capture	29
Climate Mitigation	Pilot activities	Pilot activities	16
		Total	**1,610**

2.2.51. Water meters were not included as this area was subject to an external engineering review that took account of comparisons of Scottish Water's metering costs with those of other companies.

External engineering review of projects and programmes by engineering consultants

2.2.52. We highlighted in our final methodology for SRC27 that we required external technical expertise in engineering and asset management to review two areas of Scottish Water's proposed investment plan within its SRC27 Business Plan:

- The scope of a sample of Scottish Water's proposed investment solutions and the proposed costs; and
- Specific areas of asset management that applied across the investment programme, such as Scottish Water's approach to overheads and risk allowances.

2.2.53. We commissioned engineering consultants WSP to undertake this review on our behalf for both the draft and final business plans. The executive summaries of the final reports from each review are available on our website.

Review of the draft business plan

2.2.54. For the review of information in the draft business plan, we requested WSP to carry out:

- An engineering review of a sample of 2 programme areas – the areas we chose were the programme of works for maintaining treated water storage and the programme of works for addressing internal sewer flooding;
- An engineering review of a sample of 2 individual projects – the projects we chose related to the Black Esk Water Treatment Works and the North Berwick Wastewater Treatment Works; and
- A review of Scottish Water's proposed level of overheads and approach for allocating these overheads for 2027-33.

2.2.55. In relation to the review of programmes and projects, we asked the engineering consultant to answer the following questions. In the consultant's opinion:

- Has Scottish Water demonstrated that it has considered all reasonable options to meet the desired outcome? Has Scottish Water considered the 'do nothing' option and set out the costs and risks associated with such an option?
- In considering options to meet the desired outcome, how well has Scottish Water considered risk and how does Scottish Water's risk tolerance compare to the risk tolerance and/or levels of risk managed by other companies?

- Is the scope of solution proposed appropriate given the desired outcome and Scottish Water's risk tolerance? If the consultant's view is that the proposed solution exceeds what is necessary to meet the desired outcome taking account of either Scottish Water's risk tolerance or a reasonable risk tolerance, then

  - How does the solution exceed what is required to meet the outcome?
  - What would represent an appropriate scope challenge?

- Is the proposed scope of solution(s) appropriately costed and how do the unit costs/rates compare with similar projects or programmes completed by other water companies? If Scottish Water's unit costs/rates are higher than comparators:

  - Has Scottish Water explained why?
  - What is the consultant's view on Scottish Water's explanation?
  - If applicable, what would represent a reasonable cost challenge?

- Overall, will the proposed project/programme meet the desired outcome most effectively?

2.2.56. Regarding the review of Scottish Water's proposed overhead levels and approach to allocating them, Scottish Water had benchmarked its indirect and on-cost levels against those of comparator companies. One of the metrics it used related to 'pound in the ground' analysis, which measured indirect costs as a proportion of total direct construction costs. We asked the consultant to answer the following questions. In the consultant's opinion:

- Is Scottish Water's benchmarking of indirect and on-cost[112] levels (including based on its 'pound in the ground' analysis) against those of other companies robust and in line with the data and evidence available to the consultant (based on a sample of companies)? If not,

  - Which elements are not considered robust?
  - What are the implications regarding the proposed level of on-costs?
  - If applicable, what would represent a reasonable cost challenge?

2.2.57. The findings from the review are summarised in sections 2.3, 2.4, 2.5 and 2.7.

[112] On-costs are interchangeably used with indirect costs to refer to the indirect costs associated with delivering a capital project, typically split into two categories:
▪ Client On-Costs: Costs incurred by the client organisation (in this case, Scottish Water), such as project management, design, governance, stakeholder engagement, and internal overheads.
▪ Contractor On-Costs: Costs incurred by the contractor that are not part of direct construction, including site preliminaries, supervision, and contractor-side project management.

Review of the final business plan

2.2.58. WICS commissioned WSP to undertake a similar review of a larger sample of projects and programmes of work from Scottish Water's final business plan. This review had a more focused scope but a wider sample selection to increase coverage of the total investment programme, which had undergone an engineering review.

2.2.59. For the review of information in the final business plan, we requested WSP to carry out:

- An engineering review of the West Central Bioresources project – this project is estimated to cost around £560 million in the 2027-33 period (2024-25 prices) including necessary upgrades to satellite sites and the asset maintenance required at the central Daldowie site immediately upon the expiry of the Private Finance Initiative contract in 2026 (for further details on this project and the Scottish Government assurance requirements for WICS please refer to Appendix 5);
- An engineering review of another individual project – this was selected to be the smart meter roll-out to non-domestic premises, estimated to cost £60 million in the 2027-33 period (2024-25 prices); and
- An engineering review of a sample of 12 programme areas – the selected sample was estimated to cost around £1,800 million in the 2027-33 period (2024-25 prices). The list of programmes is provided in Table 19 below.

Table 19: List of programmes of work from the final business plan included in the sample for an external engineering review

Programme number	Description	Service	Total cost over 2027-33 (£m; 2024-25 prices)
1	Maintain critical and non-critical sewers	Wastewater	295
2	Resolve matters in the interest of safety	Water	278
3	Unsatisfactory Intermittent Discharges programme	Wastewater	260
4	Maintain WTW Chemical Storage and Dosing	Water	140
5	Chlorine Contact Tank Management	Water	134
6	Maintain sludge treatment centres to ensure a quality product: sludge reception & cleaning, digestion & stabilisation, sludge storage, return liquor treatment, thermal drying and pelletising	Wastewater	122
7	Asset maintenance for returning PFI assets (excluding Daldowie)	Wastewater	118
8	Maintain treatment ancillaries including tanks, buildings, instrumentation, washwater, chemical dosing, sampling, tertiary lagoon	Wastewater	114

Programme number	Description	Service	Total cost over 2027-33 (£m; 2024-25 prices)
9	Maintain secondary treatment including tanks, septic tanks, activated sludge assets, wet well, instrumentation, BAF filter, reed bed	Wastewater	112
10	Maintain SCADA, HMI, PLC	Water	97
11	Maintain inlet works including inlet, screening, grit removal and storm tanks	Wastewater	82
12	Provision of appropriate equipment and analysis to demonstrate pass forward flow (PFF) spill compliance at WWTW and that flow is maintained during the event duration	Wastewater	65

2.2.60. The total estimated cost of the selected projects and programmes in the 2027-33 period was around £2,434 million or 30% of the total investment programme in the final business plan.

2.2.61. For the West Central Bioresources project review, we asked WSP to answer the following questions. In the consultant's opinion:

- Is the investment need robustly demonstrated and justified?
- Has Scottish Water demonstrated that it has considered all reasonable options to meet the desired outcome? Has Scottish Water considered the 'do nothing' option and set out the costs and risks associated with such an option?
- Are Scottish Water's assumptions on the impact of the new Environmental Authorisation Scotland Regulations (EASR) and the impact on the disposal of sludge to land reasonable, recognising that this appears to be a material factor in Scottish Water deciding to deliver the project in-house?
- To what extent is the West Central Bioresources project consistent with the characteristics of a project that is suitable for a Mutual Investment Model (certainty of need, complexity to allow for a risk transfer at a reasonable price)?
- To what extent are Scottish Water's assumptions of the benefits from a project delivery in-house versus via a Mutual Investment Model reasonable?
- In considering options to meet the desired outcome, how well has Scottish Water considered risk?
- Is the scope of solution proposed appropriate given the desired outcome and Scottish Water's risk tolerance? If the consultant's view is that the proposed solution exceeds what is necessary to meet the desired outcome taking account of either Scottish Water's risk tolerance or a reasonable risk tolerance, then
  - How does the solution exceed what is required to meet the outcome?
  - What would represent an appropriate scope challenge?

- In considering options to meet the desired outcome and in developing the scope of the preferred solution, has Scottish Water taken a holistic planning approach, taking account of wider system/network or catchment management issues and opportunities?
- Is the proposed scope of solution(s) appropriately costed and how do the unit costs/rates compare with similar projects or programmes completed by other water companies? If Scottish Water's unit costs/rates are higher than comparators:

  - Has Scottish Water explained why?
  - What is the consultant's view on Scottish Water's explanation?
  - If applicable, what would represent a reasonable cost challenge?

- Overall, will the proposed project/programme meet the desired outcome most effectively?

2.2.62. Furthermore, the scope of the review should cover some of the requirements the Scottish Government had outlined in its final position paper regarding this investment project and its appraisal.[113] Specifically, we expected the consultant to review whether:

- The investment appraisal complies with HM Treasury's Green Book;
- The proposed solution aligns with the Scottish Government's Infrastructure Investment Plan and draft Bioenergy Policy Statement;
- The investment appraisal appraises options against their economic impact. This includes giving consideration to whole life costs and how capital costs can be shared between current and future customers. The investment case should also consider qualitative or quantitative wider economic benefits of the project;
- The investment appraisal appraises the options for this project against the potential for the solution to integrate with existing policies and plans at the national, regional and local level, e.g. National Planning Framework 4; and
- The investment appraisal appraises the options for the project against a range of environmental factors in line with the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017.[114] This is to reflect the overall balance of environmental impact and benefits. These include:

  - Population and Human Health;
  - Biodiversity;
  - Land, soil, water, air and climate;

[113] Scottish Government (2025), 'Letter from the Cabinet Secretary for climate action and energy', letter dated 7 November 2025.
[114] The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017, Regulation 4(3) and Schedule 4(4) and (5).

- Material assets, cultural heritage and the landscape; and
- Vulnerability of the proposed development to major accidents and disasters.

2.2.63. For the review of the second individual project, we asked WSP to answer the following questions. In the consultant's opinion:

- Is the investment need robustly demonstrated and justified?
- Has Scottish Water demonstrated that it has considered all reasonable options to meet the desired outcome? Has Scottish Water considered the 'do nothing' option and set out the costs and risks associated with such an option?
- In considering options to meet the desired outcome, how well has Scottish Water considered risk?
- Is the scope of solution proposed appropriate given the desired outcome and Scottish Water's risk tolerance? If the consultant's view is that the proposed solution exceeds what is necessary to meet the desired outcome taking account of either Scottish Water's risk tolerance or a reasonable risk tolerance, then:

  - How does the solution exceed what is required to meet the outcome?
  - What would represent an appropriate scope challenge?

- In considering options to meet the desired outcome and in developing the scope of the preferred solution, has Scottish Water taken a holistic planning approach, taking account of wider system/network or catchment management issues and opportunities?
- Is the proposed scope of solution(s) appropriately costed and how do the unit costs/rates compare with similar projects or programmes completed by other water companies? If Scottish Water's unit costs/rates are higher than comparators:

  - Has Scottish Water explained why?
  - What is the consultant's view on Scottish Water's explanation?
  - If applicable, what would represent a reasonable cost challenge?

- Overall, will the proposed project/programme meet the desired outcome most effectively?

2.2.64. For the review of 12 investment programmes of work, we expected it to be less in-depth than the project review and to focus on the underlying assumptions used to cost the programme and the efficiency of the proposed costs, answering the following questions. In the consultant's opinion:

- Is the investment need robustly demonstrated and justified?

- Is the scope of solution proposed broadly appropriate to meet that investment need? If the consultant's view is that the proposed solution exceeds what is necessary to meet the desired outcome, then:
  - How does the solution exceed what is required to meet the outcome?
  - What would represent an appropriate scope challenge?
- Is the proposed scope of solution(s) appropriately costed and how do the unit costs/rates compare with similar projects or programmes completed by other water companies? If Scottish Water's unit costs/rates are higher than comparators:
  - Has Scottish Water explained why?
  - What is the consultant's view on Scottish Water's explanation?
  - If applicable, what would represent a reasonable cost challenge?

2.2.65. The findings from the review are summarised in sections 2.3, 2.4 and 2.5.

2.3. Review of investment related to drinking water quality and continuity

2.3.1. This section outlines the investment in water quality and water continuity, which Scottish Water proposed to deliver by programme area, and details how WICS reviewed these proposals by each of the review approaches below:

- Feedback from the Drinking Water Quality Regulator;
- Review of investment cases;
- Review of asset maintenance investment;
- Benchmarking review; and
- External engineering review.

Summary of Scottish Water's proposals in the final business plan

2.3.2. Table 20 below outlines the investment Scottish Water proposed to deliver in its final business plan in relation to water quality and water continuity.

Table 20: Business plan investment for water quality and continuity

Technical Appendix Area	Investment Programme	Investment in final business plan (2024-25 prices; £m)
TA001 - Water Quality	Water Treatment	1,294
TA001 - Water Quality	Water Storage	318
TA001 - Water Quality	Water Distribution	64
TA001 - Water Quality	Lead Management	36
TA001 - Water Quality	Raw Water and Catchment Management	9
TA002 - Water Continuity	Abstraction, Sources and Raw Water Transfers	427
TA002 - Water Continuity	Water Treatment	7
TA002 - Water Continuity	Water Transmission (trunk mains and strategic pipelines)	99
TA002 - Water Continuity	Water Pumping Stations	48
TA002 - Water Continuity	Water Distribution	686
TA002 - Water Continuity	Resilience and Growth	126
TA002 - Water Continuity	Other Programmes	377
	Total	**3,491**

Regulator feedback

Feedback on the business plan

2.3.3. For the Draft Determination, we received feedback from DWQR in relation to the water quality investment area.

2.3.4. In its feedback, DWQR explained that it was broadly supportive of the approach taken by Scottish Water and generally agreed with the proposed business plan, which prioritises:

- Compliance with legal duties;
- Resilience of supplies with failsafe arrangements; and
- Acceptability of supplies to consumers.

2.3.5. DWQR explained that the proposed plan goes some way in addressing risk, but risk remains, and focus is required on the operation and maintenance of assets to protect public health.

2.3.6. DWQR set out the main drivers of investment, including:

- Improvements are associated with delivery of a revised disinfection policy, which will require significant improvement over the 2027-33 regulatory period and beyond;
- Inspection and repair of all treated water storage assets, which is the subject of an enforcement notice;

- Maintaining and improving customer acceptability related to discolouration, taste and odour;
- Lead compliance;
- Addressing ageing and deteriorating assets in the face of climate change and more recent regulatory changes; and
- Protection of public health in relation to raw water supplies, with concern that recent information shows the number of supplies significantly exceeding the investment plan.

2.3.7. DWQR issued an enforcement notice to develop and implement an action plan related to its risk assessment methodologies and understanding of significant risks, requiring improvements in these areas.[115] In our engagement with DWQR, it reiterated these concerns and highlighted that Scottish Water may need to reprioritise investment during the 2027-33 regulatory period once Scottish Water has a better understanding of the significant risks.

2.3.8. Through the information provided by DWQR, we considered that there is limited discretionary investment in relation to the water quality programme. Furthermore, investment may need to be reprioritised during the regulatory period, recognising Scottish Water's work to deliver a revised disinfection policy and risk assessment methodologies.

Feedback on the Draft Determination

2.3.9. DWQR welcomed our Draft Determination and was broadly supportive of the proposed investment programme. It considered that the underlying drinking water quality drivers are justified and the investment necessary to maintain and operate Scotland's drinking water infrastructure effectively, protect public health and support the industry's long-term vision. DWQR nevertheless highlighted the scale of the delivery challenge and its intention to seek further assurance from Scottish Water that the programme remains deliverable and that operational efficiency challenges do not adversely affect essential activities or asset maintenance.[116]

2.3.10. We welcome DWQR's support for the proposed investment programme and its assessment that the underlying drinking water quality drivers are justified. We consider this provides important regulatory support for the need case underpinning the investment included in our Final Determination.

[115] DWQR (2025), 'Water Industry (Scotland) Act 2002 Enforcement Notice Under Section 10 (1)', letter dated 01 December 2025, available at Enforcement, last accessed on 21 April 2026.
[116] DWQR (2026), 'Strategic Review of Charges 2027-33: Draft Determination', 31 August 2026, pp.1-2.

Review of investment cases

2.3.11. For the Draft Determination, we conducted an engineering review of 27 projects, valued at greater than £6 million, covered by the water quality and water continuity technical appendices. These 27 projects had a combined value of £748 million. The results of our review, assessed against the criteria set out in paragraphs 2.2.21 to 2.2.27, are shown in Table 21.

2.3.12. Of the 27 projects, 22 were assessed with a Green RAG score, meaning these investments were allowed. 3 were assessed with an Amber RAG score, indicating WICS had reservations about one or more assessment criteria, and 2 had a Red RAG score, indicating investment may not be allowed.

2.3.13. In our initial assessment, several projects received Red or Amber RAG scores for the regulatory engagement criteria, specifically because no evidence was provided that they were supported by the DWQR. For clarification, WICS was not requiring DWQR approval; rather, only evidence that the solution had been shared with the DWQR and that no objections had been raised. This recognises DWQR's regulatory role and that DWQR will not endorse a specific solution, as outcome risk must sit with Scottish Water as operator. During our review, WICS held bilateral discussions with the DWQR regarding the water quality projects, and the DWQR responded with a note indicating that the need for investment and the solution had been shared across all the projects we reviewed.[117]

[117] Email from DWQR to WICS titled 'WICS/DWQR Bilateral 13 April 2026', dated 20/04/2026.

Table 21: Draft Determination assessment summary of water-related project investment cases

Investment Code	Investment Name	Value over 2027-33 (2024-25; £m)	Primary Technical Appendix	RAG Score: Needs & Options	RAG Score: Regulatory Engagement	RAG Score: Cost Estimate	RAG Score: Benefits & Risk	RAG Score: Overall Assessment
5363113077	SR21 Turriff WTW	142	Water Quality	GREEN	GREEN	GREEN	GREEN	GREEN
5363113079	SR21 Glendevon WTW	53	Water Quality	AMBER	GREEN	RED	RED	RED
5363113086	SR21 Mannofield WTW - Ceramic	63	Water Quality	GREEN	GREEN	AMBER	GREEN	GREEN
5363113110	SR21 Mannofield WTW	1	Water Quality	GREEN	GREEN	GREEN	GREEN	GREEN
5363113087	SR21 Bradan_WTW Future Plan	50	Water Quality	GREEN	GREEN	GREEN	GREEN	GREEN
5363110861	Lomond Scheme - Distributed Control System DCS replacement or renewal	24	Water Continuity	GREEN	GREEN	GREEN	GREEN	GREEN
5363110875	Balmore WTW HV Asset Replacement	12	Water Continuity	GREEN	GREEN	GREEN	GREEN	GREEN
5363113090	SR21 Stornoway WTW	49	Water Quality	GREEN	GREEN	AMBER	GREEN	GREEN
5363113108	Lintrathen WTW - OT - ASD and Disinfection Upgrades	11	Water Quality	GREEN	GREEN	GREEN	GREEN	GREEN
5363113113	SR21 ASD - Blairlinnans WTW	12	Water Quality	GREEN	GREEN	GREEN	GREEN	GREEN
5363113225	Invercannie 1924 Aqueduct Conduit Replacement	28	Water Continuity	GREEN	GREEN	GREEN	GREEN	GREEN
5363113405	Loch Katrine New Aqueduct North End Long Chamber to South End Long Chamber	22	Water Continuity	GREEN	GREEN	GREEN	GREEN	GREEN
5363110870	Glenhove TWP - HV Asset Replacement	7	Water Continuity	GREEN	GREEN	GREEN	GREEN	GREEN
5363111172	MA037 Castle Moffat CWT	12	Water Quality	GREEN	GREEN	GREEN	GREEN	GREEN
5363113036	RCI Tiree DMA Sandaig	6	Water Continuity	GREEN	GREEN	GREEN	GREEN	GREEN
5363113095	SR21 ES Torra WTW	6	Water Quality	GREEN	GREEN	GREEN	GREEN	GREEN

Investment Code	Investment Name	Value over 2027-33 (2024-25; £m)	Primary Technical Appendix	RAG Score: Needs & Options	RAG Score: Regulatory Engagement	RAG Score: Cost Estimate	RAG Score: Benefits & Risk	RAG Score: Overall Assessment
5363113099	SR21 Camphill WTW	21	Water Quality	GREEN	GREEN	GREEN	GREEN	GREEN
5363113111	SR21 Penwhirn WTW	25	Water Quality	GREEN	GREEN	GREEN	GREEN	GREEN
5363113129	SR21 Glenlatterach WTW	25	Water Quality	GREEN	GREEN	GREEN	GREEN	GREEN
5363113139	SR21 Londornoch WTW	47	Water Quality	GREEN	GREEN	GREEN	GREEN	GREEN
5363113179	Greenock WTW	12	Water Quality	GREEN	GREEN	AMBER	GREEN	AMBER
5363113592	Daer WTW - DEVELOP - Strategic Replacement	31	Water Quality	GREEN	GREEN	AMBER	AMBER	AMBER
5363113124	SR21 Daer WTW	6	Water Quality	GREEN	GREEN	GREEN	GREEN	GREEN
5363113593	Carron Valley WTW - DELIVER - Taste & Odour Improvements	19	Water Quality	GREEN	GREEN	RED	RED	RED
5363117623	Assynt WOA - Maryburgh Trunk Main	6	Water Continuity	GREEN	GREEN	GREEN	GREEN	GREEN
5363113083	SR21 ES Glenfarg WTW upgrade	51	Water Quality	GREEN	GREEN	GREEN	GREEN	GREEN
5363110889	Edinburgh Lothians Castle Moffat Hopes - Resilience and Growth	7	Water Continuity	AMBER	GREEN	GREEN	AMBER	AMBER
	Total	**748**						

Projects assessed with a Red RAG score for the Draft Determination

2.3.14. **SR21 Glendevon WTW**. WICS requested further information regarding this project in a formal query on 13th March 2026.[118] Scottish Water replied to the query; however, we still had reservations in respect to several assessment criteria.

2.3.15. The reasons for the Red RAG score for the Glendevon water treatment works (WTWs) project were:

- Needs & Options: not all needs/risks set out in the Stage 1 PIA, which are based on the DWQR Needs Statement, would be addressed by the proposed solution.
- We assessed that the £54 million budget in the final business plan appeared low relative to the proposed solution and there was a risk that the benefits of the project will not be realised. The scope of the recommended option (Option 9a) included:
  - Installation of auto-shutdown system;
  - An additional clear water tank; and
  - Replacement of the existing rapid gravity filter plant with a ceramic membrane filtration plant.

2.3.16. Our assessment of the capital cost for the proposed scope at Glendevon WTW, a large 91Ml/d plant, indicated a material risk of cost escalation relative to the forecast in the business plan, meaning that the proposed scope and its full benefits may not be delivered in the 2027-33 period.

2.3.17. **Carron Valley WTW – DELIVER – Taste & Odour Improvements**. WICS requested further information regarding this project in a formal query on 20th March 2026.[119] Scottish Water replied to the query; however, we still had reservations regarding our assessment of the cost estimation criteria.

2.3.18. The reasons for the Red RAG score for Carron Valley WTW project were:

- The investment was included in the final business plan because it was included in Scottish Water's Letter of Commitment (LoC) to the DWQR to address a "high risk" of exceeding the standard for disinfection by-products, specifically haloacetic acid (HAA).
- The Stage 3a PIA, included in the evidence base, proposed process maximisation work and the addition of an enhanced organics removal process to reduce the total organics content and, hence, disinfection by-product formation (including HAAs).
- In its query response, Scottish Water stated that "*Subsequent pilot plant studies identified the potential to deliver a more cost-effective solution (still based on ozone)*

[118] WICS query reference 03-09 issued 13/03/2026 and reply from Scottish Water dated 03/04/2026
[119] WICS query reference 04-10 issued 20/03/2026 and reply from Scottish Water dated 31/03/2026

for addressing the T&O issues" and confirmed the £19 million final business plan budget as being sufficient for this purpose.

- However, WICS saw no evidence that the budget of £19 million would be sufficient to provide a solution, on a 125Ml/d WTW, that would provide enhanced organics removal and address the "high risk" of haloacetic acid exceedances in customers' water supply.

2.3.19. We also noted that if a more comprehensive solution was required at Carron Valley WTW to address the "high risk" of haloacetic acid exceedances in customers' water supply, we havd concerns that investment to address taste and odour issues will be insufficient and will not be a good use of customers' money.

Projects assessed with an Amber RAG score

2.3.20. **Greenock WTW**. The project assumed enhanced organics removal is required to reduce disinfection by-products, specifically haloacetic acid, as required by the LoC with the DWQR. WICS noted that the final business plan budget of £12 million appeared low compared to the cost estimates for other organics removal projects.

2.3.21. **Edinburgh Lothians Castle Moffat Hopes - Resilience and Growth**: The purpose of this project related to addressing a current and worsening Supply-Demand Balance (SDB) in the Edinburgh and Lothians water resources zones. The project investment appraisal[120] noted that the latest best cost estimate was £100 million, and the Gate 90 date is in 2035, so the main investments that could result from this project are not planned for the 2027-33 period. In a formal query, WICS asked Scottish Water how the £7 million final business plan budget would be spent towards achieving the aims of this project. Scottish Water advised that the 2027-33 scope would include project development work such as physical investigations and modelling.[121]

2.3.22. This project was scored Amber for both the Needs & Options and the Benefits & Risk assessment to reflect concern that a lack of tangible or well-defined objectives for the 2027-33 period could result in insufficient progress achieved in SR27. WICS proposed monitoring progress on this important strategic project to ensure that available funding is used to address the need for long-term continuity of water supply for customers in the Edinburgh and Lothian area.

2.3.23. **Daer WTW - DEVELOP - Strategic Replacement project**: Daer is a 75-year-old WTW with a need to address water quality deficiencies. The project investment appraisal, which was instigated following an Enforcement Notice from DWQR, concluded that the most

[120] Scottish Water (2024), 'Stage 1: Case for Change Level 2 – Edinburgh & Lothians, Castle Moffat & Hopes Resilience', September 2024, p. 13, submitted with the final business plan on 26 February 2026.
[121] WICS query reference 05-08 issued 27/03/2026 and reply from Scottish Water dated 03/04/2026

economically viable whole-life-cost strategy for Daer WTW would be replacement with improved water treatment technology at a new works. The reasons for the amber RAG score was as follows:

- Scottish Water recognised this in the final business plan by including a budget of around £31 million "to undertake the initial options appraisal for the strategic replacement of Daer WTW and the subsequent detailed design of the preferred option by the end of SR27 for delivery in SR33, subject to available financing against other priorities to be determined through the business plan process for SR33."[122]
- WICS had concerns that without a well-defined programme showing how the project will be implemented over 2027-33 and 2033-39 periods, the development of this project will leave insufficient progress towards realising the longer-term project benefits – hence the Amber RAG score. WICS proposed to monitor progress on this important strategic project to ensure customers can see progress towards the longer-term benefits that will eventually be delivered.
- In addition, WICS was concerned that the cost proposed of £31 million for the initial assessment of options and detailed design is higher than industry norms for detailed design, which we would normally expect to be in the range 4% - 6% for estimated capital cost, i.e. not more than £18 million.

2.3.24. There were 2 projects assessed as Green for the overall RAG score and Amber only for Cost Estimation. In these 2 projects, we noted that the final business plan budget was below the cost estimate presented in the latest project investment appraisal. We asked Scottish Water for further information on these differences; however, Scottish Water assured us that they are comfortable with the proposed budget. Whilst the final business plan estimate may be reasonable, the Amber RAG score reflected a risk of cost escalation for these projects in the 2027-33 regulatory period. The two projects with such cost estimation differences were:

- SR21 Mannofield WTW – Ceramic: £76.0 million in appraisal and £64.4 million in the final business plan.[123]
- SR21 Stornoway WTW: £60.5 million in the appraisal and £50.2 million in the final business plan.[124]

Our assessment in the Draft Determination

2.3.25. Our assessment for the Draft Determination is that we proposed to allow the funding for both Glendevon water treatment works and Carron Valley in full, but required confirmation from Scottish Water in the following areas:

[122] WICS query reference 06-07 issued 02/04/2026 and reply from Scottish Water dated 09/04/2026
[123] WICS query reference 05-07 issued 27/03/2026 and reply from Scottish Water dated 09/04/2026
[124] WICS query reference 03-11 issued 13/03/2026 and reply from Scottish Water dated 20/04/2026

- For Glendevon, we required Scottish Water to confirm the project needs and whether the full scope will be met for the proposed costs; and
- For Carron Valley, we required that Scottish Water confirm the project needs and whether the solution relates to taste and odour only, or taste and odour and haloacetic acids. If it is only taste and odour, we required confirmation that the investment will not be redundant and that the proposed investment is consistent with a low regrets/least regrets pathway.

2.3.26. For the Daer water treatment works, we proposed reducing the allowance by £13.4 million to £18 million, recognising that this should be sufficient to cover the assessment of the option selection and detailed design for a project of this size.

Draft Determination consultation responses and new information

2.3.27. Scottish Water provided the additional information on project needs and scope for the two projects we requested in paragraph 2.3.25:

- **Carron Valley WTW**: Scottish Water confirmed that the proposed £19 million investment at Carron Valley WTW is primarily required to address increasing taste and odour risks. It also confirmed that the proposed ozone investment in the 2027-33 period is expected to increase the removal of organic material, further reducing the risks of disinfection by-products, discolouration and microbiology. No further investment is proposed. As such, it explained that the proposed £19 million investment is consistent with a low-regrets pathway.[125]
- **Glendevon WTW**: Scottish Water confirmed that the proposed £53 million investment in the 2027-33 period will address the primary risks and needs identified at the site. Since submission of the final business plan, Scottish Water has deferred an additional £3.4 million of investment originally planned for the 2021-27 period, which will now be delivered in the 2027-33 period. Scottish Water explained that further investment will be required to achieve longer-term disinfection by-product minimisation objectives; however, this is not currently necessary and is expected to be considered during the SRC33 period.[126]

2.3.28. Scottish Water provided additional information on two of the Amber assessed projects:

- **Edinburgh, Lothians, Castle Moffat, Hopes - Resilience and Growth**: Scottish Water confirmed that the proposed investment in the 2027-33 period will allow it to

[125] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination Response – Annex 4a – Capital Investment Evidence', 1 September 2026.
[126] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination Response – Annex 4a – Capital Investment Evidence', 1 September 2026.

progress the project appraisal to Stage 3a[127] and develop an interim deployment plan. It also explained that following the submission of the final business plan, funding has been redistributed across six related projects (including this one) intended to address projected supply-demand deficits over the next 25 years arising from climate and demographic change. As a result, the planned investment for this project in the 2027-33 period has been reduced from £7 million to £5 million, with the reallocated funding used to progress other projects. Across the portfolio, funding will support the further development of project investment appraisals and, in some cases, the commencement of solution delivery.[128]

- **Daer WTW**: Scottish Water provided further detail on the activities to be funded by the proposed £31 million investment in the 2027-33 period in the final business plan. These activities are intended to identify a preferred solution, fully develop the project investment appraisal to Stage 4 (Gate 90),[129] and prepare the delivery vehicle for construction at the start of the SRC33 period.[130] Scottish Water also considered that the cost challenge WICS applied in the Draft Determination (see paragraph 2.3.26) did not fully reflect the scope of activities covered by the proposed funding. In addition to detailed design, the funding would support wider project development activities, including site investigations, surveys, technical studies, specialist services (such as land acquisition and utility diversions), early contractor involvement, constructability assessments and more. Scottish Water, therefore, considered that benchmarking against industry norms for design costs alone did not provide a like-for-like comparison. To support its position, Scottish Water provided evidence from comparable projects, indicating that development costs through Gate 90 have historically represented around 9-10% of total project costs, compared with the 4-6% range used in the Draft Determination. Recognising that the available comparators are limited, given the scale of the Daer WTW project, Scottish Water proposed an allowance equivalent to 8% of the estimated £300 million capital cost. This would result in an allowance of approximately £24 million, compared with the £18 million

[127] Stage 3a of Scottish Water's Project Investment Appraisal process represents the Outline Investment Appraisal where costs (including carbon), risks, and benefits are considered in detail. The purpose is to identify and recommend the option(s) that best meet the investment Need(s).
[128] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination Response – Annex 4a – Capital Investment Evidence', 1 September 2026.
[129] Stage 4 of Scottish Water's Project Investment Appraisal process is Project Appraisal for Commitment. Stage 4 refines the preferred intervention option towards final design, including its costs, carbon impacts, benefits and delivery and procurement strategies. It confirms that the option remains the best intervention and a current priority before it progresses to the Committed List.
[130] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination Response – Annex 4a – Capital Investment Evidence', 1 September 2026.

allowance in the Draft Determination and the £31 million proposed in the Final Business Plan.[131]

2.3.29. In addition to receiving and reviewing consultation responses, we examined information Scottish Water had submitted to us through other regulatory processes, such as the Annual Return 2025-26 (AR26) and updated Project Investment Appraisal (PIA) documentation following the publication of the Draft Determination.

2.3.30. As part of our review of Scottish Water's proposed capital investment programme, we identified 104 large projects within the investment proposals considered for the Draft Determination. Of these, 83 projects were also included in the Annual Return submission. We compared the information across these sources to identify movements in forecast costs and sought to understand the reasons for those movements, particularly where a project had not reached a further governance stage (investment gate) and therefore a material change in cost would not normally have been expected. This showed a reduction in forecast costs overall, with different categories identified and discussed below:

- There are 5 projects that have passed a subsequent Gate and Scottish Water has supplied an updated PIA (all for water service enhancement projects). The 2027-33 forecast costs for these in AR26 are £44 million less than in the final business plan, while the 2027-33 forecast costs within the respective PIAs are £31 million less than in the final business plan;
- There are 4 projects where a subsequent Gate has been passed and no PIA has been submitted for review. The AR26 variance to the final business plan of these is £55 million; and
- There are 74 projects that have a cost change but have not passed a subsequent Gate in the approval process. The AR26 variance to the final business plan of these totals £75 million.

WICS decision

2.3.31. We are satisfied with Scottish Water's additional assurances and evidence for the following projects:

- **Carron Valley WTW**: We consider that Scottish Water's explanation addresses the concerns raised in our Draft Determination. We therefore conclude that the proposed investment is reasonable for the delivery of the planned ozone treatment measures, and we allow the funding for this project in full in the Final Determination.

[131] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination Response – Annex 4b – Cost Challenge'', 1 September 2026.

- **Glendevon WTW**: Scottish Water's response provides additional assurance regarding the scope and timing of future investment; however, we continue to consider that the proposed costs for this project appear relatively low for the range of improvements proposed (such as ceramic membranes filtration, new clear water tank, provision of Auto Shutdown and Run-to-Waste, and others). Nevertheless, we allow the funding for this project in full in the Final Determination. We will continue to monitor the development of this project closely during the regulatory period through the Project Investment Appraisal review process.
- **Edinburgh, Lothians, Castle Moffat, Hopes - Resilience and Growth**: WICS has reviewed and further queried Scottish Water's response to our Draft Determination. We consider the overall £25 million investment proposed in the 2027-33 period across the six projects to be reasonable for progressing project development and initiating delivery of measures to address future supply-demand deficits. While some individual project cost estimates may be understated, we are satisfied that the overall funding level is appropriate at this stage. We therefore allow the funding for these projects in full in the Final Determination. We will review the project investment appraisals as they mature during the regulatory period and will continue to monitor expenditure and progress through the Annual Return process and other regulatory reporting mechanisms.
- **Daer WTW**: We consider that Scottish Water's response provides a reasonable basis for revising the funding allowance. Having reviewed the additional evidence, including Scottish Water's historical cost data and a high-level comparison with major water infrastructure schemes in England and Wales, we consider that an allowance equivalent to 8% of total project costs is consistent with the scope of appraisal Scottish Water will develop, and the level of project preparation proposed for the 2027-33 period. We therefore set an allowance of £24 million for the Daer WTW project in the Final Determination. This represents a £7 million reduction to the final business plan proposal and a £6 million increase relative to the Draft Determination allowance.

2.3.32. On the updated cost estimates observed from Project Investment Appraisals (PIAs) and the Annual Return 2025-26 (AR26), we originally requested further information in July 2026 on the observed differences between the final business plan and AR26 as part of the query process for AR26. However, Scottish Water did not provide an explanation in its response. We raised this again with Scottish Water in September, following its response to the Draft Determination consultation and Scottish Water provided further information on 25 September.

2.3.33. Scottish Water explained that the AR26 submission represents a snapshot taken from its investment planning system (P3M), where forecasts are less accurate and do not provide a

fully assured view of the 2027-33 programme. Consequently, the 2027-33 forecasts included within AR26 were subject to less scrutiny and assurance than those developed through the final business plan process. Scottish Water explained that the final business plan forecasts represent the most robust and assured view of investment requirements and profiling at the point of submission, and identified four key themes to explain the variances observed:

- The Annual Return does not include pre-Gate 30[132] investment for projects (or components of projects) that are included in the final business plan forecast;
- Projects maturing through the governance stages (investment gates) resulting in scope and/or cost estimate changes;
- Use of indexation factors (to get to 2025-26 price base) that use the Annual Return investment forecast profile, which is significantly different to the final business plan investment profiling; and
- Annual Return forecasts for the 2027-33 period have not undergone the same level of validation and assurance as the final business plan forecasts.

2.3.34. There were five projects where there is also a difference between the project value in the PIA and business plan. Scottish Water explained that for 3 of the PIA projects identified (Londornoch WTW, Penwhirn WTW and Glenlatterach WTW), the full final business plan allowance should be retained to ensure delivery of its DWQR commitments. However, the PIAs demonstrate that lower-cost solutions are currently proposed to address the Halo Acetic Acids (HAA) investment needs. While Penwhirn and Glenlatterach may require future enhancements, the PIA notes that if post-works operational performance demonstrates that additional treatment is necessary, then this investment would inform SRC33 investment requirements.

2.3.35. We considered that there may be merit in applying the cost adjustment to all SRC27 projects that are included in both the business plan and AR26. However, we note that some SRC27 projects may not be included in AR26. If the cost of some of these projects has increased, that may offset the net reduction identified when examining only projects that appear in AR26. As such, we have decided to be conservative in not aligning with AR26 values.

2.3.36. However, we have decided to revise our allowances for the five projects that also have an updated PIA. This is because the detailed engineering review conducted for our Draft Determination was based on prior evidence, including PIAs in some cases, that has since been superseded. It is therefore reasonable to update the allowances for more current

[132] Pre-Gate 30 investment refers to the investment required to produce Stage 1 of the Project Investment Appraisal which sets our the Case for Change. Stage 1 establishes the rationale and priority for investment by identifying service risks and opportunities, their root causes, the investment Need(s) to be addressed, and the consequences of postponing action.

evidence from PIAs. This adjustment reduces the forecasts included in the final business plan by £31 million, as summarised in Table 22 below.

Table 22: Investment projects with updated reduced allowance

Investment project	Final business plan (2024-25 prices; £m)	Project Investment Appraisal	Change between PIA and final business plan	Final Determination (2024-25 prices; £m)
Penwhirn WTW	25	12	-13	12
Glenlatterach WTW	25	11	-14	11
Torra WTW	6	7	+1	7
Londornoch WTW	47	26	-21	26
Black Esk WTW	23	38	+15	38
Total	**125**	**94**	**-31**	**94**

Review of asset maintenance investment

2.3.37. Table 23 lists the reviewed Management Approaches, which cover investments mostly related to water services along with WICS' RAG assessment. The 3 Management Approaches highlighted in orange (namely, MA022, MA114, and MA119) were excluded from our internal review as they cover programmes of work which were included in the external engineering review by WSP. The following paragraphs detail the assessment of each of the remaining 9 MAs.

Table 23: Management Approaches relating mostly to Water service

MA number	MA Name	Value over 2027-33 (2024-25 prices; £m; post-efficiency)	Primary Service	Proportion of value over 2027-33 for water	Proportion of value over 2027-33 for wastewater	Proportion of value over 2027-33 for shared assets	WICS assessment in DD
MA016	Network Water Quality	60	Water	51%	0%	49%	Green
MA022	SCADA PLC HMI	130	Water	100%	0%	0%	
MA033	Water Filtration	92	Water	100%	0%	0%	Amber
MA058	Water Pumping Stations	48	Water	88%	0%	12%	Red
MA063	Water Resources Environmental Monitoring & Compliance	45	Water	100%	0%	0%	Amber
MA073	Distribution Infrastructure - Metering and Flow Monitoring	41	Water	100%	0%	0%	Red
MA094	WTW Process Stages Mechanical & Electrical	59	Water	100%	0%	0%	Amber
MA095	WTW Water Quality Instrumentation	57	Water	100%	0%	0%	Amber
MA111	Water Distribution Mains	554	Water	100%	0%	0%	Amber
MA114	Water Treatment, Chemical Storage and Dosing	143	Water	100%	0%	0%	
MA116	Strategic Water Infrastructure	150	Water	100%	0%	0%	Green
MA119	Treated Water Storage and Chlorine Contact Tanks and Pipes	441	Water	70%	30%	0%	
	Total	**1,820**					

MA016 Network Water Quality

2.3.38. Management Approach 16 relates to the management of water discolouration within the network. Scottish Water proposed to maintain its policy for the 2021-27 regulatory period.

2.3.39. Scottish Water proposed to spend £60 million (2024-25 prices) on interventions relating to water discolouration over the 2027-33 regulatory period.

2.3.40. In our Draft Determination assessment, we observed differences in unit costs for mains replacement between the final business plan and the management approach policy. Scottish Water explained these differences.

2.3.41. We also noted that this management approach includes an additional £30 million in investment to reduce customer contacts for discolouration and taste and odour issues, which is a concern for the DWQR.

2.3.42. For our Draft Determination, we proposed no further cost challenge in this area based on the following points:

- we were applying an additional challenge to performance on the outcome measures for customer contacts for discolouration, taste and odour issues and interruptions to supply and leakage, which will all be affected by mains replacement; and
- the DWQR's concerns regarding discolouration, taste and odour.

2.3.43. We did not receive feedback in this area in the Draft Determination consultation.

2.3.44. Table 24 provides our Final Determination allowance along with the updated outputs to be delivered as per Scottish Water's Draft Determination response Annex 4c. The number of outputs will be further refined in Scottish Water's delivery plan 2027-28 which will use a more detailed methodology for estimating them.

Table 24: Final Determination allowance for MA016 Network Water Quality

MA016 Network Water Quality	Values
Scottish Water forecast expenditure (2024-25 prices)	£60m
Cost challenge (2024-25 prices)	£0
Final allowance (2024-25 prices)	£60m
Outputs to be delivered over 2027-33: Length of potable water mains cleaned (km)	8,441
Outputs to be delivered over 2027-33: Length of potable water mains replaced (km)	24

MA033 Water Filtration

2.3.45. Management Approach 33 covers the following water filtration assets:

- Sand filters, which it assumes are refurbished at condition grade 4, which is assumed to correspond to 14 years;
- Membranes, which it assumes are refurbished at condition grade 4, which is assumed to correspond to 4 years; and
- Granular Activated Carbon (GAC) filters, which it assumes are refurbished at condition grade 4, which is assumed to correspond to 1 or 4 years, depending on asset life.

2.3.46. The management approach indicated that for all filtration assets, Scottish Water will undertake reactive replacements and inspections in response to unforeseen performance events.

2.3.47. Scottish Water proposed to spend £92 million (2024-25 prices) on maintaining these assets over the 2027-33 regulatory period.

2.3.48. The policy trigger is refurbishment at condition grade 4, yet there is currently no asset condition data available and no modelled deterioration curves for membrane, sand or GAC filter assets, resulting in reliance on high-level assumptions.

2.3.49. Scottish Water's management approach clearly sets out its assumptions for the unit costs and the number of filters refurbished. However, our assessment in the Draft Determination was that the unit costs and the rate of asset refurbishment could be based on more comprehensive information.

2.3.50. For example, the assumed unit costs for GAC filters was based on 3 projects. Furthermore, the assumed unit costs for the refurbishment of sand filters (£185,000) was based on a weighted average of three standard refurbishments at a cost of £80,000 each and one major refurbishment at a cost of £500,000. The cost of the standard refurbishment was derived based on actual outturn costs from the 2021 refurbishment programmes in the East and North. However, the cost of the major refurbishment was based on the estimated or actual costs for 8 major projects, with an average of around £390,000. The average unit cost for projects with actual costs was around £325,000. If this cost was used in the weighted-average unit costs for sand filters, then it reduced unit cost to around £140,000 rather than £185,000.

2.3.51. We considered applying a cost challenge in the Draft Determination based on this updated estimate for sand filters, recognising the general theme across the management approach of basing cost information on limited observations across all three filter types. However, we have decided not to apply such a challenge at that stage.

2.3.52. We did not receive feedback in this area in the Draft Determination consultation.

2.3.53. Table 25 provides our Final Determination allowance along with the updated outputs to be delivered as per Scottish Water's Draft Determination response Annex 4c. The number of outputs will be further refined in Scottish Water's delivery plan 2027-28, which will use a more detailed methodology for estimating them.

Table 25: Final Determination allowance for MA033 Water Filtration

MA033 Water Filtration	Values
Scottish Water forecast expenditure (2024-25 prices)	£92m
Cost challenge (2024-25 prices)	£0
Final allowance (2024-25 prices)	£92m
Outputs to be delivered over 2027-33: Number of water filters units repaired and refurbished	535
Outputs to be delivered over 2027-33: Number of water filters units replaced	1,928

MA058 Water Pumping Stations

2.3.54. Management Approach 58 covers the following assets:

- Critical pumping station MEICA equipment, where condition-based performance monitoring will be introduced to proactively intervene when monitoring indicates that the asset is nearing the end of life. Large assets will be refurbished where possible to extend asset life prior to replacement, whereas small assets will be replaced;
- Non-critical pumping station MEICA equipment, which will be responsively replaced when assets fail;
- Critical pumping station civil assets, where there will be an intervention when assets are at a condition grade 5 and will be refurbished to extend life where possible; and
- Non-critical pumping station civil assets, where there will be an intervention when assets are at a condition grade 5 and will be refurbished to extend life where possible.

2.3.55. Scottish Water proposed to spend £48 million (2024-25 prices) on maintaining these assets over the 2027-33 regulatory period.

2.3.56. The management approach included information on unit costs and the number of interventions. For example, the management approach provides the following assumption on average unit costs:

- Pump replacement: £100,000 (small) to £180,000 (large), with an additional 20% uplift for responsive replacements to cover the cost of temporary works;
- Pump refurbishment: £60,000 (small and large); and
- Pump repair: £10,000 (small) to £20,000 (large).

2.3.57. The final business plan included investment of £48 million to deliver 160 asset interventions (a repair, refurbishment, or replacement), which results in a unit cost of around £300,000 per intervention.

2.3.58. In our Draft Determination assessment, we recognised that the £300,000 may include other activities associated with water pumping stations. However, we judged it high recognising:

- the highest intervention cost, which would be around £220,000 for a responsive replacement of a large pump (£180,000 with the additional 20% uplift); and
- the 160 interventions in the final business plan will comprise different interventions such as repairs and refurbishments at pumps of different sizes, all of which we would expect to be lower cost than the £220,000.

2.3.59. Given these points, for the Draft Determination we considered an additional cost challenge of 10% to be reasonable and acknowledged that other factors, such as differences in the price base and other activities, could explain some of the difference between the £300,000 (2024-25 prices) and the highest intervention cost. This resulted in a cost challenge of around £5 million, as set out in Table 26.

Table 26: Draft Determination allowance for MA058 Water Pumping Stations

MA058 Water Pumping Stations	Values
Scottish Water forecast expenditure (2024-25 prices)	£48m
Cost challenge (2024-25 prices)	-£5m
Draft allowance (2024-25 prices)	£43m
Draft outputs to be delivered over 2027-33: Number of water pump interventions	160

2.3.60. In its Draft Determination response, Scottish Water considered that the £5 million efficiency challenge was based on an inaccurate calculation of an average intervention cost of around £300,000. It explained that this figure was derived by dividing total programme expenditure by 160 interventions, but those 160 units represent replacement activities only and exclude the broader programme of repairs and refurbishments. Scottish Water considered that this was not a like-for-like comparison and therefore overstated the apparent unit cost. Scottish Water noted that replacement activity accounts for only part of the overall expenditure profile and that the challenge identified no actual inefficiency in delivery costs, cost models or investment planning assumptions. Scottish Water, therefore, considered the 10% challenge unsupported by the evidence and requested the full reinstatement of the £5 million reduction.[133]

[133] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination Response – Annex 4b – Cost Challenge', 1 September 2026, pp.35-38.

2.3.61. Furthermore, Scottish Water's response provided substantially revised output information in Annex 4c, including 4,628 inspection, 2,292 repair and refurbishment, and 206 replacement interventions, with the latter exceeding the 160 interventions identified in the business plan.[134]

2.3.62. The discrepancy Scottish Water raised arose from its not including the full number of maintenance interventions in its business plan data tables, despite this being required by the WICS methodology. However, we accept Scottish Water's explanation.

2.3.63. Based on this review, we do not apply a cost challenge on Scottish Water's investment for maintaining water pumping stations in the Final Determination. This results in a post-efficiency allowance of £48 million set out in Table 27 (based on 2.8% average productivity challenge) as per the final business plan, which is £5 million more than the Draft Determination. The number of outputs in the table below will be further refined in Scottish Water's delivery plan 2027-28 which will use a more detailed methodology for estimating them.

Table 27: Final Determination allowance for MA058 Water Pumping Stations

MA058 Water Pumping Stations	Values
Scottish Water forecast expenditure (2024-25 prices)	£48m
Cost challenge (2024-25 prices)	£0
Final allowance (2024-25 prices)	£48m
Outputs to be delivered over 2027-33: Number of water pump inspections	4,628
Outputs to be delivered over 2027-33: Number of water pump repairs and refurbishments	2,292
Outputs to be delivered over 2027-33: Number of water pump replacements	206

MA063 Water Resources Environmental Monitoring & Compliance

2.3.64. Management Approach 63 covers 524 measuring and monitoring points and the various meters, pressure transducers, probes and data loggers associated with each.

2.3.65. Scottish Water proposed segmenting its approach into critical and non-critical assets. Critical assets will be replaced 1 year before the expected end of asset life. Non-critical assets will be replaced in a responsive manner following asset failure.

2.3.66. Scottish Water proposed to spend £45 million in this area over the 2027-33 regulatory period.

[134] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination Response – Annex 4c – AR3 Outputs', 1 September 2026, p.11 for MA058.

2.3.67. In our Draft Determination assessment, we noted that the evidence supporting the asset maintenance investment is limited. The number of assets and interventions does not appear consistent throughout the management approach. There is also limited information disaggregating electromagnetic flow meters by size, which makes it difficult to test the reasonableness of assumptions. However, we noted that asset maintenance investment represents a smaller proportion of the proposed investment (around £6 million of £45 million). Therefore, on materiality grounds, we judged that no further cost challenge is appropriate in this area for the Draft Determination.

2.3.68. We did not receive feedback in this area in the Draft Determination consultation.

2.3.69. Table 28 provides our Final Determination allowance along with the updated outputs to be delivered as per Scottish Water's Draft Determination response Annex 4c. The number of outputs will be further refined in Scottish Water's delivery plan 2027-28 which will use a more detailed methodology for estimating them.

Table 28: Draft Determination allowance for MA063 Water Resources Environmental Monitoring & Compliance

MA063 Water Resources Environmental Monitoring & Compliance	Values
Scottish Water forecast expenditure (2024-25 prices)	£45m
Cost challenge (2024-25 prices)	£0
Final allowance (2024-25 prices)	£45m
Outputs to be delivered over 2027-33: Number of abstraction and compensation monitoring equipment repairs and refurbishments	347
Outputs to be delivered over 2027-33: Number of abstraction and compensation monitoring equipment replacements	193

MA073 Distribution Infrastructure - Metering and Flow Monitoring

2.3.70. Management Approach 73 covers meters, flow monitoring and Pressure Reduction Valves (PRVs) where critical assets will be refurbished or replaced depending on meter performance and non-critical assets will be responsively refurbished or replaced on asset failure.

2.3.71. Scottish Water proposed to spend £41 million in this area over the 2027-33 regulatory period.

2.3.72. Our review of the final business plan showed that Scottish Water plans to deliver 8,726 maintenance interventions, which suggested a unit cost of around £4,900 per intervention (2024-25 prices). However, the management approach included an allocation of £48 million to deliver around 22,000 maintenance interventions over the same period, which suggested a unit cost of around £2,200 per intervention (price base unclear from the management approach). As such, the cost per intervention in the final business is around twice that in the

management approach. This suggested that the forecast cost in the final business plan is too high, and a further cost challenge is reasonable.

2.3.73. However, in the Draft Determination, we also recognised that we were setting Scottish Water a more challenging forecast for the leakage outcome measure, and that there may be some interaction between the proposed investment and this measure (e.g. the maintenance of pressure-reduction valves). Balancing these different factors, we proposed applying a smaller challenge of 10%, as set out in Table 29.

Table 29: Draft Determination allowance for MA073 Distribution Infrastructure - Metering and Flow Monitoring

MA073 Distribution Infrastructure - Metering and Flow Monitoring	Values
Scottish Water forecast expenditure (2024-25 prices)	£41m
Cost challenge (2024-25 prices)	-£4m
Draft allowance (2024-25 prices)	£37m
Draft outputs to be delivered over 2027-33: Number of leakage management equipment interventions	8,726

2.3.74. In its Draft Determination response, Scottish Water's position was that the £4 million challenge arose from a discrepancy in how intervention volumes were presented and interpreted rather than from any underlying inefficiency in costs. It explained that WICS derived an inflated unit cost by comparing business plan expenditure to an incomplete intervention count, resulting in an apparent discrepancy between the Management Approach and the business plan unit rates. Scottish Water maintained that the underlying cost is consistent across the management approach and the business plan and is supported by contractor quotations, historical project costs, system data, and external analysis. It also noted that the challenge failed to identify any genuine efficiency gap and could undermine the delivery of leakage-related outcomes that depend on the maintenance activities included within the programme. As a result, Scottish Water sought the full removal of the £4 million challenge.[135]

2.3.75. Scottish Water also provided substantially revised output information for this programme in Annex 4c, based on a more refined methodology than that used in the final business plan (which focused mainly on replacement-style outputs).[136] Scottish Water noted, however, that the methodology remains subject to further development and that the outputs should

[135] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination Response – Annex 4c – AR3 Outputs', 1 September 2026, pp.41-43.
[136] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination Response – Annex 4c – AR3 Outputs', 1 September 2026, p.11 for MA073.

therefore be considered indicative and directionally representative of expected 2027-33 delivery.[137]

2.3.76. We note the discrepancy that Scottish Water raised in its response had arisen as a result of Scottish Water not including the full number of maintenance interventions in its business plan data tables, despite this being required in the methodology. However, we accept Scottish Water's explanation.

2.3.77. Based on this review, we confirm that our Final Determination does not apply a cost challenge on Scottish Water's investment for maintaining leakage management equipment from the final business plan. This results in a post-efficiency allowance of £41 million set out in Table 30 (based on 2.8% average productivity challenge) as per the final business plan, which is £4 million more than the Draft Determination. The number of outputs in the table below will be further refined in Scottish Water's delivery plan 2027-28 which will use a more detailed methodology for estimating them.

Table 30: Final Determination allowance for MA073 Distribution Infrastructure - Metering and Flow Monitoring

MA073 Distribution Infrastructure - Metering and Flow Monitoring	Values
Scottish Water forecast expenditure (2024-25 prices)	£41m
Cost challenge (2024-25 prices)	£0
Final allowance (2024-25 prices)	£41m
Outputs to be delivered over 2027-33: Number of leakage management equipment inspections	1,009
Outputs to be delivered over 2027-33: Number of leakage management equipment repairs and refurbishments	2,340
Outputs to be delivered over 2027-33: Number of leakage management equipment replacements	934

MA094 WTW Process Stages Mechanical & Electrical

2.3.78. Management Approach 94 covers water treatment works (WTW) mechanical and electrical (M&E) process assets, which will be responsively replaced on failure (condition grade 5). Scottish Water will also:

- Undertake planned interventions where a responsive approach is no longer economically viable or practicable;
- Subject assets to regular operational visual checks to identify condition, performance and health and safety issues;

[137] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination Response – Annex 4c – AR3 Outputs', 1 September 2026, paragraph 2.1.3 on p.11.

- Intervene to mitigate as far as reasonably practicable all health and safety risks with the potential to breach the preferred risk appetite; and
- Hold spares or implement other control measures on critical systems/equipment.

2.3.79. Scottish Water proposed to spend £59 million (2024-25 prices) on maintaining these assets over the 2027-33 regulatory period.

2.3.80. Our assessment in the Draft Determination was that the unit costs and some other key underpinning assumptions could be based on more comprehensive information. We also noted that the chosen option relies on the assumption that all WTW process M&E assets are non-critical, which the management approach explains "is understood to be incorrect, however there is insufficient information available at present to determine which assets should be considered critical." [138] We noted the management approach suggested that critical assets likely constitute a small proportion (estimated as 1-2%) of the asset base and that the chosen option provided for planned interventions for these assets. [139] We nevertheless agreed with the recommendation "that asset criticality is reviewed to determine if an alternative policy option, such as planned replacement, would be more appropriate."[140]

2.3.81. In addition, the current condition of WTW process M&E assets is unknown. The management approach assumes a single-step deterioration profile and that all assets have a lifetime of 25 years. We agreed with the proposed improvement actions for the management approach to gather condition data for all WTW process M&E assets and to develop deterioration curves for each asset equipment type.

2.3.82. Given data limitations, which the management approach acknowledges, in the Draft Determination we proposed no cost challenge in this area. However, we required improvements to the data underpinning the management approach, including, but not limited to, the project data used to underpin unit costs and asset criticality categorisation.

2.3.83. We did not receive feedback in this area in the Draft Determination consultation.

2.3.84. Table 31 provides our Final Determination allowance along with the updated outputs to be delivered as per Scottish Water's Draft Determination response Annex 4c. The number of outputs will be further refined in Scottish Water's delivery plan 2027-28 which will use a more detailed methodology for estimating them.

[138] Scottish Water (2025), 'Summary Management Approach WTW Process Stages Mechanical and Electrical MA094', April 2025, p.39.
[139] Scottish Water (2025), 'Summary Management Approach WTW Process Stages Mechanical and Electrical MA094', April 2025, p.32.
[140] Scottish Water (2025), 'Summary Management Approach WTW Process Stages Mechanical and Electrical MA094', April 2025, p.33.

Table 31: Final Determination allowance for MA094 WTW Process Stages M&E

MA094 WTW Process Stages M&E	Values
Scottish Water forecast expenditure (2024-25 prices)	£59m
Cost challenge (2024-25 prices)	£0
Final allowance (2024-25 prices)	£59m
Outputs to be delivered over 2027-33: Number of WTW process equipment repairs and refurbishments	2,128
Outputs to be delivered over 2027-33: Number of WTW process equipment replacements	4,506

MA095 WTW Water Quality Instrumentation

2.3.85. Scottish Water's Management Approach 95 covers water quality (WQ) instrumentation assets, both at water treatment works and within the network. These assets will be responsively replaced at the end of condition grade 4, which is assumed to be at an approximate age of 15 years. The assets will also undergo calibration and servicing.

2.3.86. Scottish Water proposed to spend £57 million (2024-25 prices) on maintaining these assets over the 2027-33 regulatory period.

2.3.87. The policy involved replacement at the end of condition grade 4, but there is no condition data, resulting in reliance on age-based deterioration profiles.

2.3.88. In our Draft Determination assessment, we noted that the total investment proposed in Table X for the 2027-33 period is almost 3 times higher than the total investment over the 2021-27 period. We also noted a difference between the total investment proposed in Table X for the 2027-33 period (£60m; 2024-25 prices) and the forecast investment implied by the management approach (£42m; outturn).[141] We asked Scottish Water about this as part of the business plan query process. Scottish Water confirmed that additional investment has been included in the final business plan as a result of input from DWQR on the level of ambition in the draft business plan. As such, additional funding had been allocated to reduce compliance risk following DWQR's feedback.

2.3.89. We had concerns about the cost efficiency of the proposed investment in this area; however, we are aware that the Drinking Water Quality Regulator for Scotland (DWQR) has wider concerns over the lack of disinfection monitoring. As such, for the Draft Determination we decided against applying a further cost challenge. Nonetheless, we emphasised the need to improve the data underpinning this management approach.

2.3.90. We did not receive feedback in this area in the Draft Determination consultation.

[141] This £42m is calculated by multiplying the average of 2028 and 2029 investment on MA095 page 37 by 6.

2.3.91. Table 32 provides our Final Determination allowance along with the updated outputs to be delivered as per Scottish Water's Draft Determination response Annex 4c. The number of outputs will be further refined in Scottish Water's delivery plan 2027-28 which will use a more detailed methodology for estimating them.

Table 32: Final Determination allowance for MA095 WTW Water Quality Instrumentation

MA095 WTW Water Quality Instrumentation	Values
Scottish Water forecast expenditure (2024-25 prices)	£57m
Cost challenge (2024-25 prices)	£0
Final allowance (2024-25 prices)	£57m
Outputs to be delivered over 2027-33: Number of WTW instrumentation repairs and refurbishments	39,495
Outputs to be delivered over 2027-33: Number of WTW instrumentation replacements	4,913

MA111 Water Distribution Mains

2.3.92. Management Approach 111 covers 44,300km of non-strategic mains. This management approach sets out that Scottish Water will continue annual return 2024 (AR24) service levels with respect to bursts and interruptions to customers.

2.3.93. Scottish Water proposed to spend £554 million in this area over the 2027-33 regulatory period.

2.3.94. In our Draft Determination assessment, we identified concerns with how elements of this estimation had been developed. In particular, Scottish Water had allocated £40 million annually to responsive burst repair. However, when we attempted to reconstruct this value using the historical burst rate and the reported cost per burst contained within the management approach document, we calculated a figure of £20 million. We submitted a query to Scottish Water on this through the business plan query process. Scottish Water confirmed the value of £40 million, explaining that this represents the totality of reactive distribution network costs and not solely the unit cost of burst main repairs that is in the Management Approach. The broader range of activities included in the business plan includes:

- Inlet and outlet pipework associated with treated water pumping stations;
- Service pipes up to the property boundary box;
- External stop valves and associated fittings; and
- Network telemetry and valve installations delivered alongside responsive works

2.3.95. As a result of Scottish Water's query response we did not apply a cost challenge in this area in the Draft Determination, especially considering that we were setting Scottish Water a

more challenging forecast for the leakage outcome measure, and that there may be some interaction between the proposed investment and this measure.

2.3.96. We did not receive feedback in this area in the Draft Determination consultation.

2.3.97. Table 33 provides our Final Determination allowance along with the updated outputs to be delivered as per Scottish Water's Draft Determination response Annex 4c. The number of outputs will be further refined in Scottish Water's delivery plan 2027-28 which will use a more detailed methodology for estimating them.

Table 33: Final Determination allowance for MA111 Water Distribution Mains

MA111 Water Distribution Mains	Values
Scottish Water forecast expenditure (2024-25 prices)	£554m
Cost challenge (2024-25 prices)	£0
Final allowance (2024-25 prices)	£554m
Outputs to be delivered over 2027-33: Number of distribution mains repairs and refurbishments	47,080
Outputs to be delivered over 2027-33: Length of mains with pressure management replacement intervention (Km)	20.5
Outputs to be delivered over 2027-33: Number of properties where persistent low pressure is resolved (replacement intervention)	40
Outputs to be delivered over 2027-33: Length of potable water mains replacement (Km)	1,260 (See Table 53)

2.3.98. We also cover water distribution mains in the next sub-section as part of our benchmarking. However, as set out, the cost of repairing bursts is not included in that assessment and we proposed applying no further cost challenge to water distribution mains.

MA116 Strategic Water Infrastructure

2.3.99. Management Approach 116 covers the following assets:

- Raw water mains, critical trunk mains and subsea mains, which will be proactively refurbished and replaced depending upon condition;
- Aqueducts, which will be refurbished depending on asset age; and
- Non-critical trunk mains, which will be replaced after failure.

2.3.100. Scottish Water proposed spending £150 million on maintaining these assets during the 2027-33 regulatory period.

2.3.101. In our Draft Determination assessment, we noted that Scottish Water's proposed spend is below the level required by the management approach and the replacement rate based on expected asset life. Scottish Water explained that it will create guidance for how this discrepancy will be managed by December 2026. Subject to this guidance being created,

we were satisfied with how Scottish Water will manage this difference. We therefore proposed no further cost challenge in this area in the Draft Determination.

2.3.102. We did not receive feedback in this area in the Draft Determination consultation.

2.3.103. Table 34 sets out our Final Determination allowance along with the updated outputs to be delivered as per Scottish Water's Draft Determination response Annex 4c. The number of outputs will be further refined in Scottish Water's delivery plan 2027-28 which will use a more detailed methodology for estimating them.

Table 34: Final Determination allowance for MA116 Strategic Water Infrastructure

MA116 Strategic Water Infrastructure	Values		
Scottish Water forecast expenditure (2024-25 prices)			£150m
Cost challenge (2024-25 prices)			£0
Final allowance (2024-25 prices)			£150m
Outputs to be delivered over 2027-33	**Inspections**	**Repairs and refurbishments**	**Replacements**
Length of water aqueducts, tunnel interventions (Km)	85	6	-
Number of sub-sea main / pipe bridge interventions	11	3	-
Length of water trunk and raw water mains interventions (Km)	257	3.8	15.5
Number of properties with reduced risk of flooding from mains (provisional outputs)	59	255	15

Benchmarking

2.3.104. Table 35 sets out the investment areas subject to benchmarking for water quality and continuity and our assessment in the Draft Determination.

Table 35: Draft Determination assessment summary of water-related areas suitable for benchmarking

Area	Programme	Sub-area ("Investment Area")	Sub-area investment (2024-25 prices; £m)	WICS Assessment
Water Quality	Lead Management	Lead Communications Pipe Replacement	35	Cost challenge proposed
Water Continuity	Water Distribution	Maintain distribution mains - Accelerated Asbestos Cement water mains replacement	143	No cost challenge proposed

Water Continuity	Water Distribution	Maintain distribution mains	392	No cost challenge proposed on mains replacement
Water Continuity	Other Programmes	Follow market best practice metering requirements	7	Cost challenge proposed
		Total	**577**	

Lead communications pipe replacement

2.3.105. In our Draft Determination assessment, we benchmarked the costs for Scottish Water's lead communications pipe replacement using Ofwat's PR24 lead enhancement expenditure models. Both models used the number of lead communication pipes replaced or relined to explain differences in the efficient investment in replacing or relining them.[142]

2.3.106. For the unit cost model, we applied two adjustments:

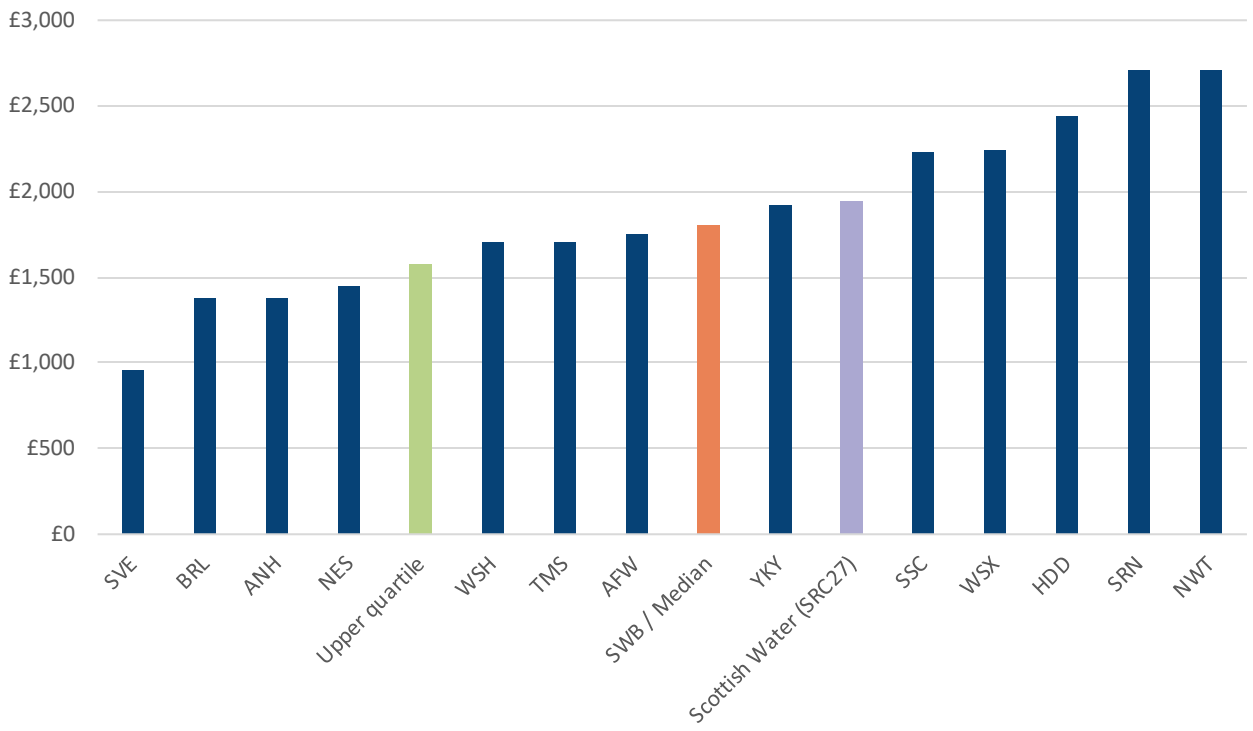
- Converting the England and Wales forecast investment over the PR24 period (covering the years 2025-30) to 2024-25 price bases using CPI inflation; and
- Including Scottish Water as an observation.

2.3.107. Figure 10 shows the forecast unit cost of lead communication pipe replacement for Scottish Water and the companies in England and Wales, based on £ per communication pipe replaced or relined.[143]

[142] Data for the companies in England and Wales is from Ofwat (2024), 'PR24-FD-CA36-Water-Lead-enhancement-expenditure-model', 12 December 2024. Data for Scottish Water is from Table X of the Business Plan data tables submitted to WICS.

[143] The analysis excludes Portsmouth Water, which Ofwat removed as an outlier. WICS has also excluded both South East Water and Sutton and East Surrey as neither company reported forecast investment over 2025-30.

Figure 10: Forecast unit cost of lead communication pipe replacement (2024-25 prices): £ per pipe



2.3.108. The unit costs in Figure 10 show that Scottish Water's costs are above both the upper quartile and the median company in Great Britain. Table 36 shows the results of the unit cost models and Scottish Water's assessed efficiency score based on the median company.[144]

Table 36: Scottish Water efficiency based on unit cost models for lead communication pipes replacement

Lead communication pipes replacement	Values
Scottish Water forecast expenditure (2024-25 prices)	£35.0m
Number of lead communication pipes to be replaced	18,000
Scottish Water forecast unit cost per pipe (2024-25 prices)	£1,946
Median Unit cost in GB (2024-25 prices)	£1,804
Upper Quartile cost in GB (2024-25 prices)	£1,578
Scottish Water assessed efficiency score relative to median	1.08

2.3.109. For the econometric model, we applied two adjustments to Ofwat's forecast model:

- examining forecast investment and number of lead communication pipes replaced or relined over the regulatory period (2025-26 to 2029-30 for the companies in England and Wales and 2027-28 to 2032-33 for Scottish Water), rather than annually; and

[144] Scottish Water reports the same values in 2022-23 prices in Table 53 of Technical Appendix 12; however, the numbers align when presented in the same price base. Scottish Water (2026), 'SR27 Final Business Plan: Technical Appendix 12 – Efficiency', 26 February 2026, p.119.

- including Scottish Water as an observation.

2.3.110. We set out the results of the econometric model in Table 37.

Table 37: Lead communication pipes replacement model

Lead communication pipes replacement	Values
Ln (Lead communication pipes replaced) (Nr)	0.94***[145]
Constant	-5.89***
Adjusted R-squared	0.93
Observations	15
Scottish Water forecast unit cost per pipe (2024-25 prices)	£1,946
Median Unit Cost (2024-25 prices)	£1,820
Scottish Water assessed efficiency score relative to median	1.07

2.3.111. In its business plan, Scottish Water noted that the model effectively assumes that all relevant factors impacting a company's costs of replacing lead communication pipes can be captured in a single variable: the number of lead communication pipes to be replaced. Scottish Water noted that other factors may also impact a water company's costs, such as population density and that Ofwat tested such factors in developing the model but did not find them statistically significant.

2.3.112. In our Draft Determination, we noted from Figure 10 that companies with similar operating characteristics to Scottish Water, such as Dwr Cymru, Northumbrian Water, and Yorkshire Water, which serve large rural areas as well as densely populated cities, forecast lower costs per lead communication pipe replaced. Furthermore, Scottish Water had not provided evidence to demonstrate that it faces higher costs in these areas due to factors outside management control. As such, for the Draft Determination we considered that a cost challenge representing 'catch-up' is appropriate in this area.

2.3.113. Both the unit cost and econometric models provide similar efficiency scores for Scottish Water. Furthermore, we considered that the econometric model performs well from both statistical and operational/engineering perspectives, with the coefficient having the expected sign. Given these factors, we could have set a cost allowance based on the upper quartile level. However, for the Draft Determination we proposed applying a cost challenge based on the median unit cost from the unit cost model (i.e. the higher of the two estimates) in the event that other factors beyond management's control are not captured in the model and affect Scottish Water's costs.

2.3.114. Table 38 sets out our proposed allowance from the Draft Determination.

[145] *** denotes significance at the 0.1% level, which means that we can have 99.9% confidence that lead communication pipes replaced explains the level of investment in this area.

Table 38: Draft Determination allowance for lead communication pipes

Lead communication pipes replacement	Values
Scottish Water forecast expenditure (2024-25 prices)	£35m
Cost challenge (2024-25 prices)	-£3m
Draft allowance (2024-25 prices)	£32m
Draft outputs to be delivered over 2027-33: Number of lead communication pipes replaced	18,000

2.3.115. This is slightly lower than the cost challenge implied from Scottish Water's calculated efficiency score in technical appendix 12.

2.3.116. In its Draft Determination response, Scottish Water considered that the £3 million efficiency challenge in the Draft Determination was based on a misleading unit-rate comparison that included non-comparable activities and project-specific costs. It considered that the £1,946 per pipe rate used by WICS was a blended programme rate that included lead sampling and wider lead reduction schemes such as Gorgie and Larchfield, which involve customer-side pipe replacement, customer engagement and enhanced sampling activities. After removing the cost of these schemes, Scottish Water calculated a comparable unit cost of £1,551 per intervention, which is below the industry median benchmark of £1,820 per pipe. It therefore requested the full reinstatement of the £3 million reduction.[146]

2.3.117. Our proposed challenge in the Draft Determination was based on Scottish Water's own analysis, which included these schemes in the comparison of unit costs.[147] Nevertheless, Scottish Water is correct that the benchmark unit costs in England and Wales do not include expenditure associated with replacing customer-side supply pipes or other lead reduction activities, such as property sampling and customer engagement.

2.3.118. Based on this review, our Final Determination does not apply a cost challenge on Scottish Water's investment for replacing lead communication pipes from the final business plan. This results in a post-efficiency allowance of £35 million set out in Table 39 (based on 2.8% average productivity challenge) as per the final business plan, which is £3 million more than the Draft Determination. The number of outputs in the table below will be further refined in Scottish Water's delivery plan 2027-28 which will use a more detailed methodology for estimating them.

[146] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination Response – Annex 4b – Cost Challenge', 1 September 2026, pp.27-30.
[147] Scottish Water (2026), 'SR27 Final Business Plan: Technical Appendix 12 – Efficiency', 26 February 2026, pp.119-120.

Table 39: Final Determination allowance for lead communication pipes

Lead communication pipes replacement	Values
Scottish Water forecast expenditure (2024-25 prices)	£35m
Cost challenge (2024-25 prices)	£0
Final allowance (2024-25 prices)	£35m
Outputs to be delivered over 2027-33: Number of lead communication pipes replaced	18,000

Water mains replacement

2.3.119. In our Draft Determination assessment, we used Ofwat's PR24 data sets to benchmark Scottish Water's forecast mains replacement investment, covering both the replacement of Asbestos Cement water mains and other material types. We examined the scope to benchmark these materials separately; however, the data sets for the water companies in England and Wales did not provide a breakdown of mains replacement investment by material type.

2.3.120. The cost of mains replacement investment per metre for the median efficient company in England and Wales is £300 per metre in 2022-23 prices, or £324 per metre in 2024-25 prices.[148] Table 40 shows Scottish Water's unit cost of water mains replacement investment compared to the unit cost of the median efficient company in England and Wales.

Table 40: Scottish Water efficiency based on unit costs for water mains investment

Water mains replacement	Value
Scottish Water forecast water mains investment expenditure (2024-25 prices)	£555m[149]
Scottish Water forecast mains replacement investment (2024-25 prices)	£314m[150]
Length of mains to be replaced (kilometres)	1,214
Scottish Water forecast unit cost per metre (2024-25 prices)	£259
Median Unit cost per metre in England and Wales (2024-25 prices)	£324
Scottish Water assessed efficiency score relative to the median unit cost	0.80

2.3.121. Scottish Water allocated £314 million of the forecast water mains investment to mains replacement, with the remainder relating to repairs for bursts. Our assessment of the repairs expenditure is covered in the review of Management Approach 111 (see paragraphs 2.3.92 to 2.3.98).

[148] The £300 per metre is set out in Ofwat (2025), 'PR24-FD-CA34-Water-Leakage-enhancement-expenditure-model-v3-1', 26 February 2025.

[149] This figure is higher than the sum of the sub areas: "Maintain distribution mains - Accelerated Asbestos Cement water mains replacement" and "Maintain distribution mains" because it contains expenditure from two other sub areas which contribute to mains replacement.

[150] £314m of Scottish Water's forecast water mains investment of £555m relates to mains replacement, with the remainder relating to repairs from bursts.

2.3.122. As shown in Table 40, Scottish Water's assessed efficiency score was 0.80, indicating that its costs are 20% lower than those of the median-efficient company in England and Wales. We therefore proposed to apply no catch-up efficiency challenge related to mains replacement investment in the Draft Determination.

2.3.123. However, based on our benchmarking analysis, we did consider that Scottish Water could deliver further leakage benefits from its forecast water mains investment as set out in chapter 4 of the Final Determination.

2.3.124. We did not receive feedback in this area in the Draft Determination consultation.

2.3.125. Table 41 provides our Final Determination allowance along with the updated outputs to be delivered as per Scottish Water's Draft Determination response Annex 4c. The number of outputs will be further refined in Scottish Water's delivery plan 2027-28 which will use a more detailed methodology for estimating them.

Table 41: Final Determination allowance for water mains investment

Water mains replacement	Values
Scottish Water forecast expenditure (2024-25 prices)	£314m
Cost challenge (2024-25 prices)	£0
Final allowance (2024-25 prices)	£314m
Outputs to be delivered over 2027-33: Length of potable water mains replacement (Km)	1,260

Metering

2.3.126. In our Draft Determination assessment, we used Ofwat's PR24 datasets to benchmark Scottish Water's forecast investment in smart meter upgrades and new installations. Scottish Water proposed in its final business plan to spend around £60 million to upgrade 130,000 meters at non-domestic premises with smart ones, and to spend around £7 million to install 4,920 smart meters at first-time registered non-domestic properties during the 2027-33 period.[151] This resulted in unit costs of £463 per meter for upgrades and £1,358 per meter for new installations, or a combined unit cost of £495 per meter (all 2024-25 prices). Scottish Water also compared these costs to the median unit costs in England and Wales in Annex B of technical appendix 12[152] where it showed the significant difference to the median unit costs for meter upgrades (£88 per meter in 2022-23 prices, or £95 in 2024-

[151] As per final business plan data table 5, lines P-5363112530 and P-887-Planned respectively.
[152] Scottish Water (2026), 'SR27 Final Business Plan: Technical Appendix 12 – Efficiency', 26 February 2026, p. 123.

25 prices) and for new meter installs (£414 per meter in 2022-23 prices or £448 in 2024-25 prices) in England and Wales.[153]

2.3.127. Scottish Water provided two main reasons for this significant difference. Firstly, Scottish Water considered that it currently lacks the economies of scale in meter deployment achieved by companies in England and Wales. Secondly, Scottish Water considered that its planned non-household meter upgrades are lower in volume and more geographically dispersed than those of companies in England and Wales. Scottish Water explained that Ofwat's modelling does not sufficiently account for these two factors, which explains the material difference from the benchmark.

2.3.128. We also asked our engineering consultants, WSP, to review the programme for installing smart meters at non-household premises. Paragraphs 2.3.147 to 2.3.151 set out the results from that review and the cost challenge we have applied in this area in the Draft Determination.

External engineering review of the business plan

Review following the draft business plan submission

2.3.129. Following the draft business plan submission, our engineering consultants, WSP, reviewed one water project and one water programme.

2.3.130. The project review related to the Black Esk Water Treatment Works project, which started in the 2021-27 regulatory period and has an estimated total value in the 2027-33 period of around £10 million in the draft business plan. WSP considered the proposed investment solution to be technically sound and aligned with strategic needs. However, they outlined concerns about unclear cost escalations across project appraisal stages, potentially due to insufficient risk or optimism bias in earlier appraisal stages, and a lack of transparency in assessing carbon emissions. Nevertheless, WSP did not identify an overall cost challenge, as most contractor-estimated costs were relatively mature and aligned with benchmarks.

2.3.131. The programme review was for maintaining treated water storage tanks, with an estimated total value of around £390 million (2023-24 prices) in the draft business plan, equivalent to £400 million in 2024-25 prices. WSP considered that the programme meets DWQR's requirements in terms of scope. However, WSP recommended a more detailed cost-estimation approach, as the unit rates for refurbishment and replacement exceed industry

[153] See also Ofwat (2024), 'Water enhancement expenditure model PR24CA32: Metering', republished on 26 February 2025. Available at https://www.ofwat.gov.uk/wp-content/uploads/2025/02/PR24-FD-CA32-Water-Metering-enhancement-expenditure-model-v3-1.xlsx, accessed from page https://www.ofwat.gov.uk/regulated-companies/price-review/2024-price-review/final-determinations-models/, section '8. Enhancement feeder models – Water'.

benchmarks. WSP identified a potential cost challenge of £50 million to £100 million, which may be reduced if further robust cost justification was provided.

Review following the final business plan submission and the Draft Determination consultation

2.3.132. The project on Black Esk water treatment works has since started on site with construction now underway. As such, we did not re-examine the project for the Draft Determination.

2.3.133. We further reviewed the treated water storage programme in the final business plan submission, as explained in the following paragraphs.

2.3.134. In our Draft Determination review of the final business plan, we noted that Scottish Water had reduced the investment in maintaining treated water storage tanks from £400 million in 2024-25 prices in the draft business plan to £290 million in the final business plan. We asked Scottish Water how it considered our feedback on the cost of the treated water storage programme from the draft business plan, and for an explanation of the reduction in investment. We wanted to understand whether the reduction was due to lower investment demand or a reduction in assumed unit costs in response to our feedback on the draft business plan submission.

2.3.135. Scottish Water's response to our question suggested that the reduction was related to a change in forecast demand levels following its updates to its management approaches. However, it explained that the treated water storage programme should be considered together with the maintenance of chlorine contact tanks. Scottish Water explained that the total investment across both maintenance programmes remains broadly the same between the draft and final business plan. Table 42 compares Scottish Water's proposed maintenance investment between the draft and final business plan.

Table 42: Treated water storage and chlorine contact tank maintenance

In 2024-25 prices	Draft Business Plan	Final Business Plan	Difference
Treated water storage tank maintenance	£400m	£290m	-£111m
Chlorine contact tanks maintenance	£25m	£134m	£109m
Total	**£426m**	**£423m**	**-£2m**

2.3.136. Following our feedback on the draft business plan, we considered that the reduction in the treated water storage programme relates to a change in investment demand and that Scottish Water had not provided a more robust cost justification. As such, we proposed applying a cost challenge in this area in our Draft Determination.

2.3.137. In considering the appropriate cost challenge, we calculated the identified cost challenge as a percentage of Scottish Water's proposed investment in the draft business plan. Table

43 shows that a cost challenge of £50 million to £100 million was equivalent to a cost challenge of around 12.5% to 25%.

Table 43: Treated water storage cost challenge

Treated water storage	Values
Treated water storage: draft business plan submission (2023-24 prices)	£391m
Treated water storage: draft business plan submission (2024-25 prices)	£400m
Cost challenge based on the lower end of the range	£50m
Cost challenge based on the higher end of the range	£100m
Proposed cost challenge: low range (%)	12.5%
Proposed cost challenge: high range (%)	25.0%

2.3.138. In setting the appropriate cost challenge, we needed to balance the scope for efficiency with other factors, such as the consequences of setting an efficiency challenge that is too high, which may result in under-delivery. We considered this risk is higher for Scottish Water than for companies in England and Wales, recognising that the latter can manage shortfalls in funding through access to external capital. In this regard, we considered that a catch-up efficiency target of 10% on the lower end of the range, reflecting the scope for Scottish Water to catch up on the benchmark's lower unit costs, is achievable and appropriate.

2.3.139. Table 44 sets out the proposed cost challenge and our allowance from the Draft Determination.

Table 44: Draft Determination allowance for treated water storage

Treated water storage	Values
Scottish Water forecast expenditure (2024-25 prices)	£290m
Cost challenge (2024-25 prices)	-£29m
Draft allowance (2024-25 prices)	£261m
Draft outputs to be delivered over 2027-33: Number of treated water storage asset interventions	17

2.3.140. In its Draft Determination response, Scottish Water explained that it does not consider the proposed 12.5% to 25% challenge to be supported by the evidence presented. It explained that the treated water storage unit rates are based on recent Scottish Water delivery data. Scottish Water considers that this provides a robust and representative evidence base for the forecast costs, and requests that the £29 million challenge is removed in the Final Determination.[154]

[154] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination Response – Annex 4b – Cost Challenge', 1 September 2026, pp.50-51.

2.3.141. On the methodology for applying a cost challenge, Scottish Water explained in its response that the Draft Determination derived unit cost challenge efficiencies from comparison to Scottish Water's pre-efficient costing and then applied these efficiencies to the post-efficient allocations in the final business plan. This meant that efficiency was applied twice for the element of the efficiency challenge that Scottish Water applied to itself in the business plan.[155]

2.3.142. In these cases, we remove this portion of the efficiency challenge from our cost challenge, reducing the overall cost challenge in our Final Determination. This is the basis for the cost challenges detailed later in this sub-section. As explained in Chapter 5 of the Final Determination, we set a phased efficiency assumption of 0.8% per annum in 2027-28, increasing to 1% per annum in 2032-33, for which we subsequently adjust the allowances in in this sub-section.

2.3.143. Following the Draft Determination consultation, we sought updated advice from WSP on the areas it had previously assessed and that Scottish Water had addressed in its consultation response. We did this to maintain continuity in our review and decision-making. Specifically, we asked WSP to evaluate Scottish Water's responses to the cost challenges and to provide updated recommendations on the appropriate level of challenge, taking into account the additional information submitted.

2.3.144. For the treated water storage programme, we consider that Scottish Water provided no material change or new evidence. WSP's review of Scottish Water's delivered scheme unit rates and comparison with England and Wales continues to indicate that the proposed unit rates are at least 12.5% higher, even allowing for Scotland-specific costs. As the original review was undertaken on the post-efficiency costs supplied by Scottish Water, WSP considered a pre-efficiency challenge in the range of 12% to 25% remains appropriate.

2.3.145. Based on this review, we decide to apply a 10% cost challenge on Scottish Water's pre-efficiency investment for treated water storage in the Final Determination. This results in a post-efficiency allowance of £270 million set out in Table 45 (based on 2.8% average productivity challenge), which is £9.3 million more than the Draft Determination due to removing the portion of efficiency that Scottish Water applied to itself (see paragraph 2.3.142). The outputs in the table below (taken from Scottish Water's Draft Determination response Annex 4c) will be delivered using investment for treated water storage, as well as chlorine contact tanks assessed later in this sub-section. The number of outputs will be further refined in Scottish Water's delivery plan 2027-28 which will use a more detailed methodology for estimating them.

[155] Scottish Water (2026), 'Strategic Review Of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraph 5.2.11 on page 32.

Table 45: Final Determination allowance for treated water storage

Treated water storage	Values
Scottish Water forecast expenditure (2024-25 prices) - pre-efficiency	£308m
Cost challenge on pre-efficiency investment (2024-25 prices)	-£31m
Final allowance (2024-25 prices) - pre-efficiency	£278m
Final allowance (2024-25 prices) - with 2.8% efficiency applied	£270m
Outputs to be delivered over 2027-33: Number of treated water storage, chlorine contact thank, chlorine contact pipe inspections	873
Outputs to be delivered over 2027-33: Number of treated water storage, chlorine contact thank, chlorine contact pipe repairs and refurbishments	716
Outputs to be delivered over 2027-33: Number of treated water storage, chlorine contact thank, chlorine contact pipe replacements	7

2.3.146. As per paragraph 2.2.59, WSP further reviewed 1 project and 4 water programmes from the final business plan submission which are covered in the following paragraphs:

- Project for smart meter roll-out to non-domestic premises – £60 million in the 2027-33 period (2024-25 prices);
- Programme to 'Resolve matters in the interest of safety' – £278 million in the 2027-33 period (2024-25 prices);
- Programme to 'Maintain WTW Chemical Storage and Dosing' – £140 million in the 2027-33 period (2024-25 prices);
- Programme for 'Chlorine Contact Tank Management' – £134 million in the 2027-33 period (2024-25 prices); and
- Programme to 'Maintain SCADA, HMI, PLC' – £97 million in the 2027-33 period (2024-25 prices).

2.3.147. In our Draft Determination, the review of the smart meter roll-out project (£60 million in the 2027-33 period) found that the investment need for the transition from mechanical to smart metering was clearly articulated, strategically justified, and broadly compliant with policy and regulatory expectations. Scottish Water had demonstrated a strong strategic rationale, linking the investment to long-term supply demand pressures, notably the forecast 240 Ml/d deficit by 2050, as well as shorter-term 2027-33 leakage reduction requirements (10-13%) and regionally acute water stress. Smart metering was appropriately positioned as a key enabler of demand management, leakage reduction, customer engagement, and network resilience, with an anticipated contribution of around 80 Ml/d of sustainable demand reduction. Scottish Water had undertaken a proportionate and structured options appraisal and it had appropriately evaluated the chosen solution, noting that few viable alternatives exist and that this approach is widely used and proven in England and Wales for domestic metering, offering clear advantages over traditional mechanical meters.

2.3.148. The projected customer-demand-reduction benefits were well profiled, achievable, and appropriately stated. However, we noted in our Draft Determination that we considered the trajectory for achieving the benefits from network leakage reduction (half of all forecast benefits) to be challenging and ambitious. As such, we noted we will monitor progress closely to understand benefits realisation.

2.3.149. As part of the review, Scottish Water provided a more disaggregated breakdown of the associated programme costs by meter size. This information showed that 95% of smart meter installations involve small meter sizes, which are more expensive, as are medium-sized meters. Based on the granular cost data, the average unit cost was £445 per meter, with individual unit costs for upgrades of £463 per meter and for new installations of £1,358 per meter. These costs included the cost for the physical meter, installation, traffic management, and an uplift for installations in the north and island regions of Scotland. The total programme also included costs for surveys and for the smart metering component (i.e. the smart technology).

2.3.150. This average unit cost compares with median costs in England and Wales for upgrading a meter of £95 (2024-25 prices) and for new meter installs of £448 (2024-25 prices) (see paragraph 2.3.126). As set out in paragraph 2.3.127, Scottish Water explained that the material difference is due to a lack of economies of scale compared to the benchmarking companies and the low volume and high geographic dispersion of non-household meter upgrades. WSP considered high start-up costs to be a valid component of the overall cost profile. However, while it acknowledged that these factors may explain part of the cost difference, WSP still recommended that a cost challenge of 10% to 15% would be reasonable. We agreed with this assessment in our Draft Determination.

2.3.151. Taking account of our own benchmarking analysis and WSP's findings and recommendations, our view was that Scottish Water had not sufficiently evidenced its higher costs. As such, we applied a 15% cost challenge on this programme in the Draft Determination.

2.3.152. Table 46 sets out the proposed cost challenge and allowance from the Draft Determination.

Table 46: Draft Determination allowance for metering

Smart meter upgrades	Values
Scottish Water forecast expenditure (2024-25 prices)	£60m
Cost challenge (2024-25 prices)	-£9m
Draft allowance (2024-25 prices)	£51m
Draft outputs to be delivered over 2027-33: Number of meter upgrades for non households	130,000

2.3.153. In its Draft Determination response, Scottish Water considered that the £9 million efficiency challenge is not justified because the comparison with English and Welsh water

companies is not like-for-like and does not reflect the nature of Scotland's non-domestic metering rollout. Scottish Water considered that its costs were based on detailed bottom-up estimates and competitively procured market rates for both smart meter assets and installation activities, incorporating surveys, excavation, reinstatement, traffic management, regional uplifts, remote and island delivery costs, and other enabling works required to complete installations. It considered that the benchmark rates used by WICS were largely derived from household metering programmes in denser areas and therefore were not directly comparable. Scottish Water further noted that updated procurement evidence indicated direct delivery costs of approximately £60.6 million, before programme management and supporting costs are included, meaning the challenged allowance of around £51 million falls below the market-tested cost of delivery. As WICS had not identified any specific inefficiency in the programme, procurement approach or cost build-up, Scottish Water considered the 15% challenge unsupported and sought full reinstatement of the £9 million reduction.[156]

2.3.154. We consider that Scottish Water provided no new cost evidence for the roll-out of smart meters or further explanation for the large difference to England and Wales benchmarks, and we maintain our position that a cost challenge is appropriate. In its review of Scottish Water's response, WSP noted that several items in the cost breakdown Scottish Water had previously provided were based on estimates (such as costs for surveys, traffic management, and medium and large meters) and that these estimates were high. WSP recommended a cost challenge of 10%. This is on the lower end of the 10%-15% range proposed for the Draft Determination, recognising the scale of Scottish Water's proposed digital- and data-led programme and the required allowance for the start-up infrastructure, resourcing, training, learning, and data capture needed to realise the expected benefits.

2.3.155. Furthermore, we identified several inconsistencies and unexplained differences across the information provided by Scottish Water, which reduces our confidence in the reliability of the evidence supporting this proposal. These discrepancies relate both to investment values and reported outputs and were not accompanied by a clear explanation or reconciliation. For example, the investment proposed in the business plan (£60 million) differs from that subsequently communicated to WSP (approximately £70 million), while the reported number of meters to be upgraded varies between the final business plan (130,000) and the data provided to WSP for benchmarking (over 135,500). While the individual differences may not be material in themselves, the presence of several unexplained inconsistencies makes it more difficult to place confidence in the information provided.

[156] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination Response – Annex 4b – Cost Challenge', 1 September 2026, pp.20-26.

2.3.156. Based on this review, we decide to apply a 10% cost challenge on Scottish Water's pre-efficiency investment for rolling out smart meters in the Final Determination. This results in a post-efficiency allowance of £55 million set out in Table 47 (based on 2.8% average productivity challenge), which is £3.8 million more than the Draft Determination due to the removal of the portion of efficiency that Scottish Water applied to itself (see paragraph 2.3.142).

Table 47: Final Determination allowance for metering

Smart meter upgrades	Values
Scottish Water forecast expenditure (2024-25 prices) - pre-efficiency	£63m
Cost challenge on pre-efficiency investment (2024-25 prices)	-£6m
Final allowance (2024-25 prices) - pre-efficiency	£57m
Final allowance (2024-25 prices) - with 2.8% efficiency applied	£55m
Outputs to be delivered over 2027-33: Number of meter upgrades for non households	130,000

2.3.157. In our Draft Determination, the review of programme to 'Resolve matters in the interest of safety' (£278 million in the 2027-33 period) found that the investment need was clearly and robustly demonstrated, driven by statutory obligations under the Reservoirs (Scotland) Act 2011, with failure consequences firmly aligned to Scottish Water's highest risk appetite due to potential impacts on public safety, the environment and continuity of supply. The proposed scope of solution was considered appropriate and proportionate, encompassing statutory and proactive inspections, rolling maintenance, and Measures in the Interest of Safety (MIOS), with the chosen policy position of proactive compliance and maintenance reasonably selected on the basis of whole-life cost, risk reduction, and resilience benefits. There was a clear line of sight between regulatory drivers, asset criticality, option selection and intended outcomes, providing confidence that Scottish Water was proposing to manage reservoir safety risks in a structured, proactive and policy-compliant manner.

2.3.158. The costing approach appeared reasonable, based on historical data and latest best estimates (LBEs). However, the £1.1 million unit cost for standard MIOS resolution was high compared to industry standards.[157] This unit cost was based on historical rates for 157 MIOS interventions. Based on WSP's review, we considered that the historic rates of 20 of those interventions should be categorised as what Scottish Water refers to "big ticket" MIOS because they are over £2 million and average £6.3 million in total costs. Including

[157] Measures in the Interest of Safety (MIOS) are identified through independent engineer inspections as mandated by the Reservoirs (Scotland) Act 2011. Scottish Water distinguishes two types of MIOS interventions: standard and "big ticket", where the former includes "fixing an asset to ensure it can continue to operate and achieve its expected operational asset life" while the latter includes "renovation / overhaul of older or damaged equipment or replacement of parts of the asset to bring the asset back to a workable condition to extend the expected life of the asset". Scottish Water (2025) 'Summary Management Approach: Water Reservoir Safety MA004', 15 April 2025, pp.28-29, submitted with the final business plan on 26 February 2026.

these 20 interventions in the calculation of the standard MIOS unit rate would overestimate the unit rate - if they were excluded, the average value of a MIOS intervention would be £382,947, which more closely aligns with WSP's expectations.

2.3.159. Our engineering consultants advised on a cost challenge of between 8% and 12%, noting that it is difficult to determine whether the overall programme investment cost is sensitive to discrepancies in unit costs, as programme costs could vary significantly depending on site-specific constraints, reservoir size, type, and required works. Confidence in the costs would also be strengthened through greater disaggregation of MIOS costs and clearer treatment of discontinuance options. Based on this advice, we considered a 5% cost challenge to be appropriate in this area.

2.3.160. Table 48 sets out the proposed cost challenge and allowance from the Draft Determination.

Table 48: Draft Determination allowance for resolving matters in the interest of safety

Resolve matters in the interest of safety (reservoirs)	Values
Scottish Water forecast expenditure (2024-25 prices)	£278m
Cost challenge (2024-25 prices)	-£14m
Draft allowance (2024-25 prices)	£286m
Draft outputs to be delivered over 2027-33: Number of reservoir interests of Safety interventions	114

2.3.161. In its Draft Determination response, Scottish Water explained that the challenged £1.1 million average cost per MIOS intervention is based on a robust dataset of 157 genuine reservoir safety projects during 2021-27, including spillway upgrades, drawdown improvements, pipework remedial works and other statutory safety works. As such, it considered that excluding the 20 higher-value projects, as proposed by WICS, would artificially understate future requirements. Scottish Water maintained that these larger projects are neither abnormal nor discretionary but reflect the inspection-led, statutory nature of reservoir safety investment and remain representative of future needs. It also noted that future costs are inherently driven by asset-specific conditions, regulatory inspection findings and dam safety obligations. Scottish Water considered that the challenge reflected a disagreement over dataset composition rather than demonstrated inefficiency, and therefore requested the full reinstatement of the £14 million cost challenge.[158]

2.3.162. We consider that Scottish Water provided no material change or new evidence. Our concern is not that the historical cost data is unreasonable, but that the methodology used to derive the MIOS unit rates appears to overstate future costs. Scottish Water derived the Standard MIOS unit rate (£1.1 million) from all 157 historical MIOS projects, including

[158] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination Response – Annex 4b – Cost Challenge', 1 September 2026, pp.9-10.

several larger, higher-cost interventions that have also been used to justify the separate "big-ticket" MIOS unit rate (£10 million). As a result, the cost of these larger projects is embedded in the Standard MIOS rate and separately accounted for through the "big-ticket" MIOS allowance. This, therefore, inflates the Standard MIOS unit cost above a level representative of standard interventions alone. WSP considered that the historical data should either be separated into mutually exclusive Standard and "big-ticket" MIOS categories before deriving individual unit rates, or a single unit rate should be applied across all MIOS works. As an illustration, excluding the 20 projects with costs greater than £2 million reduces the Standard MIOS unit rate from £1.1 million to approximately £383,000, suggesting that the current approach may materially overestimate forecast MIOS expenditure. As the submitted costs appear to be pre-efficiency and Scottish Water provided no material change or new evidence, WSP recommended an overall 10% challenge on the pre-efficiency value.

2.3.163. Based on this review, we decide to apply a 5% cost challenge on Scottish Water's pre-efficiency investment for maintaining dams and reservoirs in the Final Determination. This results in a post-efficiency allowance of £272 million set out in Table 49 (based on 2.8% average productivity challenge), which is £7.9 million more than the Draft Determination due to the removal of the portion of efficiency that Scottish Water applied to itself (see paragraph 2.3.142). The number of outputs in the table below (taken from Scottish Water's Draft Determination response Annex 4c) will be further refined in Scottish Water's delivery plan 2027-28 which will use a more detailed methodology for estimating them.

Table 49: Final Determination allowance for resolving matters in the interest of safety

Resolve matters in the interest of safety (reservoirs)	Values
Scottish Water forecast expenditure (2024-25 prices) - pre-efficiency	£294m
Cost challenge on pre-efficiency investment (2024-25 prices)	-£15m
Final allowance (2024-25 prices) - pre-efficiency	£280m
Final allowance (2024-25 prices) - with 2.8% efficiency applied	£272m
Outputs to be delivered over 2027-33: Number of reservoir interests of safety inspections	1,675
Outputs to be delivered over 2027-33: Number of reservoir interests of safety repairs and refurbishments	3,968
Outputs to be delivered over 2027-33: Number of reservoir drawdowns (repair and refurbishment interventions)	5

2.3.164. In our Draft Determination, the review of the programme to 'Maintain WTW Chemical Storage and Dosing' (£140 million in the 2027-33 period) found that the investment need was robustly justified, policy compliant, and strategically aligned with Scottish Water's statutory duties and Ministerial Objectives. The chosen policy position and associated solution scopes were appropriate and proportionate. Scottish Water's approach to inspections, condition assessment, and policy appraisal demonstrated a sound asset

management framework, and the solution development was being managed appropriately as projects progress through the gated process.

2.3.165. The unit rates applied for the three activity areas were broadly reasonable for this programme, even as the programme remained at an early stage of development through the latest best estimates (LBEs). This was based on a sample of 14 similar projects, for which costs were generally aligned with prevailing industry values. However, there was a lack of clarity about how Scottish Water derived the LBEs and the assumptions it used. There was a limited cost challenge, no formal benchmarking against industry comparators, and insufficient evidence of project- or programme-level cost-benefit analysis within Scottish Water's management approach policy. While WSP's subject matter expert review suggested unit rates were broadly reasonable, the absence of systematic benchmarking and quantified efficiency measures reduced confidence in overall cost efficiency. WSP was confident that the established delivery approach for this programme would be effective and recommended that Scottish Water challenge unit rates through the implementation of the enterprise delivery model. Based on this, WSP recommended a cost challenge between 2% and 4%. However, given the suggested cost challenge of 2% to 4%, at the Draft Determination stage, we were satisfied that the costs were broadly reasonable and therefore did not propose to apply a cost challenge in this area.

2.3.166. We did not receive feedback in this area in the Draft Determination consultation. We decide to apply no further challenge in the Final Determination.

2.3.167. In our Draft Determination, the review of the programme for 'Chlorine Contact Tank Management' (£134 million in the 2027-33 period) found that the investment need was clearly demonstrated and was driven by asset age, deteriorating condition, and the critical role chlorine contact tanks play in achieving permit standards for effluent quality. Scottish Water had considered all of the appropriate options for this programme, and the proposed scope of solution was appropriate and proportionate to the identified risks. Our engineering consultant, WSP noted that large proportion of CCTs have severe operational limitations (some cannot be taken out of service at all, while others can only be taken out of service partially). WSP considered that no clear plan had been identified to manage these constraints, which could lead to unplanned maintenance and unaccounted costs during delivery.

2.3.168. WSP also noted that programme outcomes were defined solely in terms of activity counts (e.g. the number of refurbishments), without quantified targets or post-efficiency values, limiting confidence in value-for-money and deliverability assurances. The unit costs for refurbishment and replacement interventions were based on those for treated water storage, which are typically larger than those for chlorine contact tanks. WSP considered that the upper end of unit costs for chlorine contact tanks was in line with industry standards for large, high-volume assets, which would be atypical for Scottish Water. WSP

advised that a cost challenge of 7% to 10% is applied due to Scottish Water's reliance on a condition-based methodology, the pace of delivery mandated by DWQR regulations, and the aforementioned size assumption in costing. As such, we applied a cost challenge of 10% in the Draft Determination, representing the scope for catch-up efficiency for this investment area.

2.3.169. Since Scottish Water had not provided the number of interventions or outputs to be delivered by this programme, we required Scottish Water to confirm the forecast number of interventions in this area in its response to our Draft Determination.

2.3.170. Table 50 sets out the proposed cost challenge and allowance from the Draft Determination.

Table 50: Draft Determination allowance for chlorine contact tank management

Chlorine contact tank management	Values
Scottish Water forecast expenditure (2024-25 prices)	£134m
Cost challenge (2024-25 prices)	-£13m
Draft allowance (2024-25 prices)	£120m
Draft outputs to be delivered over 2027-33: Capacity at WTW sites made compliant with standards (Ml/d)	0

2.3.171. In its Draft Determination response, Scottish Water provided additional project-specific costing and tank capacity data, which had been used to derive the unit costs for the chlorine contact tank (CCT) programme. It clarified that replacement costs were based on previous CCT replacement projects, and no further interventions are planned for the 2027-33 period. Furthermore, Scottish Water explained that while CCT refurbishment costs were based on treated water storage data, these costs were constrained by asset capacity to account for the difference in asset scale between CCTs and treated water storage assets. Scottish Water considered that the proposed 10% challenge in the Draft Determination did not identify or quantify an underlying inefficiency arising from Scottish Water's condition-based methodology, DWQR delivery requirements or revised size-adjusted cost evidence. Scottish Water, therefore, considered that the challenge was not supported by the available evidence and proposed that the full £13 million be reinstated.[159]

2.3.172. We consider that Scottish Water's response addresses WSP's original concern that the dataset may not have adequately represented the inclusion of larger CCT assets, although scope for further efficiency remains. While WSP was unable to benchmark CCT costs in detail in its initial review and has not undertaken further benchmarking using the new data, the additional evidence provides greater confidence that larger assets and current market conditions are appropriately reflected in Scottish Water's proposed costs. WSP has nevertheless maintained the efficiency challenge from its original advice, reflecting that it

[159] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination Response – Annex 4b – Cost Challenge', 1 September 2026, pp.54-55.

considers that further efficiency is achievable through procurement and delivery optimisation.

2.3.173. Based on this review, we decide to apply a 7% cost challenge on Scottish Water's pre-efficiency investment for chlorine contact tanks in the Final Determination. This results in a post-efficiency allowance of £128 million set out in Table 51 (based on 2.8% average productivity challenge), which is £7.8 million more than the Draft Determination due to removing the portion of efficiency that Scottish Water applied to itself (see paragraph 2.3.142). The outputs in the table below (taken from Scottish Water's Draft Determination response Annex 4c) will be delivered using investment for chlorine contact tanks as well as treated water storage assessed earlier in this sub-section. The number of outputs will be further refined in Scottish Water's delivery plan 2027-28 which will use a more detailed methodology for estimating them.

Table 51: Final Determination allowance for chlorine contact tank management

Chlorine contact tank management	Values
Scottish Water forecast expenditure (2024-25 prices) - pre-efficiency	£142m
Cost challenge on pre-efficiency investment (2024-25 prices)	-£10m
Final allowance (2024-25 prices) - pre-efficiency	£132m
Final allowance (2024-25 prices) - with 2.8% efficiency applied	£128m
Outputs to be delivered over 2027-33: Number of treated water storage, chlorine contact thank, chlorine contact pipe inspections	873
Outputs to be delivered over 2027-33: Number of treated water storage, chlorine contact thank, chlorine contact pipe repairs and refurbishments	716
Outputs to be delivered over 2027-33: Number of treated water storage, chlorine contact thank, chlorine contact pipe replacements	7

2.3.174. In our Draft Determination, the review of the programme to 'Maintain SCADA, HMI, PLC' (£97 million in the 2027-33 period) found that the investment need was clearly demonstrated and justified, reflecting the critical role of SCADA, HMI and PLC assets in maintaining safe, compliant and resilient system operation, with failures posing unacceptable risks to public health, environmental performance and security of supply. We considered that Scottish Water had a strong and comprehensive understanding of the operational technology asset base, supported by complete obsolescence data and well-defined lifecycle assumptions, which provided a robust foundation for forecasting investment need over the SR27 period. The selected policy of planned replacement at obsolescence Grade 3 was appropriate and proportionate, striking a reasonable balance between cost, risk and deliverability given short asset lifecycles and the lead times required for project development and delivery. Unit costs and overall cost forecasts were considered reasonable and well supported by recent delivery experience and transparent assumptions, with limited site-specific variability enabling a relatively high degree of confidence in the proposed investment profile. They were aligned with similar programmes completed by

other water companies. Based on this assessment, WICS did not propose a cost challenge in this area in the Draft Determination.

2.3.175. We did not receive feedback in this area in the Draft Determination consultation. We decide to apply no further challenge in the Final Determination.

Conclusion of review of investment related to drinking water quality

2.3.176. Table 52 below summarises WICS' decision on final allowances for each investment programme within the water quality and water continuity areas following our review and the consultation as explained in this section. As explained in Chapter 5 of the Final Determination, we also apply a further efficiency productivity challenge to this allowance and allow some additional investment for reducing leakage. These adjustment are not captured in the table below.

2.3.177. Table 53, Table 54 and Table 55 below outline the relevant enhancement and asset maintenance outputs for the water quality and water continuity areas which we expect to be delivered for the allowed investment. The asset maintenance outputs are taken from Scottish Water's Draft Determination response Annex 4c and will be further refined in Scottish Water's delivery plan 2027-28 which will use a more detailed methodology for estimating them.

Table 52: Final Determination allowances for drinking water quality and continuity investment[160]

Technical Appendix Area	Investment Programme	Investment in final business plan (2024-25 prices; £m)	WICS proposed allowance in Draft Determination (2024-25 prices; £m)	WICS allowance in Final Determination (2024-25 prices; £m)	Explanation for allowance
TA001 - Water Quality	Water Treatment	1,294	1,267	1,250	Adjustments related to Daer WTW (-£7.4 million), Penwhirn WTW (-£13 million), Glenlatterach WTW (-£14 million), and Londornoch WTW (-£21 million), and on the programme for maintaining chlorine contact tanks (-£6 million). Updated cost estimates for projects at Black Esk WTW (£15 million) and Torra WTW (£1 million) based on more up-to-date PIAs.
TA001 - Water Quality	Water Storage	318	289	298	Cost challenge on the programme for maintaining treated water storage tanks (-£20 million).
TA001 - Water Quality	Water Distribution	64	64	64	
TA001 - Water Quality	Lead Management	36	34	36	
TA001 - Water Quality	Raw Water and Catchment Management	9	9	9	

[160] WICS' allowances in this table are before applying an additional productivity efficiency challenge and before allowing additional enhancement investment. Please refer to Chapter 5 of the Draft Determination for more details on these further adjustments.

Technical Appendix Area	Investment Programme	Investment in final business plan (2024-25 prices; £m)	WICS proposed allowance in Draft Determination (2024-25 prices; £m)	WICS allowance in Final Determination (2024-25 prices; £m)	Explanation for allowance
TA002 - Water Continuity	Abstraction, Sources and Raw Water Transfers	427	413	421	Cost challenge on the programme for resolving matters in the interest of safety (maintaining dams and ancillary items; -£6 million).
TA002 - Water Continuity	Water Treatment	7	7	8	Updated costs for project at Torra WTW (£0.4 million) based on more up-to-date PIAs.
TA002 - Water Continuity	Water Transmission (trunk mains and strategic pipelines)	99	99	99	
TA002 - Water Continuity	Water Pumping Stations	48	43	48	
TA002 - Water Continuity	Water Distribution	686	682	686	
TA002 - Water Continuity	Resilience and Growth	126	126	126	
TA002 - Water Continuity	Other Programmes	377	368	371	Cost challenge on the smart metering programme (-£5 million).
	Total	**3,491**	**3,400**	**3,416**	

Table 53: Enhancement outputs to be delivered with Final Determination allowance for water

Table 2 ref.	Output category	Unit	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	Total
T2.5	Number of lead communication pipes replaced	Number	3,000	3,000	3,000	3,000	3,000	3,000	**18,000**
T2.7	Capacity at WTW sites with new auto-shutdown risk control interventions	Ml/d	-	60	12	-	97	-	**168**
T2.8	Capacity at WTW sites made compliant with standards	Ml/d	107	3	182	237	120	156	**804**
T2.9	Capacity at WTW sites with improved treatment process	Ml/d	14	72	12	9	4	60	**170**
T2.10	Number of raw water supplies with improved water quality	Number	-	-	1	10	11	12	**34**
T2.20	Number of properties where persistent low pressure is resolved	Number	-	3	14	9	7	7	**40**
T2.22	Number of properties with improved resilience of water supply	Number of properties	-	-	-	-	-	158,651	**158,651**
T2.27	Number of properties with meter installations for first time registered non-domestic premises	Number	820	820	820	820	820	820	**4,920**
T2.41	Meter upgrades - non-households	Number	26,500	26,500	24,000	21,500	21,500	10,000	**130,000**
T2.42	Length of potable water mains renewed[161]	km	107	147	170	179	295	315	**1,214**
T2.54	Reduction in leakage	Ml/d	3	3	3	3	4	4	**20**
T2.58	Number of treated water storage operability (by-pass) interventions	Number	10	5	1	-	-	-	**16**
T2.58	Number of properties with lead sampling and risk assessment completed	Number	894	932	1,007	1,083	1,155	1,230	**6,301**
T2.58	Number of sites with standby power equipment installed	Number	-	-	-	-	52	-	**52**

[161] Note that the total number of outputs for this line has been updated to 1,260km in Scottish Water's Draft Determination response Annex 4c as reproduced in Table 55. The baseline output number will be confirmed in Delivery Plan 2027-28.

Table 54: Asset maintenance outputs to be delivered for water quality[162]

MA ID	Management Approach Name	Primary output (consolidated)	Inspection outputs	Repair & Refurbishment outputs	Replacement Outputs
MA006	WT Capability Improvement	Number of water filter units maintained (sites)	-	-	2
MA016	Water Quality - Network	Length of potable water mains cleaned (km)	-	8,441	
MA016	Water Quality - Network	Length of potable water mains replaced (where cleaning is insufficient) (km)	-	-	24
MA022	Water SCADA, PLC & HMI	Number of water SCADA, HMI, PLC asset interventions	2,164	379	501
MA033	Water Filtration	Number of water filter units maintained	-	535	1,928
MA052	WTW Sludge & Washwater Handling	Number of WWTW secondary treatment interventions (MEICA & Civils)	-	310	16
MA081	Sample Points	Number of water sample point interventions	-	1,537	397
MA089	Water Security	Number of water security interventions	2,352	1,772	226
MA093	WTW - Civils & Process Structures	Number of WTW structure interventions	4,817	205	-
MA094	WTW - Process Stages Mechanical & Electrical	Number of WTW process equipment interventions	-	2,128	4,506
MA095	WTW Water Quality Instrumentation	Number of WTW instrumentation interventions	-	39,495	4,913
MA114	Water Treatment, Chemical Dosing and Storage	Number of water chemical storage and dosing interventions	4,409	3,207	137

[162] The asset maintenance outputs are taken from Scottish Water's Draft Determination response Annex 4c and will be further refined in Scottish Water's Delivery Plan 2027-28 which will use a more detailed methodology for estimating them.

Table 55: Asset maintenance outputs to be delivered for water continuity[163]

MA ID	Management Approach Name	Primary output (consolidated)	Inspection outputs	Repair & Refurbishment outputs	Replacement Outputs
MA004	Reservoir Safety	Number of reservoir interests of Safety interventions	1,675	3,968	-
MA004	Reservoir Safety	Number of reservoir drawdowns	-	5	-
MA018	Ironworks (water and wastewater)	Number of street furniture interventions (water)	-	22,784	-
MA028	Water Catchment Management	Number of water catchments managed	216	5	-
MA044	Telemetry (Water & Wastewater)	Number of telemetry interventions (water)	770	672	276
MA054	Network Modelling - (water and wastewater)	Number of network models maintained (water)	-	301	-
MA058	Water Pumping Stations	Number of water pump interventions (raw&treated water-MEICA & Civil)	4,628	2,292	206
MA060	Distribution Infrastructure - Network Valves	Number of water strategic network valve interventions	65,297	15,550	298
MA068	Statutory & Planned Maintenance (W&WW)	Number of statutory or legislative compliance interventions (water)	-	72,371	-
MA073	Distribution Infrastructure - Metering and Flow Monitoring	Number of water leakage management equipment interventions	1,009	2,340	934
MA080	Boreholes and Springs	Number of borehole or spring interventions (MEICA and Civils)	302	74	0
MA091	High Voltage Assets (Water and Wastewater)	Number of high voltage system interventions (water)	324	228	24
MA099	Water Demand Management	Number of intervention to reduce water losses	To be provided at delivery plan 2027-28		
MA111	Water Distribution mains	Number of distribution mains interventions	-	47,080	-
MA111	Water Distribution mains	Length of potable water mains replacement (Km)	-	-	1,260

[163] The asset maintenance outputs are taken from Scottish Water's Draft Determination response Annex 4c and will be further refined in Scottish Water's Delivery Plan 2027-28 which will use a more detailed methodology for estimating them.

MA ID	Management Approach Name	Primary output (consolidated)	Inspection outputs	Repair & Refurbishment outputs	Replacement Outputs
MA111	Water Distribution mains	Length of mains with pressure management intervention (Km) (provisional)	-	-	20.5
MA111	Water Distribution mains	Number of properties where persistent low pressure is resolved	-	-	40
MA115	Water Pipe bridges	Number of water pipe bridge interventions	546	123	8
MA116	Water - Strategic Infrastructure	Length of water aqueducts, tunnel interventions Km	85	6	-
MA116	Water - Strategic Infrastructure	Number of sub-sea main / pipe bridge interventions	11	3	-
MA116	Water - Strategic Infrastructure	Length of water trunk and raw water mains (Km)	257	3.8	15.5
MA116	Water - Strategic Infrastructure	Number of properties with reduced risk of flooding from mains (provisional)	59	255	15
MA117	Raw Water (Intake and Storage)	Number of raw water intake and storage interventions	151	135	6
MA118	Water Low Voltage Electrical Systems (MCC)	Number of water low voltage or MCC interventions	417	363	73
MA118	Water Low Voltage Electrical Systems (MCC)	Number of standby power equipment interventions	33	138	35
MA119	Treated Water Storage and Chlorine Contact Tanks and Pipes	Number of water TWS, CCT, CCP Interventions	873	716	7
MA120	Site Buildings & Asset Access (W&WW)	Number of operational building or access interventions (water)	2,911	1,359	24

2.4. Review of investment related to water environment and managing quantity of flows

2.4.1. This section outlines the investment in water environment and managing the quantity of flows which Scottish Water proposes to deliver by programme area, and details how WICS reviewed these proposals by each of the review approaches below:

- Feedback from the Scottish Environmental Protection Agency;
- Review of investment cases;
- Review of asset maintenance investment;
- Benchmarking review; and
- External engineering review.

Summary of Scottish Water's proposals in the final business plan

2.4.2. Table 56 outlines the investment Scottish Water proposed to deliver in its final business plan in relation to the water environment and managing the quantity of flows.

Table 56: Business plan investment for water environment and managing quantity of flows

Technical Appendix Area	Investment Programme	Investment in final business plan (2024-25 prices; £m)
TA003 - Water Environment	Waste Water Treatment	983
TA003 - Water Environment	Waste Water Bioresource Treatment	157
TA003 - Water Environment	Water Treatment Works Sludge Storage	17
TA003 - Water Environment	Waste Water Sewer Networks	413
TA003 - Water Environment	Waste Water Other – Region Wide	291
TA003 - Water Environment	Water Abstraction - Water Resources Environmental Monitoring and Compliance	6
TA003 - Water Environment	Water Reservoir Compensation Compliance and RBMP Enhancement	40
TA003 - Water Environment	Other PFI Transfers	7
TA004 - Managing Quantity of Flows	Asset Repair, Refurbishment and Replacement (AR3)	603
TA004 - Managing Quantity of Flows	Enhancement	367
	Total	**2,885**

Regulator feedback

Feedback on the business plan

2.4.3. For the development of the Draft Determination, we received feedback from SEPA in relation to the investment covering water environment and wastewater flows. SEPA identified the following statutory drivers for investment:

- Bathing Water Directive;
- Water Environment (Shellfish Water Protected Areas: Designation) (Scotland) Order 2026 Shellfish Waters;
- Urban Wastewater Treatment Directive – current and recast;
- Water Resources Water Environment and Water Services (Scotland) Act 2003;
- Climate Change (Scotland) Act 2009 – adaptation duty; and
- Flood Risk Management Act.

2.4.4. SEPA considered that, while the final business plan demonstrates progress in several areas, a number of significant statutory risks remain unresolved. In particular, gaps persist regarding unsatisfactory intermittent discharges (UIDs), bathing waters, water resources, blue-green infrastructure (BGI), climate commitments, legislative preparedness, and the rephasing of SR21 programmes.

2.4.5. SEPA considered Scottish Water's approach in the final business plan was to include allocations mostly for studies and preliminary work (such as installing Pass Forward Flow monitors) rather than for implementing solutions to address any identified non-compliance with respect to investment planning for bathing waters, water resources and urban wastewater. SEPA also requested provisions for studies for shellfish water protected areas and committing investment to deliver identified improvements in the 2027-33 period. SEPA considered deferring improvements to the SRC33 period is unacceptable as this heightens the risk of breaching statutory duties, compressing delivery timelines and cost escalations. SEPA considered that the current provisions for addressing non-compliance in the 2027-33 period was insufficient and would prefer for Scottish Water to commit larger investment allocations across its wastewater duties to provide assurance that compliance with both current and incoming legislation (e.g. PFAS, UWWTD Recast, Climate Policy) will be achieved within the 2027-33 period.

2.4.6. SEPA had specific concerns with respect to the Unsatisfactory Intermittent Discharges (UIDs) programme where it asked Scottish Water to deliver within the 2027-33 period 25% of the total remaining UIDs after the planned RBMP3[164] UIDs are addressed. Scottish Water

[164] River Basin Management Plan 3 which covers the period from 1 January 2022 to 31 December 2027.

proposed to deliver 150 UIDs in the 2027-33 period, which is less than 25% of the total and also includes RBMP3 UIDs (to be delivered by December 2027).

2.4.7. SEPA highlighted that rephasing of 2021-27 commitments to the 2027-33 period continues despite its objections. SEPA indicated it may use regulatory powers to ensure commitments originally due in the 2021-27 period are delivered. It also requested that our Draft Determination explicitly require Scottish Water to progress improvements identified during the 2027-33 period through the change control process, so they are delivered within the period rather than delayed until SRC33.

2.4.8. SEPA also highlighted that there is further scope for Scottish Water to adopt more blue-green infrastructure solutions, enhance flood resilience given FEH22 rainfall modelling,[165] and more proactively identify properties at future risk. It considered that reductions in expenditure compared to the draft business plan on water continuity, climate change and growth had not been supported by analysis demonstrating that statutory compliance will still be achieved.

Feedback on the Draft Determination

2.4.9. SEPA welcomed the continued support for investment and improvement but expressed concern that the proposed funding may be insufficient to deliver statutory environmental outcomes and address existing and future sector challenges, potentially requiring additional funding and/or reprioritisation during the period. SEPA also highlighted lessons from the 2021-27 period in managing change to the investment programme, including the importance of a clear technical baseline and formal change process.[166]

2.4.10. SEPA supported the principle of "study first, invest later" and noted that it had worked closely with Scottish Water to agree the known investment requirements for bathing waters and shellfish waters, expressing satisfaction that funding for these sites had been allocated within the 2027-33 investment programme. However, it expressed concern that the Draft Determination provides limited recognition of the investment likely to arise from ongoing studies, particularly in relation to pass-forward flow non-compliance. It suggested that Scottish Water should develop indicative estimates of the proportion of studies likely to result in investment and the associated cost ranges, to reduce the risk of underestimating future requirements and delaying delivery of statutory environmental obligations. SEPA also highlighted potential future investment arising from legislative and policy developments, including polyfluoroalkyl substances (PFAS), microplastics, the recast Urban Waste Water Treatment Directive and climate-related measures, and considered that earlier recognition

[165] The FEH22 rainfall model is the Flood Estimation Handbook's latest UK-wide statistical model for rainfall depth-duration-frequency estimation.
[166] SEPA (2026), 'SEPA feedback on WICS Draft Determination of charges 2027-2033', 31 August 2026, p.2.

of these uncertain requirements would support effective financial planning and timely compliance. [167]

2.4.11. In relation to this, Scottish Water explained in its response to the Draft Determination that it considered it was not possible to forecast the scale of this investment with any meaningful level of confidence before the relevant studies are completed. It highlighted significant uncertainty over the scale, complexity and timing of any interventions that may be identified, and therefore over both their cost and what could realistically be developed, commenced or delivered during the 2027-33 period. For example, Scottish Water estimated that, if 10% of pass-forward flow sites required investment, costs could range from £200 million to £1.3 billion. Given the wide range of potential outcomes across individual catchments, Scottish Water considered that estimating 2027-33 expenditure at this stage would be highly speculative and could imply a level of certainty that does not yet exist. [168]

2.4.12. In its response to the Draft Determination, SEPA also noted its expectation that at least 25% of the remaining UIDs are resolved during the 2027-33 period and in each subsequent period to maintain progress towards the goal of removing all UIDs by 2050. SEPA also welcomed the Draft Determination's alignment with its expectation that, during the 2027-33 period, Scottish Water should resolve the greater of 25% of the remaining Unsatisfactory Intermittent Discharges (UIDs) or 150 UIDs, as part of maintaining progress towards eliminating all UIDs by 2050. SEPA acknowledged that Scottish Water is now committed to resolving 168 UIDs during the 2027-33 period.[169]

2.4.13. Our overall observation is that the SRC process relies on Scottish Water, informed by engagement with SEPA and other stakeholders, to identify and cost the investment required to meet Ministers' Objectives and Principles of Charging through its business plan. Our role is then to assess the lowest reasonable overall cost of meeting these Objectives for customers.

2.4.14. Furthermore, we do not currently have sufficient information on potential future investment requirements or their costs to make an additional allowance, and any such allowance would also need to take account of what Scottish Water could realistically and efficiently deliver. In the event that such priorities emerge during the regulatory period, we consider that the regulatory change process will enable Scottish Water to decide whether to reprioritise the investment programme to accommodate such investment. Where new requirements cannot be accommodated within the programme, Scottish Water also has the option to seek an interim determination of charges, subject to meeting the materiality thresholds.

[167] SEPA (2026), 'SEPA feedback on WICS Draft Determination of charges 2027-2033', 31 August 2026, p.3.
[168] Scottish Water (2026), 'Strategic Review Of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraph 10.3.3 on p.53.
[169] SEPA (2026), 'SEPA feedback on WICS Draft Determination of charges 2027-2033', 31 August 2026, pp.5-6.

Review of investment cases

2.4.15. For the Draft Determination, we completed an engineering review of 22 projects, valued at greater than £6 million, covered by the water environment and wastewater flow technical appendices. These 22 projects have a combined value of £332 million. The results of our review, assessed against the criteria set out in paragraphs 2.2.21 to 2.2.27, are shown in Table 57.

2.4.16. Of the 22 projects, 17 were assessed with a Green RAG score, meaning these investments were allowed. 4 were assessed with an Amber RAG score, indicating WICS had reservations about one or more assessment criteria, and 1 had a Red RAG score, indicating investment may not be allowed.

Table 57: Draft Determination assessment summary of wastewater-related project investment cases

Investment Code	Investment Name	Value over 2027-33 (2024-25; £m)	Primary Technical Appendix	RAG Score: Needs & Options	RAG Score: Regulatory Engagement	RAG Score: Cost Estimate	RAG Score: Benefits & Risk	RAG Score: Overall Assessment
5363110201	W571 - Dolphin Road Glasgow	15	Wastewater Flows	GREEN	GREEN	GREEN	GREEN	GREEN
5363110202	NE60 Cavendish Avenue area Perth	10	Wastewater Flows	GREEN	GREEN	GREEN	GREEN	GREEN
5363111113	Kinning Park WwPS - Asset Replacement	49	Water Environment	GREEN	GREEN	GREEN	GREEN	GREEN
5363111130	ALLANFEARN STC NH711475 - REPLACEMENT OF DIGESTER 1 AND 2	19	Water Environment	GREEN	GREEN	AMBER	AMBER	AMBER
5363112312	Allanfearn WwTW - Treatment and bioresource	55	Water Environment	GREEN	GREEN	GREEN	GREEN	GREEN
5363112893	Dunbar WwTW - Growth	36	Water Environment	GREEN	GREEN	GREEN	GREEN	GREEN
5363112894	Dalderse WwTW - Growth	16	Water Environment	GREEN	GREEN	GREEN	GREEN	GREEN
5363113603	Fauldhouse WwTW River Almond Ww WFD Improvements	11	Water Environment	GREEN	GREEN	GREEN	AMBER	GREEN
5363117633	Turriff WwTW - Capital Maintenance	14	Water Environment	GREEN	GREEN	GREEN	GREEN	GREEN
5363110205	719-1 Queen Street Dumfries	8	Wastewater Flows	GREEN	GREEN	AMBER	RED	AMBER
5363110206	IFOS Empire Way and Dominion Road Gretna - 347 2	9	Wastewater Flows	GREEN	GREEN	GREEN	GREEN	GREEN
5363110207	EFOS - Barron Terrace and Waggon Road Leven	7	Wastewater Flows	GREEN	GREEN	GREEN	GREEN	AMBER
5363111111	Troqueer WWPS - Site Replacement	7	Water Environment	GREEN	GREEN	GREEN	AMBER	AMBER

Investment Code	Investment Name	Value over 2027-33 (2024-25; £m)	Primary Technical Appendix	RAG Score: Needs & Options	RAG Score: Regulatory Engagement	RAG Score: Cost Estimate	RAG Score: Benefits & Risk	RAG Score: Overall Assessment
5363111134	Shieldhall WWTW - Control System Replacement	10	Water Environment	GREEN	GREEN	GREEN	GREEN	GREEN
5363111141	Shieldhall WwTW - HV Refurbishment	8	Water Environment	GREEN	GREEN	GREEN	GREEN	GREEN
5363111742	North Lodge Rd WWPS1 Pumping Main Replacement Phase 3	12	Wastewater Flows	GREEN	GREEN	GREEN	GREEN	GREEN
5363113549	SW1670 - Borrowmeadow Road Stirling	8	Wastewater Flows	GREEN	GREEN	GREEN	GREEN	GREEN
5363113565	IFOS - Peatville Terrace Edinburgh - E1537	6	Wastewater Flows	GREEN	GREEN	GREEN	GREEN	GREEN
5363113601	Persley WwTW River Don WW WFD Improvement	7	Water Environment	GREEN	GREEN	GREEN	GREEN	GREEN
5363117638	Pathhead WwTW - Capital Maintenance	6	Water Environment	RED	GREEN	AMBER	AMBER	RED
5363112317	Turret - Legacy Sludge	11	Water Environment	GREEN	GREEN	GREEN	GREEN	GREEN
5363112903	Balmaha WwTW - Growth	7	Water Environment	GREEN	GREEN	GREEN	GREEN	GREEN
	Total	**332**						

Projects assessed with a Red RAG score for the Draft Determination

2.4.17. **Pathhead WwTW – Capital Maintenance:** The project investment appraisal provided by Scottish Water lacked sufficient evidence to assess this project. To address this, WICS raised a formal query with Scottish Water, and further information on the project's needs and options was provided. [170] However, we still had concerns that this project lacks sufficient evidence to support the investment. In particular:

- Although Scottish Water confirmed that the primary need at this project is asset maintenance, not growth as presented in the original evidence, we did not see evidence that the works is in poor condition (due to aged assets) or that there were recorded non-compliance events;
- There was only limited information provided regarding the incapability of the existing assets and what effect these incapabilities have on the effectiveness of the treatment process. There was no evidence of non-compliance;
- There was no assessment of the needs relative to risk reduction that would be achieved by any of the short-listed options;
- There was only limited evidence given for the selection of the recommended option from the short-listed options; and
- There was no comparison of risk reduction or cost against a base case option.

2.4.18. Therefore, at the Draft Determination stage WICS considered that the Needs and Options assessment criteria were not met in this case and that insufficient information had been provided for WICS to assess the cost estimate for Pathhead WwTW.

Projects assessed with an Amber RAG score

2.4.19. **ALLANFEARN STC NH711475 - REPLACEMENT OF DIGESTER 1 AND 2:** WICS questioned the lack of evidence to substantiate the £24 million cost estimation for this project (total expenditure over 2021-27 and 2027-33 periods). Scottish Water responded that this project would now be closed and restarted at Gate 30 and included in a wider Allanfearn wastewater treatment works project. We assumed this was the £56 million Allanfearn WwTW - Treatment and bioresource, project reference 5363112312.[171]

2.4.20. Therefore, at the Draft Determination stage, our understanding was that the budget of £19.5 million for this project in the 2027-33 period was no longer needed and could be removed from the final business plan as the replacement of the digesters is included in the Allanfearn WwTW - Treatment and bioresource, project reference 5363112312.

[170] WICS query reference 08-13 issued 17/04/2026 and reply from Scottish Water dated 01/05/2026
[171] WICS query reference 07-12 issued 10/04/2026 and reply from Scottish Water dated 28/04/2026

2.4.21. **Troqueer WWPS - Site Replacement**: WICS requested further information on the cost estimate for this project, as the final business plan budget of £7 million appeared low compared to similar projects, raising the risk that the full benefits of the investment may not be realised. In response to our query, Scottish Water explained that the cost estimation had been assured in accordance with its procedures.[172] Despite this, the assessment score for Troqueer wastewater pumping station in the Draft Determination remained Amber due to a lack of evidence that the project benefits and the risks in project delivery had been adequately considered in the project investment appraisal.

2.4.22. **719-1 Queen Street Dumfries**: The proposed solution for this internal flooding prevention project involves extensive civil engineering works in an established residential area. This includes a storage tank to be constructed in an existing car park, with a proposed volume of 3,050 m3 and a diameter of circa 12m at 22m deep. A further complexity is that the sewers would be constructed in relatively narrow streets, with the sewers ranging in diameter from 400mm to 1200mm. The evidence provided demonstrated that the solution was appropriate, but there was a clear risk of cost escalation due to the inherent nature of the proposed civil engineering works. Identified risks included:

- sewers on private land/car parks that would require landowner permission;
- full road closures and extensive traffic management;
- unknown ground conditions – risk of excavation in rock and historic building remains in the construction footprint;
- construction of the deep storage tank could risk disturbance/vibration of adjacent buildings;
- it is possible that not all sewer laterals have been located resulting in additional works being required; and
- utility cables and pipes may obstruct the proposed route of new sewers, requiring rerouting and design changes.

2.4.23. In the Draft Determination, WICS considered that the high construction risks associated with this project may result in cost escalation and/or the benefits identified for this project not being fully delivered.

Observations regarding other projects assessed as Amber

2.4.24. **EFOS - Barron Terrace and Waggon Road Leven**: This external flooding reduction project was not due to start until 2031. The works entail inherent construction delivery risk, as the solution involves installing large-diameter sewer pipes in relatively narrow streets in Leven. There were noted risks related to existing utility locations, ground conditions and work under an existing road bridge. The overall Amber score in the Draft Determination reflected our

[172] WICS query reference 08-12 issued 17/04/2026 and reply from Scottish Water dated 07/05/2026

concern that, with the proposed start date late in the 2027-33 period, there was a distinct risk of project time and cost overrun into the next investment period.

Our assessment in the Draft Determination

2.4.25. Based on our assessment of the evidence provided, the investment of around £6 million proposed in the final business plan for Pathhead WwTW was not allowed in the Draft Determination.

2.4.26. Based on our understanding, the Allanfearn STC digester replacement project was removed from the allowed funding along with the associated investment of £19.5 million in the 2027-33 period, to avoid double-counting of this amount in the wider Allanfearn wastewater treatment works project.

Draft Determination consultation responses and new information

2.4.27. Scottish Water provided further evidence for the 2 projects we disallowed investment for:

- **Pathhead WWTW**: Scottish Water requested full reinstatement of the costs for Pathhead and supplied additional information to evidence the works required at the site. It explained that the project addressed the deterioration of existing secondary treatment assets and that the absence of historical non-compliance did not indicate a lack of investment need, as the intervention was intended to mitigate future service and compliance risks before asset failure occurred. [173] Scottish Water also provided further evidence of its condition assessment, options appraisal, comparison against a Business-as-Usual baseline and whole-life cost assessment, and explained that the relatively mature cost estimate had been market-tested and supported by established project controls.
- **Allanfearn Sludge Treatment Centre – Replacement of Digester 1 and 2**: Scottish Water confirmed that the allowance for this project should be removed in line with the adjustment in the Draft Determination, as the scope is already incorporated within the wider Allanfearn WWTW Treatment and Bioresources project. [174]

WICS decision

2.4.28. Regarding the project at Pathhead WWTW, we have reviewed the information and consider it to address our concerns regarding the investment case. We allow the funding for Pathhead WTW project of £6 million in full in the Final Determination.

[173] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination Response – Annex 4b – Cost Challenge', 1 September 2026, pp.62-66.
[174] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination Response – Annex 4b – Cost Challenge', 1 September 2026, p.61.

2.4.29. Regarding the project at Allanfearn STC, the Final Determination does not allow funding for this project.

Review of asset maintenance investment

2.4.30. Table 58 below lists the reviewed Management Approaches, which cover investments primarily related to wastewater services, along with WICS' RAG assessment. The 6 Management Approaches highlighted in orange (namely, MA004, MA017, MA024, MA043, MA057, and MA113) were excluded from our internal review as they cover programmes of work which were included in the external engineering review by WSP. The following paragraphs detail the assessment of each of the remaining 8 management approaches.

Table 58: Management Approaches relating mostly to Wastewater service

MA number	MA Name	Value over 2027-33 (2024-25 prices; £m; post-efficiency)	Primary Service	Proportion of value over 2027-33 for water	Proportion of value over 2027-33 for wastewater	Proportion of value over 2027-33 for shared assets	WICS assessment in DD
MA003	Maintain Pipebridges	49	Wastewater	0%	100%	0%	Amber
MA004	Reservoir Safety	300	Wastewater	100%	0%	0%	
MA012	Wastewater Pumping Mains	138	Wastewater	0%	100%	0%	Green
MA013	Wastewater Control Systems	41	Wastewater	0%	100%	0%	Green
MA017	Wastewater Treatment Works - Inlet Works	124	Wastewater	0%	100%	0%	
MA018	Ironworks	73	Wastewater	0%	100%	0%	Amber
MA023	Wastewater Pumping Stations	144	Wastewater	0%	100%	0%	Amber
MA024	Wastewater Bioresource Treatment and De-watering Centres	447	Wastewater	0%	100%	0%	
MA042	Wastewater Treatment Works - Primary Treatment	77	Wastewater	0%	100%	0%	Amber
MA043	Wastewater Treatment Works Secondary Tertiary Treatment	203	Wastewater	0%	100%	0%	
MA057	Wastewater Treatment Works Ancillaries	160	Wastewater	0%	100%	0%	
MA068	Statutory, Essential and Planned Maintenance	96	Wastewater	37%	63%	0%	Amber
MA076	Wastewater Studies	54	Wastewater	0%	100%	0%	Green
MA113	Gravity Sewers	302	Wastewater	0%	100%	0%	
	Total	**2,208**					

MA003 Maintain Pipebridges

2.4.31. Management Approach 3 covers the following wastewater pipe bridges and overland sewer assets:

- Critical wastewater pipe bridges and overland sewer assets, which will undergo either planned intervention at condition grade 3 or on specialist engineer recommendation, or responsive intervention upon failure; and
- Non-critical wastewater pipe bridges and overland sewer assets, which will undergo either planned intervention at condition grade 4 or on specialist engineer recommendation, or responsive intervention upon failure.

2.4.32. Scottish Water defined critical assets as assets with one of the following characteristics:

- Crosses a railway or road;
- Crosses a footpath;
- Crosses a watercourse upstream of and near a designated Bathing Water; and
- Crosses a watercourse and is assessed as having potential for a Category 1 / 2 Environmental Pollution Incident (EPI).

2.4.33. Scottish Water proposed to spend £49 million in this area over the 2027-2033 regulatory period.

2.4.34. In our Draft Determination, we noted that MA003 clearly sets out the estimated unit costs of interventions and run rates. However, we noted that the unit costs of interventions outlined in the final business plan were significantly lower than those outlined in the management approach. Additionally, the number of interventions was significantly higher in the final business plan than in the management approach. This is shown in Table 59.

Table 59: Pipebridge interventions management approach versus final business plan

Criteria	Document	Values
Number of interventions in the 2027-33 period	Final business plan	296
	MA003	180
Unit cost	Final business plan	£166,000
	MA003	£750,000
2027-33 total cost	Final business plan	£49m
	MA003	£144m

2.4.35. Through our query process, Scottish Water identified that the number of interventions in the business plan is incorrect. We required Scottish Water to correct this and confirm the number of interventions in its response to the Draft Determination, but we did not apply a cost challenge at that stage.

2.4.36. Scottish Water provided an updated number of outputs for this expenditure in Annex 4c of its Draft Determination response. It explained that while these provide a more granular estimation of the outputs to be delivered than the final business plan, the methodology would be further refined for the delivery plan 2027-28 submission and during the 2027-33 period.

2.4.37. In the Final Determination, we do not apply a cost challenge in this area.

2.4.38. Table 60 provides our Final Determination allowance and updated number of outputs.

Table 60: Final Determination allowance for MA003 Maintain Pipebridges

MA003 Maintain Pipebridges	Values
Scottish Water forecast expenditure (2024-25 prices)	£49m
Cost challenge (2024-25 prices)	£0
Final allowance (2024-25 prices)	£49m
Outputs to be delivered over 2027-33: Number of wastewater pipe bridge inspections	684
Outputs to be delivered over 2027-33: Number of wastewater pipe bridge repairs and refurbishments	296
Outputs to be delivered over 2027-33: Number of wastewater pipe bridge replacements	55

MA012 Wastewater Pumping Mains

2.4.39. Management Approach 12 covers wastewater pumping mains (also known as rising mains; 1,441km owned by Scottish Water and 117km of Private Finance Initiative assets) and their component air valves (1,165 Scottish Water-owned and 223 PFI in-use air valves on the asset register, though many more are unrecorded).

2.4.40. The chosen policy option involved having a proactive intervention programme for critical pumping mains to replace or refurbish 1/50th of the total asset base each year (c.15km), with the intention to intervene on all assets that will be more than 50 years old by 2050. Non-critical pumping main assets will be replaced or refurbished after 3 bursts in 2 years. All pumping main assets will be repaired whenever a burst occurs. Air valves on all assets will be inspected every 10 years and serviced or replaced as recommended by the inspection.

2.4.41. Scottish Water proposed to spend £138 million (2024-25 prices) on maintaining these assets over the 2027-33 regulatory period.

2.4.42. In our Draft Determination, we noted that MA012 clearly sets out the estimated unit costs of interventions and run rates. Whilst we noted that the number of interventions set out in the final business plan was lower than in the management approach, our assessment was

that the costs were broadly consistent with the expected unit costs. We therefore considered the costs to be reasonable in this area.

2.4.43. We did not receive feedback in this area in the Draft Determination consultation.

2.4.44. Table 61 provides our Final Determination allowance along with the updated outputs to be delivered as per Scottish Water's Draft Determination response Annex 4c. The number of outputs will be further refined in Scottish Water's delivery plan 2027-28 which will use a more detailed methodology for estimating them.

Table 61: Final Determination allowance for MA012 Wastewater Pumping Mains

MA012 Wastewater Pumping Mains	Values
Scottish Water forecast expenditure (2024-25 prices)	£138m
Cost challenge (2024-25 prices)	0
Final allowance (2024-25 prices)	£138m
Outputs to be delivered over 2027-33: Number of wastewater pumping main repairs or refurbishments	167
Outputs to be delivered over 2027-33: Length of wastewater pumping main replacements (Km)	77.5
Outputs to be delivered over 2027-33: Number of air valves replacements on wastewater pumping mains	365

MA013 Wastewater Control Systems

2.4.45. Management Approach 13 covers control system equipment at wastewater sites. Critical assets will be replaced at condition grade 4, and non-critical assets will be replaced on failure.

2.4.46. Scottish Water proposed to spend £41 million (2024-25 prices) on maintaining these assets over the 2027-33 regulatory period.

2.4.47. In our Draft Determination, we noted that the number of interventions and unit costs provided within the management approach are explained by policy choices and are based on historical values from similar projects. We were satisfied that these were reasonable and proportionate. We noted that the proposed costs represent an increase of more than double Scottish Water's expenditure in this area in the 2021-27 regulatory period; however, Scottish Water explained that this is a step towards the sustainable level from current expenditure. We therefore considered the costs to be reasonable in this area.

2.4.48. We did not receive feedback in this area in the Draft Determination consultation.

2.4.49. Table 62 provides our Final Determination allowance along with the updated outputs to be delivered as per Scottish Water's Draft Determination response Annex 4c. The number of

outputs will be further refined in Scottish Water's delivery plan 2027-28 which will use a more detailed methodology for estimating them.

Table 62: Final Determination allowance for MA013 Wastewater Control Systems

MA013 Wastewater Control Systems	Values
Scottish Water forecast expenditure (2024-25 prices)	£41m
Cost challenge (2024-25 prices)	£0
Final allowance (2024-25 prices)	£41m
Outputs to be delivered over 2027-33: Number of SCADA, HMI, PLC asset inspections (wastewater)	58
Outputs to be delivered over 2027-33: Number of SCADA, HMI, PLC asset repairs and refurbishments (wastewater)	149
Outputs to be delivered over 2027-33: Number of SCADA, HMI, PLC asset replacements (wastewater)	145

MA018 Ironworks

2.4.50. Management Approach 18 covers ironworks assets across Scottish Water's water and wastewater networks. These assets would be reactively replaced on failure, with limited proactive replacement, for example, when local authorities resurface roads.

2.4.51. Scottish Water proposed to spend £73 million (2024-25 prices) on maintaining these assets over the 2027-33 regulatory period.

2.4.52. Scottish Water's management approach explained that unit costs and run rates were based on historic data. The assumed unit costs had not been benchmarked against those of other utilities or highway authorities. Moreover, the management approach acknowledged that there is uncertainty around the historic replacement rates underpinning the chosen option:

- The total number of ironworks assets was uncertain (estimated 3 to 4 million);
- Asset age, condition, and deterioration profiles were unknown;
- There was no reliable estimate of the total operating life;
- There was no deterioration model for this asset group; and
- All ironworks were categorised as non-critical given their function within the network and due to lack of evidence that failures would reach a "do not" risk appetite.

2.4.53. The management approach acknowledged that whilst the manufacturer advises ironworks should last at least 30 years, the current replacement rate suggests a considerably longer asset life. The proposed replacement rate implies an asset life of 300-400 years, reflecting uncertainty about the number of ironworks assets. As Scottish Water acknowledged, without a consolidated replacement rate for ironworks across all capital investment areas, it is difficult to assess whether the number of interventions is reasonable.

2.4.54. In our Draft Determination, we noted that the chosen intervention run rates are a continuation of current practice and interim assumption, but cannot be regarded as evidence that these assets are being managed effectively, especially given the data uncertainties.

2.4.55. Through the query process, Scottish Water noted that the business plan data tables reported no outputs for this management approach as the interventions proposed under this management approach, such as replacing a manhole cover, are classed as responsive repair.

2.4.56. We proposed no further cost challenge in this area for the Draft Determination. However, we emphasised the need for improvements in the underpinning data, for example, to determine whether the replacement rate is appropriate and to demonstrate that fix-on-fail is the optimal choice.

2.4.57. We did not receive feedback in this area in the Draft Determination consultation.

2.4.58. Table 63 provides our Final Determination allowance along with the updated outputs to be delivered as per Scottish Water's Draft Determination response Annex 4c. The number of outputs will be further refined in Scottish Water's delivery plan 2027-28 which will use a more detailed methodology for estimating them.

Table 63: Final Determination allowance for MA018 Ironworks

MA018 Ironworks	Values
Scottish Water forecast expenditure (2024-25 prices)	£73m
Cost challenge (2024-25 prices)	£0
Final allowance (2024-25 prices)	£73m
Outputs to be delivered over 2027-33: Number of street furniture repairs and refurbishments (water)	22,784
Outputs to be delivered over 2027-33: Number of street furniture repairs and refurbishments (wastewater)	34,176

MA023 Wastewater Pumping Stations

2.4.59. Management Approach 23 covers the following wastewater pumping station assets:

- Critical pumping station MEICA assets, which would undergo proactive intervention informed by electricity consumption monitoring. The proposed intervention varies depending on specific characteristics:
  - Terminal pumping station MEICA or large assets (>= 100 kW) would be refurbished where possible to extend asset life and replaced where refurbishment is unviable;
  - Small assets (< 100 kW) would be replaced; and

- In addition to the above, for those assets with receiving water that is a Bathing Water or Shellfish Water would be proactively inspected annually (prior to the bathing season) and undergo proactive intervention when electricity use data and/or inspection results indicate the asset was nearing the end of life;

- Non-critical pumping station MEICA assets, which would be responsively replaced at failure; and
- Critical and non-critical pumping station civil assets, which would be proactively inspected every 20 years, undergo proactive intervention at condition grade 5, with refurbishment preferred where possible to extend asset life.

2.4.60. Scottish Water proposed to spend £144 million (2024-25 prices) on maintaining these assets over the 2027-33 regulatory period.

2.4.61. The management approach set out the proposed number of interventions for the wastewater pumping station's civil assets per decade. However, it is difficult to assess the number of interventions as the management approach did not indicate the number of wastewater pumping station civil assets.

2.4.62. In our Draft Determination, we noted that while there is a lack of clarity in MA023 regarding the proposed number of interventions under the chosen option for each category of MEICA wastewater pumping station asset (critical/non-critical and small/large), Scottish Water had provided some clarification on this through the query process. For example, Scottish Water proposed around 250 pump replacements at wastewater pumping stations per year. Given the median replacement age of 14.5 years for MEICA pumping station assets, this would appear to be lower than the steady-state annual replacement rate for the 5,867 wastewater pump assets.

2.4.63. We noted that some key assumptions underpinning the management approach were based on limited data. Several examples are set out below:

- The policy trigger for civil assets was the asset reaching condition grade 5 (CG5). The condition data for civil assets is extrapolated from 2007 surveys. This reliance on outdated data introduced a risk that the number of assets at CG5 is understated and that run rates may need to increase as inspections progress. As such, we agreed with Scottish Water's assessment that improving civil asset condition data is a high priority;
- Scottish Water does not have a comprehensive view of the condition across wastewater pumping station MEICA assets. The MEICA asset condition is inferred based on age;
- The approach proposed for non-critical MEICA assets differed from that proposed for civil assets or critical MEICA assets. Yet, the management approach noted that the

exercise of defining which assets are critical had not been undertaken, and asset criticality was assumed based on asset location, size and position on the network;
- The policy for some critical MEICA assets assumed that refurbishment provided an additional 10 years of life, but the basis of this assumption was unclear; and
- The policy assumed an inspection cost of £1,000; however, it identified the need to develop an agreed cost for pumping station inspections (MEICA and civil).

2.4.64. We did not propose a cost challenge in this area for the Draft Determination. However, we emphasised the need to improve the data underpinning this management approach.

2.4.65. Table 64 provides our Final Determination allowance along with the updated outputs to be delivered as per Scottish Water's Draft Determination response Annex 4c. The number of outputs will be further refined in Scottish Water's delivery plan 2027-28 which will use a more detailed methodology for estimating them.

Table 64: Final Determination allowance for MA023 Wastewater Pumping Stations

MA023 Wastewater Pumping Stations	Values		
Scottish Water forecast expenditure (2024-25 prices)			£144m
Cost challenge (2024-25 prices)			£0
Final allowance (2024-25 prices)			£144m
Outputs to be delivered over 2027-33	**Inspections**	**Repairs and refurbishments**	**Replacements**
Number of wastewater pumping station interventions (MEICA and Civils)	687	28,363	1,493
Number of Legacy wastewater pumping stations improved to meet appropriate standard	-	216	167

MA042 Wastewater Treatment Works - Primary Treatment

2.4.66. Management Approach 42 covers the following wastewater treatment works (WWTW) - primary treatment assets:

- Critical MEICA assets, which would be monitored with planned intervention - repair, refurbishment or replacement - initiated where there was a high risk of imminent failure;
- Non-critical MEICA assets, which would be monitored with responsive intervention initiated upon failure, whether that be repair, refurbishment or replacement; and

- Critical civil assets, which would undergo either planned intervention at condition grade 5 or on specialist engineer recommendation or responsive intervention upon failure.

2.4.67. Scottish Water proposed to spend £77 million (2024-25 prices) in this area over the 2027-33 regulatory period. This was around 30% higher than the forecast set out in the management approach.[175] We requested further clarification from Scottish Water on this difference, and Scottish Water explained that the forecast number of interventions (what Scottish Water calls investment demand) in this area in the final business had already exceeded the forecast level when preparing the management approach.

2.4.68. However, we noted in the Draft Determination that the final business plan forecast 45 interventions, which was well below the forecast in the management approach.[176] This is the opposite of what would be expected based on Scottish Water's response.

2.4.69. While this is the case, we did not propose a further cost challenge in this area in the Draft Determination. However, we required Scottish Water to explain the difference in the proposed number of interventions between the final business plan and management approach in its response to our Draft Determination.

2.4.70. Scottish Water provided this explanation as well as a better estimate of the number of outputs in Annex 4c of its Draft Determination response. The updated number of outputs suggest an annual run rate which is much closer to the one implied in the management approach.

2.4.71. In the Final Determination, we decide not to apply a cost challenge in this area.

2.4.72. Table 65 provides our Final Determination allowance along with the updated outputs to be delivered. The number of outputs will be further refined in Scottish Water's delivery plan 2027-28 which will use a more detailed methodology for estimating them.

Table 65: Final Determination allowance for MA042 WWTW Primary Treatment

MA042 WWTW Primary Treatment	Values
Scottish Water forecast expenditure (2024-25 prices)	£77m
Cost challenge (2024-25 prices)	£0

[175] The 30% is based on the management approach estimate of £55m (price base not known) from Table 51 of MA042 and £77m in the final business plan (although the latter is in 2024-25 prices and post-efficiency, which suggests that the difference may be higher than 30%). Scottish Water (2025), 'Summary Management Approach Wastewater Treatment Works – Primary Treatment MA042', April 2025, p.60.

[176] The management approach does not set out the forecast number of interventions over the 2027-33 regulatory period; however, Table 48 does provide civil and MEICA interventions for 2028 and 2029, which suggest around 380 interventions a year. Scottish Water (2025), 'Summary Management Approach Wastewater Treatment Works – Primary Treatment MA042', April 2025, p.56.

Final allowance (2024-25 prices)	£77m
Outputs to be delivered over 2027-33: Number of WWTW primary treatment repairs and refurbishments (MEICA and Civils)	1,909
Outputs to be delivered over 2027-33: Number of WWTW primary treatment replacements (MEICA and Civils)	147

MA068 Statutory, Essential and Planned Maintenance

2.4.73. Management Approach 68 covers the statutory, essential and planned maintenance activities at water and wastewater sites, offices and other properties. Scottish Water's approach is to meet all statutory requirements.

2.4.74. Scottish Water's approach for each of these areas involved:

- Statutory activities would continue as required to meet legal obligations;
- Essential inspections (including Asbestos, Fire Safety and Legionella) would be conducted in line with the relevant risk level, with maintenance conducted as required following inspections;
- Fixed Wire Testing would be conducted every 3 years; and
- Planned maintenance would continue in line with the previous risk-based approach.

2.4.75. Scottish Water proposed to spend £96 million (2024-25 prices) in this area over the 2027-33 regulatory period.

2.4.76. In our Draft Determination, we noted that while we are concerned that Scottish Water had not provided an estimated number of interventions for Statutory activities or Essential inspections, representing c.60% of total spend within this MA, we were satisfied that the costs were reasonable for the areas where the number of interventions and unit costs had been provided. Further, we noted that the proposed spend on this MA is approximately 10% lower than in the 2021-27 regulatory period, pre-efficiency.

2.4.77. Recognising the points above, we proposed no further cost challenge in this area. However, we required Scottish Water to confirm the forecast number of interventions in this area in its response to our Draft Determination.

2.4.78. Scottish Water did provide an updated number of outputs for this expenditure in Annex 4c of its Draft Determination response. It explained that while these provide a more granular estimation of the outputs to be delivered than the final business plan, the methodology would be further refined for the delivery plan 2027-28 submission and during the 2027-33 period.

2.4.79. In the Final Determination, we decide not to apply a cost challenge in this area.

2.4.80. Table 66 provides our Final Determination allowance and updated number of outputs.

Table 66: Final Determination allowance for MA068 Statutory, Essential and Planned Maintenance

MA068 Statutory, Essential and Planned Maintenance	Values
Scottish Water forecast expenditure (2024-25 prices)	£96m
Cost challenge (2024-25 prices)	£0
Final allowance (2024-25 prices)	£96m
Outputs to be delivered over 2027-33: Number of statutory or legislative compliance repairs and refurbishments (water)	72,371
Outputs to be delivered over 2027-33: Number of statutory or legislative compliance interventions (wastewater)	124,804

MA076 Wastewater Studies

2.4.81. Management Approach 76 was not submitted with the final business plan, but was provided through our query process with Scottish Water. The management approach covers studies which understand and confirm whether a problem identified by Scottish Water requires immediate resolution. Studies provide a view of the scale of possible solutions and develop a high-level estimate of the investment required. In its response to our query, Scottish Water provided unit costs for the studies.

2.4.82. In our Draft Determination, we recognised that it is important to undertake studies to ensure that any future investment will provide the required benefits. In line with past practice, we proposed to allow the expenditure associated with the management approach.

2.4.83. However, we considered it prudent to impose conditions on the allowance. We outlined our expectation that Scottish Water will conduct regular engagement with SEPA, to allow SEPA to keep updated of progress and the recommended action from the studies. We also expect that Scottish Water meets its 2030 deadline to avoid delaying future investment.

2.4.84. As explained in paragraph 2.4.9, SEPA was supportive of the "study first, invest later" principle in its response to the Draft Determination, however expressed concern that there is insufficient allowance for the investment likely to arise from ongoing studies. It suggested Scottish Water should develop indicative cost estimates based on the proportion of studies likely to result in investment. Scottish Water explained in its own response that estimating 2027-33 expenditure at this stage would be highly speculative and could imply a level of certainty that does not yet exist.[177]

2.4.85. While we acknowledge SEPA's concerns, we agree with Scottish Water that it would not be appropriate to include additional allowances since we do not currently have sufficient

[177] Scottish Water (2026), 'Strategic Review Of Charges 2027-33 Draft Determination: consultation response', 1 September 2026, paragraph 10.3.3 on p.53.

information on potential future investment requirements or their costs. We nevertheless recognise that ongoing studies may identify immediate investment needs and we consider that these could, in the first instance, be accommodated through reprioritisation within the rolling investment programme.

2.4.86. Our decision in the Final Determination is to allow the proposed funding for wastewater studies in full as shown in Table 67.

Table 67: Final Determination allowance for MA076 Wastewater Studies

MA076 Wastewater Studies	Values
Scottish Water forecast expenditure (2024-25 prices)	£54m
Cost challenge (2024-25 prices)	£0
Final allowance (2024-25 prices)	£54m
Outputs to be delivered over 2027-33: Number of wastewater treatment improvement studies	50
Outputs to be delivered over 2027-33: Number of climate change audits and studies	1

Benchmarking

2.4.87. Table 68 sets out the investment areas subject to benchmarking for water environment and wastewater flows and our assessment in the Draft Determination.

Table 68: Draft Determination assessment summary of wastewater-related areas suitable for benchmarking

Area	Programme	Sub-area ("Investment Area")	Sub-area investment (2024-25 prices; £m)	WICS Assessment
Water Environment	Waste Water Treatment	WWTW Improvements	58	No cost challenge proposed
Water Environment	Waste Water Bioresource Treatment	Industrial Emissions Directives	41	No cost challenge proposed
Water Environment	Waste Water Sewer Networks	Unsatisfactory intermittent discharges	269	No cost challenge proposed
Water Environment	Waste Water Sewer Networks	Network monitoring	9	No cost challenge proposed

Managing Quantity of Flows	Enhancement	To reduce flood risk to customers impacted by high consequence external sewer flooding where not disproportionately expensive	45	No cost challenge proposed
		Total	**679**	

Wastewater Treatment Works improvements (Phosphorus removal)

2.4.88. Wastewater treatment works are subject to phosphorus consent limits in order to avoid negative environmental impacts. To meet regulatory guidelines, Scottish Water must undergo enhancement investment to ensure these requirements are being met.

2.4.89. In our Draft Determination, we noted that Scottish Water applied the phosphorus removal benchmarking models developed by Ofwat in PR24 to benchmark Scottish Water's proposed phosphorus removal enhancement expenditure against the companies in England and Wales.[178] Ofwat developed four models for phosphorus removal schemes, two based on historic data and two on forecast data.[179] Ofwat calculated a final allowance for phosphorus removal by applying an equal weighting to each model. While Scottish Water noted that there are large variances in the results of companies between models, at an overall level Scottish Water was broadly in line with the median benchmark used by Ofwat in its benchmarking.

2.4.90. As an additional check, WICS applied the model developed by the CMA for benchmarking phosphorus removal costs in the PR24 redeterminations, including Scottish Water's data.[180] The CMA used both historical and forecast phosphorus removal scheme data to benchmark the proposed phosphorus removal costs in England and Wales. However, as we did not have historical scheme costs, we instead used only forecast data. While this provides an incomplete dataset, we considered that it was appropriate for the analysis.

2.4.91. The CMA models, which used a different modelling technique, confirmed the results from Scottish Water's own analysis. This suggested that Scottish Water's proposals are broadly efficient compared to the historical and forecast phosphorus removal schemes in England and Wales. We therefore considered the costs to be reasonable in this area for the Draft Determination.

2.4.92. We did not receive feedback in this area in the Draft Determination consultation.

2.4.93. Table 69 provides our Final Determination allowance.

[178] Scottish Water (2026), 'SR27 Final Business Plan: Technical Appendix 12 – Efficiency', 26 February 2026, p. 114.
[179] Ofwat (2024), 'PR24 final determinations Expenditure allowances – enhancement cost modelling appendix', December 2024, p. 80.
[180] CMA (2026), ' Water PR24 references Final Determinations Volume 2: Enhancement costs – Chapter 5', 10 March 2026, p. 27.

Table 69: Final Determination allowance for phosphorous removal

Phosphorus removal	Values
Scottish Water forecast expenditure (2024-25 prices)	£45m
Cost challenge (2024-25 prices)	£0
Final allowance (2024-25 prices)	£45m
Outputs to be delivered over 2027-33: Population equivalent of WWTW sites made compliant with standards – phosphorus	376,321

Wastewater Treatment Works improvements (Sanitary parameters tightening)

2.4.94. Expenditure on sanitary parameters tightening relates to the costs of meeting more stringent permit requirements at wastewater treatment works for ammonia or biochemical oxygen demand levels.

2.4.95. For its business plan, Scottish Water conducted its own benchmarking using Ofwat's models and showed that its proposals are efficient in this area.[181] The costs shown in Table 70 below included expenditure outside of the 2027-33 period, since Ofwat's models focus on the total costs of meeting a requirement, so all relevant expenditure must be included.

Table 70: Scottish Water's benchmarking analysis of expenditure on sanitary parameters tightening

Sanitary parameters tightening proposal	2024-25 prices
Scottish Water's total forecast expenditure over 2021-27, 2027-33 and 2033-39 periods	£12.0m
Modelled allowances after median efficiency challenge using:	
- Scheme-level model	£13.5m
- Company-level model	£29.4m
Triangulated model allowance	£21.4m
Implied efficiency score	0.56

2.4.96. In our Draft Determination, we agreed with Scottish Water's analysis and therefore considered the costs to be reasonable in this area. Of the £12 million total forecast expenditure, £6.7 million falls within the 2027-33 period.

2.4.97. Scottish Water explained in its submission that the three sites where enhancement is required to address sanitary parameters tightening also face an enhancement requirement to meet a tighter phosphorus consent. Its approach to addressing these sites was to develop and cost them as single projects, given the significant interrelatedness between the two enhancement requirements. Consequently the outputs for these projects had not been

[181] Scottish Water (2026), 'SR27 final business plan: Technical Appendix 12 – Efficiency', 26 February 2026, p.116.

disaggregated, meaning the outputs for projects relating to sanitary parameters tightening are included in Table 69.

2.4.98. We did not receive feedback in this area in the Draft Determination consultation.

2.4.99. Table 71 provides our Final Determination allowance.

Table 71: Final Determination allowance for sanitary parameters tightening

Sanitary parameters tightening	Values
Scottish Water forecast expenditure (2024-25 prices)	£6.7m
Cost challenge (2024-25 prices)	£0
Final allowance (2024-25 prices)	£6.7m
Outputs to be delivered over 2027-33: Population equivalent of WWTW sites made compliant with standards - phosphorus	0

Industrial Emissions Directives

2.4.100. Industrial Emissions Directives (IED) compliance can be disaggregated into several components, such as secondary containment (bunding) and tank covering. Ofwat set allowances for these two components using econometric models and applied the resulting efficiency to other IED costs.[182]

2.4.101. Scottish Water did not provide scheme-level information nor benchmarking evidence in the final business plan technical appendices. Due to these data limitations, in our Draft Determination we used a simple unit cost per bioresource treatment site for comparison against the modelled costs in England and Wales.

Table 72: Comparison of IED unit costs per bioresource treatment site

Industrial Emissions Directives	Values
Scottish Water forecast unit cost (2024-25 prices)	£5.07m
England and Wales modelled average unit cost (2024-25 prices)	£10.24m
England and Wales modelled median unit cost (2024-25 prices)	£10.30m

2.4.102. Scottish Water's unit cost was lower than that observed in England and Wales. We therefore considered in our Draft Determination that Scottish Water's costs in this area were reasonable.

2.4.103. We did not receive feedback in this area in the Draft Determination consultation.

[182] Ofwat (2024), 'PR24 final determinations – Expenditure allowances – enhancement cost modelling appendix', December 2024.

2.4.104. Table 73 provides our Final Determination allowance.

Table 73: Final Determination allowance for Industrial Emissions Directives investment

Industrial Emissions Directives	Values
Scottish Water forecast expenditure (2024-25 prices)	£41m
Cost challenge (2024-25 prices)	£0
Final allowance (2024-25 prices)	£41m
Outputs to be delivered over 2027-33: Number of sludge treatment centres achieving compliance with Industrial Emissions Directive	8

Unsatisfactory intermittent discharges / Storm overflows

2.4.105. In our Draft Determination, we explained that Ofwat models storm overflow costs in three categories: storage at the network, storage at wastewater treatment works, and flow to full treatment schemes. Ofwat's key cost driver for the first two categories, which are most relevant to Scottish Water's investment, is equivalent storage, a measure of the volume of spill needing to be managed to meet target spill frequencies.[183]

2.4.106. However, Scottish Water was unable to provide equivalent storage data as required for Ofwat's models. Scottish Water explained that this is because Scottish Water's approach to Unsatisfactory Intermittent Discharges (UIDs) differs from the approach to storm overflows taken in England and Wales in that Scottish Water's targets do not relate to spill frequency, but to UID priority and water body quality. As a result, additional storage capacity was not the proposed solution for the majority of Scottish Water's overflows. While Scottish Water had carried out some benchmark modelling for projects where it had been able to estimate equivalent storage, it did not believe the results of these models were insightful, given that the predicted costs were around 10 times higher than Scottish Water's forecast expenditure.[184] We also noted Scottish Water's concern that variation in the types of solutions chosen for each UID is likely to reduce the applicability of Ofwat's benchmarking models.[185]

2.4.107. Given these factors, this cost area was subject to review by our external engineering consultants, WSP, whose findings informed our Determination as explained in the next sub-section.

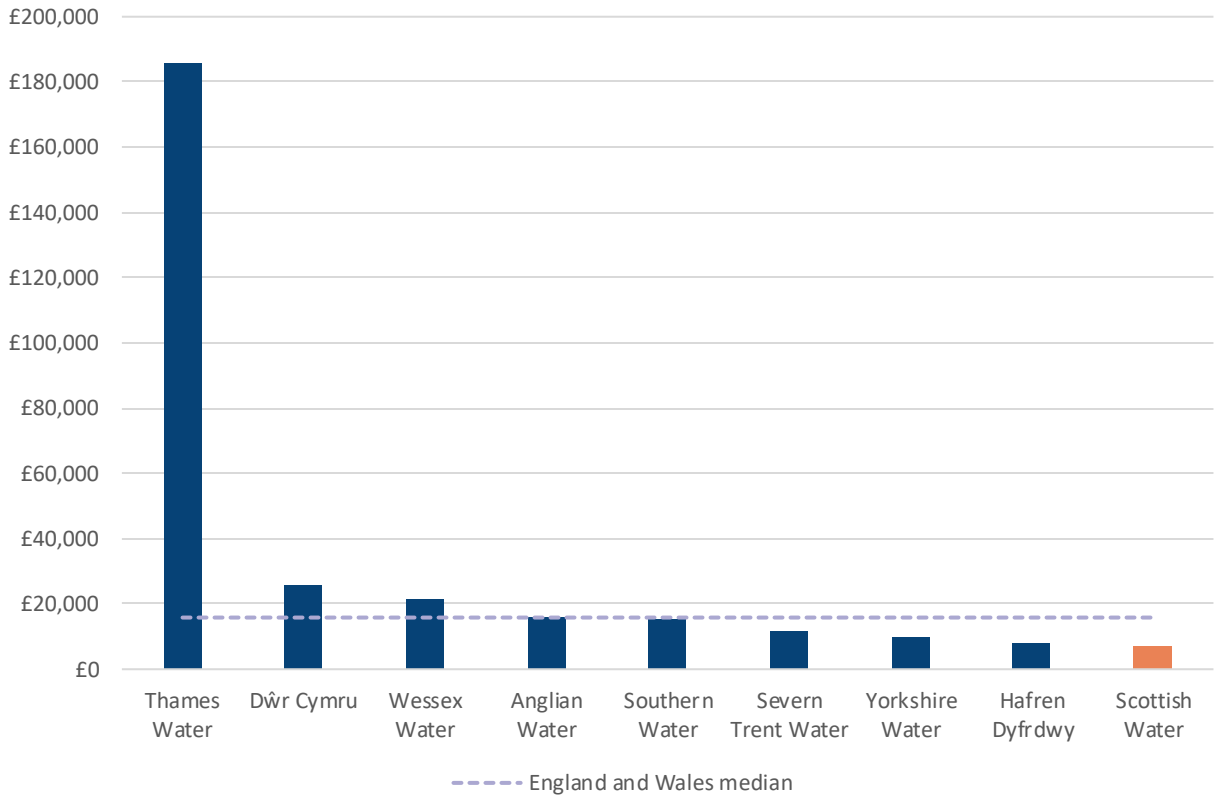
[183] Ofwat (2024), 'PR24 final determinations – Expenditure allowances – enhancement cost modelling appendix', December 2024, pp. 30-32.
[184] Scottish Water (2026), 'SR27 final business plan: Technical Appendix 12 – Efficiency', 26 February 2026, pp.117-118.
[185] Scottish Water (2026), 'Business Plan 2027-2033 Data Table Commentaries – Table 5: Projects and Programmes', 26 February 2026, pp. 7-8.

Network monitoring

2.4.108. In our Draft Determination, we explained that Ofwat models costs for network monitoring by allocating individual schemes to categories based on whether they involve the installation of Event Duration Monitors (EDMs) alone or in combination with other work, such as civils or pass-forward flow monitors. As Scottish Water had not provided scheme-level data on the deployment of Event Duration Monitors (EDMs), we used a simple unit-cost model to benchmark Scottish Water's costs against Ofwat's modelled costs for EDM installation only.[186]

2.4.109. On a simple unit cost basis, Scottish Water compares favourably to the median in England and Wales for the installation of event duration monitors, as shown in Figure 11. We therefore considered Scottish Water's costs to be reasonable in this area in the Draft Determination.

Figure 11: Comparison of unit cost for event duration monitor deployment (EDM only) in Great Britain (£ per EDM)



[186] Ofwat (2025), 'Waste water – MCERTS emergency overflows enhancement expenditure model', republished 26 March 2025, available at: https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.ofwat.gov.uk%2Fwp-content%2Fuploads%2F2025%2F03%2FPR24-FD-CA28-Wastewater-MCERTS-emergency-overflows-enhancement-expenditure-model.v3-1.xlsx&wdOrigin=BROWSELINK

2.4.110. We did not receive feedback in this area in the Draft Determination.

2.4.111. Table 74 sets out our Final Determination allowance.

Table 74: Final Determination allowance for network monitoring

Network monitoring	Value
Scottish Water forecast expenditure (2024-25 prices)	£9m
Cost challenge (2024-25 prices)	£0
Final allowance (2024-25 prices)	£9m
Outputs to be delivered over 2027-33: Number of Event Duration Monitors deployed	1,300

External sewer flooding

2.4.112. In our Draft Determination, we benchmarked Scottish Water's costs in this area against its historical performance using data from the Annual Return. As Scottish Water's proposed costs were below historical expenditure, we were satisfied that their proposal represents efficient expenditure in this area and therefore did not propose any further cost challenge.

2.4.113. We did not receive feedback in this area in the Draft Determination consultation.

2.4.114. Table 75 sets out our Final Determination allowance. We also allow additional investment for Scottish Water to reach a more challenging target for the number of areas at risk of external sewer flooding. This is explained in Chapter 4 and Chapter 5 of the Final Determination. The additional investment allocation and the associated additional outcomes and outputs are not reflected in this appendix.

Table 75: Final Determination allowance for external sewer flooding

External sewer flooding	Values
Scottish Water forecast expenditure (2024-25 prices)	£45m
Cost challenge (2024-25 prices)	£0
Final allowance (2024-25 prices)	£45m
Outputs to be delivered over 2027-33: Number of properties removed from external flooding at risk register	624

External engineering review of the business plan

Summary of findings

2.4.115. Regarding the programme for addressing internal sewer flooding, which had an estimated total value of around £111 million (2024-25 prices) in the draft business plan, WSP considered that Scottish Water has a mature process for prioritising and delivering flood mitigation. Lower-cost projects offer good value; however, WSP recommended that higher-

cost projects be further scrutinised for value for money, and that multi-driver projects provide greater transparency into how costs are allocated to each investment driver.[187]

Review following the final business plan submission and the Draft Determination consultation

2.4.116. For our Draft Determination, we further reviewed the investment addressing internal sewer flooding from the final business plan submission, as explained in the following paragraphs.

2.4.117. Scottish Water's proposed programme cost for reducing flood risk to customers affected by repeat high-consequence internal sewer flooding had remained largely the same between the draft and the final business plan, changing from £111 million in the draft to £115 million in the final (2024-25).[188]

2.4.118. In the Draft Determination, we did not propose a cost efficiency challenge for the internal sewer flooding programme. However, as discussed in section 4.6 of the Draft Determination, we proposed applying a more ambitious performance profile than Scottish Water had proposed for the two internal sewer flooding outcomes.

2.4.119. We did not receive feedback our investment assessment on this area in the Draft Determination consultation.

2.4.120. As per paragraph 2.2.59, WSP reviewed 8 additional wastewater programmes from the final business plan submission, which are covered in the following paragraphs:

- Maintain critical and non-critical sewers – £295 million in the 2027-33 period (2024-25 prices);
- Unsatisfactory Intermittent Discharges programme – £260 million in the 2027-33 period (2024-25 prices);
- Maintain sludge treatment centres to ensure a quality product: sludge reception & cleaning, digestion & stabilisation, sludge storage, return liquor treatment, thermal drying and pelletising – £122 million in the 2027-33 period (2024-25 prices);
- Asset maintenance for returning PFI assets (excluding Daldowie) – £118 million in the 2027-33 period (2024-25 prices);

[187] These are projects which address more than one investment need, or driver, e.g. internal flooding enhancements, Unsatisfactory Intermittent Discharges requirements, growth-related investments, and capital maintenance.

[188] In the Draft Determination, we stated that the programme had been reduced by 25%, from £111 million in the draft business plan to £84 million in the final business plan (2024-25 prices). This was incorrect because four projects were reclassified and reported separately in the final business plan rather than within the programme. To make a like-for-like comparison, the £31.5 million cost of these projects in the final plan should be added to the £84 million programme total.

- Maintain treatment ancillaries including tanks, buildings, instrumentation, washwater, chemical dosing, sampling, tertiary lagoon – £114 million in the 2027-33 period (2024-25 prices);
- Maintain secondary treatment including tanks, septic tanks, activated sludge assets, wet well, instrumentation, BAF filter, reed bed – £112 million in the 2027-33 period (2024-25 prices);
- Maintain inlet works including inlet, screening, grit removal and storm tanks – £82 million in the 2027-33 period (2024-25 prices); and
- Provision of appropriate equipment and analysis to demonstrate pass forward flow (PFF) spill compliance at WWTW and that flow is maintained during the event duration – £65 million in the 2027-33 period (2024-25 prices).

2.4.121. In our Draft Determination, the review of programme to maintain sewers (£295 million in the 2027-33 period) found that the investment need for 2027-33 sewer capital maintenance was clearly justified, policy compliant, and strategically sound, supported by statutory duties, Ministerial Objectives, and a demonstrated understanding of asset risk and deterioration. The scope of the solutions was broadly appropriate, with a balanced mix of planned and reactive interventions informed by asset risk modelling and established management approaches, and a delivery model that had been proven in previous regulatory periods. The chosen policy options and solutions for the 3 activities in this programme were appropriate and in line with industry practice for a sewer maintenance programme. However, while the need and strategic intent were strong, the main weaknesses related to cost definition, assurance, and maturity of supporting evidence. The unit rates were broadly appropriate; however, these cost estimates relied heavily on historic unit rates with limited adjustment for future market conditions, insufficient benchmarking, and unclear assumptions. This limits cost efficiency and increases the risk of higher overall programme costs due to uncertainties. Climate change impacts and efficiency opportunities were acknowledged but not yet translated into targeted, costed interventions. Based on this, WSP recommended a cost challenge between 3% and 5%, reflecting the high number of assumptions used in estimating the costs (which are not clearly defined or sufficiently transparent) and the resulting uncertainties.

2.4.122. We decided not to apply a cost challenge in this area in the Draft Determination. However, we noted we will actively monitor the investment in this area during the period, and we expect Scottish Water to outperform its final business plan forecasts.

2.4.123. We did not receive feedback in this area in the Draft Determination consultation. We decide not to apply a cost challenge in this area in the Final Determination.

2.4.124. In our Draft Determination, the review of the programme to address Unsatisfactory Intermittent Discharges (UIDs) (£260 million in the 2027-33 period) found that the investment need was clearly and robustly justified, supported by legislative drivers,

regulatory alignment, environmental evidence, and a structured, risk-based policy framework agreed with SEPA. The investment need and scope were appropriate, proportionate, and supported by a robust, evidence-based prioritisation framework and a credible delivery strategy, including adoption of the DV4 enterprise model. Overall, the average unit rates for both Water Quality drivers and Sewer-Related Debris (SRD) drivers were generally considered acceptable and were comparable to those observed in England and Wales UID projects. However, confidence was reduced by gaps in cost assurance and economic evidence, particularly the heavy reliance on indicative unit rates, limited benchmarking, and the absence of project-level cost-benefit analysis. The majority of this programme was still at early stages of development and had yet to go through the gated progress and would lean towards high costs throughout the programme lifecycle. Scottish Water recognised this and is intending to mitigate this by more efficient delivery process defined by its enterprise delivery model. While delivery capability was considered credible and improving, stronger cost transparency, benchmarking (especially for standard SRD interventions), and clearer demonstration of efficiency benefits were required to fully validate value for money and reduce delivery risk in SR27.

2.4.125. WSP considered that a potential cost challenge between 10% and 15% could be applied due to costs being immature and relying heavily on assumptions and engineering judgement with limited scope definition. However, we considered there is a risk of cost escalation for the UID programme, given the complexity of some of the required solutions, as we observed during the 2021-27 regulatory period. As such, we did not apply a specific cost challenge for UIDs in our Draft Determination.

2.4.126. In its Draft Determination response, Scottish Water explained that its proposed 2027-33 UID programme had been developed to support its long-term ambition to address all UIDs by 2050, based on an initial assumption of delivering around 150 UIDs in each investment period. SEPA had raised concerns about the assumptions underpinning this trajectory and considered the UID target of 150 as a minimum, with delivery potentially needing to increase if the ongoing cleansing of the UID register did not reduce the number of identified UIDs or if new UIDs were added, including those arising from pass-forward flow (PFF) investigations. As such, Scottish Water proposed utilising £33 million out of the £168 million of additional unallocated allowance we proposed in the Draft Determination to enable the removal of a further 18 UIDs during the 2027-33 period, subject to the additional funding being made available.[189] This brings the proposed total number of UIDs removed in the 2027-33 period to 168.

2.4.127. SEPA confirmed in its consultation response that it maintains the expectation that at least 25% of the remaining UIDs are resolved during the 2027-33 regulatory period. As explained

[189] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination Response – Annex 4a – Capital Investment Evidence', 1 September 2026, p.14.

in Chapter 4 of the Final Determination, there is a risk that the proposed number of UIDs removed may be insufficient to meet SEPA's expectation of at least 25% over 2027-33 given the uncertainty about the number of UIDs remaining after Scottish Water's data cleansing exercise.

2.4.128. In light of this, we accept Scottish Water's proposal to remove 168 UIDs. This is more than 2.5 times the number Scottish Water expects to remove over the 2021-27 regulatory period and will be a significant delivery challenge.

2.4.129. Our Final Determination allows the originally proposed funding of £269 million, as well as the proposed utilisation of £33 million of the additional unallocated funding made available in the Draft Determination. This increases the total investment for UIDs to £302 million (based on Scottish Water's assumed efficiency of 0.8% per annum).

2.4.130. In our Draft Determination, the review of programme to maintain sludge treatment centres (£112 million in the 2027-33 period) determined that the need to invest in planned and responsive maintenance at the bioresource dewatering and treatment centres was clearly demonstrated, justified and defined – all covered assets were critical since failure to treat bioresources appropriately could lead to odour nuisance, permit breaches or Category 1 pollution incidents. The proposed solution scope was appropriate – the engineering solutions that would flow from the investment are anticipated to be industry-standard and therefore to have known cost/risk profiles. Costs appeared appropriate to the number of sites and planning stage, with assumptions based on "engineering judgement, recent experience and knowledge of the overall asset base and local knowledge of the sites". Based on this review, we did not propose a cost challenge in this area for the Draft Determination.

2.4.131. We did not receive feedback in this area in the Draft Determination consultation. We decide not to apply a cost challenge in this area in the Final Determination.

2.4.132. In our Draft Determination, the review of the programme to maintain returning PFI assets (£118 million in the 2027-33 period) found that the investment need was clearly established and aligned with Ministerial Objectives. Several critical wastewater assets, serving 37% of Scotland's population, will return to Scottish Water ownership; operational control with limited contractual hand back requirements and a managed and timely transition would be essential to mitigate and manage the risk to service, operations and regulatory compliance. Given the contractual obligations upon expiry of these PFI contracts, the scope for each programme, while limited, appeared well defined and appropriate to meet the investment need of maintaining service standards. However, there were multiple concerns around how the cost estimates were derived:

- Scottish Water's asset models assumed that assets will be returned to Scottish Water with little or no asset life remaining. This high-level assumption could lead to over-

forecasting and estimation of the capital maintenance needs at the outset, leading to increased cost for each PFI;

- Risk allocations make up 45% of the proposed programme costs, determined using engineering judgment and historical information on similar projects, but the assumptions lacked any robust descriptions. No risk model had been produced to show reasonable scenarios for asset condition at contract expiry and projected costs. The PFI External Assurance Report V1.3 produced by Scottish Water's cost consultants, Gleeds, also highlighted that risk and capital allocations was high-level and recommended increased transparency of the risk calculations;
- There were no efficiencies built into transition costs – a blanket £1 million per PFI site expiring had been allocated to the transition, based on historic run rates from already expired PFI contracts; however, it could be reasonable to assume there would be efficiencies to make as Scottish Water becomes more familiar with the transition requirements; and
- Cost data from previous PFI returns (Allanfearn, Nigg, Persley and Peterhead PFI in 2022) suggested cost reductions should be applied to this PFI programme.

2.4.133. For these reasons, WSP recommended a cost challenge between 10% and 15%. Based on this review, we had questions about whether some maintenance costs are duplicated or proportionate. However, we did not apply a further cost challenge to maintenance investment in the Draft Determination. We considered that these findings provide further support for our proposed cost challenge to the operating expenditure from returning PFI sites in Chapter 6 of the Draft Determination.

2.4.134. In its Draft Determination response, Scottish Water explained that it reviewed its proposed investment for this programme following our Draft Determination and identified scope to reduce the allowance. An improved understanding of asset condition, operational requirements and the interaction with the West Central Bioresources project led Scottish Water to conclude that the previously included replacement of the wet cake hopper at Daldowie was no longer required during the 2027-33 period. Scottish Water also identified duplication in the allowance associated with the Ayrshire PFI termination payment. It therefore proposed a combined £22 million reduction to the investment requirement for returning PFI assets.[190]

2.4.135. We accept Scottish Water's proposed reduction and decide in our Final Determination to allow £179 million of funding for this area - £113 million for the returning assets from PFI contracts AVSE, Ayrshire, Dalmuir, Moray and Tay (the programme lines included in WSP's review described in paragraph 2.4.132), £17 million for maintenance at Daldowie (part of WSP's review of the West Central bioresources project as a whole), and £48 million for the

[190] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination Response – Annex 4b – Cost Challenge', 1 September 2026, p.48.

project at Allanfearn WWTW. These values are based on Scottish Water's proposed efficiency of 0.8% per annum.

2.4.136. In our Draft Determination, the review of the programme to maintain treatment ancillaries (£114 million in the 2027-33 period) found that the investment need was clearly defined and justified, and the scope of options was appropriate for the given risk appetite and required outcomes. Costs had been determined using models for the asset classes to determine the volume of interventions over the regulatory period, and costed with Scottish Water's in-house cost models, which we considered appropriate for the breadth and scope of the project. Unit costs were derived from cost models using Gate 90 and Gate 110 (outturn) supplier costs and seemed broadly reasonable for this type of programme.

2.4.137. We did not receive feedback in this area in the Draft Determination consultation. We decide not to apply a cost challenge in this area in the Final Determination.

2.4.138. In our Draft Determination, the review of the programme to maintain secondary treatment (£112 million in the 2027-33 period) found that the investment need was clearly defined and justified and the scope of options was appropriate for the given risk appetite and required outcomes. Costs had been determined using models for the asset classes to determine the volume of interventions over the regulatory period, and costed with Scottish Water in-house cost models, which we considered appropriate for the breadth and scope of the project. Unit costs were derived from informed engineering judgement and cost models using Gate 90 and Gate 110 (outturn) supplier costs. External benchmarking (by ChandlerKBS/Cumming Group, commissioned by Scottish Water) showed material cost variances to the industry median benchmark for two of the associated cost curves (cost variances of over 50%).Scottish Water noted that further data collection is required and would continue to seek additional data points to improve confidence in this area. We considered the costs of the constituent assets in the programme to be reasonable relative to the industry benchmark. However, the programme unit costs were based on 'representative assets', whereas the associated management approach (MA043) lacked detail on variations in size, type, service, and actuation of the assets, which would impact their unit costs. Based on this, WSP recommended a cost challenge between 7% and 10% and, as such, we applied a 10% cost challenge in this area in the Draft Determination.

2.4.139. Table 76 sets out our proposed cost challenge and our Draft Determination allowance.

Table 76: Draft Determination allowance for maintaining secondary treatment[191]

Maintain secondary treatment	Values
Scottish Water forecast expenditure (2024-25 prices)	£112m
Cost challenge (2024-25 prices)	-£11m
Draft allowance (2024-25 prices)	£100m
Draft outputs to be delivered over 2027-33: Number of WWTW secondary treatment asset interventions	329

2.4.140. In its Draft Determination response, Scottish Water considered that our concerns related to only a small proportion of the programme and did not demonstrate wider inefficiency. It clarified that the representative assets referred to in the Management Approach had been used for options appraisal, while forecast expenditure was derived from asset-specific modelling across the full asset population. Scottish Water also noted that the cost models identified (which were not consistent with benchmarks) accounted for only around 5% of modelled costs, while other significant cost models compared more favourably with industry benchmarks. It therefore considered the programme-wide challenge disproportionate to the evidence and requested full reinstatement of the allowance.[192]

2.4.141. We consider that, while Scottish Water provided some further detail challenging the benchmark assumptions for secondary treatment, that was insufficient to significantly revise our position, which is supported by WSP's assessment. WSP recommended a 7% cost challenge on the pre-efficiency costs is appropriate, which is on the lower end of the 7%-10% range recommended for the Draft Determination.

2.4.142. As explained in paragraphs 2.3.141 to 2.3.142, in response to Scottish Water's feedback we have revised how we apply our cost challenges in the Final Determination in order to avoid applying an element of the efficiency challenge twice.

2.4.143. Based on this review, we decide to apply a 7% cost challenge on Scottish Water's pre-efficiency investment for maintaining secondary treatment processes in the Final Determination. This results in a post-efficiency allowance of £107 million (based on 2.8% average productivity challenge) in the Final Deermination. This is £6.8 million more than the Draft Determination due to removing the portion of efficiency that Scottish Water applied to itself (see paragraph 2.3.142). The number of outputs in the table below (taken from Scottish Water's Draft Determination response Annex 4c) will be further refined in Scottish Water's delivery plan 2027-28 which will use a more detailed methodology for estimating them.

[191] Numbers do not add up due to rounding.
[192] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination Response – Annex 4b – Cost Challenge', 1 September 2026, pp.31-34.

Table 77: Final Determination allowance for maintaining secondary treatment

Maintain secondary treatment	Values
Scottish Water forecast expenditure (2024-25 prices) - pre-efficiency	£119m
Cost challenge on pre-efficiency investment (2024-25 prices)	-£8m
Final allowance (2024-25 prices) - pre-efficiency	£110m
Final allowance (2024-25 prices) - with 2.8% efficiency applied	£107m
Outputs to be delivered over 2027-33: Number of WWTW secondary treatment inspections (MEICA and Civils)	163
Outputs to be delivered over 2027-33: Number of WWTW secondary treatment repairs and refurbishments (MEICA and Civils)	6,945
Outputs to be delivered over 2027-33: Number of WWTW secondary treatment replacements (MEICA and Civils)	1,689

2.4.144. We cover inlet works (£82 million in the 2027-33 period) and pass-forward flow (PFF) compliance together, given that the programmes are interrelated.

2.4.145. In our Draft Determination, the review of the programme to maintain inlet works (£82 million in the 2027-33 period) found that the scope of options was appropriate for the given risk appetite and required outcomes. Costs had been determined using models for the asset classes to determine the volume of interventions over the regulatory period, and costed with Scottish Water's in-house cost models, which we considered appropriate for the breadth and scope of the project. Unit costs were derived from informed engineering judgement and cost models using Gate 90 and Gate 110 (outturn) supplier costs. However, while WSP noted that costs appeared to be reasonable for this type of programme, it could not make an appropriate observation of the unit costs as there was no detail on the average size / type of the assets included in the derivation of the average unit cost, or the assets covered by the programme. As per WSP's recommendation, we asked Scottish Water to provide a further detailed explanation for how the unit costs for this programme have been derived in its response to the Draft Determination consultation, including how average asset and equipment costs were calculated, the data sources used, and the key factors influencing these estimates.

2.4.146. In its Draft Determination response, Scottish Water provided additional cost assessment for this programme, including maintenance unit costs and average costs by asset type.[193] Scottish Water provided an extract from its Management Approach 17 to evidence how the unit costs for the maintaining inlet works programme, also related to PFF, had been derived.

2.4.147. We reviewed the proposed intervention numbers and associated costs using the median intervention cost. On this basis, the resulting overall cost appears reasonable, given the

[193] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination Response – Annex 4b – Cost Challenge', 1 September 2026, pp.12-14.

programme's maturity at this stage and the detail provided in the Draft Determination response and in Technical Appendix 8 of the final business plan.

2.4.148. In our Draft Determination, the review of the programme for PFF compliance (£65 million in the 2027-33 period) found that the proposed scope was proportionate and appropriate given the current level of maturity and uncertainty. We noted that the primary driver for the programme was regulatory, with SEPA clearly signalling that a lack of evidence on PFF compliance will not be acceptable under the Environmental Performance Assessment Scheme, regardless of whether actual non-compliance exists. The initial focus on enhanced monitoring and data integration is appropriate as a first step to establish compliance status, recognising that monitoring alone does not resolve non-compliance but enables informed decisions on operational, licensing or capital interventions. As there was no management approach to detail the specific scope of work, WSP could not assure that the scope will meet the requirements set out by SEPA. WSP recommended that WICS seek confirmation from SEPA that the proposed solution will meet the required need. We required Scottish Water to confirm this with SEPA and provide an update in Scottish Water's response to our Draft Determination consultation.

2.4.149. Our Draft Determination noted that cost estimates for PFF compliance were high-level and reliant on professional judgement, with reasonable unit cost assumptions for monitoring installation, but limited supporting evidence for wider programme allowances at this stage, creating uncertainty over affordability and future funding requirements. Due to the low level of programme maturity, WSP did not recommend a cost challenge but recommended that WICS continue to assess this programme as it develops through the 2027-33 period. Based on this, we did not propose a cost challenge for this area in the Draft Determination, but we would monitor its development and delivery.

2.4.150. Scottish Water provided further information on its engagement with SEPA regarding PFF compliance and the proposed investment approach. Scottish Water explained that SEPA had supported the proposed investment in enhanced PFF monitoring and had agreed that identified PFF non-compliance should initially be treated as a pending unsatisfactory intermittent discharge (UID) while the potential for permit adjustments was assessed, becoming a confirmed UID where investment was required. Scottish Water acknowledged SEPA's concern that the programme did not include a specific allowance for investment to address PFF non-compliance identified during the 2027-33 period, potentially delaying improvements until SRC33. It explained that any confirmed PFF-related UIDs would be prioritised alongside other UIDs and, if significant additional needs emerged, these could be considered through the regulatory change process. Scottish Water also confirmed that a joint SEPA/Scottish Water working group had been established and was expected to

support the deployment of PFF monitoring and assessment of performance during the 2027-33 period.[194]

2.4.151. We are satisfied that Scottish Water's response addressed our request and provided sufficient assurance on its ongoing engagement with SEPA and the proposed approach to identifying, assessing and addressing PFF compliance risks during the 2027-33 period.

2.4.152. Based on this review, we decide in the Final Determination to allow the proposed funding of £82 million for programme to maintain inlet works and of £65 million for programme for pass forward flow compliance in full.

Conclusion of review of investment related to water environment

2.4.153. Table 78 below summarises WICS' Final Determination allowances for each investment programme within the water environment and managing quantity of flows areas following our review and the consultation as explained in this section. As explained in Chapter 5 of the Final Determination, we also apply a further efficiency productivity challenge to this allowance allow some additional investment for addressing additional UIDs and further reducing sewer flooding. These adjustments are not captured in the table below.

2.4.154. Table 79, Table 80 and Table 81 below outline the relevant enhancement and asset maintenance outputs for the water environment and managing quantity of flows areas which we expect to be delivered for the allowed investment in this appendix. The asset maintenance outputs are taken from Scottish Water's Draft Determination response Annex 4c and will be further refined in Scottish Water's delivery plan 2027-28 which will use a more detailed methodology for estimating them.

[194] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination Response – Annex 4a – Capital Investment Evidence', 1 September 2026, pp.13-15.

Table 78: Final Determination allowances for water environment and managing flows investment (excluding West Central Bioresources)[195]

Technical Appendix Area	Investment Programme	Investment in final business plan (2024-25 prices; £m)	WICS proposed allowance in Draft Determination (2024-25 prices; £m)	WICS allowance in Final Determination (2024-25 prices; £m)	Explanation for allowance
TA003 - Water Environment	Waste Water Treatment	983	966	957	Cost challenge on the programme for maintaining secondary treatment processes (-£4 million) and on asset maintenance for returning PFI assets (-£22 million).
TA003 - Water Environment	Waste Water Bioresource Treatment	157	138	138	Removal of the project Allanfearn STC for replacing digestors (-£19.5 million).
TA003 - Water Environment	Water Treatment Works Sludge Storage	17	17	17	
TA003 - Water Environment	Waste Water Sewer Networks	413	413	413	
TA003 - Water Environment	Waste Water Other – Region Wide	291	291	291	
TA003 - Water Environment	Water Abstraction - Water Resources Environmental Monitoring and Compliance	6	6	6	

[195] WICS' allowances in this table are before applying an additional productivity efficiency challenge and before allowing additional enhancement investment. Please refer to Chapter 5 of the Draft Determination for more details on these further adjustments.

Technical Appendix Area	Investment Programme	Investment in final business plan (2024-25 prices; £m)	WICS proposed allowance in Draft Determination (2024-25 prices; £m)	WICS allowance in Final Determination (2024-25 prices; £m)	Explanation for allowance
TA003 - Water Environment	Water Reservoir Compensation Compliance and RBMP Enhancement	40	40	40	
TA003 - Water Environment	Other PFI Transfers	7	7	7	
TA004 - Managing Quantity of Flows	Asset Repair, Refurbishment and Replacement (AR3)	603	603	603	
TA004 - Managing Quantity of Flows	Enhancement	367	367	367	
	Total	**2,885**	**2,848**	**2,839**	

Table 79: Enhancement outputs to be delivered with Final Determination allowance for wastewater

Table 2 ref.	Output category	Unit	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	Total
T2.11	Number of Event Duration Monitors (EDM) deployed	Number	184	192	208	224	238	254	**1,300**
T2.12	Number of unsatisfactory intermittent discharges (UID) improved or removed	Number	39	24	7	20	26	34	**150**
T2.13	Number of sites with Water Framework Directive improvements	Number	-	-	-	-	-	18	**18**

Table 2 ref.	Output category	Unit	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	Total
T2.15	Increase in renewable energy generated	GWh / Annum	-	-	-	4	-	-	**4**
T2.16	Population equivalent of WWTW sites with environmental pollution risk reduced	Population equivalent	-	757,000	-	-	-	-	**757,000**
T2.18	Number of sludge treatment centres achieving compliance with Industrial Emissions Directive	Number	-	-	-	1	1	6	**8**
T2.23	Number of properties removed from internal flooding at risk register	Number	34	15	66	60	59	66	**300**
T2.24	Number of properties removed from external flooding at risk register	Number	40	6	41	63	186	288	**624**
T2.29	Population equivalent of WTW sites with legacy sludge issues resolved	Population equivalent	18,109	67,787	-	-	-	-	**85,896**
T2.32	Number of wastewater treatment improvement studies	Number	1	3	6	15	18	7	**50**
T2.33	Number of climate change audits and studies	Number	-	-	1	-	-	-	**1**
T2.47	Number of flow monitors installed at WWTW	Number	-	-	52	52	315	443	**862**
T2.49	Population equivalent of WWTW sites made compliant with standards - phosphorus	Population equivalent	271,093	-	-	14,153	22,441	112,969	**420,656**
T2.51	Population equivalent of WWTW sites made compliant with standards - other	Population equivalent	17	1	-	-	320	3,000	**3,338**
T2.52	Number of screens installed[196]	Number	39	24	7	20	26	34	**150**
T2.58	Number of flood risk management (Section 16) models	Number	-	-	-	-	-	68	**68**
T2.58	Number of education campaigns targeted at customers in sewer choke hot spot areas	Number	-	-	-	-	-	1	**1**

[196] These outputs align to T2.12 as it is assumed those UIDs will be addressed using screening. The number of screens is an estimate of what may be required to resolve the number of UIDs for which this is the appropriate solution. WICS expects both line T2.12 and line T2.52 to be delivered with the same investment allowance.

Table 2 ref.	Output category	Unit	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	Total
T2.58	Number of surface water management planning schemes	Number	-	-	-	-	-	4	**4**
T2.58	Number of properties with temporary internal flood prevention measures	Number	85	89	96	103	110	117	**600**
T2.58	Number of Private Finance Initiative (PFI) sites returned to Scottish Water	Number	-	-	-	1	-	-	**1**
T2.58	Number of catchments with intelligent network technology	Number	1	-	-	-	-	-	**1**

Table 80: Asset maintenance outputs to be delivered for water environment[197]

MA ID	Management Approach Name	Primary output (consolidated)	Inspection outputs	Repair & Refurbishment outputs	Replacement Outputs
MA011	Wastewater Motor Control Centres	Number of wastewater Motor Control Centre interventions (network and treatment)	479	1,233	28
MA013	Wastewater Control Systems (SCADA)	Number of SCADA, HMI, PLC asset interventions (wastewater)	58	149	145
MA017	Wastewater Treatment Works - Inlet Works	Number of WWTW inlet works asset interventions (MEICA and civils)	-	5,373	475
MA021	Management of Wastewater Temporary Process Units	Number of WWTW sites with temporary process unit interventions	-	286	486
MA024	Wastewater Bioresource Treatment and Dewatering Centres	Number of WWTW sludge treatment centre interventions (MEICA and Civils)	185	1,542	631
MA035	Wastewater Outfalls	Length of wastewater outfalls interventions (meters)	36	15	141
MA036	Wastewater Screw Pumps	Number of wastewater screw pumps intervention (network and treatment)	58	82	12

[197] The asset maintenance outputs are taken from Scottish Water's Draft Determination response Annex 4c and will be further refined in Scottish Water's Delivery Plan 2027-28 which will use a more detailed methodology for estimating them.

MA039	Combined Sewer Overflows (CSOs)	Number of Combined Storm Overflow (CSO) screen interventions (MEICA and Civils)	61	347	12
MA042	Wastewater Treatment Works - Primary Treatment	Number of WWTW primary treatment interventions (MEICA and Civils)	-	1,909	147
MA043	Wastewater Treatment Works - Secondary & Tertiary Treatment	Number of WWTW secondary treatment interventions (MEICA and Civils)	163	6,945	1,689
MA044	Telemetry (Water & Wastewater)	Number of telemetry interventions (wastewater)	326	570	319
MA049	Wastewater Odour Control Equipment	Number of WWTW odour asset interventions	28	268	39
MA057	Wastewater Treatment Works - Ancillaries	Number of WWTW treatment ancillaries interventions	929	6,097	2,843
MA063	Water Resources Environmental Monitoring & Compliance	Number of abstraction and compensation monitoring equipment interventions	-	347	193
MA068	Statutory & Planned Maintenance (water and wastewater)	Number of statutory or legislative compliance interventions (wastewater)	-	124,804	-
MA091	High Voltage Assets (Water and Wastewater)	Number of high voltage system interventions (wastewater)	398	273	32
MA108	PFI (Private Finance Initiative)	Number of interventions MEICA	To be provided at delivery plan 2027-28		
MA108	PFI (Private Finance Initiative)	Number of interventions CIVILs	To be provided at delivery plan 2027-28		
MA120	Site Buildings & Asset Access (Water & Wastewater)	Number of operational building or access interventions (wastewater)	2,429	2,901	23

Table 81: Asset maintenance outputs to be delivered for wastewater flows[198]

MA ID	Management Approach Name	Primary output (consolidated)	Inspection outputs	Repair & Refurbishment outputs	Replacement Outputs
MA003	Wastewater Pipe bridges and Overland Sewers	Number of wastewater pipe bridge interventions	684	296	55
MA012	Wastewater Pumping Mains	Number of wastewater pumping main interventions	-	167	-

[198] The asset maintenance outputs are taken from Scottish Water's Draft Determination response Annex 4c and will be further refined in Scottish Water's Delivery Plan 2027-28 which will use a more detailed methodology for estimating them.

MA ID	Management Approach Name	Primary output (consolidated)	Inspection outputs	Repair & Refurbishment outputs	Replacement Outputs
MA012	Wastewater Pumping Mains	Length of wastewater pumping main interventions (Km)	-	-	77.5
MA012	Wastewater Pumping Mains	Number of air valves interventions on wastewater pumping mains	-	-	365
MA018	Ironworks (water and wastewater)	Number of street furniture interventions (wastewater)	-	34,176	
MA023	Wastewater Pumping Stations	Number of wastewater pumping station interventions (MEICA and Civils)	687	28,363	1,493
MA023	Wastewater Pumping Stations	Number of Legacy wastewater pumping stations improved to meet appropriate standard	-	216	167
MA054	Network Modelling - (water and wastewater)	Number of network models maintained (wastewater)	-	454	-
MA062	Sewer Structures	Number of sewer network structure interventions	1,079	9,498	847
MA113	Gravity Sewers	Length of gravity sewers Interventions (Km)	251	5.9	-
MA113	Gravity Sewers	Number of gravity sewers interventions (chokes and collapses)	-	408,816	-

2.5. Review of investment related to growth

2.5.1. There are different arrangements in place for growth investment depending on the type of asset. These arrangements vary in terms of who delivers the investment and how the investment costs are recovered. Table 82 provides an overview of the arrangements for each of the infrastructure asset groups, referred to as Parts 1 to 4, for household growth. The arrangements for non-households differ, with non-household developers meeting the cost of upgrading Part 3 and Part 4 infrastructure assets to meet new growth.[199]

Table 82: Infrastructure asset group

Part	Water	Wastewater	Arrangements
1	New connections from an individual household to a water main	New connections from an individual household to a sewer	Developers undertake the work and meet these costs
2	New water mains that connect developments to existing water mains	New sewers that connect developments to existing sewers and some sustainable urban drainage systems (SUDS)	Developers undertake the work and meet the costs Scottish Water will provide a reasonable cost contribution, subject to a cap
3	Existing local bulk infrastructure such as water mains and service reservoirs	Existing local bulk infrastructure such as sewers, wastewater pumping systems and some SUDS	<u>Not attributable to a developer and identified in a strategic network impact assessment:</u> Scottish Water undertakes the work Scottish Water collects an infrastructure charge from developers
			<u>Attributable to a developer and not identified in a strategic network impact assessment:</u> Scottish Water will include the costs of enhancing its existing network assets in its calculation of reasonable cost contribution, subject to a cap
4	Strategic assets such as water treatment works and water resources	Strategic assets such as wastewater treatment works, biosolid facilities and outfalls	Scottish Water undertakes the work with covers recovered from general charges

[199] For more details see Scottish Water (2023), 'Connecting to our local network infrastructure', June 2023, p.14.

2.5.2. This sub-section focuses on Part 3 and Part 4 growth for water and wastewater. It outlines the investment which Scottish Water proposes to deliver by programme area, and details how WICS reviewed these proposals by each of the review approaches below:

- Review of investment cases;
- Benchmarking review; and
- External engineering review.

Summary of Scottish Water's proposals in the final business plan

2.5.3. Table 83 below outlines the investment Scottish Water proposed to deliver in its final business plan in relation to growth in connections.

Table 83: Business plan investment for growth

Technical Appendix Area	Investment Programme	Investment in final business plan (2024-25 prices; £m)
TA005 - Enabling Growth	Waste water Growth	319
TA005 - Enabling Growth	Water Growth	71
TA005 - Enabling Growth	Infrastructure Investment	123
TA005 - Enabling Growth	Service Relocations	38
	Total	**551**

Review of investment cases

2.5.4. For the Draft Determination, we conducted an engineering review of 13 projects, valued at greater than £6 million, covered by the enabling growth technical appendix. These 13 projects have a combined value of £236 million. The results of our review, assessed against the criteria set out in paragraphs 2.2.21 to 2.2.27, are shown in Table 84.

2.5.5. Of the 13 projects, 8 were assessed with a Green RAG score, indicating these investments were allowed. 2 were assessed with an Amber RAG score, indicating WICS had reservations regarding one or more assessment criteria, and 3 were given a Red RAG score, indicating investment may not be allowed.

Table 84: Draft Determination assessment summary of growth-related project investment cases

Investment Code	Investment Name	Value over 2027-23 (2024-25; £m)	Service	Primary Technical Appendix	RAG Score: Needs & Options	RAG Score: Regulatory Engagement	RAG Score: Cost Estimate	RAG Score: Benefits & Risk	RAG Score: Overall Assessment
5363112919	New Bandeath WwTW - Growth	50	Wastewater	Enabling Growth	GREEN	GREEN	GREEN	GREEN	GREEN
5363118737	S-WW-140325-Stirling WWTW Growth and CM	36	Wastewater	Enabling Growth	GREEN	GREEN	GREEN	GREEN	GREEN
5363112948	Erskine WwTW - Growth	19	Wastewater	Enabling Growth	GREEN	GREEN	GREEN	GREEN	GREEN
5363110167	AVSE - Growth (capex) Seafield	18	Wastewater	Enabling Growth	GREEN	GREEN	RED	GREEN	RED
5363110880	SR21 Tiree Resilience	21	Water	Enabling Growth	GREEN	GREEN	GREEN	GREEN	GREEN
5363110881	SR21 Taymouth Growth	16	Water	Enabling Growth	GREEN	GREEN	GREEN	GREEN	GREEN
5363112574	Persley Growth from Aberdeen Strategy	19	Wastewater	Enabling Growth	AMBER	GREEN	RED	AMBER	RED
5363112576	Nigg Growth small option	19	Wastewater	Enabling Growth	AMBER	GREEN	RED	AMBER	RED
5363112906	Rosewell WwTW Growth	9	Wastewater	Enabling Growth	GREEN	GREEN	AMBER	GREEN	AMBER
5363112907	Roslin WwTW Growth	7	Wastewater	Enabling Growth	GREEN	GREEN	AMBER	GREEN	AMBER
5363112911	Meigle WwTW - Growth	7	Wastewater	Enabling Growth	GREEN	GREEN	GREEN	GREEN	GREEN
5363112912	Oldmeldrum WwTW - Growth	8	Wastewater	Enabling Growth	GREEN	GREEN	GREEN	GREEN	GREEN
5363112935	Ballater WwTW - Growth	6	Wastewater	Enabling Growth	GREEN	GREEN	GREEN	GREEN	GREEN
	Total	**236**							

East Stirling Villages

2.5.6. This scheme included two projects: New Bandeath WwTW - Growth and Stirling WwTW Growth and Capital Maintenance, with a combined investment value of £86 million in the 2027-33 period. The overall RAG assessment for these two projects was Green in the Draft Determination. This RAG score was revised from Amber after WICS queried the project costs and timing. The 2027-33 final business plan budget (£86 million) was lower than the cost estimation of £117 million, given in the most recent Project Investment Appraisal.[200] We queried this difference and Scottish Water's response explained that "At present there is capacity available at both Stirling WWTW and the existing Bandeath WWTW and as such the two projects are in the early stages of development. It is expected that the construction phase of the project will most likely start in SR27 and extend into the SR33 period rather than be fully completed in SR27. Therefore, the investment in the FBP has been reduced in comparison to the Stage 3a assessment to reflect this."

2.5.7. In the Draft Determination, WICS accepted this response in respect to why the final business plan budget was lower than the appraised capital cost, and we noted that for both projects, the total capital cost and their timing will span the 2027-33 and 2033 regulatory periods. We also noted that the forecast dates for these two projects given in the final business plan showed completion within the 2027-33 period and, therefore, did not align with the query response outlined in paragraph 2.5.6.

Projects assessed with a Red RAG score in the Draft Determination

2.5.8. **AVSE – Growth (capex) Seafield**: this major strategic project involved investment in Seafield wastewater treatment works (WwTW) to increase treatment capacity to accommodate forecast growth in the Edinburgh catchment area. WwTW capacity is expected to be reached in 2031.

2.5.9. The Edinburgh Growth Strategy Final Report 2020, presented as evidence to support this investment, recommended:[201]

- Development of Option 3 – A new WwTW at Seafield with an indicative capex cost of £120 million to £140 million (2020 prices); and
- A programme of pilot trials/outline design/public consultation/planning and detailed design over a 9-year period starting in 2020, such that construction will be completed when:
  - The expected growth in population would potentially compromise compliance (2031); and

[200] Scottish Water (2025), 'Stage 3a: Outline Investment Appraisal Level 1 East Stirling Villages Growth 502762000', January 2025, Section 2.2, Table 1, p. 8.
[201] m2 (2020), 'Edinburgh Growth Strategy – Final Report – Part 1 (version 2)', 27 August 2020, pp. 19-20.

- The PFI contract ends in 2029.

2.5.10. In our Draft Determination, we noted that whilst the Seafield WwTW project is still at an early stage, we were concerned that a budget of under £18 million, with no defined tasks or objectives, would not progress the strategic aims of this project and customers would not see any benefit from the expenditure.

2.5.11. **Nigg Growth small option** and **Persley Growth from Aberdeen Strategy:** taken together, these two projects set out the strategy to address the medium to long-term needs required to address asset maintenance issues together with forecast future growth through increased wastewater treatment capacity in the Aberdeen catchment area.

2.5.12. In our Draft Determination, we recognised that these projects were at an early stage with solutions not yet identified. Capital investment can be expected to extend beyond the 2027-33 regulatory period, given the scale of the likely solutions (which could range from additional primary and secondary treatment processes to new treatment works). We also noted the initial cost estimates of £50 million for the Nigg WwTW and £30 million for Persley WwTW, given in the relevant Project Investment Appraisals, compared with the final business plan budget of £19 million allocated to each project (£38 million in total).[202, 203] We had concerns that, without any defined tasks or objectives for the 2027-33 period, the allocated budget would not advance the strategic aims of these projects, and customers may only see limited benefit from the expenditure.

Other projects assessed as Amber RAG score in the Draft Determination

2.5.13. **Rosewell WwTW Growth** and **Roslin WwTW Growth**: these two projects were part of the Midlothian Strategy for wastewater and were therefore assessed together, as the proposed solution to accommodate growth at the respective treatment works would be a shared option. That is, the decommissioning of Rosewell WwTW and the transfer of flow to a much upgraded and enlarged Roslin WwTW. The two projects together had a combined final business plan budget of £16 million. The cost estimate in the latest Project Investment Appraisal was £21 million.[204]

2.5.14. WICS asked Scottish Water for the reasons behind this cost reduction. In a response to our query, [205] Scottish Water advised that the Project Investment Appraisal cost could be compared to the inflated outturn cost of £18 million given in the final business plan.[206]

[202] Scottish Water (2025), 'Stage 1: Case for Change Level 1 Nigg Wastewater Treatment Works – Growth DRAFT, version 1.0', 10 November 2025, Section 4.5, p. 19.
[203] Scottish Water (2026), 'Stage 1: Case for Change Level 1 Persley WwTW – Growth DRAFT version 1.0', 11 February 2026, Section 4.5, p. 18.
[204] Scottish Water (2024), 'Stage 3a: Outline Investment Appraisal Level 2 Midlothian Strategy Rosewell and Roslin WwTW version 1.0', 20 March 2024, Table 3, p. 11.
[205] WICS query reference 07-15 issued 10/04/2026 and reply from Scottish Water dated 28/04/2026
[206] Final Business Plan Submission, Data Tables, Table X, column labelled Total Expenditure (OT).

However, WICS did not consider this a like-for-like comparison since the project appraisal cost estimate is not inflated over the 2027-33 period.

2.5.15. The scope of the proposed solution includes a major rebuild of Roslin WwTW on a congested site location, plus 4km of transfer pipeline through difficult terrain. Given the construction risks noted in the project appraisal, we expressed concerns about cost escalation for that project.

Our assessment in the Draft Determination

2.5.16. Our draft allowance included Scottish Water's forecast costs for progressing the strategic projects to increase wastewater treatment capacity in the **Edinburgh and Aberdeen catchment areas** (Seafield, Nigg and Persley). However, we required Scottish Water to confirm what it will deliver in relation to this expenditure over the 2027-33 regulatory period in its response to our Draft Determination. This will enable us to monitor expenditure and progress on these important strategic projects to ensure customers can see progress towards the longer-term benefits that will eventually be delivered.

2.5.17. The final business plan budget for the Seafield, Nigg and Persley wastewater treatment projects totals £55 million. In response to our query,[207] Scottish Water advised that this budget is "to undertake study and development work to gate 50". If this is the case, we considered the budget too high and outside industry norms for project preparation and outline design.

Draft Determination consultation responses and new information

2.5.18. Scottish Water provided further evidence regarding the 3 projects where we expressed reservations regarding the investment:

- AVSE – Seafield Growth: Scottish Water provided further detail on the activities to be funded by the proposed £18 million investment in the 2027-33 period in the final business plan. These activities are intended to identify a preferred solution for delivery in SRC33 and will include outline design, optioneering and delivery strategy development through Project appraisal, taking into consideration asset condition, compliance, odour and climate resilience requirements. This will be underpinned by work on the Edinburgh Growth Strategy.[208]
- Nigg and Persley: Scottish Water has reviewed the scope for the Aberdeen Growth strategy and proposed revised funding of £28 million (from £38 million in the final business plan) for the development and delivery of aspects of the broader strategy. It

[207] WICS query reference 06-07 issued 02/04/2026 and reply from Scottish Water dated 07/05/2026
[208] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination Response – Annex 4a – Capital Investment Evidence', 1 September 2026, pp.9-10.

provided a breakdown of the proposed sum outlining activities including system studies and modelling (£2 million), option development to Gate 70 (£15 million) and interim upgrades (£11 million).[209]

WICS decision

2.5.19. We accept Scottish Water's additional evidence for AVSE, Nigg and Persley.

- For AVSE, we have reviewed the evidence and consider it addresses our concerns around insufficient information and justification. We decide that the funding for the project is allowed in full in the Final Determination.
- For Nigg and Persley, we welcome the revised cost, which we consider is justified based on the additional information provided. We decide to allow £28 million of funding for these projects in the Final Determination.

Benchmarking

2.5.20. Table 85 sets out the investment areas subject to benchmarking for growth and our assessment in the Draft Determination.

Table 85: Draft Determination assessment summary of growth-related areas suitable for benchmarking

Area	Programme	Sub-area ("Investment Area")	Sub-area investment (2024-25 prices; £m)	WICS Assessment
Enabling Growth	Waste water Growth	Provision of Part 4 capacity to meet strategic & local growth requirements	319	No cost challenge proposed
Enabling Growth	Water Growth	Provision of Part 4 capacity to meet strategic & local growth requirements	69	No cost challenge proposed
Enabling Growth	Infrastructure Investment	(Part 3) Provision of strategic capacity in our networks to meet new demand - Wastewater	69	Scottish Water provided updated cost estimates. No cost challenge proposed.
Enabling Growth	Infrastructure Investment	(Part 3) Enable economic growth - Water	55	Scottish Water provided

[209] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination Response – Annex 4a – Capital Investment Evidence', 1 September 2026, pp.10-12.

Area	Programme	Sub-area ("Investment Area")	Sub-area investment (2024-25 prices; £m)	WICS Assessment
				updated cost estimates. No cost challenge proposed.
Enabling Growth	Service Relocations	Comply with legislative requirements - (Water & Wastewater)	38	Cost challenge proposed
		Total	**551**	

Part 4 growth - wastewater

2.5.21. As set out in Table 82, part 4 wastewater growth relates to the costs for upgrading wastewater treatment works and outfalls to accommodate population growth. Scottish Water's investment in this area primarily focuses on increasing capacity at wastewater treatment works. Ofwat developed econometric models for growth at wastewater treatment works. One of these models was a linear model that identified that the following factors explain the level of growth investment at a project level at wastewater treatment works:[210]

- added process capacity;
- higher treatment requirements for ammonia (based on change in ammonia permits); and
- expected changes in requirements for dry weather flow permits.[211]

2.5.22. The models included 255 company observations and had an adjusted R-squared of 0.436.

2.5.23. In our Draft Determination, we were unable to replicate Ofwat's model to include Scottish Water due to the lack of equivalent data for Scottish Water. As such, we tested different models using data available for both Scottish Water and the wastewater companies in England and Wales. The most statistically robust model that made sense from an operational/engineering perspective was a linear project-level model with one explanatory variable: total population equivalent added. We considered the total population added to be a key determinant of wastewater growth costs.

2.5.24. To improve statistical robustness, we also removed projects equivalent to adding a large wastewater treatment works (serving a population equivalent to more than 25,000). We

[210] Ofwat (2024), 'PR24 final determinations: expenditure allowances – enhancement cost modelling appendix', 12 December 2024, pp.102-103.
[211] Dry weather flow relates to the average daily flow to a wastewater treatment works to a wastewater treatment works during a period without rain.

examined these projects for Scottish Water as part of our engineering review. Table 86 shows the model's outputs.

Table 86: Growth at wastewater treatment works

Growth at wastewater treatment works	Values
Total capacity added	0.0014***[212]
Constant	3.11***
Adjusted R-squared	0.38
Observations	291

2.5.25. We noted that the model's coefficients have signs, magnitudes, and statistical significance similar to those of Ofwat's econometric model. Furthermore, the model's overall statistical robustness, as measured by R-squared, was also similar.

2.5.26. Table 87 shows Scottish Water's forecast wastewater growth investment, the investment we included in the model, the efficient cost based on the median efficient company in Great Britain and the efficiency score for Scottish Water.

Table 87: Scottish Water's assessed efficiency score

Growth at wastewater treatment works	Value
Scottish Water forecast expenditure (2024-25 prices)	£319m
Scottish Water modelled expenditure (2024-25 prices)	£207m
Expenditure associated with a median efficient company (2024-25 prices)	£217m
Scottish Water assessed efficiency score relative to median	0.95

2.5.27. Table 86 shows that Scottish Water's forecast wastewater treatment works growth investment is 0.95 of the median efficient company – i.e. 5% lower than the median efficient company. We therefore considered that costs are reasonable in this area.

2.5.28. We did not receive feedback in this area in the Draft Determination consultation.

2.5.29. Table 88 sets out our Final Determination allowance and associated outputs for wastewater treatment works growth (Part 4).

[212] ***denotes significance at the 0.1% level, which means that we can have 99.9% confidence that total capacity added explains the level of investment in this area.

Table 88: Final Determination allowance for wastewater treatment works growth

Part 4 growth - wastewater	Value
Scottish Water forecast expenditure (2024-25 prices)	£319m
Cost challenge (2024-25 prices)	£0
Final allowance (2024-25 prices)	£319m
Outputs to be delivered over 2027-33: Additional population equivalent served at wastewater treatment works	174,642

Part 4 growth - water

2.5.30. Three projects made up this investment area, two of which were island-based. Given the bespoke nature of these projects, external benchmarking was not possible. However, we covered the largest of these projects, the Tiree resilience project, as part of the review of investment cases shown in Table 84.

Part 3 strategic capacity – water and wastewater

2.5.31. As set out in Table 82, part 3 strategic capacity refers to upgrades to local bulk infrastructure such as water mains, service reservoirs, sewers, wastewater pumping systems and some sustainable urban drainage systems (SUDS) to meet new growth. Scottish Water recovers the costs through infrastructure charges if the upgrades are not attributable to a particular developer and are identified during a strategic network impact assessment.

2.5.32. Upon receiving the final business plan, we initially benchmarked Scottish Water's Part 3 growth investment for water (£55 million) and for wastewater (£69 million) against the equivalent investment for companies in England and Wales which is known as network reinforcement. [213]

2.5.33. However, through our review of the plan for the Draft Determination, we found out that while Scottish Water was proposing £123 million investment in Part 3 growth, it was forecasting to receive income from infrastructure charges of only £84 million. We asked Scottish Water how it proposes to fund the c.£40 million difference between investment and income. Scottish Water explained it would have to be funded either through primary charges or through a separate mechanism to be agreed with WICS. WICS did not agree that such investment should be funded through primary charges and requested that Scottish Water submit a proposal for a cost-reflective infrastructure charge. Scottish Water's proposal provided a profile of forecast Part 3 growth investment in the 2027-33 period (covering both water and wastewater) of £111 million in outturn prices, or £96 million in 2024-25 prices,

[213] For further information see Ofwat (2024), 'PR24 final determinations, expenditure allowances – base cost modelling decision appendix', 12 December 2024.

along with a revised profile for investment-reflective infrastructure charge income which would be sufficient to fully fund the investment.

2.5.34. We accepted this revised investment profile and used it to determine our draft allowances for water and wastewater, allocating them to each service based on the proportional split from the original final business plan proposal of £123 million.

2.5.35. Scottish Water confirmed its acceptance of our Draft Determination decision.[214] As such, we decide to allow £96 million in the Final Determination. Table 89 shows our Final Determination allowance and the outputs to be delivered for water while Table 90 shows this for wastewater.

Table 89: Final Determination allowance for part 3 strategic capacity – water

Part 3 Strategic Capacity - Water	Values
Scottish Water forecast expenditure in the business plan (2024-25 prices)	£55m
Impact of Scottish Water's updated estimate (2024-25 prices)	-£12m
Final allowance (2024-25 prices)	£43m
Primary outputs to be delivered over 2027-33: Additional Part 3 strategic capacity (Ml/d)	6.4
Secondary outputs to be delivered over 2027-33: Number of properties connected[215]	124,904

Table 90: Final Determination allowance for part 3 strategic capacity – wastewater[216]

Part 3 Strategic Capacity - Wastewater	Values
Scottish Water forecast expenditure in the business plan (2024-25 prices)	£69m
Impact of Scottish Water's updated estimate (2024-25 prices)	-£15m
Final allowance (2024-25 prices)	£53m
Primary outputs to be delivered over 2027-33: Additional Part 3 strategic capacity (population equivalent)	87,601
Secondary outputs to be delivered over 2027-33: Number of properties connected[217]	121,106

Water and wastewater service relocations

2.5.36. In our Draft Determination assessment, we compared Scottish Water's proposed expenditure on service relocations to its expenditure to date in the 2021-27 regulatory period, which covered the years 2021-22 to 2024-25. Using this benchmark, we found that Scottish Water's proposed expenditure in this area was higher compared to its past

[214] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination Response – Annex 4b – Cost Challenge', 1 September 2026, p.67.
[215] Calculated from the increase in connected properties in business plan Table 7.
[216] Numbers do not add up due to rounding.
[217] Calculated from business plan data Table 7.

expenditure. Scottish Water had not provided evidence to explain why the proposed expenditure was higher in the 2027-33 regulatory period.

Table 91: Draft Determination allowance for service relocations

Water and wastewater service relocations	Values
Scottish Water forecast expenditure (2024-25 prices)	£38m
Cost challenge (2024-25 prices)	-£10m
Draft allowance (2024-25 prices)	£28m
Draft outputs to be delivered over 2027-33: Length of water service relocations (metres)	25
Draft outputs to be delivered over 2027-33: Length of wastewater service relocations (km)	0

2.5.37. Recognising that Scottish Water had not provided evidence to explain the step increase proposed for the 2027-33 regulatory period, we proposed aligning its proposed expenditure to the level it has incurred in the 2021-27 regulatory period. This is equivalent to a cost challenge of 26% or £10 million, giving a draft allowance of £28 million.

2.5.38. In response to our Draft Determination, Scottish Water explained that the investment proposed in the final business plan was based on run rates from previous investment periods, with several reductions already applied. It emphasised that the expenditure is largely outside its direct control because the timing, scale and complexity of relocations were driven by external parties and specific project circumstances, making future requirements difficult to predict accurately. It further detailed why investment in this area was at reduced levels in the 2021-27 period compared to previous periods, including delays due to the Covid pandemic and delays in planning by the road authorities. Scottish Water also listed the projects and costs accounting for the majority of the investment requested in the final business plan. Scottish Water therefore requested full reinstatement of the final business plan proposed allowance. [218]

2.5.39. We are satisfied that Scottish Water's response provides sufficient detail and evidence to address our previous concerns. We decide to allow the proposed funding of £38 million for service relocations in full in the Final Determination, as shown in Table 92.

Table 92: Final Determination allowance for service relocations

Water and wastewater service relocations	Values
Scottish Water forecast expenditure (2024-25 prices)	£38m
Cost challenge (2024-25 prices)	£0
Final allowance (2024-25 prices)	£38m

[218] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination Response – Annex 4b – Cost Challenge', 1 September 2026, pp.68-70.

Water and wastewater service relocations	Values
Outputs to be delivered over 2027-33: Length of water service relocations (metres)	25
Outputs to be delivered over 2027-33: Length of wastewater service relocations (km)	0

External engineering review of the business plan

Review following the draft business plan submission

2.5.40. Following the draft business plan submission, WSP reviewed the North Berwick Wastewater Treatment Works project.

2.5.41. The estimated total value of the project in the 2027-33 period was £75 million (2023-24 prices), equivalent to £76 million in 2024-25 prices. The proposed investment solution was considered to be appropriate for the current effluent targets, and to offer flexibility for future changes. However, it was highlighted that there is a possibility the scope of the solution exceeds what is required to meet the outcome – the assumed impact of network infiltration may be too high, and there could be an option for the network to be modified to reduce infiltration rates which would impact the overall design scope.

2.5.42. The cost estimates were relatively immature; however, we noted that the proposed option responds to immediate regulatory requirements and afforded headroom for future growth. We therefore considered that costs were reasonable in this area.

Review following the final business plan submission

2.5.43. The cost estimate for this project was £75 million (2024-25 prices) in the final business plan. Given the cost had not materially moved from the draft business plan, we adhered to our earlier feedback and did not propose a cost challenge on this project in the Draft Determination.

2.5.44. We did not receive feedback on this decision in our Draft Determination consultation. Our final decision the Draft Determination allowance..

Conclusion of review of investment related to growth

2.5.45. Table 93 below summarises WICS' Final Determination allowances for each investment programme within the enabling growth area following our review as explained in this section. As explained in Chapter 5 of the Final Determination, we also apply a further efficiency productivity challenge to this allowance which is not captured in the table below.

2.5.46. Table 94 below outlines the relevant enhancement outputs for the enabling growth area which we expect to be delivered for the allowed investment.

Table 93: Final Determination allowances for growth investment[219]

Technical Appendix Area	Investment Programme	Investment in final business plan (2024-25 prices; £m)	WICS proposed allowance in Draft Determination (2024-25 prices; £m)	WICS allowance in Final Determination (2024-25 prices; £m)	Explanation for allowance
TA005 - Enabling Growth	Waste water Growth	319	319	309	Accepted Scottish Water's updated expenditure forecast for projects at Persley and Nigg (-£10 million).
TA005 - Enabling Growth	Water Growth	71	71	71	
TA005 - Enabling Growth	Infrastructure Investment	123	96	96	Accepted Scottish Water's updated expenditure forecast for water (-£12 million) and for wastewater (-£15 million) for Part 3 growth investment.
TA005 - Enabling Growth	Service Relocations	38	28	38	
	Total	**551**	**514**	**514**	

[219] WICS' allowances in this table are before applying an additional productivity efficiency challenge. Please refer to Chapter 5 of the Final Determination for more details on this further adjustment.

Table 94: Growth outputs to be delivered with Final Determination allowance

Table 2 ref.	Output category	Unit	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	Total
T2.1	Increase in Part 4 capacity at WTW	Ml/d	-	-	-	0	-	3	**3**
T2.2	Increase in Part 4 capacity to meet wastewater growth requirements	Population equivalent	2,778	31,587	5,886	23,802	32,462	78,127	**174,642**
T2.3	Additional Part 3 capacity enabled from strategic water network reinforcement	Ml/d	-	0	-	6	-	-	**6**
T2.4	Additional Part 3 capacity enabled from strategic wastewater network reinforcement	Population equivalent	43,315	22,158	4,001	17,000	-	1,127	**87,601**
T2.30	Length of service relocations - water mains	km	6	3	4	4	4	4	**25**

2.6. Review of investment related to other areas (climate change adaptation and mitigation, support services and other)

2.6.1. This section outlines the investment which Scottish Water proposed to deliver in the following remaining areas:

- Climate change adaptation;
- Climate change mitigation;
- Customer and communities;
- Digital;
- Transformation and innovation; and
- Support services.

2.6.2. This section then details how WICS reviewed these proposals by each of the review approaches below:

- Review of investment cases;
- Review of asset maintenance investment; and
- Benchmarking review.

Summary of Scottish Water's proposals in the final business plan

2.6.3. Table 95 below outlines the investment Scottish Water proposed to deliver in relation to the remaining programme areas in the final business plan.

Table 95: Business plan investment for other areas (climate change, support services, and other)

Technical Appendix Area	Investment Programme	Investment in final business plan (2024-25 prices; £m)
TA006 - Climate Adaptation	Enhancement to Scotland's natural capital	7
TA006 - Climate Adaptation	Increase biodiversity beyond statutory levels	5
TA006 - Climate Adaptation	Understand the implications of climate change and risks to service resilience	2
TA007 - Climate Mitigation	Process Emissions	15
TA007 - Climate Mitigation	Carbon Capture	29
TA007 - Climate Mitigation	Pilot activities	16
TA015 - Customer and Communities	Customer Research	2
TA015 - Customer and Communities	Priority Service Register Improvements	4

Technical Appendix Area	Investment Programme	Investment in final business plan (2024-25 prices; £m)
TA015 - Customer and Communities	Digital Developments for Customer Experience enhancements	5
TA015 - Customer and Communities	Access to assets	6
TA015 - Customer and Communities	Campaigns & marketing	4
TA017 - Digital	Efficient planning & delivery	17
TA017 - Digital	Risk and Security	46
TA017 - Digital	Commodities & Infrastructure	44
TA017 - Digital	Intelligent Decision Making	1
TA018 - Transformation & Innovation	Enable Innovation	23
TA018 - Transformation & Innovation	Lighthouse projects	5
TA018 - Transformation & Innovation	Research and Hydro Nation	4
Support Services	Juniper House	110
Support Services	Maintain existing fleet	115
Support Services	Maintain existing offices and estates	66
Support Services	Maintain existing renewable energy	18
Support Services	Maintain scientific equipment	7
	Total	**549**

Review of investment cases

2.6.4. In our Draft Determination, we undertook an engineering review of only 1 project, valued at greater than £6 million, covered by the support services technical appendix. This project is the proposed replacement of the Juniper House scientific services laboratory in Edinburgh, with a value of £110 million in the final business plan. The results of our review, assessed against the criteria set out in paragraphs 2.2.21 to 2.2.27, are shown in Table 96.

Table 96: Draft Determination assessment summary of other project investment cases

Investment Code	Investment Name	RAG Score: Needs & Options	RAG Score: Regulatory Engagement	RAG Score: Cost Estimate	RAG Score: Benefits & Risk	RAG Score: Overall Assessment
5363112528	SR21 Juniper House Refurbishment	GREEN	GREEN	AMBER	GREEN	GREEN

Observations on the Juniper House project

2.6.5. In the Draft Determination, WICS assessed the proposed investment in the new scientific services laboratory with a Green assessment score and, therefore, allowed the investment. However, we noted some reservations regarding the evidence provided for cost benchmarking. This was the reason for the Amber score for the Cost Estimation assessment.

2.6.6. In undertaking the review WICS issued two formal queries to Scottish Water:[220]

- The project investment appraisals included in the evidence pack for this project were not clear on the size, in terms of gross internal floor area (GIFA), that was required for the new laboratory building. In response, Scottish Water confirmed the required size is 9,536 square metres, an overall increase in 1,430 square metres on the existing building; and
- WICS requested some additional evidence related to benchmarking used to confirm selection of a modular building technique.

2.6.7. In response to our query, a benchmarking report, which is referenced in Appendix F of the Stage 4 investment group paper dated May 2025, was provided.[221] The report, prepared by external consultants Gleeds, compared the cost of traditional construction with modular construction and both methods against other projects of similar complexity.[222]

2.6.8. In comparing traditional build to modular build, the GIFA of the modular build had been reduced to remove areas falling out of "GIFA parameters" but the basis for doing this was not explained. Without this reduction, the benchmark comparison of a modular building may not compare favourably with that of a traditional building.

2.6.9. In general, WICS considered that the benchmarking report lacked clarity regarding the logic used to benchmark the modular build proposal for the Juniper House project against both other projects and against traditional construction. For example:

- The source information and calculation of the square foot cost used in the report for Juniper House was not transparent; and
- The source information and calculation for the comparative building costs used in the benchmarking was not transparent.

2.6.10. In its conclusion, the benchmarking report explained that "certainty around this [benchmarking results] can only be obtained and analysed with a well-defined Scope and Specification". Given the lack of detail and uncertainty evident in the 2025 benchmarking

[220] WICS query references 09-04 and 09-05 issued 24/04/2026 with replies from Scottish Water dated 01/05/2026
[221] Scottish Water (2025) 'Investment Group Paper 5062790000 SR21 Juniper House Gate 70.4 Ext Appendix', May 2025.
[222] Gleeds (2025), 'Juniper House New Build Benchmarking Report Review CE007', February 2025.

report, WICS requested in the Draft Determination that this exercise be revisited when the project specification and scope are developed further.

2.6.11. In its response to our Draft Determination, Scottish Water confirmed that, as the scope and specification are further developed and finalised, the project will be procured through a formal tendered market process. This competitive procurement approach will provide robust cost benchmarking and help establish the accuracy of the project estimate. In addition, Scottish Water committed to obtaining independent external validation of the selected delivery partner's cost estimate as part of the project review process. These activities are expected to be completed by summer 2027, addressing our requirement for more comprehensive and transparent cost benchmarking evidence as the project progresses.[223]

2.6.12. We accept Scottish Water's response and decide to allow the funding for this project in full in the Final Determination.

[223] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination Response – Annex 4a – Capital Investment Evidence', 1 September 2026, p.13.

Review of asset maintenance investment

2.6.13. Table 97 below presents the Management Approaches covering investment in both water and wastewater services, along with WICS' RAG assessment in the Draft Determination. The following paragraphs detail the assessment of each MA.

Table 97: Management Approaches relating to both water and wastewater assets or to shared assets

MA number	MA Name	Value over 2027-33 (2024-25 prices; £m; post-efficiency)	Primary Service	Proportion of value over 2027-33 for water	Proportion of value over 2027-33 for wastewater	Proportion of value over 2027-33 for shared assets	WICS assessment in DD
MA029	Offices, Property and Estates	66	Shared Services	9%	9%	81%	Red
MA066	Digital	107	Shared Services	0%	0%	100%	Green
MA071	Logistics Vehicles	131	Shared Services	0%	0%	100%	Green
MA091	High Voltage Assets	79	Water + Wastewater	42%	58%	0%	Amber
MA120	Site Buildings and Asset Access	96	Water + Wastewater	46%	39%	15%	Green
	Total	**480**					

MA029 Offices, Property and Estates

2.6.14. Management Approach 29 covers a wide variety of properties owned by Scottish Water, including offices, depots, farms, cottages, commercial properties, let houses, redundant assets (assets awaiting demolition) and various other properties. Each asset type has its own maintenance policy explained in the management approach.

2.6.15. Scottish Water proposed spending £66 million (2024-25 prices) on these assets over the 2027-33 regulatory period.

2.6.16. In our Draft Determination assessment, we noted some concerns with the cost projections provided by Scottish Water. Most notably, the proposed spend on repair and refurbishment of office properties cannot be reconstructed using the proposed intervention rates and costs within the management approach. Even a conservative estimate of the unit costs was lower for both repair (47%) and refurbishment (18%). Deducting these costs from the expected expenditure within the MA, we found a potential 20% reduction, which we proposed applying to Scottish Water's proposed investment. Table 98 below summarises our analysis.

Table 98: MA029 cost challenge calculation

Office Repair and Replace Cost Challenge	Repair	Refurb
Unit cost provided within management approach[224]	£44,000	£1,065,000
Derived unit costs[225]	£82,000	£1,296,000
Difference as a percentage (rounded)	-47%	-18%
Total cost of investment[226]	£27.6m	£40.5m
Cost challenge using the unit costs provided in the management approach	-£12.9m	-£7.2m
Total Challenge Calculation	**Combined**	
Total cost allocation with the MA	£100.1m	
Cost challenge for office repair and refurbishment	-£20.1m	
Difference as a % (rounded)	20%	

2.6.17. On this basis, we proposed a cost challenge of £13 million (c.20% of Scottish Water's proposed spend in this area) in the Draft Determination. Table 99 sets out our draft allowance in this area.

[224] Based on costs in MA029 Table 29 and Table 30 (cost of road inspection).
[225] Based on information in MA029 Table 68 and Table 87.
[226] Based on costs in MA029 Table 68.

Table 99: Draft Determination allowance for MA029 Offices, Property and Estates

MA029 Offices, Property and Estates	Values
Scottish Water forecast expenditure (2024-25 prices)	£66m
Cost challenge (2024-25 prices)	-£13m
Draft allowance (2024-25 prices)	£53m
Draft outputs to be delivered over 2027-33: Number of property asset interventions	32

2.6.18. In its response to the Draft Determination, Scottish Water explained that the office and depot repair and refurbishment costs were based on historical project costs, external quotations, consultancy estimates and forecast maintenance requirements. It considered that the Draft Determination analysis had not compared costs and outputs on a like-for-like basis, including by combining repair and refurbishment expenditure while comparing this against refurbishment outputs only, and that the final business plan programme included larger, more complex refurbishment projects that could not appropriately be assessed using simplified average intervention costs. Scottish Water also highlighted that our concerns were specific to offices and depots, which represented only around half of the overall management approach, whereas the 20% challenge had been applied across the full allowance, with no evidence of inefficiency in the remaining investment areas. It therefore considered both the methodology and application of the challenge unsupported and requested full reinstatement of the £13 million reduction.

2.6.19. We consider that Scottish Water appears to have misunderstood our methodology. For the Draft Determination, we used the repair costs and outputs from the management approach to calculate the repair unit cost, and used the refurbishment cost and outputs to calculate the refurbishment unit costs. However, we accept the challenge should only apply to the portion related to offices and depots. We update this in the Final Determination and have also applied the challenge to the pre-efficiency investment from the final business plan.

2.6.20. Based on this review, we decide to apply a 20% cost challenge on Scottish Water's pre-efficiency investment for maintaining offices and depots in the Final Determination. This results in a post-efficiency allowance of £61 million (based on 2.8% average productivity challenge) for maintaining all offices and estates in the Final Determination. This is £7.5 million more than the Draft Determination.

2.6.21. Table 100 provides our Final Determination allowance along with the updated outputs to be delivered as per Scottish Water's Draft Determination response Annex 4c. The number of outputs will be further refined in Scottish Water's delivery plan 2027-28 which will use a more detailed methodology for estimating them.

Table 100: Final Determination allowance for MA029 Offices, Property and Estates

MA029 Offices, Property and Estates	Values
Scottish Water forecast expenditure for 'Offices, property and estates' (2024-25 prices; pre-efficiency)	£69m
Scottish Water forecast expenditure for 'Offices and Depots' included in value above (2024-25 prices; pre-efficiency)	£35m
Cost challenge on 'Offices and Depots' expenditure (2024-25 prices; pre-efficiency)	-£7m
Final pre-efficiency allowance for 'Offices, property and estates' (2024-25 prices)	£62m
Final efficiency challenge of 2.8% over the 2027-33 period on 'Offices, property and estates'	-£1.7m
Final post-efficiency allowance for 'Offices, property and estates' (2024-25 prices)	£61m
Outputs to be delivered over 2027-33: Number of property asset inspections	1,703
Outputs to be delivered over 2027-33: Number of property asset repairs and refurbishments	3,632
Outputs to be delivered over 2027-33: Number of property asset replacements	79

MA066 Digital

2.6.22. Management Approach 66 covers the digital assets owned by Scottish Water. These are split into 10 digital areas: Data Centre Systems; Digital Workplace; Cloud Business Systems; Digital Channels; Integration and Automation; Cloud Platform; Cloud Products; Edge Compute & Sensing; Cyber Security; and Networks and Communications.

2.6.23. Each digital area (except Digital Workplace) would be proactively replaced at an early stage. The exception was for the Digital Workplace area, where assets will be replaced later, once they are obsolete but prior to becoming non-functional.

2.6.24. Scottish Water proposed to spend £107 million on these assets over the 2027-2033 regulatory period.

2.6.25. In our Draft Determination, we noted that, whilst Scottish Water had not provided unit costs or expected run rates within each area, we understand it is difficult to quantify digital solutions in this way due to interdependencies and uncertainties of requirements. Scottish Water instead used a combination of historical benchmarks from comparable digital initiatives, expert judgement on scope and delivery complexity, and scenario-based modelling, in which costs were interdependent rather than unit-driven, to estimate expected costs for each area. We were satisfied that these estimates are reasonable.

2.6.26. We did not receive feedback in this area in the Draft Determination consultation.

2.6.27. Table 101 provides our Final Determination allowance. The number of outputs will be provided in Scottish Water's delivery plan 2027-28.

Table 101: Final Determination allowance for MA066 Digital

MA066 Digital	Values
Scottish Water forecast expenditure (2024-25 prices)	£107m
Cost challenge (2024-25 prices)	£0
Final allowance (2024-25 prices)	£107m
Outputs to be delivered over 2027-33: Number of digital transformation interventions	To be provided at delivery plan 2027-28

MA071 Logistics Vehicles

2.6.28. Management Approach 71 covers the 2,658 vehicle assets owned by Scottish Water. These are split into 1,557 Light Commercial Vehicles (LCVs), 154 Heavy Goods Vehicles (HGVs), 147 HGV trailers, and 700 plant assets.

2.6.29. This management approach proposed that all Light Commercial Vehicles will be replaced by electric vehicles once they reach the point of not being economic to repair. HGVs would utilise Hydrotreated Vegetable Oil (HVO) fuel where possible. From 2030, Scottish Water would begin transitioning HGVs to electric.

2.6.30. Scottish Water proposed to spend £131 million (2024-25 prices) on repairing and replacing these assets over the 2027-33 regulatory period.

2.6.31. In our Draft Determination, we noted that the expected asset lifespans and replacement costs set out by Scottish Water within the final business plan were reasonable and potentially conservative, given the forecast number of interventions and costs in the management approach.

2.6.32. We therefore considered the costs to be reasonable in this area in the Draft Determination.

2.6.33. We did not receive feedback in this area in the Draft Determination consultation.

2.6.34. Table 102 provides our Final Determination allowance along with the updated outputs to be delivered as per Scottish Water's Draft Determination response Annex 4c. The number of outputs will be further refined in Scottish Water's delivery plan 2027-28 which will use a more detailed methodology for estimating them.

Table 102: Final Determination allowance for MA071 Logistics Vehicles

MA071 Logistics Vehicles	Values
Scottish Water forecast expenditure (2024-25 prices)	£131m
Cost challenge (2024-25 prices)	£0
Final allowance (2024-25 prices)	£131m
Outputs to be delivered over 2027-33: Number of vehicle or plant item replacements	2,141

MA071 Logistics Vehicles	Values
Outputs to be delivered over 2027-33: Number of alternative fuel refuelling infrastructure points (replacement output)	436

MA091 High Voltage Assets

2.6.35. Management Approach 91 proposes that high-voltage (HV) assets be inspected every 2 years and that those assessed as condition grade 4 (CG4) be scheduled for planned replacement. The management approach assumes that HV assets will be repaired up to the point of replacement.

2.6.36. The management approach covered the following high voltage (HV) assets:

- 43 HV pump motors, for which CG4 was assumed to correspond to 22 years;
- 87 HV switchgear, for which CG4 was assumed to correspond to 30 years; and
- 158 transformers, for which CG4 was assumed to correspond to 37 years.

2.6.37. Scottish Water proposed to spend £79 million (2024-25 prices) on maintaining these assets over the 2027-33 regulatory period.

2.6.38. In our Draft Determination assessment, we noted that Scottish Water's management approach clearly sets out its assumptions for the unit costs and the number of HV assets to be replaced. However, our assessment was that some key assumptions underpinning the management approach could be based on more comprehensive information.

2.6.39. Furthermore, the total investment proposed in the business plan data tables (specifically 'Table X') for the 2027-33 period was more than double that for the 2021-27 regulatory period. However, we recognised that the management approach noted a "significant backlog of assets requiring replacement" exists. The chosen option proposed 105 replacement interventions, which broadly aligned with the backlog of assets at CG4 (110) implied by condition-age tables 15-17.[227] This suggested that there may be limited capacity to maintain assets reaching CG4 during the 2027-33 period, resulting in a backlog being accumulated for SRC33. The management approach explained that "The current backlog will be addressed through the remainder of SR21 and across SR27. We have therefore smoothed the initial required investment across the first nine years of model outputs which covers the period until the end of SR27 and reflects the expected delivery."[228]

2.6.40. Recognising this backlog, we did not propose to reduce the 2027-33 investment to the level of investment in the 2021-27 period in the Draft Determination.

[227] This number is the sum of the condition grade 4 asset counts on pages 21-22 of MA091 based on age assumptions.
[228] Scottish Water (2025), 'Summary Management Approach High Voltage Assets Water and Wastewater MA091', March 2025, p.52.

2.6.41. We also emphasised the need for improvements in the underpinning data, as acknowledged by the management approach.

2.6.42. We did not receive feedback in this area in the Draft Determination consultation.

2.6.43. Table 103 provides our Final Determination allowance along with the updated outputs to be delivered as per Scottish Water's Draft Determination response Annex 4c. The number of outputs will be further refined in Scottish Water's delivery plan 2027-28 which will use a more detailed methodology for estimating them.

Table 103: Final Determination allowance for MA091 High Voltage Assets

MA091 High Voltage Assets	Values		
Scottish Water forecast expenditure (2024-25 prices)			£79m
Cost challenge (2024-25 prices)			£0
Final allowance (2024-25 prices)			£79m
Outputs to be delivered over 2027-33	**Inspections**	**Repairs and refurbishments**	**Replacements**
Number of high voltage system interventions (water)	324	228	24
Number of high voltage system interventions (wastewater)	398	273	32

MA120 Site Buildings and Asset Access

2.6.44. Management Approach 120 covers a range of asset types, including buildings, kiosks, fencing, access roads, road bridges, site grounds and abandoned assets. Scottish Water would undertake a variety of actions, including inspection, repair, refurbishment, replacement and demolition, as required for each different asset type.

2.6.45. Scottish Water proposed spending £96 million (2024-25 prices) on these assets over the 2027-33 regulatory period.

2.6.46. In our Draft Determination assessment, we noted that the number of interventions and proposed unit costs provided within the management approach were explained by the policy choices and based on historical values for similar projects. We were satisfied that these were reasonable and proportionate.

2.6.47. We did not receive feedback in this area in the Draft Determination consultation.

2.6.48. Table 104 sets out our Final Determination allowance along with the updated outputs to be delivered as per Scottish Water's Draft Determination response Annex 4c. The number of outputs will be further refined in Scottish Water's delivery plan 2027-28 which will use a more detailed methodology for estimating them.

Table 104: Final Determination allowance for MA120 Site Buildings and Asset Access

MA120 Site Buildings and Asset Access	Values		
Scottish Water forecast expenditure (2024-25 prices)			£96m
Cost challenge (2024-25 prices)			£0
Final allowance (2024-25 prices)			£96m
Outputs to be delivered over 2027-33	**Inspections**	**Repairs and refurbishments**	**Replacements**
Number of operational building or access interventions (water)	2,911	1,359	24
Number of operational building or access interventions (wastewater)	2,429	2,901	23

Benchmarking

2.6.49. Table 105 sets out the other investment areas subject to benchmarking and our assessment in the Draft Determination.

Table 105: Draft Determination assessment summary of other areas suitable for benchmarking

Area	Programme	Sub-area ("Investment Area")	Sub-area investment (2024-25 prices; £m)	WICS Assessment
Climate Mitigation	Process Emissions	Process Emissions	15	No cost challenge proposed
Climate Mitigation	Carbon Capture	Carbon Capture	29	Cost challenge proposed
Climate Mitigation	Pilot activities	Pilot activities	16	No cost challenge proposed
		Total	**60**	

Process emissions

2.6.50. In our Draft Determination, we noted that for PR24 Ofwat allowed or disallowed individual wastewater process emissions schemes based on a three-phase assessment with the following criteria:

- Schemes should be driven by net zero and not related to other cost drivers;
- Schemes should support sector innovation and learning, and their impact clearly demonstrated through monitoring and reporting and forming part of a long-term net zero delivery strategy; and

- Unit costs should be reasonable, considering both PR24 in isolation and the whole asset lifetime.[229]

2.6.51. The £15 million of investment proposed in Scottish Water's final business plan related to wastewater nitrous oxide process emissions and research and innovation, with methane and carbon dioxide emissions proposed to be addressed through research and innovation and funding for bioresources and Industrial Emissions Directive improvements.[230]

2.6.52. A simple unit cost comparison of Scottish Water's proposed investment and schemes accepted in England and Wales is shown in Table 106. When comparing Scottish Water's proposed investment to nitrous oxide schemes accepted for PR24 on a simple cost-per-tCO2e basis, Scottish Water's investment can be considered efficient. However, when compared with all accepted wastewater process emissions schemes, Scottish Water's costs are above average.

Table 106: Unit cost comparison of Scottish Water's wastewater process emissions investment and wastewater process emissions investment accepted for PR24

Wastewater process emissions schemes	Cost per tCO2e (2024-25 prices)
Scottish Water – nitrous oxide pathway	£7,255
England and Wales – accepted nitrous oxide schemes	£8,926
England and Wales – all accepted schemes	£1,400

2.6.53. In our Draft Determination assessment, we recognised that nitrous oxide is a highly potent greenhouse gas with almost 300 times the global warming potential of carbon dioxide, which is difficult to capture once emitted and accounts for 69% of Scottish Water's process emissions.[231] As such, and given that Scottish Water's proposal is efficient compared to similar schemes in England and Wales, we considered that costs are reasonable in this area.

2.6.54. We did not receive feedback in this area in the Draft Determination consultation.

2.6.55. Table 107 sets out our Final Determination allowance in this area.

Table 107: Final allowance for process emissions

Process emissions	Value
Scottish Water forecast expenditure (2024-25 prices)	£15m
Cost challenge (2024-25 prices)	£0
Final allowance (2024-25 prices)	£15m

[229] Ofwat (2024), 'Wastewater – net zero; enhancement expenditure model', December 2024, available at: https://www.ofwat.gov.uk/wp-content/uploads/2024/12/PR24-FD-CA88-Wastewater-net-zero-enhancement-expenditure-model.xlsm

[230] Scottish Water (2026), 'SR27 Final Business Plan: Technical Appendix 7 - climate change mitigation', 26 February 2026, pp. 33-34.

[231] Scottish Water (2026), 'SR27 Evidence Base – Evidence Pack – Process Emissions', 26 February 2026, p. 4.

Outputs to be delivered over 2027-33: Reduction in emissions	2,000 tCO2e

Carbon capture

2.6.56. Scottish Water proposed £29 million of expenditure in this area. In our Draft Determination assessment, we compared this proposed expenditure with Scottish Water's previous investments, expressed in terms of £ per hectare of land established or supported for carbon capture. This comparison indicated that Scottish Water's historic expenditure was around 68% lower than its business plan proposal on a £ per hectare basis. We also compared Scottish Water's projects to similar projects undertaken by companies in England and Wales. These comparisons indicated that expenditure of companies in England and Wales was 27% lower than Scottish Water's proposed expenditure. Based on the comparisons, we considered a 27% cost challenge appropriate for the Draft Determination, which was the lower of the two estimates. Table 108 sets out our proposed cost challenge in this area.

Table 108: Draft Determination allowance for carbon capture

Carbon capture	Value
Scottish Water forecast expenditure (2024-25 prices)	£29m
Cost challenge (2024-25 prices)	-£8m
Draft allowance (2024-25 prices)	£21m
Draft outputs to be delivered over 2027-33: Area of carbon capture sites established or supported	2,000 ha

2.6.57. We also noted that there is one carbon capture project (We Enhance Scotland's Environment 03 – Carbon Capture – Woodland Creation) appeared to have an unrealistically low cost per hectare in the 2027-33 period, which we suspected is due to an error in the population in the business plan data tables (specifically 'Table X'). Correcting for this would result in a greater cost challenge for carbon capture.

2.6.58. In response to our Draft Determination, Scottish Water provided further evidence for the investment in carbon capture. It explained that the cost-per-hectare benchmarking against its historic expenditure and comparator projects in England and Wales did not provide a like-for-like basis for assessing efficiency. It explained that its proposed 2027-33 programme differed materially in scope and delivery conditions, reflecting Scotland-specific factors including terrain, access, weather, catchment management and drinking water supply constraints. It therefore considered that the challenge had not identified or quantified a specific inefficiency and requested that the £8 million reduction be reinstated in full.[232]

[232] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination Response – Annex 4b – Cost Challenge', 1 September 2026, pp.44-47.

2.6.59. Following our review of Scottish Water's response, we accept Scottish Water's observation on the differences between its carbon capture investment and the specific investment in carbon capture in England and Wales.

2.6.60. Based on this review, we allow the proposed £29 million in funding for carbon capture investments in full in the Final Determination. Table 109 sets out our Final Determination allowance for carbon capture.

Table 109: Final Determination allowance for carbon capture

Carbon capture	Value
Scottish Water forecast expenditure (2024-25 prices)	£29m
Cost challenge (2024-25 prices)	£0
Final allowance (2024-25 prices)	£29m
Outputs to be delivered over 2027-33: Area of carbon capture sites established or supported	2,000 ha

Pilot activities (Alternative fuelled vehicles and refuelling infrastructure)

2.6.61. Ofwat's models for this area calculated costs based on emissions reductions, which was not shown in the data submitted by Scottish Water. Given this incompatibility, in the Draft Determination we benchmarked proposed investment in this area against historic expenditure in Annual Return submissions. On this basis, Scottish Water's proposals appeared in line with previous expenditure, and WICS considered that Scottish Water's proposed investment is reasonable.

2.6.62. We did not receive feedback in this area in the Draft Determination consultation.

2.6.63. Table 110 sets out our Final Determination allowance along with the updated outputs to be delivered as per Scottish Water's Draft Determination response Annex 4c. The number of outputs will be further refined in Scottish Water's delivery plan 2027-28 which will use a more detailed methodology for estimating them.

Table 110: Final Determination allowance for pilot activities (alternative fuelled vehicles and refuelling infrastructure)

Pilot activities (alternative fuelled vehicles and refuelling infrastructure)	Values
Scottish Water forecast expenditure (2024-25 prices)	£16m
Cost challenge (2024-25 prices)	£0
Final allowance (2024-25 prices)	£16m
Outputs to be delivered over 2027-33: Number of alternative fuel refuelling infrastructure points	436

Conclusion of review of investment related to other areas

2.6.64. Table 111 below summarises WICS' Final Determination allowances for each investment programme within the areas for climate change adaptation and mitigation, customer and communities, digital, transformation & innovation, and support services following our review as explained in this section. As explained in Chapter 5 of the Final Determination, we also apply a further efficiency productivity challenge to this allowance which is not captured in the table below.

2.6.65. Table 112 and Table 113 below outline the relevant enhancement and asset maintenance outputs respectively for the areas for climate change adaptation and mitigation, customer and communities, digital, transformation and innovation, and support services which we expect to be delivered for the allowed investment. The asset maintenance outputs are taken from Scottish Water's Draft Determination response Annex 4c and will be further refined in Scottish Water's delivery plan 2027-28 which will use a more detailed methodology for estimating them.

Table 111: Final Determination allowances for other investment[233]

Technical Appendix Area	Investment Programme	Investment in final business plan (2024-25 prices; £m)	WICS proposed allowance in Draft Determination (2024-25 prices; £m)	WICS allowance in Final Determination (2024-25 prices; £m)	Explanation for allowance
TA006 - Climate Adaptation	Enhancement to Scotland's natural capital	7	7	7	
TA006 - Climate Adaptation	Increase biodiversity beyond statutory levels	5	5	5	
TA006 - Climate Adaptation	Understand the implications of climate change and risks to service resilience	2	2	2	
TA007 - Climate Mitigation	Process Emissions	15	15	15	
TA007 - Climate Mitigation	Carbon Capture	29	21	29	
TA007 - Climate Mitigation	Pilot activities	16	16	16	
TA015 - Customer and Communities	Customer Research	2	2	2	
TA015 - Customer and Communities	Priority Service Register Improvements	4	4	4	

[233] WICS' allowances in this table are before applying an additional productivity efficiency challenge. Please refer to Chapter 5 of the Draft Determination for more details on this further adjustment.

Technical Appendix Area	Investment Programme	Investment in final business plan (2024-25 prices; £m)	WICS proposed allowance in Draft Determination (2024-25 prices; £m)	WICS allowance in Final Determination (2024-25 prices; £m)	Explanation for allowance
TA015 - Customer and Communities	Digital Developments for Customer Experience enhancements	5	5	5	
TA015 - Customer and Communities	Access to assets	6	6	6	
TA015 - Customer and Communities	Campaigns & marketing	4	4	4	
TA017 - Digital	Efficient planning & delivery	17	17	17	
TA017 - Digital	Risk and Security	46	46	46	
TA017 - Digital	Commodities & Infrastructure	44	44	44	
TA017 - Digital	Intelligent Decision Making	1	1	1	
TA018 - Transformation & Innovation	Enable Innovation	23	23	23	
TA018 - Transformation & Innovation	Lighthouse projects	5	5	5	
TA018 - Transformation & Innovation	Research and Hydro Nation	4	4	4	

Technical Appendix Area	Investment Programme	Investment in final business plan (2024-25 prices; £m)	WICS proposed allowance in Draft Determination (2024-25 prices; £m)	WICS allowance in Final Determination (2024-25 prices; £m)	Explanation for allowance
Support Services	Juniper House	110	110	110	
Support Services	Maintain existing fleet	115	115	115	
Support Services	Maintain existing offices and estates	66	53	61	Cost challenge on the programme for maintaining offices and estates (-£6 million).
Support Services	Maintain existing renewable energy	18	18	18	
Support Services	Maintain scientific equipment	7	7	7	
	Total	**549**	**528**	**543**	

Table 112: Enhancement outputs to be delivered with Final Determination allowance for other investment

Table 2 ref.	Output category	Unit	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	Total
T2.17	Area of carbon capture sites established or supported	Hectares	237	324	642	339	170	288	**2,000**
T2.25	Number of sites enabled for community access	Number	1	-	-	-	-	-	**1**
T2.33	Number of climate change audits and studies	Number	-	-	-	-	-	1	**1**
T2.39	Area subject to interventions to improve biodiversity	Hectares	750	750	750	750	750	750	**4,500**
T2.57	Reduction in emissions	tCO2e	-	-	-	500	500	1,000	**2,000**
T2.58	Number of scientific services facilities upgraded	Number	-	-	2	-	-	-	**2**
T2.58	Number of demonstrators / catchment trials deployed	Number	-	-	-	-	-	3	**3**
T2.58	Number of innovation pilot programmes undertaken	Number	11	11	12	13	14	15	**76**
T2.58	Number of Hydro Nation ideas put into practice	Number	-	-	-	-	-	1	**1**
T2.58	Number of process improvements to support improved response to priority service customers	Number	1	-	-	-	-	-	**1**
T2.58	Number of Campaigns and marketing initiatives	Number	3	4	4	4	4	5	**24**
T2.58	Number of plans to improve customer experience	Number	1	-	-	-	-	-	**1**
T2.58	Number of Lighthouse projects delivered	Number	1	-	1	-	-	-	**2**

Table 113: Asset maintenance outputs to be delivered for support services[234]

MA ID	Management Approach Name	Primary output (consolidated)	Inspection outputs	Repair & Refurbishment outputs	Replacement Outputs
MA029	Offices, Property and Estates	Number of property or estates interventions	1,703	3,632	79
MA034	Customer Meters	Number of domestic and non domestic water meter interventions (existing)	-	28	8,274
MA053	Scientific Instrument Replacement	Number of scientific equipment instrument interventions	-	50	267
MA056	Renewable Energy Asset Maintenance	Number of renewable energy interventions (MEICA and Civil)	260	682	-
MA066	Digital Policy	Number of digital transformation interventions	To be provided at delivery plan 2027-28		
MA071	Logistics (Vehicles)	Number of alternative fuel refuelling infrastructure points	-	-	436
MA071	Logistics (Vehicles)	Number of vehicle or plant item interventions	-	-	2,141
MA098	Emergency Response	Number of emergency equipment interventions (W&WW)	3,198	866	31

[234] The asset maintenance outputs are taken from Scottish Water's Draft Determination response Annex 4c and will be further refined in Scottish Water's Delivery Plan 2027-28 which will use a more detailed methodology for estimating them.

2.7. Review of Scottish Water's evidence on overall investment efficiency

2.7.1. This section covers Scottish Water's analysis on the efficiency of its direct and indirect capital costs along with our assessment of that analysis.

2.7.2. Our final decision relating to direct cost confirms our Draft Determination proposals that broadly accepted Scottish Water's analysis in this area. While we decided not to apply a cost challenge in this area, we would expect Scottish Water to provide additional evidence as and when requested to demonstrate its direct costs remain broadly efficient.

2.7.3. Similarly, our final decision is that Scottish Water's indirect costs were broadly in line with comparators from England and Wales. We considered applying a cost challenge of around £10 million at the Draft Determination, which would have aimed to strike a balance between the view that Scottish Water's indirect costs are at a similar level to those of industry comparators and the recognition that the benchmarking analysis could be further improved. However, WICS' final decision is not to set a further challenge in this area. This judgement recognises that we are also setting a frontier-shift efficiency challenge on capital expenditure, which is higher than the level proposed in Scottish Water's business plan, as explained in Chapter 5 of the main Final Determination document.

2.7.4. The detailed assessment is provided in section 1.7 of the Draft Determination appendices.[235]

2.8. Review of the deliverability of the proposed investment programme

2.8.1. This appendix has so far examined different aspects of the investment programme separately. Chapter 5 of the Final Determination also assesses the programme's overall size and the risks associated with delivering it. Our detailed assessment that informed the Draft Determination is provided in section 1.8 of the Draft Determination appendices.[236] We do not repeat that assessment in this section.

Further developments and our Final Determination

2.8.2. Scottish Water provided the requested independent delivery capacity assessment undertaken by Turner & Townsend (T&T), alongside an internal capacity review and a board assurance statement. Together, these documents provide a significantly enhanced evidence base regarding both organisational readiness and supply chain capacity for the 2027-33 period. The independent review concluded that Scottish Water is well positioned to deliver

[235] WICS (2026), 'Strategic Review of Charges 2027-33: Draft Determination appendices', 30 June 2026, pp.143-150.
[236] WICS (2026), 'Strategic Review of Charges 2027-33: Draft Determination appendices', 30 June 2026, pp.151-161.

the proposed capital programme with no fundamental organisational, governance, commercial or supply chain barriers preventing successful delivery.[237]

2.8.3. The evidence provided demonstrates that Scottish Water has undertaken substantial preparatory work since submission of the final business plan. This includes implementing the revised operating model, mobilising the Enterprise delivery approach, strengthening governance and assurance arrangements, engaging with suppliers, and planning system developments to support programme management, forecasting, and performance monitoring. The T&T assessment concluded that internal capability and supply chain readiness compare favourably against the proposed scale of investment proposed for the 2027-33 period.

2.8.4. The assessment acknowledges that risks remain relating to Enterprise maturity, governance throughput, specialist resource availability, programme phasing, data availability and future growth-capacity assumptions to support a non-linear investment profile. These findings reinforce the importance of maintaining a balanced and deliverable investment programme over the 2027-33 period.

2.8.5. Scottish Water provided further evidence on its internal capacity and organisational readiness to deliver the 2027-33 investment programme. It highlighted that current investment delivery was broadly comparable with the annual investment expected in the 2027-33 period, supported by 1,040 FTE across its principal investment functions, established governance and delivery arrangements, its new operating model and Enterprise delivery approach. It also outlined ongoing workforce and skills planning and measures to manage capacity risks, while noting that further assessment of capacity for portfolio and programme management and regulatory reporting remained underway.[238]

2.8.6. Both assessments informed Scottish Water's updated board assurance statement, which explained that the Board considered the key delivery risks to be understood and reasonable mitigations to be in place, while recognising that some risks remained outside Scottish Water's control. This provided the Scottish Water Board with confidence that the organisation was well positioned to secure sufficient internal and supply-chain capacity to deliver the 2027-33 period.

2.8.7. While the evidence provides increased assurance that Scottish Water has the capability to deliver the level of investment included within our Draft Determination, it also highlights that delivery capacity is not unconstrained and that successful delivery will depend on continued focus on programme optimisation, resource management and governance. We therefore consider that the assessment supports our view that there is limited scope to

[237] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination response – Annex 7 – SR27 Readiness Report', 1 September 2026. Report prepared by Turner & Townsend for Scottish Water on 30 July 2026.
[238] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination response – Annex 7 – View on Scottish Water Internal Capacity', 1 September 2026.

increase investment materially beyond the levels proposed in the Draft Determination without increasing delivery risk. This is one of the factors we considered in deciding not to provide additional allowances for further investment requirements identified by SEPA, including those needs that may emerge from wastewater studies (paragraphs 2.4.10 and 2.4.14). Any additional investment needs that emerge during the period should be considered through the regulatory change process, with careful reprioritisation of the programme to ensure that resources remain focused on the highest-priority outcomes for customers and the environment.

2.8.8. We will monitor delivery closely in the 2027-33 regulatory period as part of our monitoring safeguards set out in Chapter 10 of the Final Determination.

2.9. Scottish Water's improvement plans

2.9.1. This section covers Scottish Water's proposed data improvement plans from the final business plan as per WICS methodology requirements, our view of those plans in the Draft Determination, Scottish Water's consultation response and our view in the Final Determination.

2.9.2. Our SRC27 methodology recognised that Scottish Water's measure(s) of asset condition are at an early stage of maturity and would require further development during the 2027-33 period. As such, we required Scottish Water's business plan to include an improvement plan to address the data and knowledge gaps in its asset condition reporting and forecasting.

2.9.3. Scottish Water provided several data improvement plans for asset health and condition, and for its data and analytic capabilities within its draft business plan. In our feedback, we clarified our expectation that the plans should be more detailed, covering the expected milestones and due dates for the proposed improvement activities, so that Scottish Water could be held accountable for meeting them. We also requested that for each improvement activity, Scottish Water indicate when the information would be reported to WICS with reference to the annual return submission in a specific year. This would allow us to assess whether Scottish Water is making appropriate progress in improving the gaps in its data and knowledge of the condition of its assets.

2.9.4. In our Draft Determination, we were pleased to see that Scottish Water had addressed our feedback and had provided further detail in its improvement plans, including clear milestone commitments, required activities to achieve them and the form of evidence expected to demonstrate milestone completion. This was presented in technical appendix 8 'Investment Planning', section 9 and Annex D and covered the following 5 milestones:

- Align all Management Approaches with the 2027-33 allocations by 2026-27 Quarter 2 for the 2027-33 delivery plan;
- Implement a Basic Health Measure for all replaceable assets by 2026-27 Quarter 4;

- Define and demonstrate an Intermediate Health Measure by 2026-27 Quarter 4;
- Implement a Target Health Measure for all replaceable assets by 2028-29; and
- Implement data improvement processes and quality metrics by 2026-27 Quarter 2 (for install date) and by 2027-28 Quarter 4 (for data for the target measure).

2.9.5. The commentary for the final business plan Table 3b 'Asset Health' also explained that Scottish Water planned to develop the Equipment Health Index metric from Basic to Intermediate between 2025 and 2028, and to Advanced/Hybrid between 2028 and 2033, which would take into account asset condition, performance, repair impact, environmental conditions, and asset criticality.[239] Scottish Water also explained that it plans to include in a future EHI version its "infinite-life assets", which it considers will not be replaced but only repaired and refurbished (e.g. reservoirs, aqueducts, dams, sewers). However, it did not specify when it expects to do so. These "infinite-life assets" account for about two-thirds of Scottish Water's asset base in terms of their asset value.[240]

2.9.6. Scottish Water also has a Routemap to 2030 to improve the management approach process and underlying asset data, which its external assurance referred to. There were, therefore, several initiatives underway to improve asset management processes and information. In our Draft Determination, we required Scottish Water to consolidate the list of actions from its various asset management improvement plans to allow WICS to monitor progress and provide this consolidated list as part of its response to our Draft Determination consultation by 1 September 2026. This would ensure we can measure Scottish Water's progress, as we will need to see these improvements before the Strategic Review of Charges 2033 (SRC33).

2.9.7. Overall, in the Draft Determination, we welcomed Scottish Water's clear commitments to the proposed milestones for developing the asset health measure(s) and improving its knowledge of its asset base. We noted we expect Scottish Water to provide further detail in its 2027-33 delivery plan on how it will achieve these milestones, as well as further clarity on when the asset health measure(s) would be able to cover the full asset base, including the "infinite-life assets" which formed a significant part of it.

2.9.8. In its response to our Draft Determination, Scottish Water confirmed that there are no other actions and objectives for wider improvements to add to the list provided in technical appendix 8 of the final business plan. That list contains the key components that will form the refreshed Asset Management Transformation Routemap. Scottish Water further confirmed that its delivery plan will outline the results from its wider review to refresh and consolidate all asset management actions.[241]

[239] Scottish Water (2026), 'SR27 Final Business Plan: Table 3b – Asset Health Commentary', 26 February 2026, p. 7.
[240] Calculated based on Scottish Water's final business plan Data Tables 3a and 3b: MEAV of 'Infinite-Life Assets' as a percentage of total MEAV for the asset base.
[241] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination Response – Annex 4d – Asset Management Improvement Plans', 1 September 2026.

2.9.9. We will monitor Scottish Water's progress against the milestones and reflect this in our performance reports throughout the period.

2.10. Overall conclusions from the review of the investment plan

2.10.1. Table 114 below summarises WICS' Final Determination allowance for each investment programme from Scottish Water's business plan following our review as explained in this appendix. As explained in Chapter 5 of the Final Determination, we also apply a further challenge to this allowance for additional productivity improvements and allow some additional investment. These adjustments are captured in the last rows of the table below.

Table 114: Final Determination allowances for investment[242]

Technical Appendix Area	Investment Programme	Investment in final business plan (2024-25 prices; £m)	WICS proposed allowance in Draft Determination (2024-25 prices; £m)	WICS allowance in Final Determination (2024-25 prices; £m)	Explanation for allowance
TA001 - Water Quality	Water Treatment	1,294	1,267	1,250	Adjustments related to projects at Daer WTW (-£7.4 million), Penwhirn WTW (-£13 million), Glenlatterach WTW (-£14 million), and Londornoch WTW (-£21 million), and on the programme for maintaining chlorine contact tanks (-£6 million). Updated cost estimates for projects at Black Esk WTW (£15 million) and Torra WTW (£1 million) based on more up-to-date PIAs.
TA001 - Water Quality	Water Storage	318	289	298	Cost challenge on the programme for maintaining treated water storage tanks (-£20 million).
TA001 - Water Quality	Water Distribution	64	64	64	

[242] WICS' allowances in this table are before applying an additional productivity efficiency challenge and before allowing additional unallocated investment. These adjustments are captured in the last rows of the table. Please refer to Chapter 5 of the Draft Determination for more details.

Technical Appendix Area	Investment Programme	Investment in final business plan (2024-25 prices; £m)	WICS proposed allowance in Draft Determination (2024-25 prices; £m)	WICS allowance in Final Determination (2024-25 prices; £m)	Explanation for allowance
TA001 - Water Quality	Lead Management	36	34	36	
TA001 - Water Quality	Raw Water and Catchment Management	9	9	9	
TA002 - Water Continuity	Abstraction, Sources and Raw Water Transfers	427	413	421	Cost challenge on the programme for resolving matters in the interest of safety (maintaining dams and ancillary items; -£6 million).
TA002 - Water Continuity	Water Treatment	7	7	8	Updated costs for project at Torra WTW (£0.4 million) based on more up-to-date PIAs.
TA002 - Water Continuity	Water Transmission (trunk mains and strategic pipelines)	99	99	99	
TA002 - Water Continuity	Water Pumping Stations	48	43	48	
TA002 - Water Continuity	Water Distribution	686	682	686	

Technical Appendix Area	Investment Programme	Investment in final business plan (2024-25 prices; £m)	WICS proposed allowance in Draft Determination (2024-25 prices; £m)	WICS allowance in Final Determination (2024-25 prices; £m)	Explanation for allowance
TA002 - Water Continuity	Resilience and Growth	126	126	126	
TA002 - Water Continuity	Other Programmes	377	368	371	Cost challenge on the smart metering programme (-£5 million).
TA003 - Water Environment	Waste Water Treatment	983	966	957	Cost challenge on the programme for maintaining secondary treatment processes (-£4 million) and on asset maintenance for returning PFI assets (-£22 million).
TA003 - Water Environment	Waste Water Bioresource Treatment	157	138	138	Removal of the project Allanfearn STC for replacing digestors (-£19.5 million).
TA003 - Water Environment	Water Treatment Works Sludge Storage	17	17	17	
TA003 - Water Environment	Waste Water Sewer Networks	413	413	413	

Technical Appendix Area	Investment Programme	Investment in final business plan (2024-25 prices; £m)	WICS proposed allowance in Draft Determination (2024-25 prices; £m)	WICS allowance in Final Determination (2024-25 prices; £m)	Explanation for allowance
TA003 - Water Environment	Waste Water Other – Region Wide	291	291	291	
TA003 - Water Environment	Water Abstraction - Water Resources Environmental Monitoring and Compliance	6	6	6	
TA003 - Water Environment	Water Reservoir Compensation Compliance and RBMP Enhancement	40	40	40	
TA003 - Water Environment	Other PFI Transfers	7	7	7	
TA004 - Managing Quantity of Flows	Asset Repair, Refurbishment and Replacement (AR3)	603	603	603	
TA004 - Managing Quantity of Flows	Enhancement	367	367	367	

Technical Appendix Area	Investment Programme	Investment in final business plan (2024-25 prices; £m)	WICS proposed allowance in Draft Determination (2024-25 prices; £m)	WICS allowance in Final Determination (2024-25 prices; £m)	Explanation for allowance
TA005 - Enabling Growth	Waste water Growth	319	319	309	Reducing allowance as per Scottish Water's updated expenditure forecast for projects at Persley and Nigg (-£10 million).
TA005 - Enabling Growth	Water Growth	71	71	71	
TA005 - Enabling Growth	Infrastructure Investment	123	96	96	Reducing allowance for Part 3 growth investment as per Scottish Water's updated expenditure forecast for water (-£12 million) and for wastewater (-£15 million).
TA005 - Enabling Growth	Service Relocations	38	28	38	
TA006 - Climate Adaptation	Enhancement to Scotland's natural capital	7	7	7	
TA006 - Climate Adaptation	Increase biodiversity beyond statutory levels	5	5	5	
TA006 - Climate Adaptation	Understand the implications of climate	2	2	2	

Technical Appendix Area	Investment Programme	Investment in final business plan (2024-25 prices; £m)	WICS proposed allowance in Draft Determination (2024-25 prices; £m)	WICS allowance in Final Determination (2024-25 prices; £m)	Explanation for allowance
	change and risks to service resilience				
TA007 - Climate Mitigation	Process Emissions	15	15	15	
TA007 - Climate Mitigation	Carbon Capture	29	21	29	
TA007 - Climate Mitigation	Pilot activities	16	16	16	
TA010 - West Central Bioresources	West Central Bioresources	557	557	557	WICS will allow the full WCB proposed investment, subject to conditions in the charge cap. See Chapter 8 of the Final Determination.
TA015 - Customer and Communities	Customer Research	2	2	2	
TA015 - Customer and Communities	Priority Service Register Improvements	4	4	4	

Technical Appendix Area	Investment Programme	Investment in final business plan (2024-25 prices; £m)	WICS proposed allowance in Draft Determination (2024-25 prices; £m)	WICS allowance in Final Determination (2024-25 prices; £m)	Explanation for allowance
TA015 - Customer and Communities	Digital Developments for Customer Experience enhancements	5	5	5	
TA015 - Customer and Communities	Access to assets	6	6	6	
TA015 - Customer and Communities	Campaigns & marketing	4	4	4	
TA017 - Digital	Efficient planning & delivery	17	17	17	
TA017 - Digital	Risk and Security	46	46	46	
TA017 - Digital	Commodities & Infrastructure	44	44	44	
TA017 - Digital	Intelligent Decision Making	1	1	1	
TA018 - Transform	Enable Innovation	23	23	23	

Technical Appendix Area	Investment Programme	Investment in final business plan (2024-25 prices; £m)	WICS proposed allowance in Draft Determination (2024-25 prices; £m)	WICS allowance in Final Determination (2024-25 prices; £m)	Explanation for allowance
ation & Innovation					
TA018 - Transformation & Innovation	Lighthouse projects	5	5	5	
TA018 - Transformation & Innovation	Research and Hydro Nation	4	4	4	
Support Services	Juniper House	110	110	110	
Support Services	Maintain existing fleet	115	115	115	
Support Services	Maintain existing offices and estates	66	53	61	Cost challenge on the programme for maintaining offices and estates (-£6 million).
Support Services	Maintain existing renewable energy	18	18	18	
Support Services	Maintain scientific equipment	7	7	7	
Real Price Effects	Real Price Effects	60	-15	-15	Removal of allowance for RPEs which will be addressed through an uncertainty mechanism, and removal of

Technical Appendix Area	Investment Programme	Investment in final business plan (2024-25 prices; £m)	WICS proposed allowance in Draft Determination (2024-25 prices; £m)	WICS allowance in Final Determination (2024-25 prices; £m)	Explanation for allowance
					allowance for increased National Insurance contributions. See Chapter 5 of the Final Determination.
	Sub-total before additional cost challenge and allowance	**8,093**	**7,833**	**7,854**	
	WICS cost challenge for general productivity improvements	-	-55	-27	See Chapter 5 of the Final Determination.
	WICS additional investment allowances	-	168	95	See Chapter 5 of the Final Determination.
	Total investment	**8,093**	**7,946**	**7,922**	

3. Productivity efficiency analysis

3.1.1. For the Draft Determination, we reviewed Scottish Water evidence from the final business plan technical appendix 12. We covered each of the following areas from our Draft Determination analysis in turn:

- ONS UK and Scottish Government productivity data trends;
- CMA provisional findings for referrals of the Ofwat final determinations for 2025-30;
- consultant reports, regulatory precedent and international data; and
- Scottish Water's investment in transformation initiatives.

3.1.2. Our detailed assessment that informed the Draft Determination is provided in Appendix 2 of the Draft Determination appendices.[243] We do not repeat that assessment in this appendix.

[243] WICS (2026), 'Strategic Review of Charges 2027-33: Draft Determination appendices', 30 June 2026, pp.169-179.

4. Operating expenditure efficiency analysis

4.1.1. Based on our analysis in our Draft Determination, we considered that Scottish Water has scope to reduce its current operating expenditure, given that if Scottish Water had not pre-purchased energy, it would be at a below upper quartile level of efficiency. However, our draft decision was not to apply a catch-up efficiency challenge. Instead, we used the evidence to support our draft decision to assume a 1% per annum productivity improvement. Our detailed assessment that informed the Draft Determination is provided in Appendix 3 of the Draft Determination appendices.[244] We do not repeat that assessment in this appendix.

4.1.2. For the Final Determination, we updated the operating expenditure efficiency modelling with 2025-26 data sourced from the preliminary submission of Scottish Water's 2025-26 Annual Return and the Annual Performance Reports for 2025-26 published by the companies in England and Wales. The results showed that Scottish Water maintains a position broadly in line with the upper-quartile benchmark regardless of whether energy costs are included or excluded. As such, we do not apply a catch-up efficiency challenge on Scottish Water's operating expenditure in the Final Determination.

4.1.3. For details on our Final Determination analysis, please refer to Chapter 6 of the main document.

[244] WICS (2026), 'Strategic Review of Charges 2027-33: Draft Determination appendices', 30 June 2026, pp.179-216.

5. West Central Bioresources assurance

5.1. Overview

5.1.1. This appendix provides further detail for Chapter 5 of the Final Determination on Scottish Water's proposed West Central Bioresource project, how WICS has reviewed the project and our assurance to Ministers in respect to their policy statement requirements.

5.1.2. Scottish Water proposes to invest in a new bioresource treatment centre, known as West Central Bioresources (WCB). The centre will replace the previous PFI site, which returned to Scottish Water on 1 April 2026. The centre will also serve as a hub for bioresource treatment, recovery and/or disposal in Scotland, bringing in imports of biosolids (byproducts of wastewater treatment processes that can be used for energy generation and can generate income) from smaller sites. This aligns with Scottish Water's bioresources strategy, developed in 2018. WCB is a separate investment area in the business plan given its scale and value, representing the largest project for Scottish Water since it was created in 2002.

5.1.3. The appendix is structured as follows:

- Background of how bioresource is treated in Scotland and some of the issues the WCB project will aim to address;
- Scottish Water's proposals for the project in its final business plan;
- WICS' previous feedback on WCB throughout the project appraisal development;
- Scottish Government's assurance requirements as per its policy statement for WCB; and
- Our assurance statement based on our review of the project.

5.2. Background

5.2.1. When Scottish Water was created in 2002, it inherited 9 legacy Private Finance Initiative (PFI) contracts. Under these contracts, third parties operate and maintain 21 facilities across Scotland for the provision of wastewater treatment and the subsequent treatment, recovery and/or disposal of the biosolids (formerly known as sewage sludge or sludge).[245] In exchange for these services, the third parties receive regular payments from Scottish Water. The contracts stipulate how the payments are calculated covering aspects such as the inflation index applied to unit rates and the basis of charging (e.g. based on loads treated).

[245] Around 40-50% of wastewater is treated by third parties under PFI contracts. 80% of the biosolids that remains from the wastewater treatment process is treated, recovered and/or disposed of by third parties under PFI contracts.

5.2.2. As of 30 March 2026, 7 of those contracts remained, with 2 contracts expiring during the current regulatory period (comprising 2 facilities) and 4 contracts expiring during the 2027-33 period (comprising 12 facilities) as outlined in Table 115.

Table 115: PFI sites[246]

Site location	Contract end date	SRC period of end date	Percentage of wastewater in Scotland treated at site	Percentage of sludge in Scotland treated at site
Daldowie	31/03/2026	SRC21	0%	34%
Dalmuir	14/06/2026	SRC21	9%	7%
Blackburn	29/04/2029	SRC27	0%	0%
East Calder	29/04/2029	SRC27	2%	0%
Newbridge	29/04/2029	SRC27	0%	0%
Seafield	29/04/2029	SRC27	13%	19%
Whitburn	29/04/2029	SRC27	0%	0%
Hatton	16/12/2029	SRC27	4%	3%
Banff/Macduff	25/06/2031	SRC27	0%	0%
Buckie	25/06/2031	SRC27	0%	0%
Lossiemouth	25/06/2031	SRC27	1%	2%
Inverclyde	29/09/2032	SRC27	1%	0%
Meadowhead	29/09/2032	SRC27	3%	7%
Stevenston	29/09/2032	SRC27	1%	0%
Levenmouth	30/10/2040	SRC39	3%	2%
		Total %	**39%**	**75%**

5.2.3. Once the contracts expire, the facilities will return to Scottish Water's operations.[247] This means that by the end of the 2027-33 regulatory period, 14 sites responsible for treating 35% of wastewater in Scotland and treating and disposing of around 70% of sludge in Scotland will have returned to Scottish Water.

5.2.4. The Daldowie bioresource treatment centre returned to Scottish Water on 1 April 2026, following the expiry of the PFI contract. As shown in Table 115, the Daldowie site is Scotland's largest bioresource facility, responsible for the treatment and disposal of around a third of the biosolids in Scotland.

[246] Contract end dates are as per Annual Return 2024-25 Table E3a, line E3a.29. Percentage of wastewater and sludge treated are calculated using site data for population equivalent of total load received (line E3.3) and total treated tons of dry solids (lines E3.33 to E3.40) respectively compared to the totals in table A3, lines A3.23 and A3.26.

[247] Scottish Water has an option to extend the PFI contract covering Meadowhead, Stevenston and Inverclyde (MSI) when it expires in 2032 until 2037. Scottish Water (2026), 'Business plan 2027-2033 Technical Appendices: Water Environment', February 2026. Scottish Water (2018), 'Scottish Water's Bioresource Strategy', report prepared by M2, June 2018, p.91.

5.2.5. The Daldowie site is served by the Greater Glasgow sludge main, which is a 32 km pipeline that conveys sludge from 5 wastewater treatment works in Glasgow. [248] This main accounts for around 70% of the sludge treated at the site. The remaining material is transported by tanker from other wastewater treatment works in the west of Scotland and central Scotland.

5.2.6. Scottish Water explained that the site's operational resilience has deteriorated over recent years due to outdated technology, which has resulted in decreased output and higher costs. As such, the plant currently processes only half the amount of sludge it is originally designed to treat. The reduced throughput puts more pressure on the bioresource storage tanks which have the capacity to hold 3 days' worth of sludge. Scottish Water explained that it has imposed intake restrictions for 44, 53, 28 and 58 days in 2022, 2023, 2024 and 2025 respectively.[249]

5.2.7. The current site treats the sludge and then dries it using six thermal dryers to produce a waste-derived fuel. Scottish Water explained that the site has the highest natural gas consumption across its asset base, resulting in 27,000 tonnes of carbon dioxide equivalent (CO2e) per annum.

5.2.8. The sludge from the West Central region (which is primarily treated at the Daldowie site) is disposed of through two main routes:

- Around 64% is sold to a cement works under an energy-from-waste agreement, which was signed at the time of the original PFI contract in 2002; and
- Around 36% is subject to land restoration, which entails remediating derelict land and former industrial sites such as open-cast mines, or is applied to agricultural land as fertiliser.[250, 251]

5.2.9. Scottish Water explained that the contract with the cement works ends with the expiry of the PFI contract in 2026, and the land restoration routes are expected to reach capacity in 2027-28. As such, these two disposal routes, which underpin the thermal drying model, will cease to be available at scale after 2027-28.

5.2.10. In the absence of these outlets, application to agricultural land becomes the main outlet in the near term. However, there are challenges associated with the application to land, including securing the required land bank.

[248] Scottish Water (2025), 'Stage 3a: outline investment appraisal level 1 – West Central Bioresource', June 2025, p.9.
[249] Scottish Water (2026), 'SR27 Final Business Plan: Technical Appendix 10 – West Central Bioresources', 26 February 2026, p.15.
[250] Scottish Water (2023), 'Stage 1: Case for Change. Level 1. West Central Bioresource', June 2023, p.7, submitted with the final business plan on 26 February 2026.
[251] Scottish Water (2026) 'SR27 Final Business Plan: Technical Appendix 10 – West Central Bioresources', 26 February 2026, p.16.

5.2.11. Scottish Water identified three main treatment options for the site:

- Investment to replace the dryers;
- Investment to upgrade the facility to enable liming; and
- Investment in a new advanced anaerobic digestion (AAD) facility on the site of the existing Daldowie bioresource facility.

5.2.12. Scottish Water's business plan proposed the third option, which forms part of a wider strategy for bioresources. This strategy is based on consolidating sludge treatment at 2-3 dedicated bioresource facilities in Scotland.[252]

5.2.13. This project, West Central Bioresources, is the largest for Scottish Water since it was created in 2002, with a forecast cost of around £560 million. It involves both a new site and upgrades to other wastewater treatment works to enable the export of sludge to the West Central Bioresources site via tanker, as shown in Table 116.[253]

Table 116: West Central Bioresources Investment

Description	Investment (£m; 2024-25 prices)
West Central Bioresources	423.5
Land restoration mitigation - liming sites	5.6
West Central System - Cupar	4.8
West Central System - Dunfemline	4.8
West Central System - Kirkcaldy	4.8
West Central System - St Andrews	4.8
West Central System - Cumnock	14.3
West Central System - Dalderse	9.5
West Central System - Girvan	4.8
West Central System - Kinniel Kerse	9.5
West Central System - Meadowhead	9.5
West Central System - Stirling	4.8
West Central System - Screening	47.5
West Central System - Greater Glasgow Sludge Main	9.5
Total investment	**557.4**

5.2.14. In 7 November 2025, the Cabinet Secretary for Climate Action and Energy set out the Scottish Government's policy position for West Central Bioresource.[254] The letter asked Scottish

[252] Scottish Water (2018), 'Scottish Water's Bioresource Strategy', report prepared by M2, June 2018, submitted with the final business plan on 26 February 2026.
[253] Scottish Water (2026), 'SR27 Final Business Plan: Technical Appendix 10 – West Central Bioresources', 26 February 2026, p.76.
[254] Scottish Government (2025), 'Letter from the Cabinet Secretary for climate action and energy', letter dated 7 November 2025.

Water to consider alternative financing options consistent with the requirements for major projects in the Scottish Public Finance Manual, to ensure appraisal is undertaken to HM Treasury Green Book standards, and to explore whether the project's objectives could support a Just Transition at Grangemouth. Scottish Ministers requested assurance from WICS that Scottish Water's options appraisal is consistent with this policy position, and assurance from SEPA that the project will deliver good environmental outcomes. Section 5.5 below has further detail on Scottish Government's requirements.

5.3. Scottish Water's proposals

5.3.1. The West Central Bioresources project investment appraisals (stages 1, 2 and 3a) showed that Scottish Water considered numerous options and various combinations for a solution based on several aspects:

- Potential existing sites;
- Potential new locations;
- Number of sites for project (combinations of existing sites and new locations);
- Type of technology for tertiary treatment;
- Whether to fully treat the bioresource in-house or export the sludge cake to third parties; and
- Whether to extend Business-As-Usual (BAU) activity for some time before implementing a new technology.

5.3.2. Scottish Water applied various criteria to reduce the options/variations including:

- Availability of land within and adjacent to identified sites;
- Transport links / access;
- Proximity to the Greater Glasgow Sludge Main (GGSM);
- Capacity to export biomethane or excess power;
- Liquor treatment capacity;
- Environmental, community and planning constraints;
- Buildability; and
- Technical feasibility and resulting compliance.

5.3.3. In its latest appraisal (Stage 3a), Scottish Water considered three categories of options which are outlined in the following paragraphs:

- 5 site configuration options;
- 2 deferral options (for postponing investment in SRC33 while maintaining BAU until then); and
- 3 financing options.

5.3.4. Following its optioneering in Stages 1 and 2 and considering the Stage 2 appraisal for the bioresource treatment in Fife & Tayside region, Scottish Water assessed the following 5 configuration options in Stage 3a appraisal for the West Central Bioresources project:[255]

- **Option 4a: One site at Daldowie (capacity of 85,000 tonnes of Dry Solids/year)** – build an AAD plant at Daldowie and transport all bioresource to the site via GGSM, liquid tanker or as cake. Dewatering capabilities would be added to current Sludge Treatment Centre (STC) sites that need to transport their cake. AAD plant wouldimplement 4 Cambi streams to ensure resilience during outages (no single point of failure). This is Scottish Water's proposed option.
- **Option 6a: One site at Kinneil Kerse (85,000tDS/yr)** – build an AAD plant (with 4 Cambi streams) at Kinneil Kerse and transport all bioresource to the site via liquid tanker or as cake. Dewatering capabilities would be added to current STC sites that need to transport their cake. Designed with no single point of failure.
- **Option 6b: One site at Daldowie (65,000TDS/yr) and second site at Kinneil Kerse (20,000TDS/yr)** – build two AAD plants, one at Daldowie (3 Cambi streams) and one at Kinneil Kerse (1 Cambi stream). The bioresource from West Central would be transported to Daldowie via GGSM, liquid tanker or as cake, and the bioresource from Fife & Tayside to Kinneil Kerse via liquid tanker or as cake. Dewatering capabilities would be added to current STC sites that need to transport their cake. Less potential to create a single point of failure at two sites.
- **Option 0a: BAU (dryer with carbon capture)** – maintain existing operational practices alongside investment required to keep legal obligations and service levels. Existing STCs would remain. Run the existing dryers at Daldowie and replace dryers and other components (including civils) at end of life, as well as install, maintain and run liming facilities (including storage) at other STCs to produce a treated product suitable for agriculture. This option also included the cost of purchasing and maintaining forested land to store emissions in line with the UK's Woodland Carbon Code. Scottish Water noted that this option did not meet the Need of the project.
- **Option 0b: BAU (liming)** – maintain current operational practices alongside investment required to keep legal obligations and service levels. Existing STCs would remain. Install, maintain and run liming facilities (including storage) at all sites to produce a treated product suitable for agriculture. This included Daldowie, which would switch to liming upon PFI return with dryers being decommissioned. Scottish Water noted that this option does not meet the Need of the project.

5.3.5. Scottish Water also considered 2 deferral options compared to Option 4a above where it would postpone the commissioning of an AAD plant in Daldowie from 2031 to 2037 and

[255] Scottish Water (2025), 'Stage 3a: Outline Investment Appraisal. Level 1. West Central Bioresource', June 2025, pp.27-28, submitted with the final business plan on 26 February 2026.

would implement Options 0a (driers at Daldowie, liming at other STCs) or Option 0b (liming at all STCs) until the AAD plant is operational. The aim of the deferral options was to mitigate the project's impact on the investment programme for the 2027-33 period.

5.3.6. Finally, Scottish Water also considered 3 options for how to finance the project:

- Use revenue from customer charges in the 2027-33 period and direct government borrowing – this would allow Scottish Water to maintain full ownership and control over the project;
- Utilise a Mutual Investment Model (MIM) – this would involve the creation of a Special Purpose Vehicle with private co-investors in which Scottish Water would take a minority stake (maximum 20% for a public body). This would result in a profit-sharing mechanism (in proportion to share ownership) and enhanced governance from the issuer (i.e. Scottish Water), which would address some of the criticisms of the previous PFI model. The MIM would also aims to ensure that the borrowing associated with the infrastructure asset did not count as Government debt – i.e. is 'off balance sheet', which would help spread the cost for Scottish customers over a longer period of time. However, some drawbacks included the requirement for the private co-investor(s) to hold the full risk from the project (so the investment can be classified as 'off balance sheet') and a potentially long process for establishing the MIM in Scotland and for procuring the private partner(s) for West Central Bioresources; and
- Regulated Asset Base (RAB) Model – under this model, customer charges would be directly used to fund the investment rather than relying solely on government grants or purely private financing.

5.3.7. Scottish Water assessed the 5 site configuration options in terms of costs, carbon emissions, risks and benefits. Based on this assessment it determined that Option 4a (one site at Daldowie (85,000 tDS/yr)) had the lowest Net Present Cost over 60 years (accounting for capital and operational costs as well as expected revenue generated from biogas production), the lowest whole-life carbon over 60 years, the lowest level of assessed risk, and was one of the options with the highest level of benefits.

5.3.8. Scottish Water assessed the 2 deferral options in terms of costs and risks, and determined that the deferral options have £70 million to £140 million higher net present costs over 60 years (2025 quarter 1 prices) compared to the preferred Option 4a due to the additional capital costs incurred to maintain the assets before building the AAD facility, as well as the higher operational costs of continuing to use drying and liming for longer. The deferral options would have additional risks including:

- The financial, operational and environmental risks associated with continuing operation of the existing driers beyond their expected lifetime and the likelihood of their failure;

- The compliance risk of relying on landbank disposal (for the limning option) for longer when competition is reducing the availability of this route – this is partly in relation to the introduction of new regulations, the Environmental Authorisation Scotland Regulations (EASR), from SEPA in November 2025. These new regulations would reduce the volume of sludge that Scottish Water can dispose of to land by around 65% of current levels, increasing the land that Scottish Water would require by 3-4 times if current operations continue;
- The financial risk of a more costly investment in the future in the event that stricter environmental regulations necessitate technology in addition to AAD; and
- The procurement and supply chain risk that materials and resources would be more expensive to acquire in future regulatory periods.

5.3.9. Scottish Water assessed the 3 financing options in terms of costs (for the 3 main site configuration options, excluding Option 0a and 0b) and risks. It determined that the cheapest financing option in the long term is where the project is fully funded by Scottish Water. It observed this is more expensive in the short term (i.e. in the 2027-33 period) than the MIM or RAB options. Scottish Water considered that the RAB model would require legislative changes and a long procurement process (c. 4.5 years), and that the MIM model would take around 2.5-3 years to procure which would put pressure on delivery timelines and carry the risks of the deferral options described above.

5.3.10. Based on its assessment of the site configuration, deferral and financing options, Scottish Water proposed to proceed with a single AAD plant in Daldowie (85,000 tDS/yr) funded fully by Scottish Water.

5.4. Our previous feedback

5.4.1. Scottish Water first brought this project to our attention at the August 2024 Water Industry Investment Group Working Group meeting after it had passed its Stage 2 Project Investment Appraisal at Gate 40 in April 2024. Scottish Water outlined there were several issues with the current arrangement: "The existing treatment technologies are energy-intensive, do not generate energy, and are costly to operate. The land restoration outlet is expected to be exhausted by 2030, and the Greater Glasgow Sludge Main (GGSM) is susceptible to recurring failures. Additionally, the region lacks the capacity to accommodate anticipated growth, making it imperative to change the way bioresource is treated to meet Scottish Water's strategic aims and objective".[256]

5.4.2. We have consistently communicated our expectations to Scottish Water that it should provide robust assurance for high-value projects such as this one. We have also engaged

[256] Scottish Water (2024) 'Scottish Government Investment Group Working Group (SG IGWG) – Progress of Interventions to Meet the Needs on the Development List – Draft Report Q1 2024/25', August 2024, pp.6-7.

with Scottish Water specifically on this project to better understand the need for investment, technical optioneering, costing, and financing options, including requesting further clarification on the assumptions it has made during its appraisal and challenging its decisions to discount options early in the process.

5.4.3. At the time of the draft business plan submission, the West Central Bioresources had not yet passed Gate 50 and so did not meet the criteria for requiring an investment case to be submitted with the draft business plan. Due to the high forecast cost for this project, Scottish Water provided information to support the investment case in response to our queries.

5.4.4. In our feedback on the draft business plan, we highlighted that there is scope to examine the mutual investment model (MIM), as this was not assessed in detail in the information provided by Scottish Water at the time unlike the Stage 3a appraisal submitted with the final business plan. Given the size of this project, we considered that utilising this approach would help to spread the project's cost across both current and future customers beyond the regulatory period 2027-33. This also recognised the potential scope for adopting new technologies and innovations related to resource recovery. We requested that Scottish Water provide further analysis on the prospect of extending the life of the existing asset, enabling Scottish Water to assess the MIM option more fully, and a more detailed assessment of the viability of the MIM option itself.[257] We also noted that Scottish Water must demonstrate that the proposed option represents the best value for customers, both current customers in the 2027-33 regulatory period and future customers.

5.4.5. As outlined in paragraph 5.2.14 and detailed in section 5.5, on 7 November 2025 the Scottish Government set out its position on the West Central Bioresources. Following this, WICS issued a letter to Scottish Water on 27 November 2025, which clarified our expectations for the West Central Bioresources investment case and outlined further requests to Scottish Water. These are detailed in the following paragraphs.

5.4.6. We issued clarifications around our expectations for the content of the investment case for West Central Bioresources, particularly on the cost benefit analysis (CBA) of the different options. We expected this to include the following:

- Scottish Water's assumptions for the financing of the self-deliver option, to ensure that the self-delivery and MIM options are compared on a like-for-like basis.
- Scottish Water's consideration and assumptions for the benefits of the different options, covering both the direct benefits, where the benefits accrue directly to Scottish Water's customers, and indirect benefits such as broader economic impacts. This would include assumptions for the benefits of utilising the knowledge and expertise of a third-party, who may have expertise to utilise the technology and

[257] WICS (2025), 'WICS feedback on Scottish Water's draft business plan', 15 October 2025, p.14.

innovation related to resource recovery from biosolids and be able to deliver and/or operate the facility more efficiently than Scottish Water.

- Scottish Water's other assumptions, such as the financing costs associated with the different options and the discount rate used in the CBA.
- An assessment of the CBA on a post-tax basis, recognising that the different options will have an impact on Scottish Water's corporation taxation.

5.4.7. We also noted that we expect the investment case to explain how Scottish Water would ensure that customers are adequately protected from construction and cost escalation risk under the different options.

5.4.8. In relation to the Government's policy position, we made the following additional requirements:

- The detailed timeline for the development of the project, which provides sufficient time for WICS and SEPA to provide assurances to Ministers. This should cover the overall project timeline, which may differ across options, as well as the procedural timeline that will enable WICS and SEPA to provide assurances to Ministers.
- Details of Scottish Water's engagement with SEPA on SEPA granting a longer timeframe for achieving compliance with EASR and the outcome of that engagement.
- The framework and criteria that Scottish Water will use in assessing the different options, including self-delivery and the mutual investment model.
- Scottish Water's assessment of the different options against these criteria.
- The implications of not meeting compliance with the EASR.

5.4.9. The following sections cover the Scottish Government's assurance requirements in more detail and WICS' assurance statement on the West Central Bioresource following our analysis of the available evidence against those requirements.

5.5. Scottish Government's assurance requirements

5.5.1. The Cabinet Secretary for Climate Action and Energy issued a letter to Scottish Water on 7 November 2025 detailing the Scottish Government policy position on West Central Bioresource. The policy position establishes how Scottish Water should appraise the options for this project to deliver on the priorities of the Scottish Government, specifically enabling growth, tackling the climate emergency, and ensuring high quality and sustainable public wastewater services.

5.5.2. Table 117 below lists the requirements of the policy position.

Table 117: Scottish Government's requirements for the appraisal of West Central Bioresources

Short name	Requirements from the Scottish Government policy position on West Central Bioresources
Just Transition	Given the likely scale of the capital investment required, Scottish Government is keen to ensure that Scottish Water has fully appraised options that could include further supporting the Scottish Government's Just Transition ambitions, e.g. Scottish Government's long-term vision for the future of the Grangemouth Industrial cluster.
Green Book	That appraisal should comply with HM Treasury's Green Book.
Infrastructure Investment Plan and draft Bioenergy Policy Statement	The solution developed should align with the Scottish Government's Infrastructure Investment Plan and draft Bioenergy Policy Statement, including integrating carbon capture technology, where feasible.
Net Zero target and circular economy	Furthermore, the solution should support the Just Transition Plan, the circular economy strategy, and achievement of net zero emissions by 2045.
SPFM	Mindful of the cost of living crisis, the solution developed should consider how best capital costs can be shared between current and future customers. This should be achieved by undertaking an appraisal process compliant with the requirements for major investment projects in the Scottish Public Finance Manual (SPFM), in particular the section on funding and procuring.
MIM	The project should be considered for the Mutual Investment Model.
Value for Money	The solution can support [alignment to First Minister's priorities] by: • Representing value for money.
Economic impact	The solution can support [alignment to First Minister's priorities] by: • Scottish Water must appraise options against their economic impact. This includes giving consideration to whole life costs and how capital costs can be shared between current and future customers. Scottish Water's appraisal process should be compliant with the requirements for major investment projects set out in the SPFM.

Short name	Requirements from the Scottish Government policy position on West Central Bioresources
Benefits	The solution can support [alignment to First Minister's priorities] by: • Scottish Water should also consider qualitative or quantitative wider economic benefits of the project.
Policy integration	The solution can support [alignment to First Minister's priorities] by: • Scottish Water must appraise the options for this project against the potential for the solution to integrate with existing policies and plans at the national, regional and local level, e.g. National Planning Framework 4.
Environmental Impact Assessment	The solution can support [alignment to First Minister's priorities] by: • Scottish Government recognises the link between climate change mitigation and other environmental effects such as biodiversity loss. Scottish Government is also committed to a Just Transition that considers the impact of climate change on communities and individuals. Scottish Water should appraise the options for the project against a range of environmental factors in line with the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017. These include: – Population and Human Health – Biodiversity – Land, soil, water, air and climate – Material assets, cultural heritage and the landscape – Vulnerability of the proposed development to major accidents and disasters This is to reflect the overall balance of environmental impact and benefits.
Governance arrangements	The governance arrangements for this project must be consistent with the arrangements for major investment projects set out in the SPFM.

5.5.3. On 26 February 2026 Scottish Water's Chair responded to the Cabinet Secretary's letter, explaining how Scottish Water had met each of the requirements in the policy position.

5.6. Our assurance

5.6.1. This section explains how we have tested Scottish Water's analysis and appraisal of the West Central Bioresources project in terms of the investment need, the process of defining and assessing options, the cost assessment of the options, and provides our assurance as to how well the appraisal has met the requirements of the Scottish Government's policy position.

5.6.2. Our assessment has been informed by the engineering review undertaken by our consultants WSP of the West Central Bioresources project, which followed the scope detailed in paragraphs 2.2.61 and 2.2.62.

Assessment of the investment need(s)

5.6.3. According to the Stage 1 Project Investment Appraisal from June 2023,[258] the "to be" position of the projects is to:

- Maximise resource recovery and renewable energy from bioresource;
- Reduce energy usage, carbon footprint and operating costs of bioresource treatment;
- Recycle all biosolids to a sustainable outlet;
- Reduce the risk and improve the resilience of processing bioresource in the area; and
- Accommodate planned growth.

5.6.4. The primary need was identified as "N807 Maximise value from bioresource product: Develop plans to generate energy and maximise value at Daldowie Sludge Treatment Centre post PFI contract". However, during discussions, Scottish Water indicated that the primary need is to provide resilience in treatment capacity and in market outlets for treated bioresource (which is partly reflected in the need to maximise bioresource value). The criteria used to later on evaluate the long list of options were reflective of the identified needs: improve compliance and operational resilience (including future growth and future-proofing for potential changes in legislation and technology), maximise value from bioresources by maximising energy generation and minimising carbon emissions and costs, and resolve working conditions of dryer building at Daldowie. [259]

5.6.5. Based on their detailed review of the project, our external engineering consultants WSP had a high confidence that there is a clear need to invest to maximise bioresource value, to

[258] Scottish Water (2023), 'Stage 1: Case for Change. Level 1. West Central Bioresource', June 2023, p. 4, submitted with the final business plan on 26 February 2026.
[259] Scottish Water (2024), 'Stage 2: Strategic Option Review. Level 1. West Central Bioresource', April 2024, p.7, submitted with the final business plan on 26 February 2026.

maintain treatment centres, and to improve overall system resilience. Transition to AAD would increase the opportunity to derive value from bioresource treatment – in terms of risk mitigation, system resilience, greenhouse gas reduction and (potential) revenue. Improved bioresource quality also provides the greatest range of options for recycling to agricultural (and other) land – although there is no guarantee that such land will be available. The current state of the assets did not meet those needs, as the Daldowie site is nearing its end of life and would not provide resilience or scope for growth. Furthermore, Scottish Water explained that the satellite sites did not meet current regulatory or asset standards. The current market outlets also appeared unreliable and uncertain, as explained in paragraphs 5.2.9 and 5.2.10. WSP supported the adaptive planning strategy underpinning the wider bioresource programme, highlighting that upgrading smaller, non-compliant treatment sites into feeder hubs would be a low-regret investment that enhanced system flexibility while ensuring regulatory compliance.

5.6.6. In conclusion, we consider that Scottish Water has evidenced the project need. There are several needs the project seeks to address, aligned with the 2021-27 and 2027-33 Ministerial Objectives for growth, the circular economy, and climate change (particularly achieving the net zero target).[260]

Assessment of optioneering process

5.6.7. As explained in section 5.3, there were three categories of options Scottish Water has considered during the appraisal process. This sub-section assesses Scottish Water's evaluation of the options for technical solution and timing, followed by the options for financing.

Options for technical solution and timing

5.6.8. Our engineering consultants, WSP, have a high confidence that options for a technical solution (including 'do nothing') have been adequately explored – including system-wide aspects. The proposed hub-and-spoke treatment/dewatering model has been in development for around a decade, is common outside Scotland and is well supported in terms of supply chain knowledge and capabilities. It also represented a 'no / least' regret option for future add-ons that might be required in the event of regulatory or market changes. WSP considered that the preferred AAD solution would maximise bioresource value and the Daldowie site offered optimum logistical opportunity for location of a single AAD hub at a lower price than multiple hubs.

5.6.9. In terms of considering Grangemouth as a site for the AAD facility, Scottish Water explained that "the economic analysis of building and operating a new AAD site at Kinneil Kerse is

[260] Scottish Water (2023), 'Stage 1: Case for Change. Level 1. West Central Bioresource', June 2023, Appendix 5 on p.22, submitted with the final business plan on 26 February 2026.

functionally equivalent to that for a site in Grangemouth, given close proximity".[261] However, according to Scottish Water's assessment, the Grangemouth site option can be viable only if there is confirmed interest from a third-party developer in establishing a new AAD facility, and if there is high confidence that Scotland's bioresource sector would grow to a level that it would need to process more than 85K tDS/year so that economies of scale can be achieved.[262] On the latter dependency, WSP considered that this would require import of other materials for anaerobic digestion which would create regulatory issues with the digestate residue, since they would no longer be eligible for end of waste status / biofertiliser quality assurance following their co-processing with bioresource. WSP also noted that the Grangemouth site may offer the benefit of allowing future production of Sustainable Aviation Fuel (SAF) from bioresource; however, the Daldowie site option could still achieve this benefit by producing the precursors for SAF for onward transport to Grangemouth for upgrading or refining. On this basis, Scottish Water demonstrated it had considered Grangemouth (or Kinneil Kerse in immediate proximity) as a site for the AAD facility to support the Scottish Government's Just Transition plan for that industrial cluster.

5.6.10. Regarding the timing options of investing now or deferring to SRC33, Scottish Water provided further information to WSP in response to the latter's WCB review queries regarding the condition of the driers and their remaining asset life. Scottish Water explained that the terms of the handover contract provide a mechanism for Scottish Water to recoup costs associated with works necessary to ensure dryers are in a compliant condition. Asset inspections had previously taken place at around 3 year intervals and are currently underway, following PFI handover. WSP noted that the contractual approach provided confidence that risks associated with dryer failure are well understood. We considered that Scottish Water had examined these options.

5.6.11. Overall, we consider that Scottish Water has evidenced that it had considered different options for the provision of bioresources treatment and disposal, following the return of the Daldowie site.

5.6.12. Regarding the consideration of benefits, Scottish Water demonstrated in the Stage 3a project investment appraisal that it had considered the whole-life (60-years) carbon values of the 5 main technical solution options for both embodied and operational emissions.[263] Appendix 3 of that document also showed the assessment of the options against various criteria, including benefits such as energy capture and generation, as well as the quantity and quality of bioresource output. However, there seemed to be a limited number of other

[261] Scottish Water (2025), 'West Central Bioresource PIA: WICS briefing session 20/05/2025', slide 16, submitted with the final business plan on 26 February 2026.
[262] Scottish Water (2026), 'SR27 Final Business Plan: Technical Appendix 010 – West Central Bioresources', 26 February 2026, p.28.
[263] Scottish Water (2025), 'Stage 3a: Outline Investment Appraisal. Level 1. West Central Bioresource', June 2025, p.36, submitted with the final business plan on 26 February 2026.

wider and also non-financial economic benefits considered outside of energy capture and generation.

5.6.13. Regarding the consideration of risks, WSP had high confidence that Scottish Water had, in large part, considered risks well and has proposed appropriate mitigations. However, WSP also highlighted its concerns that Scottish Water had not yet modelled the extent of landbank requirements under EASR, though Scottish Water confirmed to WSP that such an assessment was underway. The project appraisal assumed there will be available access to agricultural landbank, but this had not been market tested. Both of these could have material impacts on post-AAD management of the treated bioresource. We also had reservations about how well risk has been considered and mitigated in relation to available land at the Daldowie site to accommodate potential future expansion of the AAD facility, e.g. if another treatment stream or future bolt-on technologies are required. This was based on the available area shown in the provisional site layout design in Figure 16 of technical appendix 10, and the potential area required by future bolt-on technologies and associated ancillary assets.

5.6.14. Regarding whether the proposed scope addresses all the investment needs, we had concerns over the size of the proposed plant. The Stage 1 project investment appraisal explained that "This project will provide the required capacity to accommodate planned growth and will consider providing headroom above the required capacity".[264] We asked our engineering consultants, WSP, if there was evidence that this need had been addressed. WSP advised that according to the Basis of Design[265] for the new works the average and peak throughput required was 82.5ttDS/year and 103.7ttDS/year respectively and that growth factors have been applied. However, it remained unclear if "headroom above the required capacity" has been considered in the basis of design.

5.6.15. As such, in the Draft Determination we identified three areas where Scottish Water should provide further evidence:

- the need for more landbank for the disposal of the treated biosolids;
- whether it has fully considered "headroom above the required capacity" in the project designs, to ensure the asset is future-proofed; and
- the availability of land at the Daldowie site to accommodate potential future expansion of the AAD facility, e.g. if another treatment stream or future bolt-on technologies are required. This is based on the available area shown in the provisional site layout design in Figure 16 of technical appendix 10, and the potential area required by future bolt-on technologies and associated ancillary assets.

[264] Scottish Water (2023), 'Stage 1: Case for Change. Level 1. West Central Bioresource', June 2023, p. 12, submitted with the final business plan on 26 February 2026
[265] m2 (2025), 'West Central Bioresource Basis of Design PART A', October 2025.

5.6.16. Scottish Water did not provide further information or evidence for these areas in its Draft Determination response. These matters therefore remain outstanding, and further information will be required before we can consider Scottish Water has fully satisfied the conditions for accessing funding through the conditional charge cap. This is separate from the areas covered by the Ministers' request for assurance and therefore does not affect the assurance we provide at the end of this section.

Options for financing the project

5.6.17. As explained in paragraph 5.3.6, Scottish Water considered 3 financing options: 'in-house' delivery funded by customer charges and government borrowing, a Mutual Investment Model (MIM) and a Regulated Asset Base (RAB) model. The following paragraphs focus on assessing the MIM option as per the Scottish Government's assurance requirements.

5.6.18. As explained in paragraph 5.3.6, a MIM is similar to a Private Finance Initiative (PFI) contract in that it aims to ensure that the borrowing associated with the infrastructure asset does not count as Government debt – i.e. is 'off balance sheet'. The main difference between a PFI and an MIM is that the latter involves the public body taking a minority stake in the holding company (as a special purpose vehicle) responsible for the investment in the asset. Profit sharing and enhanced governance from the issuer address some of the criticisms of PFI.

5.6.19. The Office for National Statistics (ONS) applies Eurostat's guidance and criteria to determine whether the asset and its associated financing are classified as private or public. If it is the latter, then the financing related to the project will be counted as Government debt. As part of the assessment, ONS examines construction, availability and demand risk. For off-balance-sheet classification, the private sector must bear these risks. ONS reviews classification on an ongoing basis, meaning balance sheet classification can change over the lifetime of the MIM.

5.6.20. Given these factors, MIM has been used for projects with the following characteristics:

- Projects that are standardised and non-complex, allowing construction risk to be transferred to the private sector;
- Project outcomes are fixed over the lifetime of the asset; and
- Large projects (>£500 million), to attract international investors and contractors.

5.6.21. Therefore, to be viable a MIM for WCB would need to meet these criteria in a way that provides high confidence that the ONS would classify the financing as an off-balance-sheet item and that it would remain so over the lifetime of the MIM. If this were not the case, then the MIM would count as Scottish Government debt. In this scenario, it is unclear who would bear the risk of reclassification and the consequences if the borrowing is counted towards Scottish Government debt either at the outset or over the duration of the MIM.

5.6.22. There is no precedent of MIMs in Scotland; however, MIMs have been used in Wales for roads and accommodation-based solutions.[266] The Scottish Government examined the use of a MIM for the dualling of the A9; however, it was discounted, recognising that the cost of a MIM is around 28% higher than the alternative Scottish Government capital-funded project. As such, it was concluded that MIM contracts for the A9 dualling programme would deliver poorer value for money than capital-funded projects.[267]

5.6.23. With this context in mind, the following paragraphs explain our assessment of Scottish Water's optioneering process.

5.6.24. Scottish Water commissioned two consultancy reports as part of the evidence on the suitability of the MIM model for WCB.

- EY Parthenon report providing an initial assessment against the potential classification for a MIM;[268] and
- EY Parthenon market engagement, testing market appetite for a MIM.[269]

5.6.25. The first report found that a MIM can be structured so as not to trigger the automatic on-balance-sheet provisions in Eurostat guidance.[270] However, this was an initial view, and further work will be required to develop the project scope and risk allocation. The second report documented interviews with project sponsors, senior finance providers, and contractors to test market appetite for an MIM for an AAD facility. There was an appetite; however, an unwillingness to accept full fixed-price construction risk.[271] EY Parthenon concluded that a form of shared-risk procurement could be challenging to accommodate within the requirements for an off-balance-sheet classification.[272]

5.6.26. Our engineering consultants, WSP, reviewed Scottish Water's assessment of the MIM option and provided their own assessment to WICS based on information from Scottish Water and WSP's own experience and knowledge in this area. WSP considered the WCB Project was partially consistent with the characteristics of a project suitable for delivery through MIM. There was high confidence in the certainty of need, underpinned by statutory drivers and long-term system importance. However, overall confidence was only moderate due to unresolved scope definition, output specification, demand sensitivity and interface risks,

[266] Welsh Government (2024), 'Mutual Investment Model Report 2022-2024', 20 May 2024, available at https://www.gov.wales/annual-mutual-investment-model-report-july-2022-to-march-2024
[267] Scottish Parliament (2026), 'Official Report: Meeting of the Parliament Wednesday', 14 January 2026, available at Official Report, last accessed on 5 May 2026.
[268] EY Parthenon (2025), 'Project Farm 2', 26 August 2025.
[269] EY Parthenon (2026), 'Scottish Water Mutual Investment Model', 30 January 2026.
[270] EY Parthenon (2025), 'Project Farm 2', 26 August 2025, p.7.
[271] EY Parthenon (2026), 'Scottish Water Mutual Investment Model', 30 January 2026, p.10.
[272] EY Parthenon (2026), 'Scottish Water Mutual Investment Model', 30 January 2026, p.12.

which suggested constraints in terms of Scottish Water's ability to transfer risk to the private sector at a reasonable price.

5.6.27. Scottish Water's early market feedback indicated there was insufficient ability to transfer risk to the private sector and Scottish Water made an early decision to discount MIM based on this. However, WSP considered this decision is not yet strongly evidenced, in part due to limited response from the market and the constraints on the assessment due to the preliminary nature of the scope and risk definition at this stage. Confidence in the assessment of the suitability of a MIM would be improved through further development of scope and risk allocation, structured optioneering on delivery and contractual approaches, and targeted re-engagement with the market. These activities would provide a more robust basis on which to confirm whether MIM can achieve the necessary risk transfer required for delivering the WCB project under a MIM model. While MIM remains theoretically capable of passing ONS classification tests and being treated off balance sheet, confidence in its practical deliverability is low due to the issues identified.

5.6.28. On the benefits of in-house versus MIM delivery, Scottish Water's analysis concluded that in-house delivery was preferable to a MIM for the WCB project, primarily due to greater delivery certainty and lower whole-life cost – all costs for self-delivery over 60 years are estimated to be £1,097 million, while for MIM (including service payments and return of the asset to Scottish Water after 25 years) these were estimated to be £1,580 million (in 2024-25 prices).[273] This suggested that a MIM would have a premium of around £480 million or 40%.

5.6.29. WSP considered that this assessment provides a reasonable directional view but did not represent a fully consolidated or exhaustive comparison across delivery models. The evidence robustly demonstrated that in-house delivery offered stronger operational control and avoids delays and execution risks associated with a first-of-a-kind MIM procurement in Scotland. The whole-life cost modelling transparently showed a material and structurally driven cost premium under MIM arising from private financing, equity returns and taxation, thus supporting the assessment that self-funded delivery offers better value to customers. While the potential benefits of a MIM approach – such as risk transfer, whole-life incentives, and contractual mechanisms to support innovation – were recognised in principle, the evidence available to date did not demonstrate that these benefits would be sufficiently distinctive, reliably achievable, or material in the specific context of the WCB project. In several areas, conclusions relating to MIM were informed by limited market engagement. Furthermore, the absence of a fully developed MIM delivery and risk allocation model constrained confidence in the assessment. Overall, WSP considered that Scottish Water's conclusions were reasonable and the emphasis placed on cost and delivery certainty was

[273] Scottish Water (2026) 'SR27 Final Business Plan: Technical Appendix 10 – West Central Bioresources', 26 February 2026, p.45.

appropriate; however the depth and strength of evidence across the full range of stated benefits was mixed.

5.6.30. Regarding the impact of the EASR on the choice of technology or funding options, MIM would require the use of liming for a longer period of time. Since liming has more environmentally harmful phosphate compounds than other treatment methods such as AAD, this would require less frequent disposal of treated bioresource to land to manage potential pollution risks and to be compliant with regulations. As such, more landbank would be required under a MIM option. The longer any transition between current and future bioresource treatment systems, the greater the cost to Scottish Water and the greater the risk, simply due to the nature of lime-treated bioresource. The self-delivery option was then preferable over a MIM delivery due to the quicker transition and associated less costs and lower risk in terms of landbank requirements.

5.6.31. Scottish Water's assessment of the additional cost of a MIM for WCB also exceeded the 28% additional cost identified in relation to the A9, where the Scottish Government concluded that MIM contracts would deliver poorer value for money than capital-funded projects. While the A9 is not directly comparable to WCB, it provided a relevant caution when considering whether the additional cost of a MIM would be justified.

5.6.32. Our engagement with the Scottish Futures Trust reinforced the importance of the classification risk. In particular, it highlighted the uncertainty over whether the project could achieve off-balance-sheet classification at the outset and maintain it over the asset's lifetime. Without sufficient confidence in classification and risk allocation, a MIM may not achieve the purpose for which it is being considered.

5.6.33. Overall, we consider that Scottish Water's market testing could have been more comprehensive, particularly given the limited number of contractors engaged through the EY Parthenon work. A fuller exercise may have provided stronger evidence on market appetite, risk allocation and deliverability. However, this has to be weighed against the wider evidence now available, including the cost premium identified by Scottish Water, the challenges of transferring construction risk, and the uncertainty around achieving and maintaining off-balance-sheet classification.

5.6.34. We are satisfied that Scottish Water has considered a MIM as part of the project appraisal for WCB. Scottish Water has provided evidence on cost, market appetite, risk allocation and classification risk, and its Board has approved the proposal not to deliver WCB through a MIM. On the evidence currently available, we consider Scottish Water's conclusion that self-funded delivery is the preferable option for customers to be reasonable.

5.6.35. On this basis, we have made a conditional allowance for a self-funded delivery of West Central Bioresources within the investment programme, subject to the cost challenges outlined above and in the chapter on operating expenditure in the main Final Determination

document. While WICS remains open to considering alternative funding and delivery models at a strategic level in future SRCs, we do not consider that the evidence supports further development of a MIM for WCB.

Assessment of costing

5.6.36. WSP had a high confidence that Scottish Water has used an appropriate approach for developing the WCB costs and that the cost estimates themselves are appropriate for this stage in planning and scheme design. The proposed AAD technology is industry-leading in efficiency of required infrastructure. WSP reviewed the benchmarking analysis of Cumming Group commissioned by Scottish Water.[274] According to that analysis, only a portion of the WCB scope is comparable to industry benchmarks and the cost of it is lower than the industry average under both benchmarking methods (comparing costs per unit (ttDS/year), and comparing using a cost equation (line of best fit)). WSP suggested adding two new data points to the line-of-best-fit analysis to improve the comparison. Scottish Water's consultants, Cumming Group, implemented the suggestion and the updated analysis also showed that the lower end of WCB's comparable costs is below or in line with the comparators.

5.6.37. WSP also reviewed Scottish Water's 'Latest Best Estimates' unit-based approach for estimating WCB costs. The consultants noted that the direct construction and construction risk costs appear appropriate; however, they considered that several cost items are high: the indirect or 'on costs', the costs for Electrical, Control and Instrumentation and the costs for motor control centres, which are part of electrical costs. The itemised list of costs included a mix of higher and lower-than-expected costs.

5.6.38. WSP further noted that costs for the WCB scheme have increased over time, but this was to be expected given the nature of the project and prevailing market conditions. The unit processes required for successful project delivery are tried and tested, and risks of cost escalation understood and appropriately reflected in the final budget. Cost (and risk) management would be a fundamental component of the project delivery process and would require appropriate oversight.

5.6.39. In conclusion, we consider that the £420 million cost estimate in the business plan (excluding £140 million in upgrades to other wastewater treatment works to enable the export of biosolids to the new treatment centre) appeared to be in line with available benchmarks; however, the facility's design was still under development, so there remains some uncertainty about the final cost estimate before construction commences. We therefore

[274] Cumming Group (2025), 'Scottish Water: Daldowie Bioresources. Project Level Benchmarking Completion Report', 16 December 2025, submitted with the final business plan on 26 February 2026.

require Scottish Water's cost estimate in the Stage 4 Project Investment Appraisal before the project proceeds.

5.6.40. There was also uncertainty over whether Scottish Water would be able to offset some of the costs of WCB. Scottish Water has also highlighted the opportunity to apply for funding through the Green Gas Support Scheme (GGSS), which provides financial incentives for new anaerobic digestion plans to inject gas into the UK grid. Such incentives would reduce the costs to customers.

5.6.41. Our concerns about the uncertainties around the cost estimates are one of the main reasons we propose to apply a conditional price cap for the WCB project as explained in Chapter 8 of the Final Determination.

Assessment of other requirements from the policy position

5.6.42. This sub-section outlines our assessment for the remaining requirements from the Scottish Government's policy position:

- Compliance with HM Treasury's Green Book;
- Alignment with Scottish Government's Infrastructure Investment Plan and draft Bioenergy Policy Statement;
- Alignment with the circular economy strategy and achievement of net zero emissions by 2045;
- Alignment with the Scottish Public Finance Manual (SPFM), in particular the section on funding and procuring and governance arrangements;
- Alignment and integration with existing policies and plans at the national, regional and local level, e.g. National Planning Framework 4; and
- Compliance with the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017.

5.6.43. Regarding compliance with HM Treasury's Green Book, our engineering consultants considered that Scottish Water has largely completed the analysis and justification for the WCB business case as recommended by the HM Green Book; however, that is not presented in a comprehensive format as per the Green Book guidance, e.g. not all relevant information and analysis is collated into one document, but it is spread over multiple documents. Since this appeared to be a formatting rather than a content issue, we are satisfied that all relevant Green Book information requirements are met.

5.6.44. We gain assurance from WSP's analysis that the proposed WCB solution appropriately aligned with the Scottish Government's draft Bioenergy Policy Statement and draft Infrastructure Strategy (2027-2037) and with the Town and Country Planning Regulations 2017 which require the use of Environmental Impact Assessments. Scottish Water has explained in TA010 how it is addressing the EIA requirements. This has included receiving

advice from Glasgow City Council on the required contents of the EIA submission and receiving feedback from statutory consultees on the screening process. This and other information has been submitted to Glasgow City Council seeking its scoping opinion. Once that is received, Scottish Water estimates it would need 4-8 months to complete the EIA.[275] As such, we consider this requirement is in the process of being addressed. We make the completion of all necessary impact assessments and receipt of necessary consents and approvals a condition of the conditional charge cap.

5.6.45. There was very limited coverage by Scottish Water within the business plan evidence of how the options align with policies and plans at the national, regional and local levels, including the National Planning Framework 4. This is summarised in section 2.1 'Regulatory and Policy Context' in technical appendix 10 which outlines alignment with the waste hierarchy within Waste (Scotland) Regulations 2012 and related SEPA guidance, the Scottish Government's draft Bioenergy Policy Statement, Scottish Government's draft Circular Economy Strategy, national policy objectives under EASR, recommendations by the UK Climate Change Committee.

5.6.46. In its Draft Determination response, Scottish Water submitted a detailed assessment of how the project aligns with national, regional and local policies and planning frameworks. In relation to environmental approvals, Scottish Water demonstrated that the necessary assessment and consenting processes are underway, although these have not yet been completed.[276] We consider the additional detailed evidence Scottish Water provided in its response sufficiently demonstrated the requirement for aligning with existing plans and policies has been met.

5.6.47. In the Stage 1 PIA Appendix 5, Scottish Water maps how this project contributed to the 2021-27 Ministerial Objectives for supporting sustainable growth (by providing sufficient additional capacity and headroom for growth to 2040), for circular economy (by recovering as much benefits as economically possible from bioresources though the improved treatment technology), and for climate change (by adopting an AAD solution which requires less energy and emits less carbon thus lowering emissions). Scottish Water also considered that the WCB project would be a key enabler in achieving its target for net zero emissions by 2040.[277] This is also evidenced by the significant reduction in calculated whole-life (60-years) carbon emissions from nearly 2.5 million tCO2e of the Business-As-Usual option of using driers and liming (without carbon capture) down to 0.6 million tCO2e of the proposed

[275] Scottish Water (2026) 'SR27 Final Business Plan: Technical Appendix 10 – West Central Bioresources', 26 February 2026, p.59.
[276] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination Response – Annex 6 – West Central Bioresource', 1 September 2026.
[277] Scottish Water (2025), 'Stage 3a: Outline Investment Appraisal. Level 1. West Central Bioresource', June 2025, p.12, submitted with the final business plan on 26 February 2026.

solution.[278] As such, we consider that the project meets the requirements to support the circular economy strategy and help to achieve the 2045 net zero target.

5.6.48. We consider that the WCB project aligns with the Scottish Government's Infrastructure Investment Plan (IIP) at a high level. The IIP covers three strategic themes for guiding investment decisions in Scotland:

- Enabling the transition to net zero emissions and environmental sustainability;
- Driving inclusive economic growth; and
- Building resilient and sustainable places.

5.6.49. The IIP also introduces a new Scottish Government Investment Hierarchy which prioritises enhancing and maintaining assets over new build:

- Determine future need;
- Maximise the useful life of existing assets.
- Repurpose & Co-locate; and
- Replace, Create or Build New Assets.

5.6.50. Scottish Water has evidenced that it has considered these factors.

5.6.51. In terms of alignment with the SPFM sections on funding and procuring and on governance arrangements for major investment projects, in our Draft Determination, we considered that Scottish Water had partially met the requirements with the evidence provided with the final business plan. However, Scottish Water provided further evidence in response to our Draft Determination consultation which addressed our concerns. Each of these two sections is examined below.

5.6.52. Regarding funding and procuring, the SPFM explains that major investment projects should be compliant with the SPFM sections on 'Procurement' and on 'Non-profit distributing public private partnerships', and that the project's business case should fully reflect the options for delivery and their assessment. We cannot comment in detail on how well Scottish Water is aligning to the 'Procurement' section requirements as the procurement has not begun.[279]

5.6.53. We consider that Scottish Water has met the SPFM requirements in section 'Non-profit distributing public private partnerships' which are applicable at this stage of the appraisal process. Namely, the WCB appraisal has considered a MIM as a type of public-private partnership, and Scottish Water has received expert advice on the suitability of a MIM for

[278] Scottish Water (2026) 'SR27 Final Business Plan: Technical Appendix 10 – West Central Bioresources', 26 February 2026, p.38.

[279] SPFM requirement examples include delegated authorities, separation of duties between the budgetary authority and procurement authority, contract management and use of consultants, etc. These would be governed by Scottish Water-wide processes. SPFM refers to separate policies and guidelines such as the Scottish procurement policy handbook and the client guide to construction projects.

WCB. Scottish Water has also documented and evidenced the reasons why it is not proposing to deliver WCB through a MIM, and this proposal has been approved by its Board as part of the business plan submission. The other requirements in the NPD PPP section relate to the project management and accounting rules for such partnerships, which are not applicable to WCB at this stage of the appraisal.

5.6.54. We consider that the requirement for delivery options assessment within the business case has been met through Scottish Water's assessment of the applicability and viability of an MIM delivery, which is summarised in section 4 'Financial Case' of technical appendix 10 and compared against a self-funded delivery.

5.6.55. If the project is jointly funded, the SPFM outlines additional requirements that we do not consider relevant for WCB at this stage.

5.6.56. Regarding governance arrangements, the SPFM outlines 3-4 key roles:

- Investment Decision Maker;
- Senior Responsible Owner (SRO) – accountable for meeting the project objectives, delivering the outcomes and realising the required benefits. The SRO is the owner of the business case and accountable for all aspects of governance;
- Project Sponsor (Optional); and
- Project Manager.

5.6.57. Scottish Water outlined in technical appendix 10 the governance structure applicable to WCB, including the roles, responsibilities and membership of each governance group.[280] Based on the descriptions, in the Draft Determination we considered that Scottish Water's structure closely aligns with the SPFM requirements; however, Scottish Water had not provided sufficient information in the business plan to fully confirm alignment.

5.6.58. SPFM further requires that "Project roles, responsibilities and delegated authorities must be clearly identified, agreed and documented in formal letters of appointment between the IDM and the SRO (see supporting documents and the SRO appointment letter), and between the SRO and the various post holders within the project's management structure. The roles must be set out in the project's business case and be subject to scrutiny as part of the appropriate project approvals process". Scottish Water had not provided this level of detail within its final business plan or WCB business case documents, which only include a high-level explanation of the relevant governance groups and their roles.

5.6.59. We required Scottish Water to provide further information in this area for our Draft Determination consultation. In its response, Scottish Water provided clear mapping

[280] Scottish Water (2026) 'SR27 Final Business Plan: Technical Appendix 10 – West Central Bioresources', 26 February 2026, p.60.

between its internal governance framework for the project and the three to four key roles required by the SPFM, confirming that the Investment Decision Maker role is undertaken by the Scottish Water Board. It confirmed stakeholders will be updated through the Water Industry Investment Group, with a standing West Central Bioresources agenda item to report progress as the programme moves towards Gate 80/90. Scottish Water also demonstrated a strengthening of the assurance arrangements by confirming the establishment of an informal Board sub-committee and an independent "Red Team" comprising external experts who will scrutinise the Gate 80/90 plan before Board approval.[281]

5.6.60. We are satisfied that Scottish Water's response to the Draft Determination sufficiently demonstrates alignment with SPFM. The roles for Senior Responsible Officer, Project Sponsor and Project Manager have yet to be formally established and appointed via formal letters; however, we consider that Scottish Water's proposed structure and commitment to appointment are reasonable measures for this stage of the project's development. We expect these to be confirmed in the final project investment appraisal. We also agree with Scottish Water's interpretation of the Investment Decision Maker role.

5.6.61. In conclusion, we consider that the requirements for alignment with the SPFM sections on funding and procuring and on governance arrangements for major investment projects are met. We require Scottish Water to set out in the final investment case its confirmed project governance structure with appointed roles and delegated authorities.

Assurance

5.6.62. Table 118 provides our assessment and final assurance against each of the requirements from Scottish Government's policy position detailed in Table 117 above. The changes in assurance since the Draft Determination are to confirm the following requirements have been met:

- alignment with SPFM section 'Funding and procuring',
- alignment with SPFM section 'Governance';
- alignment with existing policies and plans;
- representing value for money*; and
- considering wider economic benefits*.

5.6.63. We have marked the requirements relating to value for money and wider economic benefits as met with asterisks, indicating that we consider Scottish Water's assessment of these areas appropriate based on the current project investment appraisal and stage of project development. However, we expect Scottish Water to develop these assessments further as

[281] Scottish Water (2026), 'Strategic Review of Charges 2027-33 Draft Determination Response – Annex 6 – West Central Bioresource', 1 September 2026.

part of the final investment appraisal for the West Central Bioresources project. We will review the final investment appraisal and confirm our assessment of value for money and wider economic benefits when considering whether the conditions for accessing funding under the conditional charge cap have been met.

5.6.64. The WCB allowance is included in our Final Determination for modelling and calculating the conditional charge cap, but access to the customer-funded portion of the project will depend on Scottish Water meeting the conditions set out in Chapter 8 of the Final Determination. Further guidance on the process for applying for the funding is also given in Chapter 8.

Table 118: WICS final assurance against Scottish Government's requirements

Requirement from policy statement	WICS assurance	Assurance commentary
Consider how options can support the Just Transition (Grangemouth)	Requirement met	We consider that Scottish Water has sufficiently demonstrated it has appropriately considered Grangemouth (or Kinneil Kerse in immediate proximity) as a site for the AAD facility to support the Scottish Government's Just Transition plan for that industrial cluster. The proposed solution can also produce precursors for Sustainable Aviation Fuel (SAF) for onward transport to Grangemouth for upgrading or refining.
Align with HM Treasury's Green Book	Requirement met	While the appraisal is not presented as a traditional Green Book investment case, all relevant Green Book information requirements are met.
Align with Infrastructure Investment Plan and draft Bioenergy Policy Statement	Requirement met	We consider the proposed solution to be aligned with the relevant IIP strategic themes and largely aligned with the IIP investment hierarchy. We also gain assurance from our engineering consultant's review that the proposed WCB solution appropriately aligns with the Scottish Government's draft Bioenergy Policy Statement and draft Infrastructure Strategy (2027-2037)
Support the circular economy strategy and achieving the 2045 net zero target	Requirement met	The primary investment need to be addressed by the WCB project is to maximise the value of bioresources, which is a core principle of a circular economy and will support Scottish Water in achieving its net zero target through energy generation and reduced carbon emissions.
Align with SPFM section 'Funding and procuring' for major investment projects	Requirement met	We are satisfied that Scottish Water's response to the Draft Determination sufficiently demonstrates alignment with SPFM. The WCB appraisal has considered a MIM as a type of public-private partnership, and Scottish Water has received expert advice on its suitability for WCB. Scottish Water has also documented and evidenced the reasons why it is not proposing to deliver WCB through a MIM, and this proposal has been approved by its Board as part of the business plan submission. We consider that Scottish Water's proposed project governance structure and commitment to appointing roles are reasonable measures for this stage of the project's development.
Consider delivery through a MIM	Requirement met	As above. WICS is assured that Scottish Water has undertaken a detailed analysis of the costs and risks associated with a MIM delivery option, on the basis of which it concludes that self-delivery is the preferred option. Overall, we consider Scottish Water's assessment that self-funded delivery is in customers' best interests to be reasonable.

Requirement from policy statement	WICS assurance	Assurance commentary
Represent Value for Money	Requirement met (based on the current stage of project development)*	The cost estimate in the business plan appears to be in line with available benchmarks; however, the facility's design is still under development, so there is some uncertainty over the final scope and project costs. This is one of the reasons for adopting a conditional charge cap for this project. We will confirm our view upon review of the final investment case (the Stage 4 Project Investment Appraisal).
Consider economic impact (whole-life costs and how capital costs can be shared between current and future customers)	Requirement met	Scottish Water's analysis includes estimates of capital and operating costs over 60 years in a whole-life cost calculation for both self-funded delivery and MIM delivery, as options for sharing capital costs between current and future customers.
Consider qualitative or quantitative wider economic benefits	Requirement met (based on the current stage of project development)*	Scottish Water has demonstrated that it has considered the whole-life (60-year) carbon values of the 5 main technical solution options, including embodied and operational emissions. However, there seem to be few other, broader, non-financial economic benefits beyond energy capture and generation. We expect Scottish Water to further develop this assessment in the final investment case (the Stage 4 Project Investment Appraisal). We will confirm our view upon review of the final investment case.
Assess integration with existing policies and plans at the national, regional and local level (e.g. National Planning Framework 4)	Requirement met	We consider the additional detailed evidence Scottish Water provided in its response to the Draft Determination to be sufficient to demonstrate that the project is well aligned with existing policies and plans at the national, regional and local levels.
Environmental Impact Assessment	In progress	Scottish Water is currently developing the required EIA and expects to complete it in the second half of 2026. We will make the completion of all necessary impact assessments and receipt of necessary consents and approvals a condition of the conditional charge cap.
Align with SPFM section 'Governance' for major investment projects	Requirement met	We are satisfied that Scottish Water's response to the Draft Determination sufficiently demonstrates alignment with SPFM. We consider that Scottish Water's proposed project governance structure and commitment to appointing roles are reasonable measures for this stage of the project development. We require Scottish Water to set this out in the final investment case (the Stage 4 Project Investment Appraisal).

* Refer to paragraph 5.6.63.

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