Growth Cost Change 2026

Growth in Water Resources – Clean energy growth in Ellesmere Port

UUW26-05

April 2026

United Utilities

Water for the North West

Executive Summary

HyNet North West is one of the UK's most important industrial decarbonisation programmes. It is central to the government's Net Zero Strategy and is backed by confirmed funding and active developer plans. HyNet's inclusion in the refreshed list of around 80 nationally significant Government Major Projects Portfolio projects reinforces its status as one of the UK's highest priority infrastructure programmes and signals the government's focus on targeted oversight and accelerated delivery, reflecting HyNet's critical role in decarbonising the North West's industrial base and supporting the government's wider growth and energy transition objectives. By 2030, HyNet is expected to cut carbon emissions by up to 10 million tonnes each year, equivalent to removing four million cars from the road, and deliver up to three terawatt-hours of low-carbon hydrogen to industry, transport and heat users across the North West.

Alongside HyNet, Ellesmere Port is also seeing increasing demand from a wider range of New Economy developments, including early demand emerging at Peel Park (Ellesmere Port). Engagement with developers indicates a clear requirement for non-potable water supply to support growth. Together, HyNet and Peel Park create a demand profile that cannot be met by the existing non-potable network without targeted investment.

UUW is proposing a £251.0 million investment in Water Resource Options, including £175.6 million in AMP8, to deliver the non-potable water infrastructure required to support growth at HyNet and Peel Park. This investment would expand the existing Wirral non-potable network, unlock new capacity from 2027 onwards, and provide a scalable supply solution capable of meeting forecast demand of around 76 Ml/d by 2040.

Delivery of the AMP8 programme is sequenced to reflect both the timing of demand and the engineering characteristics of each stage. Linear pipeline assets associated with Peel Park mobilise earlier and ramp up quickly, while upgrades to existing strategic assets follow a longer early development phase before accelerating through construction. This approach ensures capacity is delivered ahead of demand while managing operational and regulatory risk.

Delivery of the overall programme depends on continued regulatory and government support. Key requirements include securing a new abstraction from the River Weaver, enabling legal and regulatory change to allow recycled final effluent to be supplied as a non-potable water source, accelerating planning consents in environmentally and archaeologically sensitive areas, and coordinating cross-border regulation between Natural Resources Wales (NRW) and the Environment Agency (EA). Without timely action, water availability risks becoming a limiting factor in enabling growth at Ellesmere Port.

HyNet alone is expected to support up to 75,000 jobs by 2035, contribute £17 billion to the North West economy, and deliver up to £31 billion of national economic benefit by 2050. Together with wider New Economy growth at Peel Park, this represents a significant economic opportunity for the North West. Realising that opportunity depends on timely investment in enabling water infrastructure, with the AMP8 stages set out in this enhancement case providing the critical foundation.

Normally for new non-potable developments, most costs, as non-potable supplies are treated as third-party services, would be recoverable from developers. Under the PR24 framework, any changes to these third-party developer-funded costs would be addressed through the third-party reconciliation model.

Given the significance of the infrastructure requirements in this case, and the risk that this could be a barrier to the growth, we are proposing that all of the costs are funded via the RCV, and that the costs are recovered from the 'special agreement' supply price to the end customer. This avoids the significant up-front developer costs being a barrier to growth. It is an approach that is more akin to bulk supplies and significant water trades, whereby the infrastructure costs are solely recovered from the supply price.

Contents

1. Guide to evidence

Table 1 highlights where the key evidential components of our case are located within the document or its annex. It is to help readers easily navigate to the supporting information that underpins our assessment and justification and provide clarity on which key evidential requirements our document is focused on. Alphabetic references refer to *UUW26-06 Growth in Water Resources – clean energy growth in Ellesmere Port annex.*

Table 1: Signposting to key sections of the document

Assessment area	Key requirements	Section reference
Need for step change in investment	Growth in demand beyond PR24 forecasts.	2.4, A, C
	Demonstrated there is no overlap with PR24 base or enhancement allowances.	2.6, 2.8, A
	Demonstrated clear evidence of insufficient surplus capacity.	2.4
	Alignment with other regulatory processes (e.g., WRMP annual reviews).	2.4, 2.11, A, G
	Risks to service arising from increased demand.	2.4
	Progress update on existing PR24-funded investments.	2.8, 6.1
	Summary of customer and stakeholder engagement on needs	2.5, C, D
Best option for customers	Strategic alignment with long-term planning frameworks (WRMP, DWMP etc.).	3.7, 3.8, A, G
	Consideration of a broad, innovative longlist of options.	3.2, A
	Whole-life assessment of value for customers and the environment.	3.6, A, G
	Review of opportunities to accelerate planned future schemes.	3.8, A, G
	Quantified customer and environmental benefits.	2.9, 2.10, 3.6, C
	Evidence of customer engagement on options.	3.4, D, F
Robust and efficient costs	Use of established costing methodologies.	4.2, H
	Demonstrate efficiency via benchmarking, including: PR24 benchmarks, historical outturns, external benchmarks, procurement and third-party assurance.	4.2, 4.3, H
	Detailed cost breakdowns showing full cost build-up.	4, 4.2, H
	Evidence that costs do not overlap with existing funded PR24 base allowances.	2.6, 4, A
	Explanation of differences from historical or comparative benchmarks.	4.2, H
	For accelerated AMP9 spend: show early delivery is efficient and in customer interests.	2.10, 3.7.15, A
Customer protection	Propose a Price Control Deliverable (PCD) for each investment proposal to monitor delivery and protect customers.	5.1
	Confirmation that deliverables cover scope and benefits.	5.1, 5.2, A, B
Investment delivery plans	Identification and management of design and delivery risks, and these are being monitored and mitigated.	6.2, 6.3, E, F
	Evidence of engagement with relevant stakeholders, including evidence of permissions or consultation (EA, DWI, local authorities).	2.5, 6.3, D
	Evidence of supply-chain readiness and resource availability.	6.1, 6.3, E, F
	Demonstrate that our AMP8 commitments are on track, providing confidence in deliverability.	3.9, 6.1, A, E, F
	Outline delivery schedule (detailed version available on request).	6.4, A, E

Source: UUW analysis

Please note that evidence to support this case can be found in both this case and its respective annex. Therefore both documents should be read together.

2. Investment Need

This section sets out the case for a step change in non-potable water investment to enable clean energy-led and wider New Economy growth at Ellesmere Port, anchored by confirmed HyNet and Peel Park developments. It demonstrates that this demand is incremental to PR24 assumptions, cannot be met by the existing network, and requires timely AMP8 intervention to avoid water becoming a constraint on nationally significant growth.

2.1 Facilitating clean energy–led New Economy growth in the North West of England

2.1.1 Our proposals set out plans to invest in water resources, specifically non-potable supplies, to enable clean energy-led New Economy growth within the Ellesmere Port industrial area. This investment is anchored by hydrogen production in the HyNet North West cluster. In October 2021, the UK Government confirmed HyNet as a Track-1 cluster through the Cluster Sequencing process, establishing it as one of the UK's leading industrial decarbonisation activities. In March 2026 The National Infrastructure and Service Acceleration (NISA)[1] unit has also been tasked with fast-tracking the development of HyNet as confirmed in the latest published project pipeline. The Track-1 designation recognised HyNet as a priority cluster for delivery in the mid-2020s and created a stronger platform for government funding and regulatory support to accelerate hydrogen production, carbon capture and associated enabling infrastructure. This has since been reinforced by the published HyNet Full Business Case, which states a total subsidy cost of £9.1 billion in 2021 real prices[2], and by the Government's wider commitment of up to £21.7 billion over 25 years[3] to support the first Carbon Capture Usage and Storage (CCUS) clusters, including HyNet.

2.1.2 Alongside HyNet, Ellesmere Port is also experiencing growing demand from a wider range of New Economy developments, including early demand emerging at Peel Park. While there is less certainty at this stage around the specific mix of industries at Peel Park, engagement with developers indicates a clear requirement for non-potable water supply to support growth. Together, HyNet and Peel Park create a near- and medium-term demand profile that cannot be met by the existing non-potable network without targeted investment.

2.1.3 Confirmed projects within the HyNet cluster, including large-scale hydrogen production at Stanlow and the wider Peel Park development, are already advancing and will require a secure, non-potable water supply. To meet this requirement and support wider New Economy growth, UUW has developed a staged investment programme spanning AMP8 and AMP9. The AMP8 elements focus on delivering the earliest and most deliverable capacity required to meet early demand, while later stages will be progressed through the PR29 process.

2.1.4 A summary of the HyNet cluster, including how the cluster is structured and the respective roles of Government, transport and storage operators, hydrogen producers and connected industrial projects, is provided in *UUW26-06* Appendix C. This context is relevant because the water requirement in Ellesmere Port is linked to the delivery of multiple interdependent HyNet-related projects rather than a single standalone development.

2.1.5 The existing Wirral non-potable network comprises a strategic raw water transfer and industrial supply system serving the Ellesmere Port and Stanlow area. The network is principally supplied from [✂]and includes a series of interconnected large-diameter mains, river crossings and cross-connections. This existing network provides the core asset base on which future supply can

[1] Government ushers in new era for UK infrastructure delivery - GOV.UK

[2] Full Business Case for HyNet Cluster Carbon Capture, Usage & Storage (CCUS)

[3] Government reignites industrial heartlands 10 days out from the International Investment Summit - GOV.UK

build, but the engineering review confirms that targeted reinforcement and refurbishment are required if it is to provide reliable additional capacity for new demand.

2.1.6 Table 2 below outlines the scope, cost and funding route for each stage of investment. Further supporting detail on the role of each stage within the wider programme is provided in *UUW26-06* Appendix A.

Figure 1: Map showing the location of investments across the region

Source: UUW analysis

Table 2: Six stages of investment (£m, 2022-23 CPIH prices)

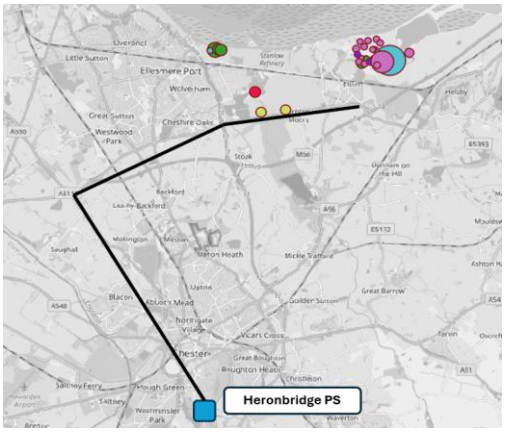
Stage	Element	AMP8 Value[4]	AMP9 Value[5]	Total Value	Description
Stage 1	Wirral Raw Water Aqueduct (Black Line)	51.4	29.8	81.2	Targeted upgrades to the existing non-potable network in the Wirral
Stage 2	River Weaver Strategic Non-Potable Supply (Purple Line)	27.4	9.6	37.0	New surface water abstraction and transfer main from the River Weaver to central balancing infrastructure
Stage 3	Central Blending and Storage	2.9	1.0	3.9	Central blending and storage infrastructure enabling integration of multiple supply routes
Stage 4	Ellesmere Port West Reinforcement Main (Light Blue Line)	84.8	29.7	114.5	Strategic reinforcement to support later phases of HyNet growth and wider industrial demand
Stage 6	Distribution from Central Blending Tank	2.6	1.5	4.1	Distribution infrastructure required to deliver blended non-potable water to industrial users
Stage 7	Ellesmere Port East Distribution Upgrade (Dark Blue Dotted Line)	6.6	3.8	10.4	Targeted distribution reinforcement to connect supply infrastructure to industrial customers, including Peel Park
		175.6	**75.4**	**251.0**	

Source: UUW analysis

2.1.7 Figure 2 shows the infrastructure enhancements planned as part of the AMP8 programme, centred on enhancing the existing non-potable network shown by the black line, including the River Dee crossing and associated pipeline works. The AMP8 solutions build on existing abstraction, pumping and network infrastructure, including [✂]and the existing Wirral non-potable network, to unlock additional capacity without relying on wholly new source development where this can be avoided. This approach represents the most efficient and cost-effective means of delivering new non-potable capacity within the required timescales.

2.1.8 A wider strategy map showing the geographic arrangement of the preferred programme is provided in *UUW26-06* Appendix B.

Figure 2: Stage 1 – Enhancement of the existing Non-Potable Network



Source: UUW analysis

[4] Capex and Opex

[5] Capex

2.1.9 While recycled final effluent reuse (Stage 5) forms a key part of the long-term strategy, it is not currently deliverable within AMP8. There is no regulatory mechanism that allows water companies to supply treated final effluent as a formal non-potable product. Changes to the legal and regulatory framework are required to enable its use. Until these changes are in place, final effluent reuse cannot be relied upon to meet near-term industrial demand and is therefore scheduled for AMP9.

2.1.10 Delivery of the AMP8 programme is required now to avoid water availability becoming a constraint on early Peel Park demand and initial growth at HyNet. It also establishes the foundational infrastructure required to support later expansion and a transition to more sustainable supply sources in AMP9 and beyond.

2.2 Scheme scope

2.2.1 The proposed AMP8 programme comprises targeted reinforcement and extension of UUW's existing non-potable network to enable clean energy-led and wider industrial growth at Ellesmere Port. It includes strategic source connections, central blending and storage, transfer reinforcement and local distribution to industrial customers.

2.2.2 The existing non-potable network provides the foundation for this approach, but reinforcement is required to convert that existing asset base into reliable additional supply for new demand. Key activities include hydraulic modelling and design, construction of new pipework, integration of central blending and storage infrastructure, works to support the existing licensed abstraction from the River Dee, and network control upgrades to maintain operational resilience.

2.3 Site-specific complications and uncertainties

2.3.1 While the proposed programme represents an efficient overall solution, particularly due to the use of existing abstraction and pumping infrastructure at [✂]several local and site-specific factors contribute to the cost and complexity of delivering the AMP8 non-potable network enhancements.

- **River Dee crossing:** The River Dee crossing remains a major engineering constraint requiring specialist intervention. The crossing is hydraulically restrictive and geographically sensitive, necessitating bespoke engineering solutions and appropriate construction risk allowances.
- **Operational environment:** The existing non-potable network must remain operational throughout the delivery of enhancement works. This limits construction windows, introduces temporary resilience requirements, and requires phased delivery to maintain continuity of supply.
- **Growth corridor:** Ellesmere Port is experiencing rapid industrial development, driven by clean energy investment through HyNet and wider New Economy growth, including early demand emerging at Peel Park. This adds urgency to the delivery programme and requires infrastructure to be designed with sufficient flexibility to accommodate variable demand profiles and future expansion.
- **Environmental and planning constraints:** Parts of the network interface with designated environmental sites, transport corridors, and other sensitive locations. This increases the complexity of planning, environmental assessment, and stakeholder engagement, and requires careful sequencing of works.
- **Stakeholder and cross-border coordination:** As the River Dee forms part of the England-Wales border, delivery involves additional cross-border planning and regulatory considerations. Effective coordination with regulators, statutory bodies, and landowners on both sides of the border is required to avoid delays.
- **Government and regulatory support:** Delivery of the programme is supported by proactive engagement with government and regulators to align objectives, facilitate permitting, and resolve

legal and regulatory challenges. This is particularly relevant to abstraction permissions and longer-term supply diversification.

2.3.2 Although these factors increase cost and complexity in specific areas, they are outweighed by the benefits of using existing abstraction and pumping infrastructure, which avoids the need to develop new water sources. On balance, the AMP8 programme represents the most cost-effective and deliverable approach to meeting confirmed near-term demand.

2.3.3 The principal delivery risks, uncertainties and mitigation measures associated with the AMP8 programme are summarised below, with further supporting detail provided in *UUW26-06* Appendices D, E and F.

2.4 Demand growth beyond PR24 and the need for AMP8 intervention

2.4.1 The PR24 Final Determination (FD) did not allow for any growth in non-potable water demand at Ellesmere Port in AMP8. The WRMP and PR24 business plan therefore included no allowance for incremental non-potable network reinforcement or new supply sources in this location. That reflected the position at the time, when HyNet-related demand and wider industrial development in Ellesmere Port were not sufficiently mature or certain to support inclusion within statutory planning assumptions. This is consistent with UUW's Water Resources Planning Tables 2024, version 4 final, which show a positive forecast supply-demand balance in the Strategic Resource Zone on sheet UUXSTG, row 50FP. That forecast balance supports resilience and committed service levels for existing customers and was not identified as available headroom for additional industrial growth demand[6].

2.4.2 Since then, further developer engagement has provided a clearer and more robust view of demand, phasing and delivery milestones. Confirmed clean energy projects within the HyNet cluster are progressing, and engagement associated with Peel Park indicates that additional non-potable demand is emerging earlier than previously assumed. UUW's understanding has been informed by a November 2025 workshop with HyNet Track 1 developers, followed by bilateral engagement with developers including EET Hydrogen and Evero. Taken together, this evidence demonstrates that non-potable demand at Ellesmere Port will arise during AMP8 and at a scale not reflected in PR24. Using forecast surplus identified in WRMP24 to meet that growth would reduce the starting supply-demand balance for AMP9 and increase the scale of future investment required through subsequent planning cycles.

Forecast Industrial Demand Profile

2.4.3 Based on direct developer engagement and current project phasing assumptions, cumulative average daily non-potable water demand is expected to evolve as follows:

Table 3: Cumulative average daily non-potable water demand 2027-2033 (Ml/d)

Year	HyNet	Peel Park	Total Demand
2027	0	8	8
2028	0	9	9
2029	4	9	13
2030	7	9	16
2031	18	9	27
2032	18	22	40
2033	27	22	49

Source: UUW analysis

[6] Source: Water Resources Planning Tables 2024, version 4 final, published 10 December 2024, sheet UUXSTG, row 50FP. Supply-demand balance (Ml/d): 12.41, 17.49, 33.14, 77.2, 89.16, 7.06.

2.4.4 This profile shows that demand begins to materialise from 2027 and rises to 27 Ml/d by 2031 and 49 Ml/d by 2033. The forecast is derived from individually identified developments, including Government-confirmed HyNet Track 1 schemes, additional HyNet schemes progressing through development, and phased industrial plots at Peel Park. It therefore reflects identified projects and delivery milestones rather than high-level scenario modelling.

Why AMP8 intervention is required

2.4.5 The need for intervention is not driven by demand growth alone, but by the configuration and capability of the existing non-potable network serving Ellesmere Port. The system is constrained by known hydraulic and operational limitations, most notably the River Dee crossing, which restricts throughput into the local network. Existing raw water transfer routes also have finite capacity, and the system does not currently include sufficient balancing, blending or downstream distribution capacity to convert wider network capacity into reliable supply at the point of demand.

2.4.6 As a result, the emerging demand profile cannot be absorbed through existing surplus elsewhere in the wider system. Meeting this requirement needs targeted reinforcement of the existing network together with additional source capacity. In practice, local source options are limited. The River Dee and River Gowy do not offer further abstraction availability, while the River Mersey is constrained by tidal water quality considerations. The River Weaver is therefore the only local surface water option currently identified with abstraction potential.

2.4.7 Without reinforcement and additional supply, the existing system would not provide sufficient headroom to meet forecast demand during AMP8. UUW would be unable to confirm supply for commissioning phases of HyNet-related development from 2027 onwards, and water availability would become a constraint on nationally significant clean energy and wider industrial growth.

2.4.8 Deferral to AMP9 would not address this risk. Major abstraction works, trunk mains, river crossings and balancing infrastructure require multi-year design development, consenting and construction. Investment must therefore begin in AMP8 if capacity is to be available in time to support confirmed demand and commissioning milestones.

2.4.9 The proposed AMP8 intervention is therefore a direct response to demand growth beyond PR24 assumptions and to the physical constraints of the existing Ellesmere Port non-potable network. It will unlock additional system capacity, remove key hydraulic constraints, and provide the headroom needed to support industrial growth through the early 2030s.

Supply risk and need for AMP8 intervention

2.4.10 The emerging industrial demand profile described in Section 2.4.3 results in a material supply-demand imbalance within AMP8 if additional infrastructure is not delivered.

2.4.11 The existing non-potable network at Ellesmere Port is constrained. These constraints are not driven solely by the total quantity of water available across the wider non-potable system. They arise from the configuration and capability of the network serving Ellesmere Port. In particular, the River Dee crossing restricts throughput into the local system, existing raw water transfer routes have finite hydraulic capacity, and the network does not currently include sufficient balancing, blending or downstream distribution capacity to convert wider system capacity into reliable supply at the point of demand. This means the emerging demand profile cannot be backfilled through existing surplus elsewhere in the system and instead requires targeted reinforcement and additional source capacity.

2.4.12 Under the current system configuration, reliable non-potable capacity is materially below forecast industrial demand from the early 2030s and does not provide sufficient headroom to meet the 27 Ml/d requirement by 2031 or the 49 Ml/d requirement by 2033. The existing system therefore does not contain sufficient surplus capacity to absorb the revised demand profile without a step change in investment.

2.4.13 Without reinforcement and additional supply sources, demand would exceed reliable system capacity during AMP8.

2.4.14 If the AMP8 enhancement programme is not delivered:

- UUW would be unable to confirm supply for commissioning phases of HyNet-related development scheduled from 2027 onwards;
- Industrial projects may be delayed, downsized, or required to secure alternative supply arrangements; and,
- Water availability would become a constraint on nationally significant clean energy infrastructure.

2.4.15 Deferral of investment to AMP9 would not mitigate this risk, as major abstraction works, trunk mains and balancing infrastructure require multi-year development, consenting and construction.

2.4.16 The required intervention is not incremental optimisation. It represents a step change in system capacity through:

- Introduction of new non-potable supply sources;
- Removal of strategic hydraulic constraints;
- Integration of central blending and storage; and,
- Reinforcement of transfer and distribution corridors.

2.4.17 These interventions increase available system capacity in line with confirmed industrial demand and provide operational headroom through the early 2030s. Without this step change, the existing system cannot absorb the incremental requirement.

2.5 Stakeholder and developer engagement evidence

2.5.1 UUW has undertaken structured engagement with key industrial developers, regional growth bodies, and regulators to validate the demand profile and confirm the need for additional non-potable water capacity at Ellesmere Port.

Industrial developers

2.5.2 Direct engagement has taken place with Enterprise Cheshire and Warrington, Progressive Energy, Essar Energy Transition (EET Hydrogen) and Evero. This has included a UUW-convened workshop on 11 September 2025 with HyNet Track 1 developers focused on water and wastewater requirements, indicative demand volumes and delivery timelines, alongside subsequent bilateral follow-up discussions to refine phasing assumptions and infrastructure dependencies. Further discussions were held with Evero in November 2025 and with EET Hydrogen in March 2026 to provide additional clarity on anticipated requirements. This engagement has also informed formal internal documentation prepared across the organisations setting out forecast demands and timelines.

2.5.3 Through this engagement, developers have:

- confirmed anticipated commissioning dates and delivery milestones between 2027 and 2033;
- provided indicative non-potable water demand volumes aligned to the forecast profile; and,
- confirmed that timely provision of non-potable water infrastructure is an important prerequisite for project delivery.

2.5.4 This reflects a more partnership-based approach than would typically be used for an individual industrial customer enquiry, recognising the scale, interdependency and strategic significance of the HyNet-linked developments.

2.5.5 The cumulative 49 Ml/d requirement by 2033 is therefore based on individually identified schemes with credible development milestones, rather than scenario-based modelling assumptions.

Regional growth bodies

2.5.6 Enterprise Cheshire and Warrington has confirmed the strategic importance of enabling infrastructure at Ellesmere Port to support clean energy investment and wider industrial growth. The non-potable water network is recognised locally as a critical enabler of inward investment and delivery confidence.

Regulatory engagement

2.5.7 There has already been initial engagement with the Environment Agency. On the afternoon of 17 March, UUW hosted both national and local Environment Agency representatives and took them through the technical aspects of the proposed solution, with particular focus on those elements with potential environmental implications, including the River Weaver abstraction. The session introduced the proposal ensuring that the Environment Agency had visibility of it.

2.5.8 No formal engagement has yet taken place with the Drinking Water Inspectorate (DWI). This reflects the nature of the proposal, which relates to non-potable supply and therefore does not currently raise the same direct drinking water quality considerations as a potable water scheme. Nevertheless, UUW recognises the importance of confirming whether any aspect of the proposed approach falls within DWI's area of interest and will establish this at an early stage.

2.5.9 UUW will now put in place a structured programme of regulatory engagement as the case progresses. This will include continued engagement with the Environment Agency on abstraction, environmental assessment and permitting requirements, and early contact with the DWI to confirm whether any elements of the proposal warrant their input.

Letters of support

2.5.10 UUW has received letters of support which accompany this enhancement case submission. These letters:

- Confirm the credibility and timing of industrial demand;
- Demonstrate alignment between infrastructure delivery and developer investment plans;
- Provide external validation of the economic and decarbonisation importance of the programme; and,
- They have been provided to Ofwat as supplementary evidence in the document "*UUW26-25 Letters of support*".

Table 4: Stakeholder engagement evidence

Stakeholder	Date	Purpose	Evidence available
Enterprise Cheshire and Warrington	12/03/2026	Strategic need	Letter of support
Cheshire and Warrington Business Advisory Board	16/04/2026	Strategic need	Letter of support
EET Fuels	12/03/2026	Demand and phasing	Letter of support

Source: UUW analysis

2.6 This investment is incremental to the PR24 FD

2.6.1 The PR24 FD includes allowances for core network maintenance, resilience activity, and general system optimisation. These allowances are designed to maintain existing levels of service and manage incremental change. They do not include provision for the delivery of new non-potable water capacity and associated infrastructure required to support the concentrated industrial demand addressed in this case.

2.6.2 This enhancement case is incremental to PR24 FD allowances because it provides targeted investment in additional source, transfer and network capacity for a specific area of industrial growth at Ellesmere

Port. The requirement goes beyond baseline optimisation and routine asset upgrades and responds to physical and operational constraints in the existing system that limit throughput, flexibility and reliable supply to new customers.

2.6.3 There is therefore no duplication with PR24 FD allowances. Those allowances are focused on sustaining existing assets, managing risk, and maintaining service for current customers, whereas this proposal provides the additional infrastructure needed to enable clean energy-led industrial growth not provided for at PR24.

2.7 Regulatory precedent for national infrastructure priorities

2.7.1 Ofwat has previously approved targeted investment to support nationally or regionally significant infrastructure where the need is distinct from routine water company planning and is supported by a clear evidence base. This includes cases where infrastructure must be delivered to tight timescales, in advance of or alongside wider strategic development, to avoid water becoming a constraint on growth and national priorities.

2.7.2 A relevant example is the investment developed to support Hinkley Point C in Wessex Water's region[7]. As a nationally significant infrastructure project, it required planning and water supply arrangements outside standard demand assumptions, with close coordination across delivery partners and regulators. This demonstrates that there is precedent for exceptional, place-based investment where the scale, timing and strategic importance of development justify a distinct regulatory approach.

2.7.3 The proposed enhancement shares these characteristics. This is further reinforced by HyNet's retention in the refreshed list of 80 nationally significant GMPP projects, underlining its status as a government priority programme for targeted oversight and accelerated delivery[8]. It supports a nationally significant industrial decarbonisation programme through the HyNet cluster, responds to defined customer requirements and delivery windows, and requires bespoke non-potable supply infrastructure that cannot be funded or delivered through typical base allowances. For these reasons, this case should be considered as a targeted and non-routine investment requirement.

2.8 We are using existing allowances appropriately and efficiently

2.8.1 UUW continues to manage its base and enhancement allowances efficiently, with existing resources prioritised toward maintaining service levels, managing risk, and delivering core AMP8 commitments. The proposed Ellesmere Port investment is clearly additional to already funded PR24 investment. The proposed investment has been evaluated against all relevant existing funding lines and cannot be accommodated within existing allowances without adversely affecting the commitments to deliver of other priority programmes.

2.8.2 We are maximising the value of previous investment in the non-potable network by building on existing infrastructure and leveraging established modelling, operational knowledge, and asset data. This ensures that the proposed investment is efficient, targeted, and proportionate to the need identified.

2.8.3 Existing allowances are designed to support maintenance, resilience activity, and incremental optimisation of the network. They do not provide for the delivery of additional non-potable water capacity or the system changes required to support concentrated industrial growth at the scale and pace now emerging at Ellesmere Port. The proposed investment therefore represents a step change in capacity that requires dedicated enhancement funding.

2.8.4 Without enhancement funding, this activity would either displace core AMP8 delivery or be deferred until AMP9. Either outcome would increase the risk of delayed clean energy projects, missed decarbonisation milestones, and lost economic opportunity.

[7] https://www.ofwat.gov.uk/wp-content/uploads/2019/12/PR19-final-determinations-Policy-summary.pdf, Pg 55

[8] Government refocuses major projects to boost delivery of national priorities - GOV.UK

2.9 This investment will support economic growth

2.9.1 Demand for non-potable water in the Ellesmere Port area is closely linked to clean energy production within the HyNet North West cluster and wider New Economy industrial development. Together, these developments will play a central role in transforming the North West into a low-carbon industrial hub, supporting economic growth through:

- **Investment attraction:** The availability of reliable, scalable non-potable water infrastructure is a key enabler for inward investment in hydrogen production, carbon capture, sustainable fuels, and other energy-intensive industries seeking to decarbonise.
- **Job creation:** HyNet is projected to support up to 75,000 jobs across the UK by 2035[9], spanning construction, operations, and supply chain roles. Enabling infrastructure, including water supply, is critical to securing these employment outcomes and associated regional benefits.
- **Regional economic uplift:** The HyNet cluster is forecast to contribute £17 billion[10] to the North West economy and up to £31 billion nationally in Gross Value Added (GVA)[11] by 2050, with wider New Economy growth at Ellesmere Port expected to further strengthen this contribution over time.
- **Industrial productivity:** Access to non-potable water supports efficient industrial processes, helping to reduce operating costs, improve resilience, and enhance long-term competitiveness across key sectors.

2.9.2 The proposed AMP8 investment provides the timely, scalable non-potable water capacity required to support confirmed clean energy developments and early-stage New Economy growth, ensuring that water availability does not become a constraint on economic outcomes.

2.10 Significant benefits will be accelerated through this investment

2.10.1 Bringing this investment forward into AMP8 will accelerate a range of quantifiable and strategic benefits by ensuring that non-potable water availability does not constrain clean energy delivery or wider New Economy growth at Ellesmere Port.

2.10.2 Key benefits include:

- **Avoided project delays:** Clean energy and industrial projects with commissioning dates from the late 2020s require additional non-potable water supply to proceed. Without this investment, there is a risk of delay, downscaling, or rephasing of developments, undermining delivery confidence and national decarbonisation objectives.
- **Accelerated emissions reduction:** Earlier availability of enabling infrastructure supports earlier delivery of low-carbon hydrogen and associated decarbonisation outcomes. The wider HyNet programme has been described by Government as having the potential to reduce CO2 emissions by up to 10 million tonnes per year in the early 2030s, equivalent to removing around four million cars from the road[12].
- **Economic stimulus:** Accelerated infrastructure delivery enables developers to bring forward capital investment, supporting construction activity, expanding local supply chains, and stimulating the regional economy earlier than would otherwise be possible.
- **Avoided future cost escalation:** Delivering strategic infrastructure ahead of peak demand reduces the risk of higher future costs associated with reactive delivery, compressed construction

[9] HyNet-NW-CO2-consultation-launch.pdf

[10] HyNet_NW-Vision-Document-2020_FINAL.pdf

[11] Gross Value Added (GVA) measures the economic value created by an industry or region. It is commonly used to show the contribution made to the wider economy.

[12] Major blueprint to create green jobs and slash emissions from industry, schools and hospitals - GOV.UK

programmes, and constrained supply chains. Early investment therefore represents a more efficient and value-for-money approach.

2.10.3 Together, these benefits demonstrate that early investment through AMP8 is justified as part of a longer-term infrastructure strategy that supports regional economic growth, national decarbonisation targets, and efficient system development.

2.11 Targeted regulatory reform is required to enable future investment

2.11.1 Longer-term recycled water reuse remains a potential future opportunity to support industrial growth in Ellesmere Port, but it is not relied upon for AMP8 delivery. The AMP8 programme set out in this enhancement case is deliverable within the existing regulatory framework. Future reuse options would require targeted regulatory reform and supporting policy development before they could be implemented in AMP9 or beyond. Further detail on the legislative context for future recycled water reuse is provided in *UUW26-06* Appendix G.

2.12 The benefit profile of this investment

2.12.1 The benefits of this investment will begin to materialise during AMP8, with the majority accruing from 2027 onwards as new non-potable water capacity becomes operational. The anticipated benefit profile is as follows:

- **2027:** Design development, permitting, and construction mobilisation. Continued engagement with developers to confirm commissioning timelines, supply requirements, and integration with industrial processes.
- **2028 to 2030:** construction progresses and additional non-potable water capacity begins to come online, with initial capacity available by 2029. Economic, environmental, and supply resilience benefits begin to be realised as developments progress to operation.
- **Post-2030:** The system operates as a strategic enabler of ongoing industrial growth in the Ellesmere Port area, providing long-term resilience, flexibility, and a platform for future phases of clean energy and wider New Economy development.

2.12.2 This benefit profile aligns with the expected trajectory of industrial development in the Ellesmere Port area, including delivery of the HyNet programme and broader national objectives for hydrogen production, industrial decarbonisation, and sustainable economic growth.

3. The best option for customers

This section describes the structured optioneering process used to assess unconstrained, constrained and best-value supply options for meeting non-potable demand. It concludes that an integrated AMP8 non-potable supply programme is the preferred option, offering the lowest delivery risk, greatest flexibility, and strongest alignment with long-term water resources strategy.

3.1 How we carried out optioneering

3.1.1 This section sets out the structured optioneering process undertaken to identify the most appropriate approach for providing additional non-potable water supply to support clean energy growth at Ellesmere Port.

3.1.2 The assessment was undertaken in three stages:

- An **unconstrained assessment**, considering the full range of technically plausible supply options and discounting only those that present fundamental feasibility, deliverability, or environmental and social constraints.
- A **constrained assessment**, applying additional constraints relating to progression within the AMP8 planning horizon to identify the credible options to be taken forward.
- A **best value assessment**, comparing the constrained options to determine the preferred option for customers.

3.1.3 This section covers stages 1 and 2 and sets out the framework for stage 3. At this point, the assessment focuses on technical credibility and deliverability, not comparative value.

3.2 Unconstrained assessment

Purpose of the unconstrained assessment

3.2.1 The unconstrained assessment considers all technically plausible options for supplying non-potable water to support clean energy growth at Ellesmere Port, without applying constraints relating to cost, AMP8 delivery timing, or value for customers.

3.2.2 The purpose of this stage is to ensure that the full option space has been explored and that only those options with fundamental constraints are discounted before progressing to constrained assessment.

Unconstrained assessment criteria

3.2.3 Each option was assessed against the following criteria.

Feasibility

- Availability of an identifiable water source
- Technical plausibility of abstraction, treatment, and distribution
- Compatibility with anticipated non-potable industrial requirements

Deliverability in principle

- Ability to be consented and delivered within a reasonable planning horizon
- Absence of fundamental legislative, regulatory, or land access barriers
- Reliance on factors outside UUW control that cannot reasonably be mitigated

Environmental and social acceptability

- Compliance with environmental legislation in principle
- Avoidance of unacceptable impacts on protected sites, water bodies, or communities

- Scope for mitigation through standard design and consenting processes

3.2.4 Each criterion was scored on a scale of 1 to 5, where 1 represents significant constraint and 5 represents strong performance.

Unconstrained option assessment

Table 5: Unconstrained option assessment

Option	Feasibility	Deliverability in principle	Environmental and social	Total	Outcome
Integrated AMP8 non-potable supply programme	4	4	4	12	Progressed
Raw water transfer from Halkyn mine	4	4	3	11	Progressed
Potable water supply from public network	3	2	2	7	Discounted
Desalination	3	2	1	6	Discounted
Long-distance bulk water transfer	2	1	2	5	Discounted
Novel or unproven supply technologies	2	1	2	5	Discounted

Source: UUW analysis

Rationale for unconstrained scoring

Feasibility – Typical score range: 2 to 4

3.2.5 Most unconstrained options are technically feasible in principle and could contribute capacity at a system level. Several represent well-understood technologies or resource transfers that are conceptually capable of meeting industrial demand.

3.2.6 However, many options rely on new abstractions, large-scale infrastructure with long lead times, or assumptions around future demand that are not yet sufficiently mature. As a result, while technically plausible, these options are not considered proportionate or necessary to meet the identified AMP8 growth need.

Deliverability – Typical score range: 1 to 2

3.2.7 Options score poorly where they depend on long abstraction licensing timelines, regulatory or legislative change, high reliance on third-party agreements, or delivery scales incompatible with AMP8 planning horizons. These factors do not preclude future delivery but represent fundamental constraints at this stage.

Environmental and Social – Typical score range: 1 to 3

3.2.8 Environmental and social considerations are a limiting factor for many unconstrained options, including elevated environmental risk, policy uncertainty, and potential stakeholder acceptability challenges. Further regulatory clarity and assessment would be required before such options could be progressed.

Unconstrained assessment outcome

3.2.9 The unconstrained assessment identified two options that are technically feasible, deliverable in principle, and environmentally acceptable. These options are progressed to constrained assessment:

- Integrated AMP8 non-potable supply programme; and,
- Raw water transfer from Halkyn mine.

3.2.10 All other options were discounted due to fundamental constraints and therefore not progressed further.

3.3 Constrained assessment

Purpose of the constrained assessment

3.3.1 The constrained assessment applies additional constraints relating to progression within the AMP8 planning horizon. Its purpose is to identify the options that can be credibly progressed within AMP8, either through delivery of operational capacity or through achievement of a defined investment-ready decision point.

3.3.2 Only options meeting these criteria are taken forward to best value assessment.

Constrained assessment criteria

3.3.3 Options were assessed against the following constrained criteria.

Feasibility

- Confirmed technical credibility following unconstrained assessment.
- No new material feasibility risks identified.

Deliverability within AMP8

- Ability to either:
  - Deliver operational capacity within AMP8, or
  - Be progressed to an investment-ready decision point within AMP8, including confirmation of source viability, development of a consentable design, and identification of a viable commercial route, enabling deployment early in AMP9 without strategic re-work.

Environmental and social acceptability

- Continued acceptability in principle.
- No new environmental or social constraints identified that would prevent progression.

3.3.4 Each criterion was scored on a scale of 1 to 5.

Constrained option assessment

Table 6: Constrained option assessment

Constrained option	Feasibility	Deliverability within AMP8	Environmental and social	Total	Outcome
Integrated AMP8 non-potable supply programme	4	4	4	12	Progressed
Raw water transfer from Halkyn mine	4	3	3	10	Discounted

Source: UUW analysis

Constrained assessment rationale

Integrated AMP8 non-potable supply programme

3.3.5 This option scores strongly across all criteria due to its ability to deliver operational capacity within AMP8, high degree of control within UUW's assets, and strong alignment with regional resilience and growth objectives. A score of 5 is not applied due to the scale and coordination required across multiple interdependent components.

Raw water transfer from Halkyn mine

3.3.6 This option remains technically feasible and environmentally acceptable in principle. While full operational delivery within AMP8 cannot be confirmed, it can be progressed to an investment-ready decision point within AMP8. The lower deliverability score reflects greater reliance on third-party agreements, abstraction confirmation, and longer lead times to deployment. We have discounted this option at this stage.

3.4 Outcome of constrained assessment

3.4.1 The constrained assessment identifies a single credible option capable of supporting clean energy growth at Ellesmere Port, being the Integrated AMP8 non-potable supply programme.

3.5 Customer Engagement Approach

3.5.1 It is vital we engage with customers and stakeholders across the entire region about their water and wastewater services. We have undertaken an iterative research approach to understanding customers' views on Regional Growth and Asset Health. For this submission, we therefore reviewed recent and relevant research from our established body of customer research, including key projects which informed the PR24 business plan. Building on this existing knowledge base, we then undertook targeted bespoke research using both qualitative and quantitative methods.

3.5.2 We have taken steps to ensure our customer research approach is proportionate and comprehensive, with the quantitative survey elements using a robust sample allowing for sub group analysis, and qualitative research using members of our existing research community.

3.5.3 Through a research synthesis of existing data and insight, we understand that customers want and value regional growth, driven by concerns for a growing population, climate change and the economy. The optioneering process took into account customer preferences, by preferring a supply programme which offers materially lower delivery risk, greater flexibility, and stronger alignment with UUW's long-term water resources strategy in which customers fed into and accepted as part of the Price Review research process.

3.5.4 We sought to understand customer views through our bespoke Regional Growth research (2026)[13]. As part of this research, we explored customer concerns which would impact the UUW business forecast. "Advancements in new technology" and "the Economy" were indicated by 81% and 85% of customers as challenges which meant that UUW would need to adapt and amend our plan.

3.5.5 As we take this valuable customer feedback into account, it is contextualised with evident customer concerns for the economy which investment in this area would stimulate through capital investment. Participants also felt UUW should invest proactively in major long term challenges, while taking a more reactive approach to short term issues. While most supported intergenerational investment and futureproofing concerns were raised about "never ending" bill increases, emphasizing the need for clear cost transparency.

3.5.6 We plan to conduct further customer acceptability research before any application for an in-period revenue adjustment, pending Ofwat's consultation on the required licence modifications.

Stakeholder Engagement

3.5.7 This case proposes investment in the non-potable network to enable HyNet and support demand emerging at Ellesmere Port.

3.5.8 We have engaged with Enterprise Cheshire and Warrington, a council owned organisation driving economic growth, sustainability, and inclusion across Cheshire and Warrington, and a key stakeholder in the development of the low-carbon industrial cluster at Ellesmere Port and the wider HyNet North West region.

3.5.9 Enterprise Cheshire and Warrington is supportive of our investment in the proposed non-potable network to ensure industrial demand can be met whilst protecting public water supplies. It supports this mechanism as it will enable investment over a longer-term planning horizon, helping ensure affordability for customers whilst enabling timely delivery of infrastructure needed for major industrial growth. It welcomes continued collaboration with UUW and other stakeholders to support the

[13] Explain Research on behalf of United Utilities Water, Regional Growth research, 2026

development of this important infrastructure. See letter of support in the document "*UUW26-25 Letters of support*".

3.6 Best value assessment

3.6.1 The purpose of the best value assessment is to determine which constrained option represents the best overall value for customers, taking account of cost, risk, flexibility, and wider system benefits.

3.6.2 The assessment will consider, as a minimum:

- Whole-life cost to customers;
- Delivery and programme risk;
- Flexibility and scalability to respond to demand uncertainty;
- Alignment with regional water resources strategy and long-term resilience; and,
- Environmental and social impacts beyond minimum acceptability thresholds.

3.6.3 The outcome of this assessment will identify the preferred option for inclusion within the AMP8 enhancement programme.

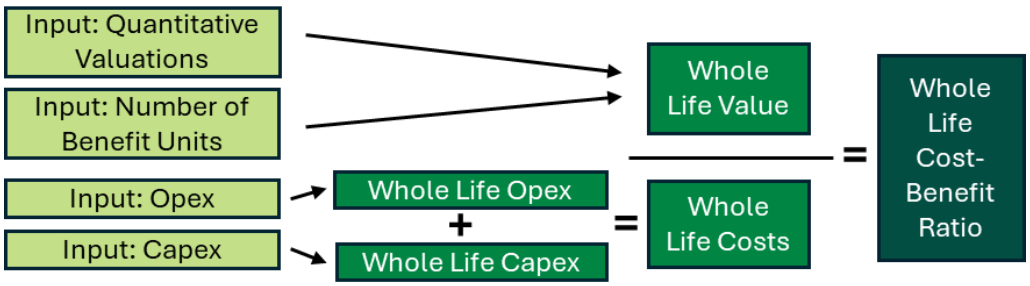
Our approach

3.6.4 Our approach comprises three key steps as summarised in Figure 3:

- Calculating the whole life value;
- Calculating the whole life cost; and,
- Comparing the whole life cost-benefit ratio across different solutions.

3.6.5 These steps are described in further detail below.

Figure 3: Cost benefit analysis flow diagram



Source: UUW analysis

Whole life value

3.6.6 We calculate whole life value of an investment solution as the present value of the total benefits accrued over a 30-year assessment period. This is derived by:

- Multiplying the number of projected benefit units from the investment solution by the annual quantitative valuation; and,
- Calculating the compounded value over the investment horizon and discounting it using the Social Time Preference Rate, in line with the HM Treasury Green Book.

Whole life cost

3.6.7 We calculate the whole life cost of an investment solution by adding the whole life capital expenditure and the whole life ongoing operating costs. Capital expenditure includes capital overheads but excludes the effect of taxation. Whole life cost has been calculated on a consistent basis to the approach taken for PR24 investment appraisal. The present value of capital expenditure has been converted to a stream of annual costs over a 30-year appraisal period. To calculate the present value of these costs, and

associated operating costs, the Social Time Preference Rate was used for discounting, consistent with the HM Treasury Green Book. Costs are in 2022/23 price base, using the CPIH financial year average.

Cost benefit ratio

3.6.8 The cost benefit ratio is calculated by dividing whole life value by whole life cost.

Quantification of benefits

3.6.9 For the purposes of quantification, the monetised assessment is confined to benefits that can be evidenced as a direct consequence of the incremental non-potable supply capability delivered by this enhancement. Accordingly, the CBA compares the whole-life costs of the investment with the associated private benefits arising from provision of the non-potable service under the proposed Special Agreement.

3.6.10 Wider economic effects such as employment, supply-chain activity, productivity and GVA, however, are recognised as enabled outcomes but are not monetised within this appraisal, because they are generated primarily by the underlying developments and investment programmes rather than uniquely by the non-potable enhancement. The same principle is applied to green energy: decarbonised energy can deliver material economy-wide benefits, but these are not counted in the quantified benefit stream here as they are attributable to the energy transition investments and end-user choices, not the incremental water infrastructure. Excluding these wider impacts avoids double counting benefits that are more appropriately captured within the relevant development and decarbonisation business cases.

3.6.11 Within this defined scope, the quantified assessment is therefore net-neutral, with a benefit–cost ratio of 1. The net neutral output also applies to the Halkyn Mine Alternative option, however, the shared cost benefit ratio is not reflective of the scale of expenditure. Halkyn mine requires more than double the capital investment with a significantly higher whole life cost making it an unsuitable alternative.

Table 7: Cost Benefit Analysis (£m, 2022-23 CPIH prices)

Solution	Whole Life Cost	Whole Life Benefit	Cost Benefit Ratio
Integrated AMP8 non-potable supply programme	230.48	230.48	1.00
Halkyn Mine Alternative Solution	531.85	531.85	1.00

Source: UUW analysis

Wider benefits

3.6.12 Several studies have identified the economic impact from the hydrogen sector. For example, the "*Economic Impact Assessment for the Hydrogen Sector to 2030*"[14] estimates that it could support more than 21,000 direct jobs by 2027 and 29,000 direct jobs by 2030 in the UK. Strategy& estimates[15] that the North-West of England could benefit from up to 612,000 jobs by 2050 and by £13bn in Gross Value Added in the period to 2050 from hydrogen for domestic heat activities. It also estimates a wider hydrogen supply chain contribution of up to £124 billion and additional 1.6m jobs in the UK by 2050. Amion[16] in its "*Potential Economic Impact of the HyNet North-West Project*" estimates that the HyNet North West Project will result in the creation of around 144,000 job years for the North West and around 290,000 jobs for the UK by 2050 and a Gross Value Added of £26 billion by 2050. It also estimates inward investment that will result in cumulate job gain of around an additional 70,000 for the UK.

3.6.13 These estimates do not include the additional economic value expected from the take-up of large transport or domestic fuel cell electric vehicles (FCEV), their manufacture within the region, the wider

[14] Hydrogen-UK-EIA-Report-2024.pdf

[15] The Economic Value of Hydrogen for Domestic Heat in the UK

[16] Economic-impacts-report-040518.pdf

potential for import substitution of fuel and any potential "export" benefits for the region from providing Carbon Capture infrastructure for other regions.

3.7 We selected a deliverable integrated option

3.7.1 While both constrained options were capable of supporting clean energy growth, the completed best value assessment demonstrated that the integrated AMP8 non-potable supply programme offers materially lower delivery risk, greater flexibility, and stronger alignment with UUW's long-term water resources strategy. On this basis, it has been identified as the preferred option for customers.

Description of the integrated AMP8 non-potable supply programme

3.7.2 The preferred option comprises a coordinated package of water resources, treatment, storage, and distribution interventions delivered as a single integrated system. The option has been assessed as a whole, recognising that customer outcomes and usable capacity are only realised once the end-to-end system is in place.

3.7.3 The integrated programme consists of the following constituent stages.

Stage 1: Wirral Raw Water Aqueduct

3.7.4 This stage provides the foundational upstream supply by increasing the volume of raw water that can be conveyed through the Wirral Raw Water Aqueduct. This intervention maximises use of existing strategic assets and establishes a dependable bulk supply route under UUW's control, forming the backbone of the integrated system.

Stage 2: River Weaver strategic non-potable supply

3.7.5 This stage introduces a complementary non-potable supply source through abstraction from the River Weaver and transfer via a strategic non-potable main. It diversifies the supply base, reduces reliance on a single source, and improves system resilience. The River Weaver supply can be operated alongside the Wirral source to respond flexibly to variability in demand and availability.

3.7.6 The River Weaver option is not a new concept developed solely for this for this enhancement case. In WRMP24, it was identified as option WR032 and progressed through primary screening as a feasible option, although it was not selected in the preferred plan at that time. This was because no equivalent requirement existed to bring forward additional non-potable supply in the Ellesmere Port area. This proposal is a variation of the original WRMP24 options with water been transferred to the Ellesmere Port area rather than into mid Cheshire as the WRMP24 option describes.

3.7.7 The variation is because since WRMP24, a specific and time-critical industrial demand has emerged which changes the need in this location. In parallel, UUW has obtained updated Environment Agency abstraction pressure data in February 2025 to support reassessment of available abstraction potential. This provides a more current evidence base than that previously available through the older CAMS strategy material and supports the River Weaver being reconsidered as a credible source for this case. Its inclusion within this enhancement case therefore builds on an option already identified through UUW's wider strategic water resources planning, but which has now become relevant and proportionate in response to both newly evidenced industrial demand and updated regulatory data

Stage 3: Central blending and storage infrastructure

3.7.8 Central blending and storage infrastructure provides the operational heart of the system. It enables water from multiple sources to be blended, balanced, and stored before onward distribution. This stage allows supply variability to be managed, supports resilience during outages or maintenance, and enables phased delivery of upstream and downstream assets while maintaining customer supply.

Stage 4: Ellesmere Port West reinforcement main

3.7.9 This stage comprises reinforcement of the non-potable network within Ellesmere Port to remove internal hydraulic constraints and enable the transfer of increased volumes from the central system

toward western industrial areas. It ensures that upstream supply investments translate into deliverable capacity at the point of demand.

Stage 6: Distribution from central blending infrastructure to industrial users

3.7.10 This stage provides targeted distribution connections from the central blending infrastructure directly to industrial users. It converts strategic supply capacity into customer outcomes and can be phased to align with confirmed industrial demand, reducing upfront investment risk while maintaining flexibility for future expansion.

Stage 7: Ellesmere Port East distribution upgrade

3.7.11 This stage delivers selective upgrades to the non-potable distribution network serving the East of Ellesmere Port, including emerging development areas. It ensures that the integrated system can support growth across multiple locations and provides spatial flexibility to respond to changes in the pattern and timing of industrial development.

Integrated system considerations

3.7.12 These stages have been assessed collectively as a single integrated programme. Individual components do not deliver customer benefit in isolation, and the full value of the option is realised only when upstream supply, central balancing, and downstream distribution are delivered in a coordinated manner. This integrated approach underpins the option's superior performance in the best value assessment, particularly in terms of delivery risk, flexibility, and long-term resilience.

Delivery configuration assessment

3.7.13 Within the AMP8 programme, a number of delivery configurations were assessed to minimise cost and risk while maintaining operational resilience:

- **Pipeline configuration:**
  Alternative approaches, including multiple smaller diameter pipes, were assessed. Hydraulic modelling and constructability review demonstrated that a single appropriately sized pipeline provided superior flow performance, reduced land take, and lower overall cost, while avoiding the complexity and resilience limitations associated with dual systems.
- **Route selection:**
  Multiple route and alignment options were considered for constrained sections, including the River Dee crossing. Options were assessed against technical feasibility, environmental impact, land access, and archaeological sensitivity. The selected alignments represent the most balanced outcome in terms of constructability, risk, and environmental protection.
- **Construction methodology:**
  Both open-cut and trenchless techniques were evaluated. For the River Dee crossing, a trenchless solution using vertical shafts and a driven tunnel beneath the riverbed has been identified as the preferred approach, offering reduced ecological impact and greater delivery certainty under known ground and third-party constraints.

3.7.14 This structured assessment confirms that the selected AMP8 configuration represents the lowest-regret, most deliverable approach to unlocking non-potable water capacity within the required timescales.

Table 8: Estimated capital costs and delivery phasing for the non-potable water programme (total expenditure £m, 2022-23 CPIH prices)

Stage	Description	Yield (Ml/d)	Planned Delivery	Total Value	Notes
Stage 1	Wirral Raw Water Aqueduct – upgrades to existing non-potable network	Up to 14	AMP8 (2027-2029)	81.2	Uses existing abstraction and pumping infrastructure at [✂]

Stage	Description	Yield (Ml/d)	Planned Delivery	Total Value	Notes
Stage 2	River Weaver Strategic Non-Potable Supply – new abstraction and strategic transfer to central system	Up to 35	AMP8 (2028-2030)	37.0	Diversifies sources and increases system resilience
Stage 3	Central blending and storage infrastructure (tanks)	N/A (enabling)	AMP8 (2028-2030)	3.9	Enables integration and operational management of multiple supply routes
Stage 6	Distribution from central blending tank to industrial users	N/A (enabling)	AMP8 (2028-2030)	4.1	Required to convey water from blending infrastructure to customers
Stage 4	Ellesmere Port West reinforcement main	N/A (transfer capacity)	AMP8 (2029-2031)	114.5	Supports later phases of HyNet growth and system throughput
Stage 7	Ellesmere Port East distribution upgrade	N/A (distribution)	AMP8 (2028-2030)	10.4	Enables early supply to Peel Park and surrounding industrial areas
Total				**251.0**	

Source: UUW analysis

3.7.15 UUW also considered whether longer-term strategic options could be accelerated to meet the identified AMP8 need. This included recycled final effluent reuse and raw water transfer from Halkyn mine. Recycled water reuse was not considered deliverable within AMP8 due to current legislative barriers, while Halkyn mine transfer carries greater third-party dependency and cannot credibly provide operational capacity within the required timeframe. For these reasons, these options were not selected as the primary AMP8 response, although they remain relevant to longer-term strategic planning.

3.8 Consideration of longer-term supply options

3.8.1 While the raw water transfer from Halkyn mine has not been selected as the preferred option at this stage following the best value assessment, it remains a credible longer-term supply opportunity and continues to be considered within UUW's wider strategic planning.

3.8.2 The option was progressed through both unconstrained and constrained optioneering and was demonstrated to be technically feasible and environmentally acceptable in principle. However, when assessed against the integrated AMP8 non-potable supply programme, it performed less strongly in terms of delivery risk, reliance on third-party agreements, and alignment with the timing of confirmed demand.

3.8.3 Notwithstanding this, the Halkyn mine option remains relevant in the context of longer-term industrial growth at Ellesmere Port and the wider regional water resources strategy. In particular:

- It represents a potential additional raw water source should industrial demand exceed current forecasts;
- It could provide supplementary capacity in future periods where longer lead times can be accommodated; and,
- It aligns with the need to maintain a diverse portfolio of supply options under conditions of demand uncertainty.

3.8.4 As such, the Halkyn mine option will continue to be considered as part of the WRMP29 process, where longer-term supply-demand balances, resilience requirements, and strategic resource development can be assessed over extended planning horizons.

3.8.5 This ensures that while the integrated AMP8 option is taken forward as the best value solution for current needs, UUW retains optionality to respond to sustained or accelerated industrial growth at Ellesmere Port in future planning periods.

3.9 Deliverability

3.9.1 The AMP8 investment programme set out in this enhancement case has been assessed through UUW's standard capital governance and portfolio planning processes. It has been structured to ensure it can be delivered alongside existing AMP8 commitments without displacing priority investment elsewhere in the business.

3.9.2 Deliverability has been confirmed based on the following factors:

- **Clear and defined scope:**
  The AMP8 programme comprises a defined set of interventions to unlock additional non-potable water capacity, including strategic supply enablement, transfer capacity, central blending and storage, and distribution to industrial users. These elements are well understood and aligned with confirmed near-term demand.
- **Known engineering requirements:**
  Key engineering challenges, including the River Dee crossing and integration with the existing non-potable network, have been identified early and are reflected in scope, cost, and programme assumptions.
- **Established delivery routes:**
  All elements of the programme will be delivered through UUW's existing capital delivery frameworks, using experienced partners with a strong track record in major water infrastructure and complex construction environments.
- **Portfolio and resource availability:**
  The programme has been reviewed within the context of the wider AMP8 portfolio. Delivery phasing has been structured to align with available design, construction, and project management resources, ensuring it can be accommodated without adverse impact on other AMP8 priorities.
- **Programme sequencing:**
  The AMP8 interventions have been deliberately sequenced to align with demand and construction constraints, allowing early mobilisation of linear assets and coordinated delivery of enabling infrastructure. This reduces delivery risk and supports efficient execution across the programme.

3.9.3 Taken together, these factors provide confidence that the AMP8 investment programme is deliverable within the regulatory period and can be integrated effectively into UUW's existing capital programme. The approach supports timely delivery of additional non-potable water capacity while maintaining control of cost, risk, and operational performance.

4. Demonstrating cost efficiency

This section demonstrates that costs are efficient and proportionate, despite the absence of suitable PR24 benchmarks, through detailed bottom-up estimating, internal benchmarking and third-party assurance. It also sets out a cost recovery approach that recovers all costs from benefiting industrial customers via Special Agreements, while protecting the generality of customers.

4.1 Definition of the Enhancement Programme and Costs

4.1.1 This enhancement case proposes a coordinated, multi-stage AMP8 infrastructure programme to enable clean energy-led New Economy growth at Ellesmere Port. The programme is designed to unlock additional non-potable water capacity in line with confirmed demand, while minimising cost, delivery risk, and impacts on customer bills.

4.1.2 The AMP8 scope focuses on a combination of new supply connections, central blending and storage, strategic transfer capacity, and local distribution to industrial users. Wherever possible, the solution has been designed to make use of existing strategic assets, including abstraction and pumping infrastructure at [✂], avoiding the need for new raw water source development and reducing both capital cost and delivery risk.

4.1.3 Table 9 sets out how the stages within the overall programme are allocated to Ofwat's enhancement categories and clarifies which elements are included within this AMP8 enhancement proposal.

Table 9: How we allocated the costs of our intervention to Ofwat's enhancement drivers

Project	Breakdown	Third party
Stage 1	Wirral Raw Water Aqueduct	100%
Stage 2	River Weaver Strategic Non-Potable Supply	100%
Stage 3	Central blending and storage (tanks)	100%
Stage 6	Distribution from central blending tank to industrial users	100%
Stage 4	Ellesmere Port West reinforcement main	100%
Stage 7	Ellesmere Port East distribution upgrade	100%

Source: UUW analysis

4.1.4 Table 10 summarises how the costs within this case relate to Ofwat's enhancement models and outlines our proposal. Where suitable PR24 benchmarks do not exist (e.g. for non-potable industrial infrastructure), we have used comparable engineering evidence and supporting unit cost assumptions.

4.1.5 The total programme value across AMP8 and AMP9 is £251.0m (FY23 price base). Of this, £175.6m relates to AMP8 and forms the enhancement proposal within this submission.

Table 10: The breakdown of total expenditure in our enhancement case (£m, 2022-23 CPIH prices)

Stage / Activity	Enhancement model	Benchmark available?	Total Value
Stage 1 – Wirral Raw Water Aqueduct	New pipework and strategic upgrades	Internally benchmarked against large-diameter mains and constrained crossings	81.2
Stage 2 – River Weaver Strategic Non-Potable Supply	New abstraction and transfer infrastructure	Internally benchmarked against comparable abstraction and trunk main schemes	37.0
Stage 3 – Central blending and storage	Storage and balancing assets	Internally benchmarked using recent tank and pumping station delivery	3.9
Stage 6 – Distribution to industrial users	New pipework	Internally benchmarked	4.1

Stage / Activity	Enhancement model	Benchmark available?	Total Value
Stage 4 – Ellesmere Port West transfer main	Strategic transfer main	Internally benchmarked against trunk main delivery	114.5
Stage 7 – Ellesmere Port East distribution upgrade	Distribution network extension	Internally benchmarked	10.4
Total enhancement claim			**251.0**

Source: UUW analysis

4.1.6 The AMP8 enhancement activities fall into four broad categories:

- **Strategic source enablement (non-potable supply):**
  Activities required to introduce and/or unlock additional non-potable supply into the Ellesmere Port system, including abstraction-related works and associated integration with the existing network.
- **Strategic transfer and distribution capacity (West and East corridors):**
  New and upsized pipelines required to move non-potable water through the system and deliver it to industrial users, including both strategic transfer capacity and local distribution upgrades.
- **System integration and operational flexibility:**
  Central blending and storage infrastructure required to combine multiple supply routes, manage pressures and flows, and operate the system reliably as demand ramps up.
- **Regulatory and permitting enablement:**
  Technical, environmental, and regulatory work required to secure the permissions and regulatory approvals needed to unlock additional abstraction and support delivery of the AMP8 programme.

4.1.7 Taken together, these investments represent the most efficient means of enabling industrial growth at Ellesmere Port within AMP8. By reusing existing strategic assets, avoiding new source development, and clearly separating enhancement activity from base-funded maintenance, the programme demonstrates strong value for money and minimises risk to wider customer bills.

4.2 There is no suitable PR24 benchmark for this investment

4.2.1 The AMP8 investment proposed in this enhancement case does not align to the standard cost assessment models used within Ofwat's PR24 FD. There are no established benchmarks for the strategic provision of new non-potable water capacity delivered as a coordinated programme to support clean energy-led New Economy growth. This is particularly the case where investment combines new supply enablement, strategic transfer capacity, system integration, and local distribution within a constrained operational environment.

4.2.2 As a result, a bespoke cost estimation and benchmarking approach has been applied. This approach draws on a combination of comparable engineering evidence, internal unit cost models, and recent delivery experience across similar asset types, rather than reliance on a single standard comparator.

Benchmarking Approach

4.2.3 For large-diameter trunk mains and constrained pipeline works, reference has been made to comparable schemes such as the Rivington Aqueduct diversion. That scheme provides a useful benchmark for open-cut large-diameter mains delivery under constrained conditions, with an indicative unit cost of approximately £3,039 per metre. While not directly comparable in scope, it provides a relevant reference point for assessing order-of-magnitude costs.

4.2.4 However, the AMP8 programme proposed in this submission differs materially from typical aqueduct delivery in several respects, which explain higher efficient unit rates in certain locations:

- **Live system dependency:** The non-potable network must remain operational throughout delivery. This necessitates phased construction, temporary resilience measures, restricted working windows, and increased commissioning complexity.

- **Discontinuous delivery:** Works are delivered in multiple short sections rather than long continuous runs, reducing construction efficiency and increasing mobilisation and demobilisation costs.
- **Complex engineering interfaces:** Delivery involves constrained river crossings, interfaces with existing strategic assets, and integration with operational control systems.
- **Stakeholder and planning complexity:** Construction occurs in sensitive locations requiring extensive coordination with regulators, operational teams, local authorities, and customers.

4.2.5 These factors increase efficient delivery costs relative to standard benchmarks but are inherent to the delivery context.

Offsetting efficiencies

4.2.6 These higher delivery complexities are partially offset by the use of existing [✂]. Re-using these assets avoids the need for new raw water source development or major treatment facilities, reducing both capital cost and delivery risk when compared with alternative supply options.

Scope included within the cost estimate

4.2.7 The cost estimate covers the full AMP8 enhancement scope set out in Table 10. This includes detailed hydraulic modelling and network design across multiple supply and transfer routes, alongside the construction of new pipelines, strategic transfer capacity, and local distribution assets. It also includes the central blending and storage infrastructure needed to integrate multiple supply sources, resolution of the River Dee crossing through appropriate engineering solutions, and the environmental assessment, planning support, and stakeholder engagement required to support delivery. In addition, the estimate allows for integration with existing network control, monitoring, and pressure management systems, as well as the regulatory and technical activities needed to secure the abstraction licence uplift.

4.2.8 Together, these elements unlock additional non-potable capacity within AMP8 and provide the platform for future supply development.

Cost calculation methodology

4.2.9 Costs have been developed using a bottom-up estimation approach applied consistently across all AMP8 stages. This includes:

- Internal unit cost models for large-diameter pipework, storage assets, and distribution infrastructure;
- Adjustments for site-specific constraints, including access, phasing, and live system delivery;
- Benchmarking of abstraction licence variation costs against comparable PR24 WINEP activities; and,
- Early-stage development allowances applied where appropriate, reflecting scheme maturity.

4.2.10 This approach ensures that costs are proportionate, transparent, and aligned with the engineering characteristics of each asset type.

Cost estimate robustness

4.2.11 UUW has undertaken a series of cost challenge activities to ensure the estimate is robust:

- Review of historical cost data from comparable trunk mains, river crossings, and complex asset interfaces
- Internal engineering and commercial challenge to scope, construction methodology, and unit rates
- Cross-comparison with other recent programmes involving constrained delivery environments
- Application of standard design assumptions where possible to limit bespoke cost uplift

4.2.12 Further value engineering will be undertaken as designs progress, including opportunities for efficiency through procurement strategy, construction sequencing, and early contractor involvement. An example of the underlying bottom-up cost build for a material programme element is provided in *UUW26-06* Appendix H.

4.3 Third party evidence demonstrates our cost estimates are efficient

4.3.1 We have engaged a third-party specialist, Mott MacDonald, to assess our costs against the costs incurred by similar companies when carrying out this type of work.

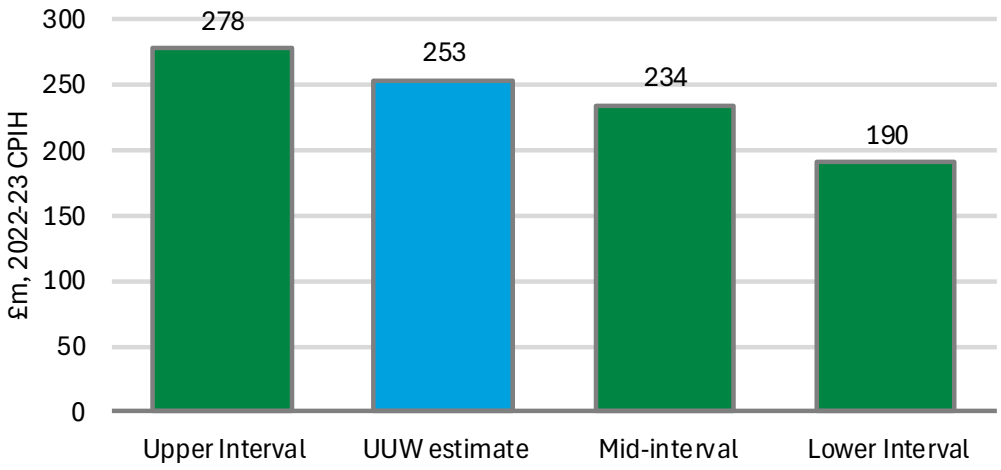
"The objective was to develop a robust benchmark using a hybrid estimation approach. For most scope items a benchmarking approach was implemented based on top-down industry models. In instances where a top-down approach could not be applied, such as complex elements and custom/bespoke assets, a bottom-up cost estimating approach was implemented where possible. In instances where neither a top-down nor bottom-up approach were appropriate, costs were substituted from the UU scope using a 'like-for-like' approach to develop a full direct works estimate.

Each benchmark incorporates Direct Works Costs, Contractor and Client Indirect Costs, as well as a provision for Biodiversity Net Gain, Risk and Estimating Uncertainty and Corporate Overheads. A benchmark of each was incorporated to allow comparison between the UU scope costs and industry averages across different cost attributes."

Source: Mott MacDonald: United Utilities Data Centres Benchmarking Report (UUW26-28 Benchmarking reports)

4.3.2 Mott MacDonald identified a reasonable range of cost for the work we are proposing within this business case. This range is set out in Figure 4. As shown below, the costs developed are fully aligned with external benchmarks from comparable companies and as such, are efficient.

Figure 4: UUW's proposed green energy expenditure is within the range expected by comparator organisations



Source: UUW analysis and Mott McDonald

4.4 Our proposals for cost recovery

4.4.1 This enhancement case reflects investment in non-potable water infrastructure required to support clean energy-led New Economy growth at Ellesmere Port. The benefits of this investment accrue primarily to a defined group of industrial customers, rather than to the wider customer base.

4.4.2 As the infrastructure is required to provide a dedicated non-potable supply to industrial users, the associated costs are appropriately treated as third-party in nature. Whilst such costs would normally be

recovered up-front (and subsequently reconciled through the 3rd party reconciliation model[17]) our concern is that the scale of this investment is significantly greater than any 'normal' new development and hence could alone be a barrier to growth. We therefore consider it appropriate that the costs of enabling this growth are recovered directly from the customers who benefit from the investment, but over a longer timeframe, through a 'Special Agreement' supply price.

4.4.3 The use of a Special Agreement supply price would require the investment to be added to the Regulatory Capital Value (RCV), rather than recovered up front from the developer, and then recovered over the duration of the special agreement supply contract. This ensures that charges reflect the long-term cost of supply rather than requiring large upfront payments, and also ensures that the customer benefiting from the infrastructure pays for the infrastructure, rather than it being recovered from the generality of our customer base.

4.4.4 We propose to recover the costs from the third parties through the development of Special Agreements. We will notify Ofwat of any new Special Agreements in accordance with section 142(6A) of the Water Industry Act 1991 and would welcome early engagement to provide assurance that the proposed arrangements deliver fair cost recovery and appropriate customer protection.

4.4.5 The rest of this section sets out our proposals in detail, in respect of the components that are recovered from the third party customers. We provided Ofwat with a more detailed note on our proposals on 13 February.

Recovery of third party costs in Price Reviews

4.4.6 Unlike other costs for supplying non-household customers, companies recover these types of costs directly from the third party in the form of 'third party revenue'. Importantly, these revenues are not classified as grants and contributions and from a net totex perspective, they represent a positive value. For this reason, Ofwat includes third party expenditure within the total expenditure allowances used to derive company 'building block' revenues at Price Reviews through PAYG (for opex) or non-PAYG (for capex) that is added to the RCV and recovered over time. Therefore, while these revenues are ultimately borne entirely by the respective third parties, they form part of the calculated total allowed revenue[18] alongside all the other revenue borne by the generality of household and non-household customers.

4.4.7 At Price Reviews, all anticipated third party revenues are included within the '*income governed by the price control*'[19] (often referred to as the 'single till') allowed revenue for Appointees. Typically, if there is an increase in third party revenues during the period, *ceteris paribus,* companies need to reduce other revenues (households or non-households) to remain within the total allowed revenue of the FD. At the end of the regulatory period, these additional revenues are then reconciled through the 'Third party services reconciliation mechanism'[20] which ensures that companies can recover all costs incurred.

4.4.8 For example, if a company recovers 10 additional units of revenue from third parties it would need to reduce household revenues by 10 units during AMP8. In AMP9 it would then be permitted to recover the additional 10 units of revenue from households to bring the revenue back in line with the original allowances, after accounting for the additional third-party income. Whilst this can introduce bill volatility for a timing difference it ensures that companies are not disincentivised from providing the service to the third party as they can (eventually) recover the additional revenues.

4.4.9 Within its cost assessment approach, Ofwat typically assesses these as 'unmodelled' costs simply reflecting the on-going costs of existing arrangements or small-scale new activities. It is worth noting that third party expenditure is not subject to any form of cost sharing, and the generality of customers (household and the other non-household customers) is not exposed to any *ex-post* cost variations. Any

[17] PR24-Reconciliation-Rulebook-final-guidance-PUBLICATION.pdf

[18] See the 'Allowed revenues' calculations of 'PRE wholesale revenues' within PR24 Financial model, rows 267-272.

[19] RAG-4_Appendix-1_DraftForConsultation.pdf, page 3

[20] PR24 reconciliations - Ofwat

variance between actual expenditure and *ex-ante* cost allowances is recovered directly from the third party. This means that there is no risk of any additional costs being passed onto other customers once the allowance is set, but also that the company bears all the risk of cost variance, if it does not recover the costs from the third party.

4.4.10 Crucially, the current 'third party services reconciliation mechanism' only remunerates companies for the lesser of the additional cost or revenue incurred. Therefore, the existing reconciliation mechanism can only operate as an effective cost recovery mechanism where the profiling of costs and revenues align throughout the AMP, and the company charges the third party upfront for all costs incurred in the period.

4.4.11 In conclusion, the current cost recovery arrangements would not allow companies to recover all costs incurred through the 'third party services reconciliation mechanism' if a proportion of the costs are recovered after AMP8, through a special agreement. This is because the reconciliation process only includes revenues recovered during the period and if these are less than the incurred costs in AMP8, there would be a funding shortfall.

Adopting a more effective cost recovery approach

4.4.12 Ordinarily, water companies require third parties to pay for the entirety of the investment upfront and, as such, the profiling of costs and revenues align. This is usually a reasonable expectation given the small scale of the investment involved. However, requiring third parties to pay upfront for the full investment can represent a significant startup cost and act as a material barrier to entry, reducing the prospect of growth in the region.

4.4.13 In developing a practical and implementable solution, we have sought to ensure that: The cost recovery mechanism can support the Government's growth objectives; barriers to growth are reduced; full cost recovery from the third parties can be achieved; and the approach follows regulatory precedent and existing cost recovery mechanisms.

4.4.14 In light of the significant investment required to support industrial growth, it would be more effective to recover costs over a longer-term horizon via the water supply price (i.e. through a 'special agreement' price). Such an approach is common practice within the water industry, particularly for bulk supplies – notably costs for strategic water resources schemes are recovered from customers over the long term and not as a 'one-off' upfront payment. This is also how customers pay for other wholesale capital investments, whereby the initial capital outlay is recovered gradually over time, via the RCV (through the run-off and allowed return). This approach would therefore allow companies to invest in AMP8 whilst enabling for a more gradual recovery of costs over time as per contractual arrangements (say over a 15 to 25 year period).

4.4.15 In future AMPs, the allowed revenues generated by the RCV additions (allowed return and run-off) would be equal to the revenues recovered annually through the Special Agreements. These revenues are deducted from the total allowed revenues before customer revenues are derived. This way, water companies would still recover the full cost of the investment from the third party but over the lifetime of the assets, and the generality of customers would not be impacted as the RCV addition is recovered from the third party.

Implementation considerations

4.4.16 We believe that the proposed approach could be easily implemented through the Cost Change Process as set out below.

4.4.17 Given that future third party revenues will eventually form part of the future 'single till', Ofwat could simply record the value of these future revenues within the building blocks for AMP9 as per any other 'normal' investment. As companies would be incurring capital expenditure in AMP8 (and not in the future) this expenditure cannot be included within AMP9 totex. We therefore propose that Ofwat considers taking the following implementation steps through the existing Cost Change Process:

1. Include an additional AMP8 cost allowance for the forecast net value (to equal total third party forecast cost minus total forecast revenue recovered in AMP8) that would not be recovered through the current third party reconciliation model
2. Add non-PAYG costs to the RCV as an end of period adjustment in line with the approach adopted at Price Reviews. This will ensure that future revenues recovered from the third party are aligned to the future revenues generated by the RCV run-off and allowed return. Crucially, this will mean that the generality of customers is not required to cover the costs whilst supporting growth in the region
3. Introduce an appropriate bespoke Price Control Deliverable (PCD) to ensure that the correct residual value is reconciled at the end of the period. This would act as a further protection mechanism and help ensure that customers are not impacted by this investment
4. The bespoke PCD would not be output-based but rather expenditure-based; the PCD would reflect the variance between forecast and actual net expenditure (i.e. net of any revenue already recovered from the third party). Through this PCD, for every pound not spent (or any additional pound recovered) in AMP8, the end of period reconciliation would correspondingly reduce in value; and
5. Retain the 'third party services reconciliation mechanism' so that if companies do recover some revenue from third parties in AMP8, then that amount would be automatically netted off the end of period adjustment that would be made through the cost change process through the mechanism described above. This would also ensure that companies remain incentivised to invest in third party infrastructure and recover costs upfront wherever possible and appropriate.

4.4.18 This approach would be more supportive of the Government's growth objectives and would be consistent with the principles outlined in the previous paragraph, as shown in the table below.

Table 11: The principles that have guided our proposed approach

Principles	Our proposed approach	'Standard' approach
Supporting the Government's growth objective Does the approach enable companies to support the Governments growth objective by facilitating additional investment over AMP8?	✓	The approach may limit growth opportunities by requiring the third party to pay for all rechargeable investment up front, before operating or being *in situ*
Reducing barriers to entry Does the approach seek to support new entrants to invest into the region by minimising the impact of start up and/or sunk costs?	Spreads the cost to third parties out over a longer period	
Ensuring full cost recovery (from the right party) Does the approach ensure that UUW can recover the correct amount from the right party?	✓	✓
Minimising household bill volatility Does the approach seek to minimise the impact on household bills caused by the impacts of the 'single till' over AMP8 and reconciling adjustment in AMP9?	Reduces the amount recovered during AMP8, and therefore the amount that is rebalanced through the single till and 'third party services reconciliation'	Large AMP9 reconciliation adjustments would be required. This will lead to volatile household bills.
Use of existing regulatory mechanisms Does the approach make use of existing regulatory mechanisms or require Ofwat to adjust its process?	It requires some additions to the Cost change process, but it adopts existing regulatory mechanisms (e.g. for bulk supplies).	Standard charging approaches would require the company to recover all revenues up front and use the existing reconciliation mechanism.

Source: UUW analysis

5. Customer protection

This section explains how bespoke Price Control Deliverables and existing third-party mechanisms will protect customers from non-delivery, underspend or inappropriate cost recovery. It confirms that any variances are reconciled through the RCV and third-party arrangements, ensuring household customers are not exposed to cost or delivery risk.

5.1 Price Control Deliverables (PCDs)

5.1.1 This investment relates to the supply of non-potable water. As such, the revenues will be accounted for as third party. Under RAG 4.10[21] the revenues will be managed through a single till adjustment with the totex added only to the RCV.

5.1.2 We propose that customer protection for non- and under-delivery should be provided in the form of a PCD. We cannot identify any similar schemes within the industry's PR24 FD which have an associated PCD. Because the revenues will solely be added to the RCV, we propose that PCD claw-back should only be made to the RCV, not RCV and revenues.

5.1.3 Based on the non-potable demand that we will have to meet to satisfy the third party plans, we think that we will have to deliver both capacity increase within UUW's existing network, and new infrastructure to extend UUW's non-potable network. The estimate for this investment is detailed in section 4 and will be the measurable deliverable for this PCD. Measuring the PCD deliverable on £ spend is in line with the approach of existing PCDs in the FD such as PCDB3 Network Reinforcement and PCDWW32 and PCDW32 Climate Change Resilience Uplift Wastewater and Water.

5.1.4 The deliverables in the PCD will be:

- £ spend – this is what any claw back will be based on; and,
- Ml/d capacity – under- or over-delivery will not impact any PCD claw back.

5.1.5 If UUW spends less than the growth cost allowance, then any underspend will be clawed back from the RCV through an RCV downward adjustment to reflect this variance. In this respect, the PCD will operate as other FD PCDs do, with the claw back value deducted from the company value. However, because the third party revenues are added only to the RCV, the claw back will only be made to the RCV and not to in-year revenues.

5.1.6 If UUW spends more than the growth cost allowance, then the overspend would be recovered directly from the third party through the established third party model.

5.1.7 We explain in section 4.4 why we consider our proposals for cost recovery in this instance to be the most appropriate. Recovering costs through the ongoing supply price, rather than through significant upfront developer contributions, supports delivery of national growth and decarbonisation objectives by reducing barriers to investment. This revenue would be added to the RCV. Any overspend, over and above the cost allowance would then be recovered directly from the developer third party.

5.1.8 This approach adheres to Ofwat's PCD design in that it is asymmetric: non- and under-delivery (no spend or underspend) would be clawed back but overspend would not be automatically recouped through the PCD mechanism. It would go through the third party model and mechanisms instead and recouped directly from the developer / third party.

5.1.9 As the full cost of the project will not pass through onto the general customer bill in the long term, Ofwat is not required to regulate the final cost allowance in the event of any overspend. Any overspend will be financially settled between UUW and the third party and will not impact customers.

[21] RAG-4.10-–-Guideline-for-the-table-definitions-in-the-annual-performance-report.pdf

5.1.10 We consider this approach to be a proportionate solution working with the existing regulatory mechanisms, i.e. both PCD and third party model mechanisms.

5.1.11 Given that the timing of the installation will be driven by third party demand, and not UUW, we do not consider that a timing incentive is suitable for this new PCD. The demand and date of demand are externally driven, outside of UUW's management control. Therefore, applying a timing incentive with a specific annual profile would be inconsistent with existing PCD methodology. We therefore propose a deliverable profile for this PCD with no timing incentive, with delivery against the profile reported twice a year in UUW's PCD Delivery Plan progress report.

5.1.12 We would be pleased to discuss the development of the final form of this PCD with Ofwat.

5.2 Performance Commitments

5.2.1 This investment does not impact any common or bespoke PCs, and we therefore do not propose revised PCLs.

5.2.2 While the investment does not directly improve an existing PR24 performance commitment, it will deliver measurable benefits for customers and the region by avoiding supply constraints, supporting industrial growth, enabling decarbonisation, and improving non-potable system resilience.

5.2.3 Ofwat's common industry-wide PCs do not relate to performance in the non-potable network. UUW's two bespoke PCs (both related to specific wastewater activities and/or regions) also do not relate to the non-potable network or water usage. We therefore do not propose any amendment to the PR24 FD PCLs as stated in "Key Dataset 1: Outcomes data".

6. Investment Delivery Plan

This section sets out how the AMP8 programme will be delivered within UUW's portfolio, including supply-chain capacity, programme sequencing, and risk mitigation. It demonstrates that sufficient delivery headroom exists across design, construction and programme management to deliver the scheme alongside other AMP8 commitments.

6.1 Deliverability

6.1.1 Our strategy is to deliver the projects within this enhancement case via the most appropriate delivery "runway" in our newly established AMP8 runway-based delivery model which is described in more detail in *UUW26-02 Growth Unlocked: Water for the New Economy section 7 "Our capability to Deliver"*.

6.1.2 Assessment of supply chain capacity and supply chain deliverability risk should not be considered in the context of any one case in isolation. Instead we have considered the impact of all cases with our Growth and Asset Health submissions in aggregate on the baseline AMP8 programme. We have engaged with our supply chain partners and undertaken a thorough programmatic assessment of capacity in our new AMP8 supply chain, to assure ourselves that the overall investment proposal is deliverable, and that there is sufficient headroom in capacity and availability of resource within our design consultants and construction and wider supply chain, in addition to our internal programme management capacity, to accommodate the additional investment.

6.1.3 Please refer to *section 7 of UUW26-02 Growth Unlocked: Water for the New Economy* for the programmatic assessment which considers all projects proposed for investment across all cases within our Growth and Asset Health submissions, with the supporting evidence that all such investments are deliverable.

6.1.4 We have considered the impact of all enhancement cases in aggregate on the baseline AMP8 programme. We have undertaken a thorough programmatic assessment of capacity in our new AMP8 supply chain, to assure ourselves that the overall capex investment proposal is deliverable. We have confirmed that there is sufficient headroom in capacity and availability of resource within our design consultants and construction supply chain, as well as in our internal programme management, to accommodate the additional investment. Details of the supply chain assessment for all growth cases can be found in *UUW26-02 Growth Unlocked: Water for the New Economy Section 7*.

6.2 Managing design and delivery risks

6.2.1 Risk and opportunities have been captured throughout the optioneering and design phase along with site specific constructability and deliverability risks. We have sought to mitigate risks either during the optioneering phase or by having a mitigation plan in place to monitor and manage any residual risk.

6.2.2 We understand the overlap with the existing AMP8 programme and have undertaken project by project assessment to establish any change to the current risk profile or impact to in AMP delivery.

6.2.3 A constructability and deliverability matrix and scoring system has been established. This is driven by a number of key attributes including the scale of the upgrade required, complexity of the interface with existing asset, any land purchase requirements, likely planning or ecological constraints or other 3rd party constraints such as power or communications upgrades. A more detailed overview can be found in the programme level risk register *UUW26-27 Deliverability risk register.*

6.2.4 Risk and opportunities have been scored based on analysis of likelihood and impact. The Probability Impact Diagram (PID), shown below for risks and opportunities illustrates the categorisation for both Risk and Opportunities.

Figure 5: Probability Impact Diagram (PID)

Risks						Opportunities				
VL(1)	L(2)	M(3)	H(4)	VH(5)	Likelihood	VH(5)	H(4)	M(3)	L(2)	VL(1)
5	10	15	20	25	>80%	25	20	15	10	5
4	8	12	16	20	50-79%	12	16	12	8	4
3	6	9	12	15	26-49%	15	12	9	6	3
2	4	6	8	10	11-25%	10	8	6	4	2
1	2	3	4	5	<10%	5	4	3	2	1
<£25k	£25k - £100k	£100k-£200k	£250k-£500k	>£500k	Cost Impact	>£500k	£250k-£500k	£100k-£200k	£25k - £100k	<£25k
Insignificant		Moderate		Severe	Schedule Impact	Severe	Moderate		Insignificant	

Source: UUW analysis

6.3 Risks with mitigation plans

6.3.1 In addition to scheme level risks, consideration has also been given to wider programmatic risk. As detailed in later sections we have undertaken a thorough overview of AMP8 supply chain performance and projected capacity.

6.3.2 Risks captured during optioneering and design have either been mitigated early or now have active mitigation plans. Programme-level considerations, including supply-chain capacity and long-lead dependencies, have been incorporated into integrated schedule development.

6.3.3 **Supply chain constraints** – A robust assessment of AMP8 supply-chain capability has been undertaken, confirming capacity to accommodate the additional growth-related scope. This assessment included partner capacity modelling, specialist resource availability, and logistics capability.

Materials, Long-Lead Items & Advanced Procurement

6.3.4 Advanced procurement strategies for critical components (pumps, MCC panels, packaged treatment units, controls and telemetry) are in place.

6.3.5 Long-lead profiling includes:

- Imported equipment;
- Electrical connections or temporary power; and,
- Specialist fabrication and assembly slots.

6.3.6 Our procurement forecasts and supplier commitments will be incorporated into an integrated delivery schedule.

Third-Party Approvals and Enabling Requirements

6.3.7 Growth-driven infrastructure requires extensive external engagement. Early engagement with third parties has begun; however, further approvals are required (planning, highways, landowners, utilities). Programme timescales include mandatory lead-in periods and iterative design development.

Design and Ground Investigation (GI) Risks

6.3.8 Detailed route assessments require early commencement of ground investigation to remove uncertainty around geotechnical conditions. Early GI mobilisation is planned to reduce design risk and compress downstream approval and construction phases.

Table 12: Example of programme level delivery risks

Risk Description	Mitigation	Opportunity / Threat	Risk Score
Unknown Ground Conditions - Ground conditions for new assets are currently unknown and therefore could require further work to overcome	Early ground investigation to commence to identify ground conditions and design to progress from this basis.	Threat	15
Existing Assets - Interface with existing assets - There is a risk that the condition of assets that the projects interface with are worse that expected or not properly understood - predominantly relating to MEICA assets - this could increase the cost of undertaking the works and increase durations	Sites with significant interface with existing assets i.e. repurposing of distribution chambers, pipework etc have been flagged and have allowances built in to the programme to deal with any unexpected issues	Threat	15
Third party approvals – There is a risk that new infrastructure may require further approvals which could impact the programme timescales for delivery	As some of these are unknown and dependant on infrastructure routes early engagement to develop these routes through detailed design will support the best route for delivery incorporating approval processes	Threat	15
Interface with existing assets - There is a risk that a number of the projects will require significant modifications to existing live assets - this could result in additional cost and programme impacts relating to temporary treatment or over pumping to enable any modifications or upgrades	Sites where the interface with existing assets has been identified as a high risk have additional allowances in place to cover temporary treatment and over pumping to mitigate. Initial discussions have commenced with operational teams to ascertain likely requirements and timescales	Threat	9

Source: UUW analysis

6.4 A comprehensive delivery programme

6.4.1 A delivery timeline has been added for the preferred clean energy programme to show when each stage is expected to commence and when each intervention is planned to become operational. This provides a clearer view of how the staged solution is intended to align with forecast industrial demand in Ellesmere Port and how capacity is expected to come online over time.

6.4.2 The timeline distinguishes between start dates and planned in-use dates for each stage so that the sequence of delivery and the relationship between key dependencies can be clearly understood.

Table 13: Table showing the delivery timeline for the interventions

Stage	Site name	Start date	PIU date
Stage 1	Wirral Raw Water Aqueduct / [✂]	1/4/2027	31/7/2031
Stage 2	River Weaver abstraction and strategic non-potable main	1/4/2027	27/2/2031
Stage 3	Central blending and storage infrastructure	1/4/2027	27/2/2031
Stage 4	Ellesmere Port West reinforcement main	1/4/2027	27/2/2031
Stage 6	Distribution from central blending infrastructure to industrial users	1/4/2027	31/7/2031
Stage 7	Ellesmere Port East distribution upgrade	1/4/2027	31/7/2031

Source: UUW analysis

6.4.3 Projects have been categorised to provide greater granularity in terms of likely supply chain, interface with existing assets and likely programme durations.

Table 14: Projects categorisation

Category	Description
Category 1	Offline Build - Small # new assets
Category 2	Offline Build - Significant # new assets
Category 3	Significant interface with existing assets - High risk of temporary treatment
Category 4	Moderate-Minor # new assets - manageable interface with existing assets
Category 5	Refurbishment only – High risk of temporary treatment
Category 6	Refurbishment only – Low risk of temporary treatment

Source: UUW analysis

6.4.4 Projects have also been scored against a constructability and deliverability matrix that assesses each project based on a number of criteria that have a material impact on project delivery.

Table 15: Project's assessment

Category	Assessment	Scoring
Access	Constructability	Range 1-5
Topography	Constructability	Range 1-5
Services	Constructability	Range 1-5
Land Purchase	Constructability	No 0 / Yes 5
Land Rental	Constructability	No 0 / Yes 5
Environmental	Constructability	Range 1-5
Flood Zone	Constructability	Range 1-5
Existing live AMP8 scheme	Deliverability	No 0 / Yes 5
Impact on regulatory commitment	Deliverability	Range 1-5
Complexity of solution	Deliverability	Range 1-5
Likely runway & capacity	Deliverability	Range 1-5
Operational interface	Deliverability	Range 1-5
Programme risk based on above	Deliverability	Range 1-5
Total		**Out of 65**

Source: UUW analysis

6.4.5 These key criteria drive differing project durations in order to allow sufficient time for project delivery i.e. extended programmes for land purchase and planning.

6.4.6 Time risk allowance (TRA) has been built into riskier activities, such as modifications or tie into existing structures to ensure that programmes have sufficient contingency included in the baseline and are deliverable.

6.4.7 High level project programmes have been developed to provide a full programme view, allowing an overall deliverability assessment to be completed.

6.4.8 Resource levelling has been applied to the programme to reduce the impact and workload on our design supply chain, this staggering of work ensures that the supply chain is kept productive in year 4 and 5 ready for AMP9 mobilisation.

7. Assurance

This section summarises the independent technical and commercial assurance undertaken to confirm the robustness of the need case, option selection, costs, deliverability and customer protection. It provides assurance that the submission complies with Ofwat's enhancement requirements and is suitable for regulatory determination

7.1.1 This section summarises UUW's approach to assuring this submission and the outcomes of the third party assurance. It is supported by *UUW26-09 Growth Submission – Commercial assurance report* and *UUW26-10 Growth Submission – Technical assurance report*.

7.1.2 Ofwat requires cost changes submissions to include a third-party assurance report in line with the requirements set out in "[✂][22]. This includes technical and commercial assurance across the content of the submission.

7.1.3 The Technical Assurance confirms that the proposed investment meets the requirements set out in Ofwat's guidance for the following areas:

- Need for a step change in investment;
- Best option for customers; and,
- Investment delivery plan.

7.1.4 The Commercial Assurance provides a view on the robustness of the costs proposed by the company and whether they are efficient and represent industry best practice, this includes an assessment of cost estimation approach.

7.1.5 The Commercial assurance also confirms that the proposed investment meets the requirements set out in this document for the following areas:

- Robust and efficient costs; and,
- Customer protection.

[22] PR24-final-determinations-Expenditure-allowances-Assurance-requirements-for-delivery-of-enhancement-schemes-appendix.pdf

United Utilities Water Limited
Haweswater House
Lingley Mere Business Park
Lingley Green Avenue
Great Sankey
Warrington
WA5 3LP

unitedutilities.com

United Utilities

Water for the North West