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Business Case Glossary

Only Rainwater into Windermere

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Glossary of terms

This glossary defines key terms used throughout the Only Rainwater into Windermere (ORiW) Business Case Chapters and Appendices, drawing on programme, technical and regulatory usage.

Term	Notes / Definition
A590 / A595 A591 / A592 Corridor	Key regional roads serving the Windermere catchment, influencing construction disruption and accessibility.
AACE	Association for the Advancement of Cost Engineering. Its cost-estimate classification system is used to describe estimate maturity and expected accuracy ranges.
ADORE	Assumptions, Dependencies, Opportunities, Risks and Exclusions. A structured record accompanying cost estimates and setting out their principal basis and limitations.
Allowed revenue	The total revenue that a regulated water company is permitted to recover from customers, as determined through the Ofwat price control framework.
Amenity	The welfare value derived from the use, enjoyment and protection of Windermere.
Annual Exceedance Probability (AEP)	The statistical likelihood that a natural hazard or event of a specific magnitude will be equalled or exceeded in any single year.
Appraisal framework	The structured approach used to compare options, based on four analytical pillars incorporating monetised and non-monetised evidence.
Appraisal period	The period over which costs and benefits are assessed; 100 years, applied consistently across all options.
Asset	Physical infrastructure component such as a wastewater treatment works, pipeline, or outfall.
Asset Management Plan 8 (AMP8)	Regulatory investment cycle for the water sector in England and Wales covering the period 2025-2030.
BAE Systems	International defence, aerospace and security company and major employer in Barrow-in-Furness.
Barrow-in-Furness (Rising Main) (Tunnel) (Hybrid)	An option that transfers wastewater from the Windermere catchment to a discharge location at Barrow-in-Furness using a rising main, a tunnel, or a hybrid solution.
Baseline	The two modelled environmental reference scenarios, common across options, which provide a consistent basis for assessment for the appraisal: 1) committed AMP8 baseline, representing the environmental condition expected following delivery of committed wastewater investment; 2) ORiW reference scenario (Leven, Ulverston, and Barrow options), representing the environmental outcome achieved through the removal of treated wastewater discharges, intermittent wastewater discharges via storm overflows and urban runoff from the Windermere catchment.
Benefit	Monetised or non-monetised improvement in social welfare arising from the programme, including environmental, economic and social gains.

Benefit transfer (Value transfer)	The process of using economic valuation evidence from an existing study to estimate the value of similar environmental, social or economic changes in a different location or project context, with appropriate adjustments for differences in population, location or other characteristics.
Benefit-Cost Ratio (BCR)	A measure comparing total benefits to total costs; a ratio greater than one indicates that benefits outweigh costs.
Betterment	Improvements delivered by a project that go beyond simply replacing, maintaining or complying with existing requirements. Within ORiW, betterment refers to additional environmental, community, economic or infrastructure benefits delivered beyond the core objective of reducing wastewater and polluted runoff inputs to Windermere.
Bill impact	The effect of the programme on customer water bills, reflecting how costs are recovered through Allowed Revenue over time.
Biodiversity Net Gain (BNG)	An approach requiring development to leave biodiversity in a measurably better state than before development. The ORiW cost estimates include provision for the applicable net-gain requirement.
Built-Up Area (BUA)	An Office for National Statistics geography defining a contiguous built-up area, used in the distributional assessment to represent named settlements.
Capital expenditure (CAPEX)	Capital expenditure associated with the acquisition, construction, enhancement or replacement of physical assets and infrastructure.
Case for change	Explanation of the underlying problem or opportunity that the programme seeks to address, establishing the need for intervention.
Catchment	Hydrological area draining into Windermere, defining the system boundary for ORiW.
Change Control	The formal process for assessing, approving and managing changes to programme scope, cost, timetable, delivery approach and other key requirements.
Change Management	The structured approach used to manage organisational, stakeholder and behavioural change arising from the programme, helping ensure that changes are successfully adopted, and programme outcomes are realised.
Chemical Oxygen Demand (COD)	A measure of the total quantity of oxygen required to chemically oxidise substances in water, used as an indicator of pollution.
Chlorophyll-a	Indicator used to measure algal biomass and eutrophication in water bodies.
Combined Sewer Overflow (CSO)	A type of storm overflow located on a combined sewer system that carries both wastewater and rainfall runoff in the same pipe. CSOs operate when flows exceed network capacity to help prevent sewer flooding and protect properties.
Commercial Case	Business case chapter that assesses delivery models, procurement approaches and commercial arrangements for programme delivery.
Competitively Appointed Provider (CAP)	A third-party entity appointed through the Direct Procurement for Customers (DPC) process to design, build, finance, operate and maintain infrastructure under a long-term contractual arrangement.
Consenting route	The combination of planning, environmental permitting, regulatory approvals and statutory consents required to enable a project or intervention to proceed.
Construction disruption	Impacts on communities and infrastructure during construction (e.g. traffic, access, economic effects).

Consumer surplus	The additional benefit or welfare that individuals receive when they are willing to pay more for a good, service or experience than they actually have to pay.
Contingency	Allowance in cost or schedule to account for uncertainty and risk.
Conventional Activated Sludge (CAS)	A biological wastewater treatment process using aerobic microorganisms followed by settlement.
Cost	Total expenditure associated with delivering and operating infrastructure or interventions.
Cost-Benefit Analysis (CBA)	An appraisal method comparing total costs and benefits to assess value for money.
Cost Effectiveness Analysis (CEA)	An appraisal method comparing cost relative to achieving a defined outcome where benefits are difficult to monetise.
Critical National Infrastructure (CNI)	Critical elements of infrastructure (assets, facilities, systems, networks or processes and the essential workers that operate and facilitate them), the loss or compromise of which could result in: a) Major detrimental impact on the availability, integrity or delivery of essential services, or b) Significant impact on national security, national defence, or the functioning of the state.
Critical Path	The sequence of dependent activities that determines the shortest possible duration for completing a programme or project. Any delay to an activity on the critical path will directly delay the completion date of the programme unless corrective action is taken.
Critical Success Factors (CSFs)	The criteria used to determine whether ORiW successfully delivers its objectives and to assess the relative performance of options throughout the appraisal process.
Cultural services	Non-material ecosystem benefits including recreation, aesthetic enjoyment, cultural heritage and inspiration.
Cumbria Tourism	Destination management organisation providing tourism data and economic analysis for Cumbria.
Cumbria Combined Authority (CCA)	The strategic authority for Cumbria responsible for regional economic growth, transport, skills and investment priorities, and a key stakeholder in the long-term outcomes of the ORiW programme.
Cyanobacteria	Blue-green algae associated with harmful blooms and water quality deterioration.
Cyanobacteria Risk Days	Days where cyanobacterial concentrations exceed the WHO10 threshold and indicate elevated recreational and ecological risk.
Deadweight	Outcomes or benefits that would have happened without the intervention and are therefore not attributable to it.
Department for Environment, Food and Rural Affairs (Defra)	UK government department responsible for environmental protection, food production, agriculture, fisheries and rural communities.
Deliverability	Feasibility of delivering a project considering engineering, regulatory and stakeholder constraints.
Delivery Model	The organisational, contractual and financing approach used to deliver a programme or asset, including in-house delivery, enterprise arrangements, DPC, SIPR and other delivery structures.

Design Storm	A hypothetical rain event used to design infrastructure based on duration, intensity and frequency.
Detention Basins	Landscaped features that temporarily store and release stormwater runoff.
Development Consent Order (DCO)	A development consent granted under the Planning Act 2008 for Nationally Significant Infrastructure Projects (NSIP).
Development Phase	The stage of the programme focused on preparing for construction.
Direct Procurement for Customers (DPC)	A water sector delivery model under which a competitively appointed provider finances, builds, operates and maintains major infrastructure on behalf of customers under a long-term contract.
Disbenefit	A negative impact or reduction in social welfare resulting from a project, policy or intervention.
Discounting	A method used to convert future costs and benefits into present-day values.
Displacement	Benefits that are reduced or offset by negative impacts elsewhere.
Distance-decay	The tendency for the value individuals place on an environmental asset, service or improvement to decline as their distance from it increases.
Distributional Analysis	Assessment of how impacts are distributed across communities or groups.
Drainage and Wastewater Management Plan (DWMP)	A long-term strategic planning framework used by water companies to assess and manage future wastewater and drainage needs.
Dry Weather Flow (DWF)	The wastewater flow occurring under non-rainfall conditions and comprises domestic sewage, trade effluent and infiltration. It represents the baseline flow that must be conveyed and treated independently of storm-derived runoff
Economic Case	Business case chapter that assesses options and demonstrates which option represents the best value for money.
Environment Agency (EA)	The environmental regulator responsible for regulating water quality, environmental permitting, flood risk management and aspects of environmental protection in England.
Environment Act 2021	UK legislation establishing a framework for environmental governance.
Environmental Impact Assessment (EIA)	Process for assessing environmental impacts prior to consent.
Environmental Quality Ratio (EQR)	Standard metric used by the Environment Agency to classify the ecological status of lakes under the Water Framework Directive (WFD). EQR expresses observed ecological condition relative to near-natural reference conditions on a scale from 0 to 1, and determines whether a water body achieves High, Good, Moderate, Poor or Bad status.
Existence value	The value individuals place on knowing that an environmental, cultural or natural asset exists and is protected, regardless of whether they ever use or visit it.
Financial Case	Business case chapter that assesses affordability, funding, financing and financial implications of the programme.
Financing	The mechanisms through which capital is raised to fund programme expenditure, including debt, equity or project-finance arrangements. Distinct from funding, which refers to the ultimate source of repayment.

First time sewerage (FTS)	Provision of connections to the public sewer network for properties currently served by private wastewater systems.
Flood risk reduction	Reduction in the likelihood or impact of flooding, including benefits from SuDS and drainage measures.
Flow to full Treatment (FtFT)	Maximum wastewater flow that can be fully treated before at a WwTW before an overflow occurs.
Funding	The ultimate sources from which programme costs are recovered or paid. Distinct from financing, which relates to how capital is raised to fund expenditure before costs are recovered.
Funding profile	The timing and distribution of funding requirements over the life of the programme, showing how expenditure is financed across delivery phases.
Funding requirement	Total funding needed to deliver the programme.
Gravity flow / drainage	The conveyance of wastewater using natural changes in elevation rather than mechanical pumping. Gravity flow systems can reduce operational costs, energy use and maintenance requirements compared with pumped systems.
Green Book	HM Treasury guidance for appraisal and evaluation.
Habitats Regulations	UK legislation protecting habitats and species.
Habitats Regulations Assessment (HRA)	Assessment required for impacts on protected sites.
Highway runoff	Rainwater that drains from highways, roads and transport infrastructure and may contain pollutants such as sediments, hydrocarbons, metals and other contaminants.
Hybrid solution	An approach to conveyance that combines tunnel and rising main infrastructure to transfer wastewater between locations.
Income elasticity of demand (YED)	A measure of how willingness to pay changes in response to changes in income.
Indices of Deprivation (IoD) / Index of Multiple Deprivation (IMD)	Measures of relative deprivation in England, reported for Lower-layer Super Output Areas and used in the distributional assessment.
Infrastructure Provider (IP)	A licensed entity appointed under the Water Industry Specified Infrastructure Projects Regulations (SIPR) to finance, design, build, own, operate and maintain specified water infrastructure projects, subject to project-specific economic regulation.
Infiltration	The entry of groundwater into a sewer system through the pipe work or associated assets
Inflow	The entry of rainfall-derived surface water, that enters a sewerage system through direct connections, openings, or cross-connections rather than by infiltration.
In-house delivery	Delivery of infrastructure upgrades or renewals through the water company's own regulated business and supply chain arrangements rather than through a competitively appointed third-party infrastructure provider.
Intervention	An individual measure or activity that contributes towards achieving the programme objective.

Jacobs Mott MacDonald (JMM)	The two consultancies working in partnership to deliver the feasibility stage design and business case development.
Lake District National Park Authority (LDNPA)	The organisation responsible for conserving and enhancing the natural beauty, wildlife and cultural heritage of the Lake District National Park, promoting opportunities for public understanding and enjoyment of the area, and acting as the local planning authority for the National Park.
Leven (Rising Main) (Tunnel)	An option that transfers treated wastewater from the Windermere catchment to a discharge location at the River Leven using a rising main or a tunnel solution.
Lower-layer Super Output Area (LSOA)	A small statistical geography used by the Office for National Statistics and for reporting deprivation indicators.
Longlist	Initial comprehensive set of options identified during optioneering.
Love Windermere	A delivery partnership working to improve water quality and environmental outcomes across the Windermere catchment.
Management Case	Business case chapter that demonstrates that the programme can be delivered successfully, including governance, assurance, risk management, planning and controls.
Marine Management Organisation (MMO)	Body responsible for marine licensing and planning.
Ministry of Housing, Communities and Local Government (MHCLG)	Government department for housing and local government policy.
Middle-layer Super Output Area (MSOA)	A statistical geography larger than an LSOA, used for indicators including household income and life expectancy.
Most Preferred Option (for this stage of assessment)	The option identified through current appraisal as best meeting programme objectives and Critical Success Factors at the present stage of development. Subject to further testing, evidence gathering and appraisal in subsequent business case stages.
Nationally Significant Infrastructure Project (NSIP)	A major infrastructure development meeting thresholds under the Planning Act 2008 and requiring development consent from the Secretary of State.
National Receptor Dataset (NRD)	An Environment Agency dataset identifying the location and type of receptors, including properties, used in the flood-risk assessment.
Natural capital	Natural assets providing value to society.
Natural England	Government adviser for the natural environment in England.
Nature based solutions (NbS)	Address societal, environmental and economic challenges through actions to protect, sustainably manage, and restore natural and modified ecosystems, benefiting people and nature at the same time
Net Present Social Value (NPSV)	The present value of monetised social benefits minus the present value of social costs over the appraisal period.
Non-use value	The value individuals derive from an asset without directly using it.
Nutrient enrichment	The increase in nutrients, particularly phosphorus and nitrogen, within a waterbody. Excessive nutrient enrichment can contribute to algal blooms, reduced oxygen levels and ecological deterioration.

Office for National Statistics (ONS)	UK's official statistics authority.
Ofwat	The economic regulator of the water sector in England and Wales.
Ofwat Price Review 2024 (PR24)	Regulatory framework that sets expenditure allowances, performance commitments, revenue controls and regulatory expectations for water companies for the 2025–2030 period.
Optimism bias	Adjustment applied to cost estimates to reflect the systematic tendency to underestimate costs and overestimate outcomes at early stages of development.
Operating expenditure (OPEX)	Expenditure associated with operating and maintaining infrastructure and services.
Strategic option	Defined solution assessed in appraisal.
Outline Business Case (OBC)	The subsequent business-case stage at which options, costs, benefits, risks, delivery arrangements and the preferred option are developed and tested in greater detail.
Outcome	The change resulting from interventions that leads to benefits.
Phytoplankton Lake Assessment Tool (PLUTO)	The assessment tool used to determine phytoplankton-related ecological status under the Water Framework Directive.
Place-based effects	Impacts relating to how infrastructure, costs and benefits fall across different places and communities.
Point-source pollution	Pollutants entering the environment from a discrete and identifiable source. In the context of ORiW, this includes regulated public wastewater assets, private wastewater treatment systems and other identifiable discharge sources.
Pollutant	Any substance, material or contaminant that can adversely affect water quality, ecological health or human health when introduced into the environment. In the context of ORiW, pollutants include nutrients (such as phosphorus and nitrogen), bacteria, wastewater-derived contaminants and pollutants associated with urban runoff and drainage systems.
Present Value (PV)	The current value of future costs or benefits after discounting.
Price base year	The year in which all costs and benefits are expressed for appraisal purposes, removing the effects of inflation and allowing values from different years to be compared consistently.
Primary valuation	A bespoke valuation exercise, typically involving willingness to pay, undertaken to estimate project-specific economic value.
Private wastewater systems	Privately owned and operated wastewater treatment and disposal systems, including septic tanks, package treatment plants and other non-public wastewater infrastructure.
Private wastewater treatment works (Private WwTW)	A privately owned wastewater treatment facility that treats sewage from individual properties, businesses, visitor attractions or groups of properties, rather than being operated by a water company.
Programme	Coordinated group of projects delivering objectives.
Qualitative effects	Impacts assessed qualitatively where monetisation is not proportionate or reliable given available evidence.

RAG rating	A Red-Amber-Green assessment used to communicate the relative performance, confidence or risk associated with an option, activity or outcome.
Rapid Appraisal Tool for Economics (RATE)	An Environment Agency tool used to estimate flood-risk-management benefits for business-case appraisal.
Regulatory Capital Value (RCV)	The regulatory asset base on which a water company earns a return, representing the value of past investment.
Reference class forecasting (RCF)	An approach using the observed performance of comparable previous projects to inform expected cost or delivery outcomes.
Revenue requirement	The total income needed to cover operating costs, capital financing and returns.
Reduced Weather Dependent Flows (RWDF)	Measures intended to reduce rainfall-derived flows entering the sewer network, including sewer relining, surface-water separation and natural flood-management measures.
Rising main	A pressurised pipeline used to transfer wastewater by pumping it from one location to another where gravity flow alone is not sufficient.
Save Windermere	Not-for-profit Community Interest Company (CIC) campaigning to return Windermere to its ecologically natural state, through the removal of sewage discharges into the Windermere catchment
Sensitivity analysis	Tests how results change when assumptions vary.
Shortlist	Refined set of options taken forward for detailed appraisal.
SMART objectives	Objectives that are Specific, Measurable, Achievable, Relevant and Time-bound. SMART objectives are used to define clear and assessable programme outcomes.
Social Time Preference Rate (STPR)	Discount rate used in UK government appraisal to convert future costs and benefits into present values.
Social Value	Improved social welfare or wellbeing delivered through policies, projects and programmes, beyond the direct delivery of their intended outputs.
Special Area of Conservation (SAC)	A protected site designated under the Habitats Regulations to conserve internationally important habitats and species.
Special Protection Area (SPA)	A protected site designated under the Habitats Regulations for the conservation of internationally important bird species and their supporting habitats, including rare, vulnerable and migratory birds.
Specified Infrastructure Projects Regulations (SIPR)	The regulatory framework that allows certain large, complex water infrastructure projects to be competitively tendered to third-party providers where specified by the Secretary of State or Ofwat.
Strategic Outline Case (SOC)	The early business-case stage at which the strategic case for intervention and a preferred strategic way forward are established.
Strategic Case	Business case chapter that demonstrates the rationale for intervention, establishes the strategic fit of the programme and sets out the case for change.
Stratification	The formation of distinct layers within a lake due to differences in water density, most commonly caused by temperature.
Storm overflow	A permitted overflow structure designed to discharge excess stormwater and wastewater during exceptional hydraulic conditions, designed to release excess flows during exceptional rainfall or network loading conditions to prevent sewer flooding and protect properties.

Storm overflows discharge reduction plan (SODRP)	The UK Government's statutory programme for England, introduced under the Environment Act 2021, which requires water companies to reduce the frequency and environmental impact of storm overflow discharges through a phased programme of investment and improvement extending to 2050.
Sustainable Drainage Systems (SuDS)	Drainage systems that mimic natural drainage processes to manage rainfall close to where it falls, reducing flood risk, improving water quality and delivering wider environmental and community benefits.
Tunnel Boring Machine (TBM)	A machine used to excavate tunnels, assumed as the principal tunnelling technique for the tunnel options.
Switching value	The value of a key appraisal variable at which a project's conclusion would change, such as the cost increase or benefit reduction required for the Benefit-Cost Ratio to fall below 1.0.
Total Expenditure (Totex)	Combined capital and operating expenditure considered together for regulatory and investment appraisal purposes.
Total nitrogen (TN)	The total concentration of nitrogen present in a water sample, including organic and inorganic forms. Total nitrogen is a key indicator of nutrient enrichment and eutrophication.
Total phosphorous (TP)	The total concentration of phosphorus present in a water sample, including dissolved and particulate forms. Total phosphorus is a key indicator of nutrient enrichment and eutrophication.
Town and Country Planning Act (TCPA)	The principal planning framework governing development requiring planning permission through local planning authority processes.
Tunnel	A below-ground tunnel used to convey wastewater flows over long distances while minimising surface disruption and reducing interactions with existing infrastructure and environmental constraints.
UK Climate Projections 2018 (UKCP18)	The UK's climate-projection framework used to inform the assessment of future climatic conditions.
Ulverston (Rising Main) (Tunnel) (Hybrid)	An option that transfers treated wastewater from the Windermere catchment to a discharge location at Ulverston using a rising main, a tunnel, or a hybrid solution.
Uncertainty	Situation where future outcomes cannot be confidently predicted.
United Utilities (UU)	The United Utilities group of companies responsible for providing water and wastewater services in North West England.
United Utilities Group plc (UU Group)	The listed parent company of United Utilities. References to United Utilities Group plc relate to group-level corporate activities, including financing, treasury management, shareholder matters and consolidated financial reporting.
United Utilities Water Limited (Uuw)	The regulated water and wastewater company serving North West England and the appointed water and sewerage undertaker responsible for providing water and wastewater services within its licensed area.
Urban runoff	Surface water flow generated from rainfall over urban areas, which can carry pollutants into drainage systems and receiving water bodies.
Value for Money (VfM)	An assessment of the extent to which an option delivers the optimal balance of costs, benefits, risks and outcomes over its whole life, taking account of both monetised and non-monetised impacts.

Wastewater treatment works (WwTW)	A facility used to collect, treat and manage wastewater before discharge or reuse in accordance with environmental permits and regulatory requirements.
Water Environment Benefits Survey (WEBS)	An Environment Agency valuation approach used to estimate the benefits of changes in waterbody condition.
Water Framework Directive (WFD)	Framework requiring good ecological and chemical status.
Water Industry National Environment Programme (WINEP)	The programme of work that water companies in England are required to undertake to fulfil their obligations arising from environmental legislation and UK government policy.
Weighted Average Cost of Capital (WACC)	The average rate of return required by investors, weighted across debt and equity, used to determine financing costs and regulatory returns.
WHO10 threshold	A World Health Organization indicator used to assess harmful algal bloom risk. It represents the number of days when cyanobacteria concentrations exceed 10 µg/L chlorophyll-a.
Whole-life carbon emissions	Total greenhouse gas emissions across construction, operation, replacement and maintenance over the appraisal period.
Whole-life cost (WLC)	Total cost of an asset or programme over its full lifecycle, including capital, operating, maintenance, renewal and decommissioning costs.
Willingness to Pay (WTP)	An economic valuation approach used to estimate the amount individuals are willing to pay for a specified improvement in environmental, social or service outcomes.
Windermere (Rising Main) (Tunnel)	An option that retains treatment at Windermere WwTW and continues to discharge into Windermere. Flows are conveyed to the WwTW via a rising main or a tunnel solution.
Windermere Wastewater Treatment Works (WWwTW)	The principal United Utilities wastewater treatment works serving the Windermere area. Also referred to as Tower Wood WwTW in some project documentation.
Work Package	A grouping of related projects, works or services that can be procured and delivered under a single contract or delivery arrangement.