

**WSX19 -  
Annexes -  
Bioresources  
strategy and  
investment**

Business plan  
2025-2030



**Wessex Water**  
YTL GROUP

FOR YOU. FOR LIFE.

# WSX19 - Annexes - Bioresources strategy and investment

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*This supporting document is part of Wessex Water's business plan for 2025-2030.*

*Please see 'WSX00 – Navigation document' for where this document sits within our business plan submission.*

*More information can be found at [wessexwater.co.uk](http://wessexwater.co.uk)*

# A1 Regional map



# A2 Resilience agreement with Southern Water

Bioresources – intercompany resilience agreement



This note sets out the principles of an approach to improved bioresources resilience support between **Wessex Water** and **Southern Water**.

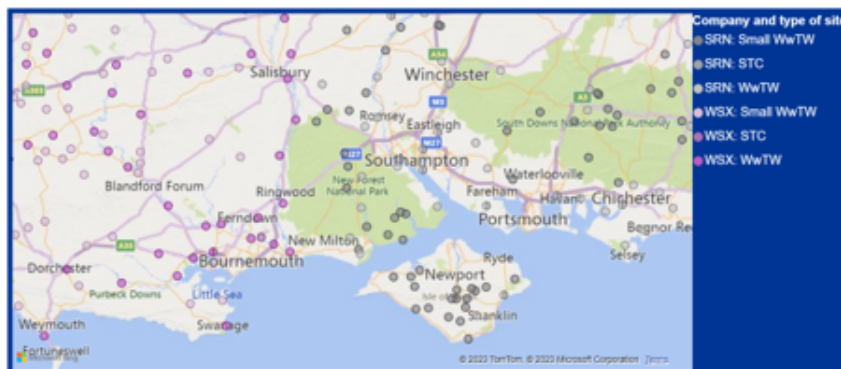
- Non-exclusive, annual framework agreement (parties are free to appoint other suppliers at any time);
- Call-off services requested by either party on an 'as and when' basis;
- No commitment to minimum spend.

## Background

Bioresources is the collective name given to wastewater sludges, the by-product of wastewater treatment, which when treated for recycling are known as biosolids.

Wessex Water and Southern Water are statutory water and sewerage service providers who share a common boundary between their operating areas (see Figure 1 below). In the interests of cost efficiency and maintaining essential services both parties have recognised the benefit in providing non-exclusive contingency support in the event of a loss of capacity for wastewater sludge treatment. Such support can reduce the need for unilateral capacity increases to deal with contingency situations, provide greater flexibility in managing temporary asset downtime and provide greater levels of resilience.

Figure 1 - Illustration of common boundary between Wessex Water (WSX) and Southern Water (SRN).



### Scope

The principles here cover the loss of wastewater sludge treatment management capacity (including dewatering and treatment) due to operational issues or temporary downtime.

Neither party is required to provide assistance unless it determines that it has sufficient resources to do so, and any support will be supplied on a non-exclusive, call-off basis where each individual call-off contract will set out details of the service(s) to be provided, payment arrangements, responsibilities, etc. The parties agree that when contacted, by an authorised representative under the agreement, they will assess their capacity to respond considering the location of the need, the availability of appropriate personnel, equipment, and other assistance. Both parties will then agree what services are to be provided, by when and ensure that all environmental legislative requirements are met with regards to the transfer of material, the treatment of material, and its subsequent recycling, as applicable.

### Timescale

The approach will be jointly reviewed annually by the authorised contacts and will expire unless renewed by 31<sup>st</sup> March each year.

### Authorised contacts

Wessex Water: Wesley Wong (Strategy & Regulation) and Sean Hill or James Lovell (Operations)

Southern Water: Aurelien Perrault (Strategy)

# A3 Joint market enquiry with Severn Trent Water – List of interview questions for shortlisted companies

## Service provisions

- Please indicate what your sludge requirements would be: quality parameters; acceptance criteria (and what would happen if quality differed); daily/monthly volumes
- What would the right of refusal/other implications be here on quality if it were to fall outside of requirements?
- What is your anticipated location – 3rd party site or a WaSC site? If the latter, what are the site requirements? And who operates? Are there any renewable options if on WaSC site?
- In the event of failure of the site/plant – what would a contingency plan be for treatment and disposal as appropriate?
- In the event of a loss of land bank (either regulatory or public pressure) – what are the options for service solutions and disposal routes? Lead times?
- Are you able to offer inbound logistics services, or would WaSCs be responsible for transporting sludge to the treatment site?

## Contract structure

- What contract length would you be seeking? What might the contract extension and exit options be?
- If there is alternative process capacity who has the right to use the spare capacity?
- What would the rights be in the event of market exit – e.g., right to operate in event of insolvency or a decision to leave the market?
- What contract structure would be your preference/are there any structures you'd rather avoid? E.g., JV, individual with each WASCs.
- Could you provide indications of what your critical KPI's and performance events might be; e.g. failure of compliance/quality of end product, carbon performance?

## Financial framework

- What is your proposed pricing structure, product/waste scope (range) indexation on costs and income?
- What are your views on incentives, benefits, and profit share?
- Please share an indicative price– £/tonnes DS or similar
- In the event of enactment of contingency plans (e.g., loss of landbank) what is the potential financial impact on £/tonnes DS or similar?

# A4 National Landbank Model<sup>1</sup> scenarios and assumptions

## 2.4 Landbank scenarios

A range of increasingly stringent landbank scenarios were modelled based on the Price Review 2024 (PR24) Water Industry National Environment Programme (WINEP) drivers, as outlined below. The scenarios outlined below (and detailed in full in Appendix I) include increasingly stringent restrictions including an interpretation of the Farming Rules for Water (FRfW), agricultural demand for biosolids, physical restrictions, farmer acceptance and increased sludge production and changed biosolids properties. These scenarios were shared with the Environment Agency prior to the modelling to garner their feedback, which was included in the final scenarios used during the modelling.

Scenario 1: Historic 2020 pre-FRfW – business as usual: existing sludge production volumes and regulatory controls (i.e. current BAS restrictions and Sludge (Use in Agriculture) Regulations).

Scenario 2: Baseline (post FRfW) – minimal restrictions: increased sludge volumes and properties, restrictions in line with the initial 20 Measures (as per the water industry initiative in response to the FRfW, including increased restrictions on autumn applications (e.g. shallower/lighter soils), slight increase in restrictions in sensitive catchments and near sensitive sites and in SPZ2, and no application at P index 4 and above).

Scenario 3: AMP8 low change – modest restrictions: increased sludge volumes and properties, slightly increased restrictions on phosphate additions (e.g. no application at P index 4 and above, and matching offtakes at P index 3), reduced farmer acceptance (to model concerns over contaminants (e.g. PFAS and microplastics) or regulatory uncertainties) and restrictions in line with the 20 measure (as above).

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<sup>1</sup> Source: Grieve Strategic, “National Landbank Assessment”, 2023. October 2023 business plan submission

Scenario 4: AMP8 medium change – significant restrictions: increased sludge volumes and properties, increased restrictions on phosphate additions (e.g. no applications at P index 4 and above, and matching offtakes at P index 2 and 3), further reduced farmer acceptance (to model concerns over contaminants (e.g. PFAS and microplastics) and regulatory uncertainty), restrictions in line with the 20 measures (as above) and no autumn applications (except ahead of OSR and grass), significant reduction in demand for biosolids on grassland (to model a ban on conventionally treated biosolids and longer no-graze/harvest periods for enhanced treated biosolids), and a moderate increase in restrictions in sensitive catchments and near sensitive sites and in SPZ2.

Scenario 5: AMP8 high change – plausible worst-case: increased sludge volumes and properties, increased restrictions on phosphate additions (e.g. no applications at P index 4 and above, and matching P to crop offtakes), limited farmer acceptance (to model concerns over contaminants (e.g. PFAS and microplastics) and regulatory uncertainty), restrictions in line with the 20 measures (as above) and no applications in sensitive catchments, no applications within 500m of sensitive sites or within SPZ2, reduced application rates (as a result of concerns over nitrate leaching) and restrictions on applications to grassland.



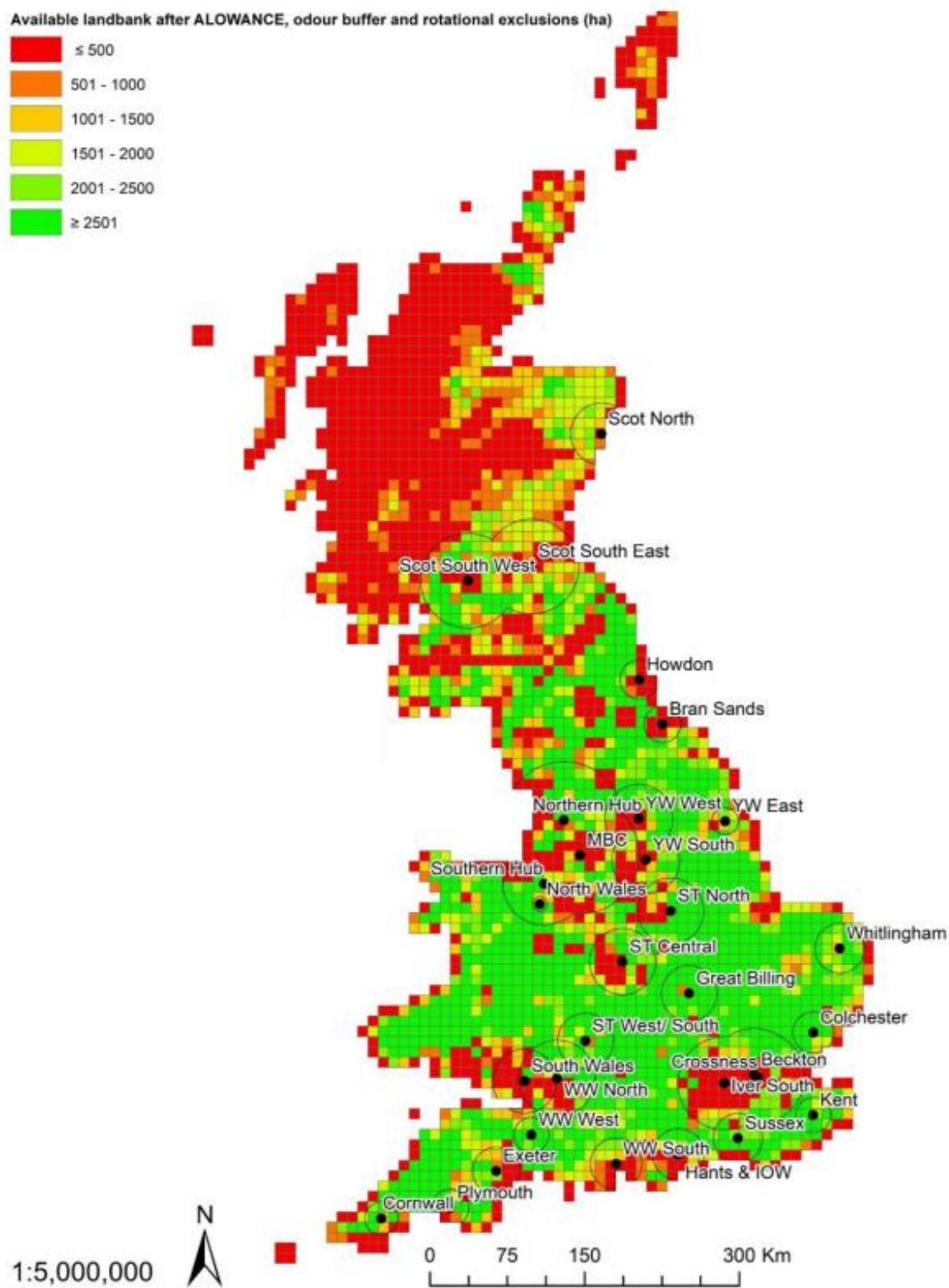


Figure 7. Scenario 1 baseline STC configuration.

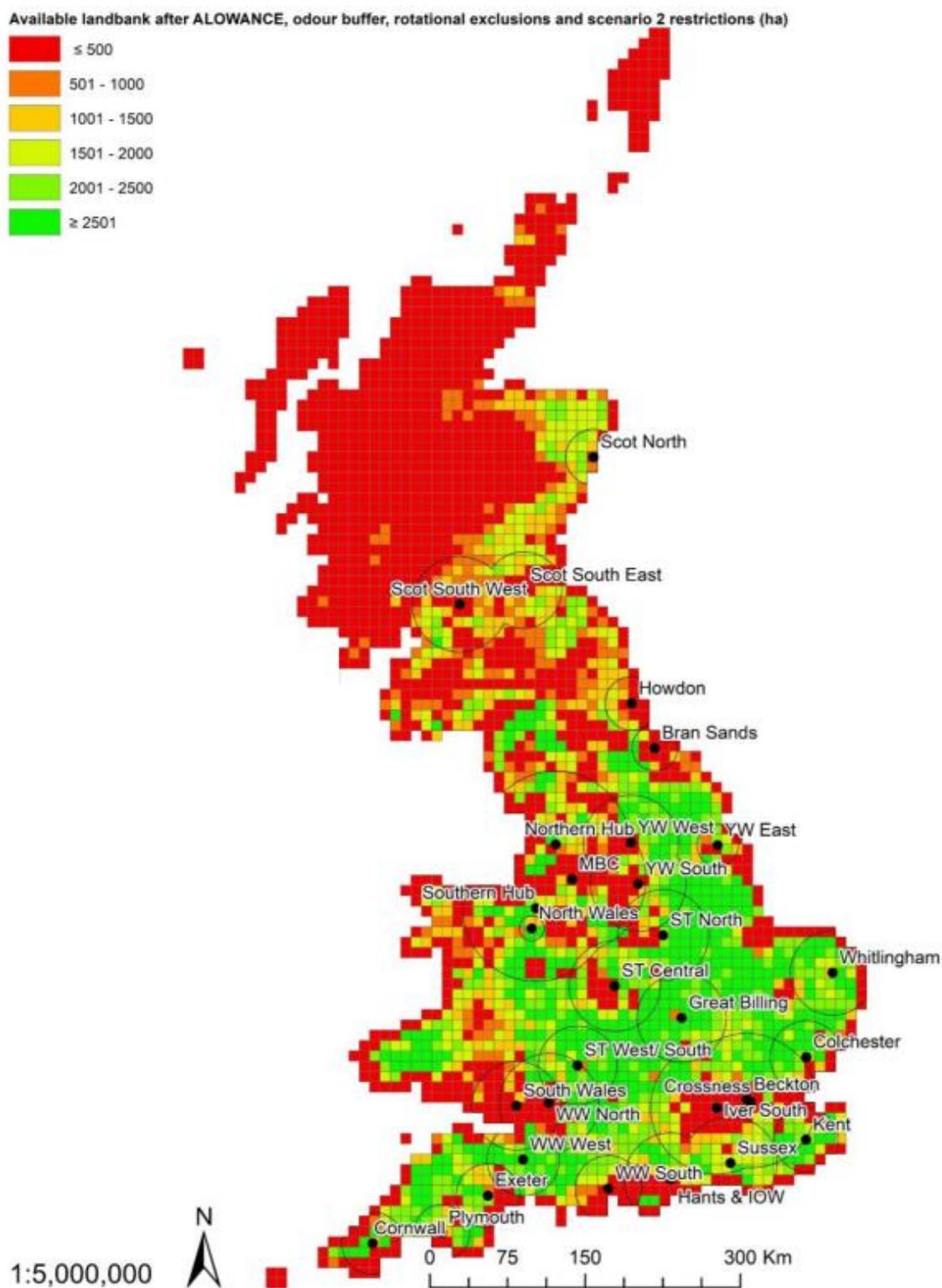


Figure 8. Scenario 2 baseline STC configuration.

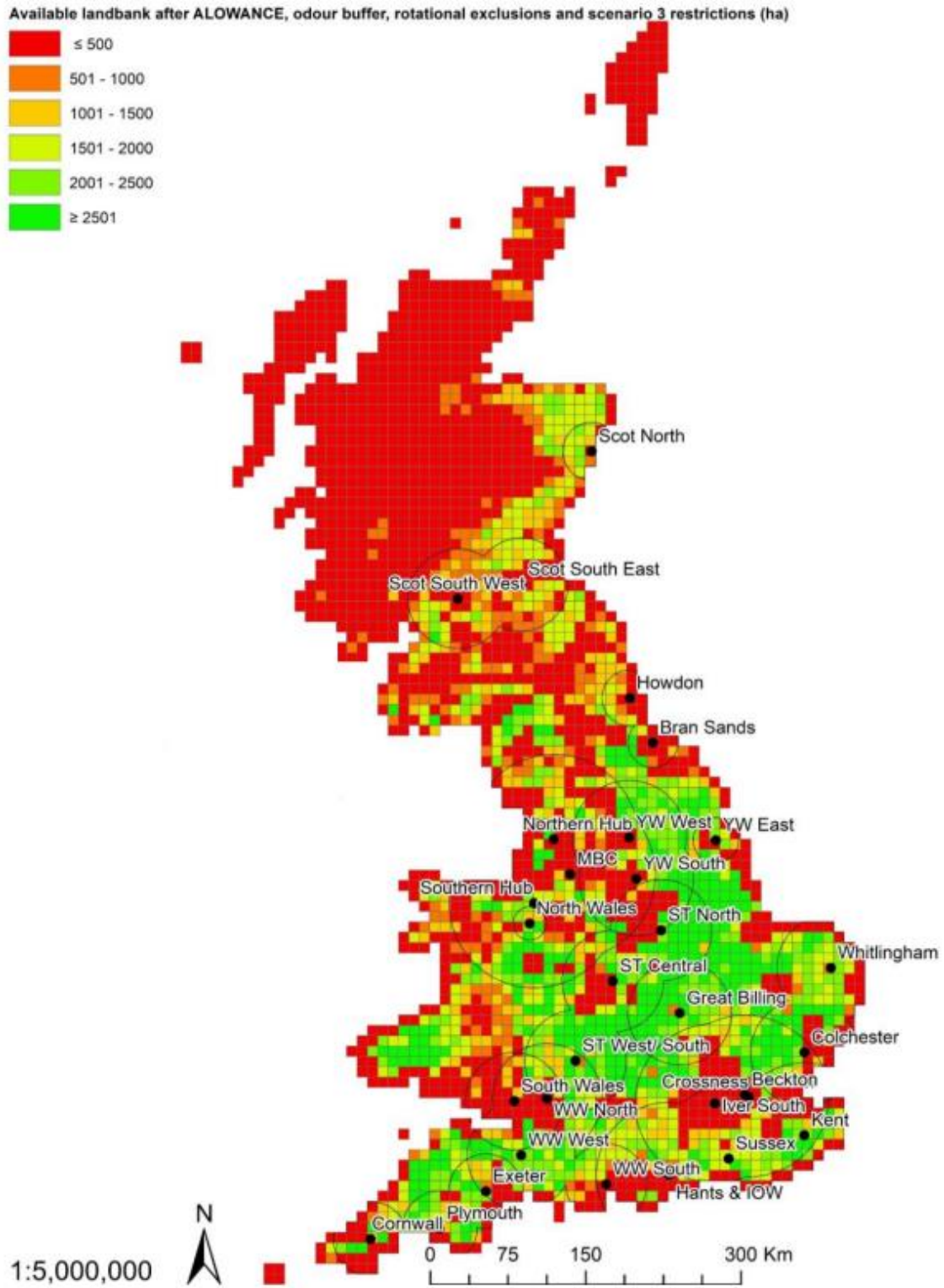


Figure 9. Scenario 3 baseline STC configuration.

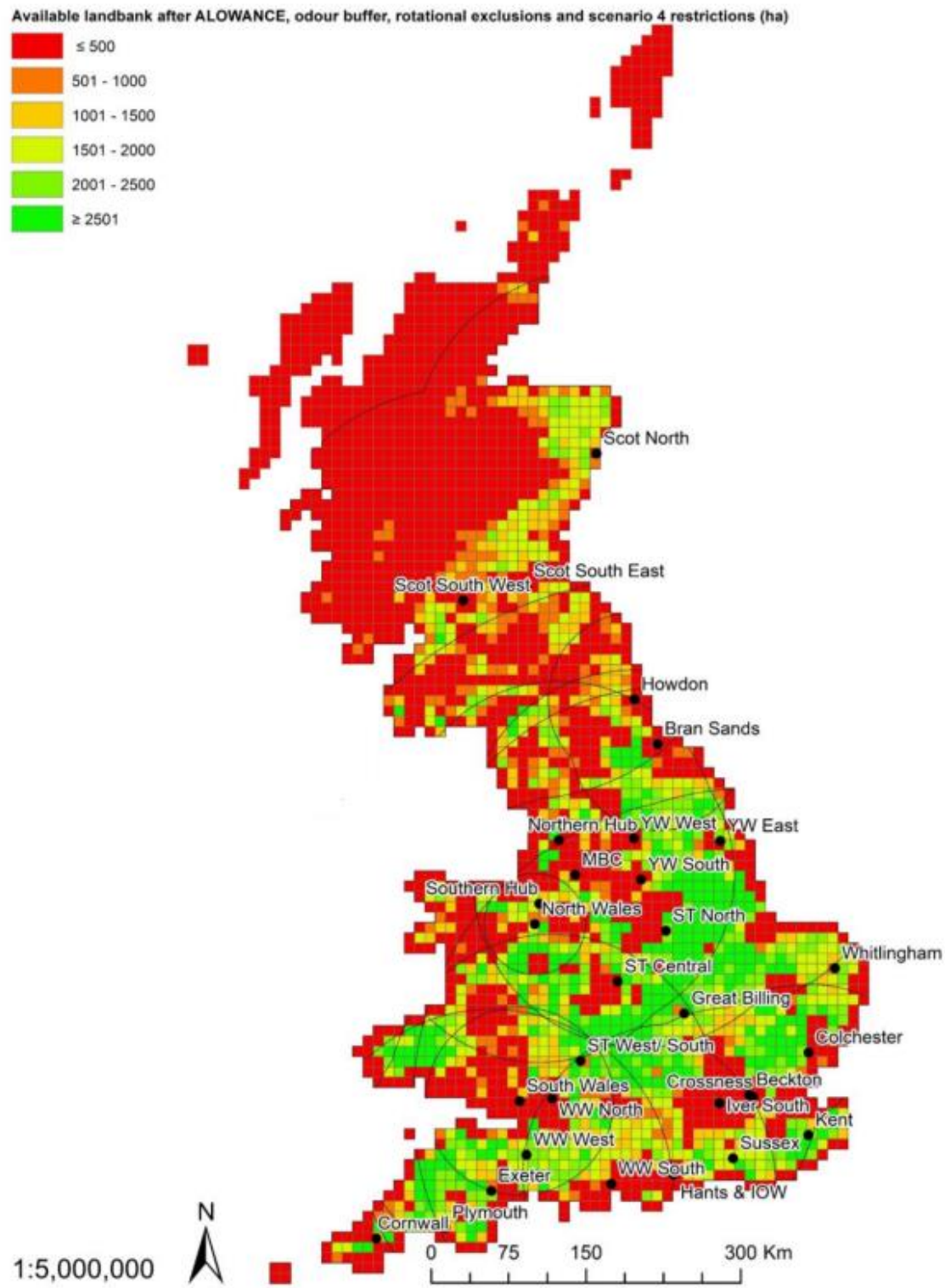


Figure 10. Scenario 4 baseline STC configuration.

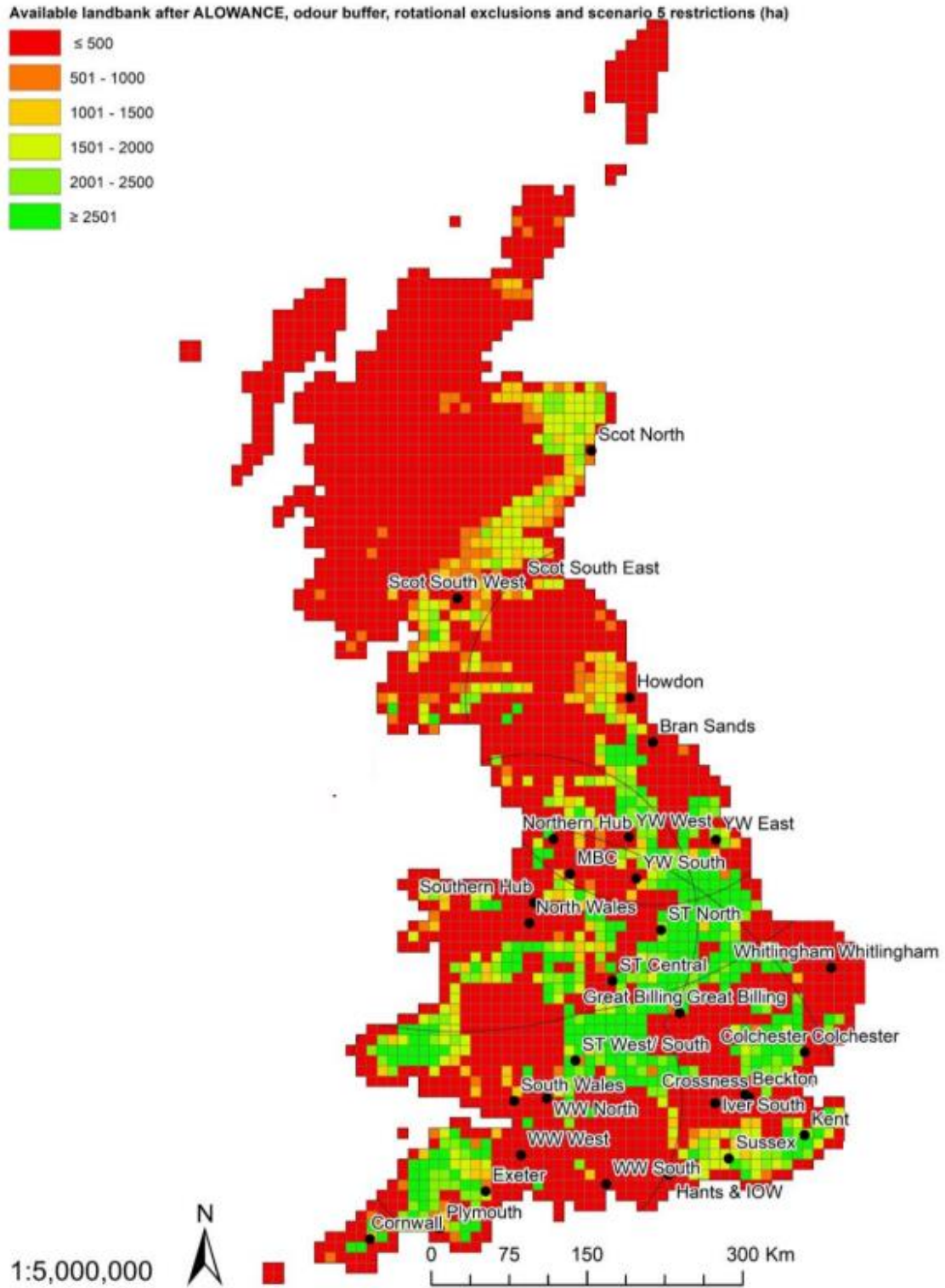


Figure 11. Scenario 5 baseline STC configuration.

# A5 PR24 WINEP P Removal Programme (as of July 2023)

Site ID	Site Name	Regulatory Completion Date	Options Assessment Outcome (as of 03/07/2023)	Current P Permit limit (mg/l)	Proposed P Permit limit (mg/l)	Proposed P Stretch Target (mg/l)
13001	ABBOTSBURY	31/03/2030	proceed	0.81	0.5	
13004	ALL CANNINGS	31/03/2030	proceed	1	0.25	
13006	ALMONDSBURY	31/03/2038	clarify		2	0.25
13008	AMESBURY	31/03/2030	proceed	1	0.25	
13017	BECKINGTON	31/03/2030	proceed		1.5	
13021	BISHOPS CAUNDLE	31/03/2030	proceed		0.8	
13022	BISHOPS LYDEARD	31/03/2030	proceed	1	0.25	
13024	BLACKHEATH	31/03/2030	proceed		0.25	
13027	BOURTON	31/03/2030	clarify	1		0.8
13028	BOWERHILL	31/03/2030	proceed	2	0.25	
13032	BRADFORD ON TONE	31/03/2030	proceed		0.25	
13031	BRADFORD-ON-AVON	31/03/2038	clarify	2		1
13039	BRUTON	31/03/2030	proceed	2	0.25	
19031	BUCKLAND NEWTON	31/03/2030	proceed	4	1	
13043	BUTLEIGH	31/03/2030	proceed		0.25	
13044	CALNE	31/03/2030	proceed	2	0.4	
13045	CAM VALLEY	31/03/2030	proceed		0.7	
13047	CANNINGTON	31/03/2030	clarify		2	
13048	CASTLE CARY	31/03/2030	proceed	0.5	0.25	
13050	CERNE ABBAS	31/03/2030	proceed	1	0.5	

19156	CHARD	31/03/2030	proceed	0.5	0.25	
13055	CHARLTON HORETHORNE	31/03/2030	proceed		1	
13057	CHEDDAR	31/03/2030	proceed	0.7	0.25	
13058	CHEW STOKE	31/03/2030	proceed	2	0.3	
13061	CHILCOMPTON	31/03/2030	proceed	1.5	0.8	
13062	CHILTHORNE DOMER	31/03/2030	proceed		0.25	
13064	CHIPPENHAM	31/03/2030	proceed	2	0.25	
13066	CHRISTCHURCH	31/03/2030	proceed		0.25	
13069	COLEFORD	31/03/2030	proceed		1	
13073	COMBE ST NICHOLAS	31/03/2030	proceed		1.5	
13075	COMPTON BASSETT	31/03/2030	proceed		1	
13078	CORFE MULLEN	31/03/2030	clarify		1	0.8
13082	CRANBORNE	31/03/2030	proceed	1	0.4	
13084	CREWKERNE	31/03/2030	proceed	1	0.25	
13086	CROMHALL	31/03/2030	proceed		4	2
13087	CROSCOMBE	31/03/2030	proceed		0.25	
13090	DEVIZES	31/03/2030	proceed	2	0.25	
13092	DILTON MARSH	31/03/2030	proceed		1	
13096	DORCHESTER	31/03/2030	proceed	0.7	0.25	
13096	DORCHESTER	13/05/2030	proceed	0.7	2	
13099	DOWNTON	31/03/2030	proceed	1	0.25	
13101	DRAYCOTT	31/03/2030	proceed		2	
13104	EAST CHINNOCK	31/03/2030	clarify	1.5		1
13105	EAST COKER	31/03/2030	proceed		0.25	
13106	EAST HARPTREE	31/03/2030	proceed		3	
13107	EAST KNOYLE	31/03/2030	proceed	1	0.25	
13113	EDFORD	31/03/2030	proceed		1	

13114	EDMONDSHAM	31/03/2030	clarify		1.5	
13116	ERLESTOKE	31/03/2030	proceed	1.5	1.5	
13118	EVERCREECH	31/03/2030	proceed	1	0.25	
13125	FIVEHEAD	31/03/2030	proceed		1	
13128	FORDINGBRIDGE	31/03/2030	proceed	1	0.25	
13130	FRESHFORD	31/12/2038			3	1.5
13131	FROME	31/03/2030	proceed	2	0.25	
13132	GILLINGHAM	31/03/2030	clarify	1		0.8
13134	GLASTONBURY	31/03/2030	proceed	0.8	0.25	
13142	HARDINGTON MANDEVILLE	31/03/2030	clarify	1.5		1
13144	HASELBURY PLUCKNETT	31/03/2030	proceed		1	
13146	HAZELBURY BRYAN	31/03/2030	clarify	1.5		1
13148	HILMARTON	31/03/2030	proceed		2.5	
13152	HOLDENHURST	31/03/2030	clarify	1		0.8
13152	HOLDENHURST	31/03/2030		1		
13156	HORNSEY BRIDGE	31/03/2030	proceed		0.25	
13158	HURDCOTT	31/03/2030	proceed	1	0.25	
13160	ILCHESTER	31/03/2030	proceed	1	0.25	
13161	ILMINSTER	31/03/2030	proceed	1	0.25	
13163	IWERNE MINSTER	31/03/2030	clarify	1		0.8
13163	IWERNE MINSTER	31/03/2030	clarify	1		
13165	KEYNSHAM	31/12/2038		2		0.6
13172	KINSON	31/03/2030	clarify	1		0.65
13172	KINSON	31/03/2030		1		0.25
13175	LANGPORT	31/03/2030	proceed	1	0.25	
13177	LAVINGTON	31/03/2038	clarify		2	1
17968	LEYHILL	31/03/2038	clarify	1		0.25



13181	LONGBRIDGE	31/03/2030	proceed		1	
13522	LYNEHAM	31/03/2030	proceed	1	0.25	
13190	LYTCHETT MINSTER	31/03/2035			0.25	
13192	MAIDEN NEWTON	31/03/2030	proceed	1	0.25	
13193	MALMESBURY	31/03/2030	proceed	2	0.4	
13196	MARDEN	31/03/2030	proceed	2	0.25	
13198	MARNHULL (REED BEDS)	31/03/2030	clarify	1		0.8
13199	MARNHULL (COMMON)	31/03/2030	clarify	1		0.8
13200	MARSHFIELD	31/03/2030	proceed		1	
13201	MARTOCK	31/03/2030	proceed	1	0.25	
13204	MELKSHAM	31/03/2030	proceed	2	0.8	
13207	MERE	31/03/2030	clarify	1		0.8
13208	MERRIOTT	31/03/2030	proceed	1	0.25	
13209	MICHAELWOOD	31/03/2038	clarify		2	0.25
13211	MILBORNE PORT	31/03/2030	proceed	1	0.25	
13212	MILBORNE ST ANDREW	31/03/2030	proceed		0.3	
13214	MILVERTON	31/03/2030	clarify	1		0.8
13220	NETHERAVON	31/03/2030	proceed	1	0.25	
13222	NORTH NIBLEY	31/03/2038	clarify	1		0.25
13223	NORTH PETHERTON	31/03/2030	proceed		0.25	
13226	NORTON ST PHILIP	31/03/2030	proceed		0.6	
13227	NUNNEY	31/03/2030	proceed		1.4	
13229	OAKHILL	31/03/2030	proceed		1.5	
13232	PALMERSFORD	31/03/2030	clarify	1		0.65
13232	PALMERSFORD	31/03/2030		1		0.25
13235	PAULTON	31/03/2030	proceed	2	0.5	
13237	PEWSEY	31/03/2030	proceed	1	0.25	

13242	POOLE	31/03/2035			0.25	
13244	POTTERNE	31/03/2030	proceed	2	0.25	
13248	PUCKLECHURCH	31/03/2038	clarify		2	1
13250	PUNCKNOWLE	31/03/2038	clarify	2.5	1	
13252	RADSTOCK	31/03/2038	clarify		2	1
13252	RADSTOCK	31/03/2038	clarify	2	0.25	
13253	RATFYN	31/03/2030	proceed	1	0.25	
13255	RINGWOOD	31/03/2030	proceed	1	0.25	
13360	ROYAL WOOTTON BASSETT	31/03/2030	proceed	2	0.7	
13258	SALISBURY	31/03/2030	proceed	1	0.25	
13262	SEEND	31/03/2030	proceed	2	1.5	
13264	SHAFTESBURY	31/03/2030	clarify	1		0.8
13267	SHEPTON MALLETT	31/03/2030	proceed	0.35	0.25	
13268	SHERBORNE	31/03/2030	proceed	0.5	0.25	
13269	SHERSTON	31/03/2030	proceed		4	
13271	SHILLINGSTONE	31/12/2038			2	1
13274	SHOSCOMBE	31/03/2030	proceed		1	
13275	SHREWTON	31/03/2030	proceed	1	0.25	
13276	SHROTON	31/03/2030	proceed		0.9	
13278	SOMERTON	31/03/2030	proceed	0.5	0.25	
13280	SOUTH PERROTT	31/03/2030	proceed		1	
13281	SOUTH PETHERTON	31/03/2030	proceed	1	0.25	
13282	SPARKFORD	31/03/2030	clarify	1	0.8	
13287	STANTON ST BERNARD	31/03/2030	proceed		1	
13288	STOGURSEY	31/03/2038	clarify		2	1
13288	STOGURSEY	31/03/2038	clarify	2.1	1.3	
13293	STRATTON ON THE FOSSE	31/03/2030	proceed		0.3	

13297	STURMINSTER NEWTON	31/03/2030	clarify	1		0.8
13298	SUTTON BENDER	31/03/2030	proceed	2	0.5	
13303	SYDLING ST NICHOLAS	31/03/2030	proceed		1	
13304	TARRANT CRAWFORD	31/03/2030	clarify	1		0.8
13304	TARRANT CRAWFORD	31/03/2030				0.5
13305	TAUNTON	31/03/2030	proceed	1	0.25	
13306	TEMPLECOMBE	31/03/2030	clarify	1		0.8
13307	TETBURY	31/03/2030	proceed	2	0.5	
13308	THINGLEY	31/03/2030	proceed	2	0.5	
13310	THORNFORD	31/03/2030	proceed	1.5	0.25	
13312	TINTINHULL ASH	31/03/2030	proceed		0.25	
13313	TISBURY	31/03/2030	proceed	1	0.25	
13315	TOCKINGTON	31/03/2030	clarify		2	0.25
13316	TOLLER PORCORUM	31/03/2030	proceed		1	
13317	TRENT	31/03/2030	proceed		1	
13322	URCHFONT	31/03/2030	proceed		0.4	
13324	WAREHAM	31/03/2030	proceed		0.25	
13325	WARMINSTER	31/03/2030	proceed	0.5	0.25	
13329	WEDMORE	31/03/2030	proceed		1.5	
13330	WELLINGTON	31/03/2030	proceed	1	0.25	
13332	WELLS	31/03/2030	proceed	1	0.25	
13338	WESTBURY	31/03/2030	proceed	2	0.25	
13349	WIMBORNE	31/03/2030	clarify	1		0.8
13349	WIMBORNE	31/03/2030				0.5
13350	WINCANTON	31/03/2030	clarify	1		0.8
13352	WINSLEY	31/12/2038			3	1.5
13353	WISHFORD	31/03/2030	proceed	1	0.25	

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13354	WIVELISCOMBE (HILLSMOOR)	31/03/2030	clarify	1		0.8
13355	WIVELISCOMBE (STYLES)	31/03/2030	clarify	1		0.8
13358	WOOKEY	31/03/2030	proceed		1.5	
13359	WOOL	31/03/2030	proceed	1	0.25	
13359	WOOL	13/05/2030	proceed	1	2	
13366	YEOVIL	31/03/2030	proceed	0.59	0.25	
13368	YEOVIL WITHOUT	31/03/2030	clarify	1		0.8

# A6 Implications of BAT and AM (Atkins<sup>2</sup>)

Transformation in the regulation of sewage sludge treatment and the need to comply with the IED is leading to an investment requirement across the water industry of c. £2.0bn.

The publication of the EA's Appropriate Measures guidance in 2022, introduced additional requirements with associated costs, and has further compounded this challenge for the WaSCs to comply with the IED.

The compliance approach taken by the EA appears more precautionary than the original intent of IED, and consequently the scale of change is resulting in a significant challenge to the industry in terms of feasibility, affordability and deliverability.

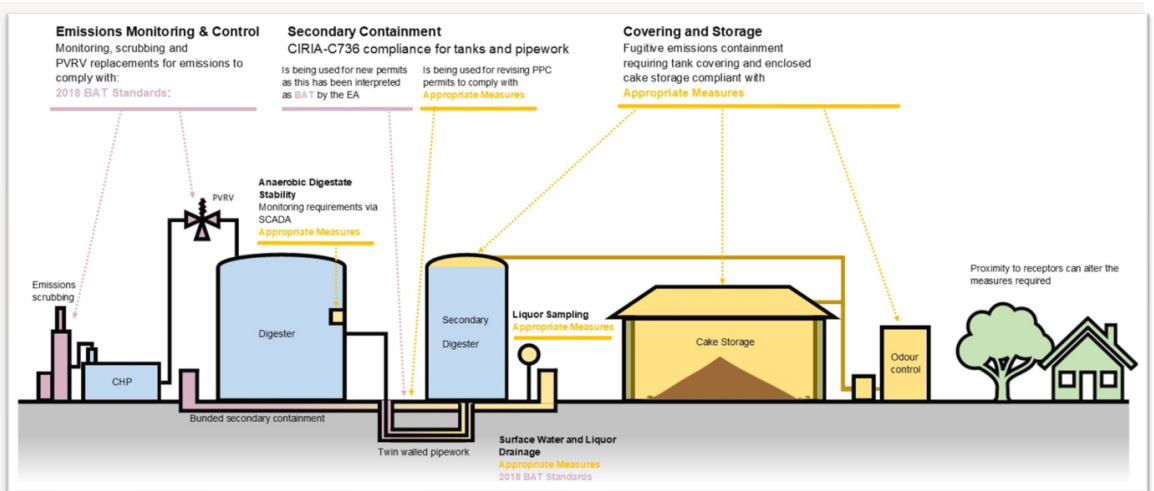


Figure 1 – Illustrated Impacts of Appropriate Measures and BAT 2018 Standards on a Notional Digestion Facility

<sup>2</sup> Source: Atkins, "Industrial Emissions Directive Supporting Document for Water UK," 2023. October 2023 business plan submission

## Appropriate Measures vs. BAT Comparison Overview

Key	BAT and Appropriate Measures are similar
	Appropriate Measures requirements go slightly above those set out by BAT
	Appropriate Measures requirements significantly exceed those of BAT

Focus Area	Sub-Area	
Covering / Storage	Volume / residence time	<ul style="list-style-type: none"> <li>• <b>Retrofitting of storage area elements of CIRIA standard to existing facilities</b> is the key driver of cost here.</li> <li>• Appropriate Measures applies blanket approach and requires <b>covering for all bulk storage tanks and transfer/management areas which 'may produce emissions'</b>.</li> <li>• This includes <b>retrofitting to existing facilities</b>, driving costs higher than under BREF.</li> </ul>
	Storage areas	
	Covering	
	Storage tank design	
	Lagoons	
	Handling / transfer	
Containment / Failure Modelling	Monitoring	<ul style="list-style-type: none"> <li>• Appropriate Measures <b>delivers a singular overall site classification</b> designed with higher levels of containment than may be required for individual areas.</li> </ul>
	Maintenance planning	
	Operational areas	
Secondary Containment	Minimising Risks	
Emissions Control / Monitoring	General	<ul style="list-style-type: none"> <li>• <b>Appropriate Measures is more prescriptive than BREF's risk-based approach</b> regarding drainage system requirements and documentation.</li> <li>• BREF includes caveats surrounding existing plants on the segregation of water streams.</li> </ul>
	Bioaerosols	
	Point source emissions	
	Biofilters	
	Pre-treatment abatement scrubbers	
	Fugitive emissions	
Liquor Sampling	Sample analysis	
Surface Water / Liquor Drainage	Infrastructure and inspection	
Anaerobic Digestate Stability	Parameter monitoring / maintenance	



Member of the SNC Lavalin Group

**Overall Conclusion: Appropriate Measures guidance sets out prescriptive blanket requirements for all equipment and procedures whereas BREF implements a more flexible risk-based approach.**



# A7 Benchmarking of IED site upgrade costs

The scope of site upgrades for Trowbridge was used for external benchmarking by ChandlerKBS. The difference between the estimates was only 1%.

Table 1 – Internal estimated costs v. benchmarked costs for the scope of works at Trowbridge

Capex Breakdown	Internal Estimation (Capex £'000s)	ChandlerKBS Estimation (Capex £'000s)	% difference
Optioneering and Outline Design	325	325	0%
Overheads	283	285	1%
Detailed Design	651	651	0%
Supervision and Preliminaries	1,064	325	-69%
Civil Work Items	2,213	2,326	5%
M&E Work Items	378	1,036	174%
Risk Items	548	553	1%
Third Party Costs	195	195	0%
<b>Total (excluding corporate overheads)</b>	<b>5,658</b>	<b>5,697</b>	<b>1%</b>

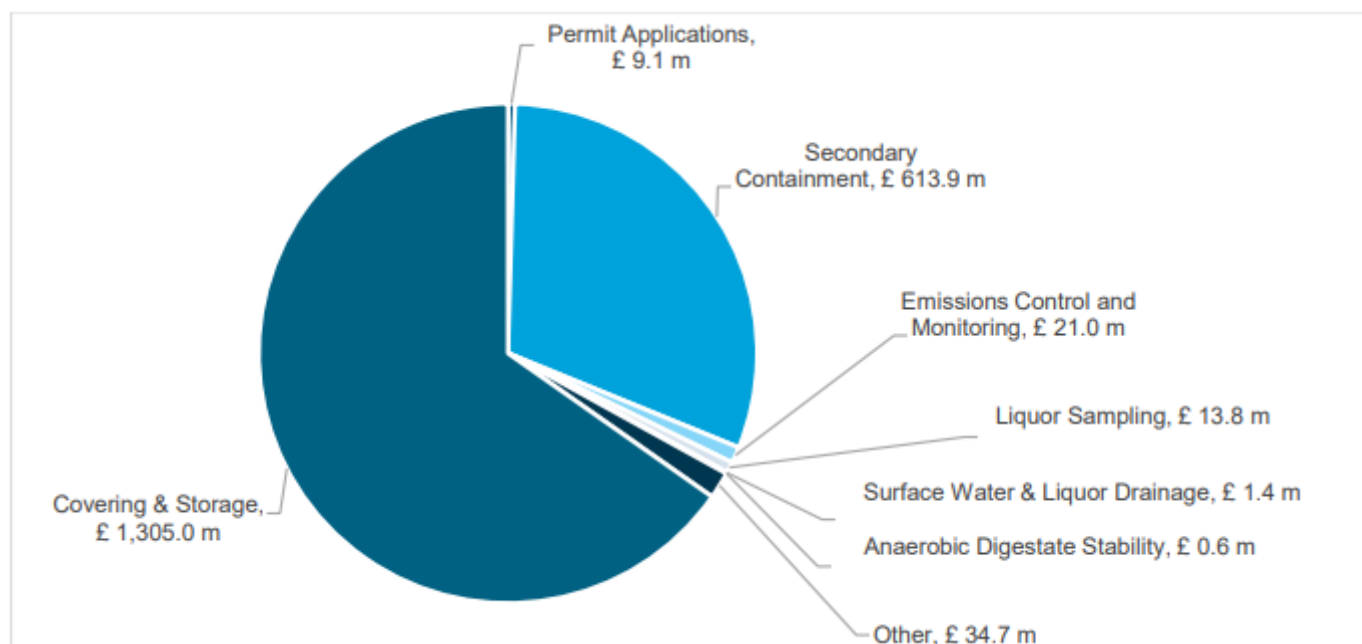
# A8 National IED investment programmes (Atkins<sup>3</sup>)

Atkins collated information on each company's proposed IED investment programme as part of their technical review on IED. They found that:

- The total national investment programme for IED amounted to c. £2.0bn.
- The 2 significant areas of spend are secondary containment and covering / storage.
- Complying with AM requirements required additional spend above what is required to comply with BAT requirements
- There is no consistency in the spend per site by company because the assessment of risk (of not complying with BAT or AM) is performed in isolation for each site and there is therefore a lack of standardised approach in the risk assessment.

The figures below are taken from the Atkins report.

Figure 1 – Overall Split of capex and one-off spend by theme



<sup>3</sup> Source: Atkins, "Industrial Emissions Directive Supporting Document for Water UK," 2023. October 2023 business plan submission



Figure 2 – Aggregate one-off spend by company

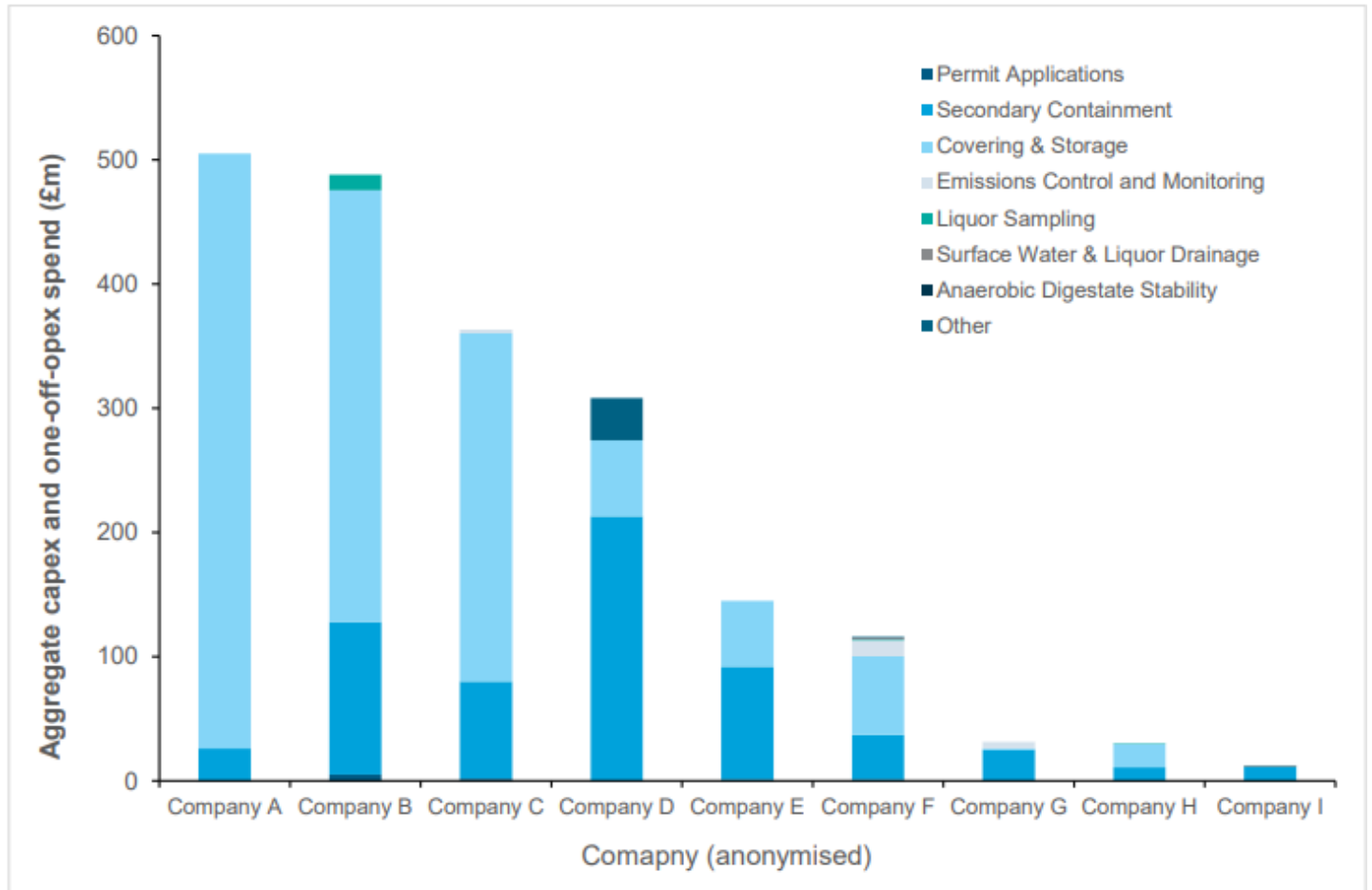


Figure 3 – Spend split between BAT 2018 and Appropriate Measures focus areas

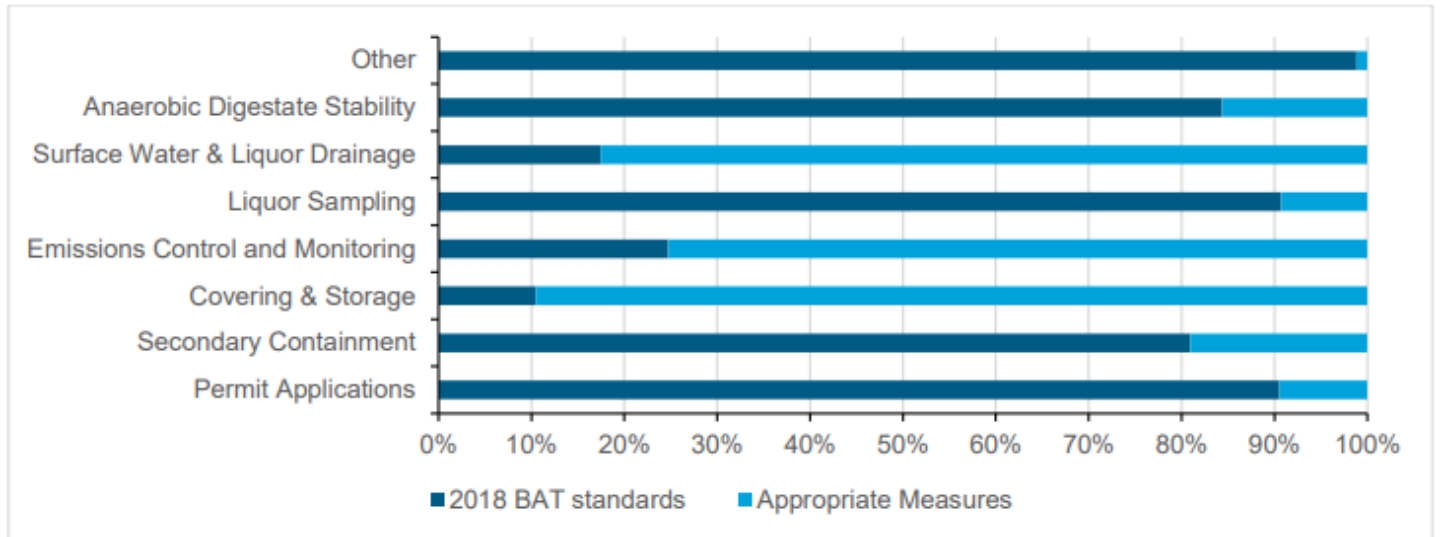
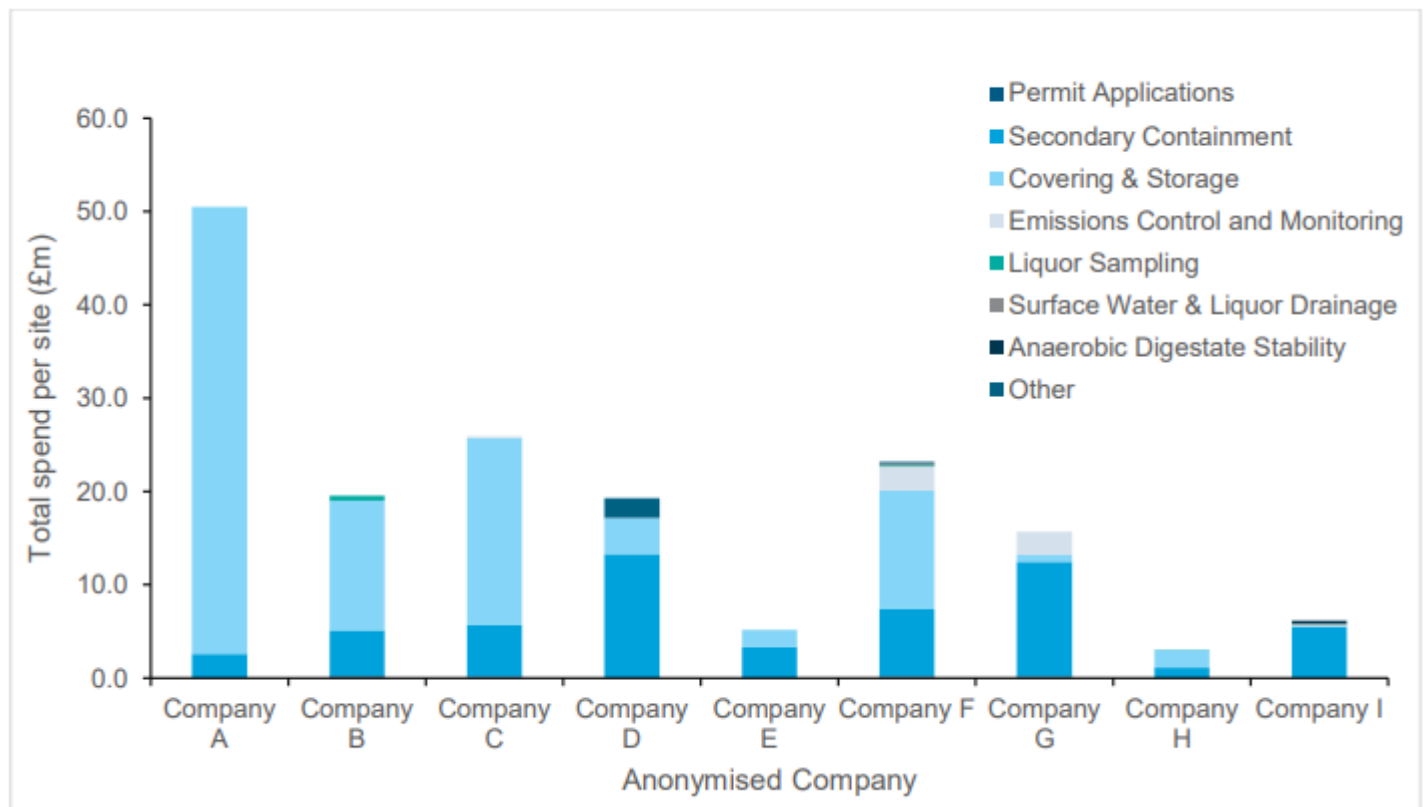


Figure 4 – Total one-off spend per site by company



# A9 2019 EA Letter on IED

**Matt Wheeldon**  
Director of Assets and Compliance  
Wessex Water

Our ref: MSK/DM  
Date: 9 July 2019

[matt.wheeldon@wessexwater.co.uk](mailto:matt.wheeldon@wessexwater.co.uk)

By email only

Dear Matt,

## INDUSTRIAL EMISSIONS DIRECTIVE

At the last Strategic Steering Group meeting on 2 April 2019 we tabled a paper about implementation of the Industrial Emissions Directive (IED) for biological treatments of sewage sludge. The paper (enclosed) informed the group that the IED applies to the biological treatment of sewage sludge, and that we would be discussing the timetable and process for permit applications with the Water UK waste and recycling network. The meeting acknowledged the paper and its contents received some discussion.

The purpose of this letter is to inform you that we are now implementing this aspect of the IED. This means that permits will be required for the biological treatment of sewage sludge above the IED thresholds. We will arrange for engagement and further communications to take place, principally through the Water UK waste and recycling network, and will be inviting applications for permits in accordance with a timetable to be agreed.

In order to agree the timetable implementation and to initiate the permitting process we are asking each water and sewerage company to provide details of the following to Clive Humphreys via your waste and recycling network representative by 24<sup>th</sup> July:

- sites carrying out biological treatment of sludge
- sites carrying out biological treatment of other sewage related wastes such as screenings and grits
- sites operating biogas engines
- sites injecting biogas to the gas grid

Should you require any further information please contact Clive Humphreys at [clive.humphreys@environment-agency.gov.uk](mailto:clive.humphreys@environment-agency.gov.uk).

Yours sincerely



**Mark Sitton-Kent**  
Director of Operations – West and Central

Trentside Offices, Scarrington Road, West Bridgford, Nottingham, NG2 5FA.  
Customer services line: 03708506506  
Email: [enquiries@environment-agency.gov.uk](mailto:enquiries@environment-agency.gov.uk)  
[www.gov.uk/government/organisation/environment-agency](http://www.gov.uk/government/organisation/environment-agency)

## Strategic Steering Group Meeting

Item No. SSG19.02.04-02

### Subject: Implementation of the Industrial Emissions Directive for biological treatments of sewage sludge

SSG is asked to note that the Environment Agency:

1. has determined that the Industrial Emissions Directive applies to the biological treatment of sewage sludge
2. will be discussing the timetable and process for permit applications through the Water UK waste and recycling network

#### 1.0 Background

- 1.1 Directive 2010/75/EU on industrial emissions (the IED) entered into force on 6 January 2011 and was transposed into UK law on 20 February 2013<sup>1</sup>. The IED recast the Directive on integrated pollution prevention and control (IPPC) and introduced a revised schedule of industrial activities falling within scope of its permitting requirements. The schedule of waste management activities includes the recovery of non-hazardous waste with a capacity exceeding 75 tonnes per day involving biological treatment, but excludes activities covered by the Urban Waste Water Treatment Directive<sup>2</sup> (UWWTD).
- 1.2 There was much discussion about whether the biological treatment of sewage sludge is an activity covered by the UWWTD. In July 2014 we deferred the need to submit permit applications for sewage sludge digestion at sewage treatment works to allow further consideration of the question. All of the UK environmental regulators have now concluded that the biological treatment of sewage sludge is not an activity covered by the UWWTD and is therefore within the scope of the IED. This unanimously held view has been communicated to the UK and devolved governments with a view to commencing implementation.

#### 2.0 Implementation

- 2.1. The IED seeks to achieve a high level of protection for the environment taken as a whole from the harmful effects of industrial activities. It does so by requiring each of the industrial installations to be operated under a permit from the competent authority with conditions based around the use of best available techniques (BAT). In this instance the Environment Agency is the competent authority.
- 2.2. The IED set a deadline of 7 January 2014 for existing installations to obtain an environmental permit. We have therefore delayed implementation of this aspect of the IED for over five years. We now

<sup>1</sup> Environmental Permitting (England and Wales)(Amendment) Regulations 2013

<sup>2</sup> Directive 91/271/EEC concerning urban waste water treatment

need to address this by ensuring all installations involving the biological treatment of sewage sludge obtain and operate under an environmental permit in as short a timescale as can reasonably be achieved.

- 2.3. We recognise that many sludge treatment facilities were constructed prior to the current permitting requirements and their design may not be compatible with the best available techniques as described in the EU BAT reference documents. Where this is the case risk assessments can be used to demonstrate that an equivalent level of environmental protection is being or can be achieved. Where additional measures are required we will use improvement conditions within permits to allow time to achieve the BAT standard.

### **3.0 Next Steps**

- 3.1. The Environment Agency is developing a sludge strategy in order to plan and deliver clear and consistent regulation of sewage sludge treatment and use activities. It will be finalised by the end of 2019. The permitting of sewage sludge biological treatment activities is one element of the strategy. It will be delivered in parallel with the development of the strategy.
- 3.2. We will use the Water UK waste and recycling network (WaRN) as the main forum to discuss IED and permitting arrangements. We therefore propose that the representatives who attend WaRN act as the main point of contact. We will also ensure that our water company account managers are kept fully informed of progress.
- 3.3. On a practical level all internal resourcing and training needs are being addressed in preparation to support pre-application discussions and the receipt of permit applications later this year. Through WaRN we be asking each company to provide a definitive list of all sites used to carry out biological treatment of sludge, and to provide a best estimate of the number of permit applications they anticipate making.

Clive Humphreys, Environment and Business, Environment Agency

# A10 Ofwat PR24 WINEP feedback on IED (Oct 2022)

WINEP meetings, feedback October 2022

## Annex 1: Wessex Water specific feedback

In this annex we outline further feedback points that are specific for Wessex Water. These are the main points:

- You stated that spend under Storm Overflows drivers is one of the most significant spend areas of your WINEP. We recognise this but would also encourage you to consider profiling within this area. Storm overflows are one area where profiling across multiple AMPs is possible, profiling based on environmental benefit priorities would help balance the spend and delivery profile, and potentially reduce the bill impact.
- We are supportive of outcomes-based submissions where applicable but emphasise all statutory requirements must be met by your WINEP and any A-WINEP submissions.
- Within your slides and WINEP estimated costs you have included for expenditure to achieve compliance with the Industrial Emissions Directive (IED). The price controls for the 2025-30 period will not include any allowance in relation to the costs of meeting statutory and regulatory obligations (to include IED compliance) that need to be delivered in the 2020-25 period.
- We recognise the majority of the WINEP is Statutory (S), but where this is not the case it is essential you include details of customer support in your November submission.
- We welcome your approach to consider nature based (NBS) and catchment solutions where possible. We recognise developing legislation for the Environment Act targets and Nutrient Neutrality may make utilising NBS and catchment solutions more challenging, but we would still encourage combined solutions incorporating NBS where they can be part of a best value solution.
- We continue to work with government, other regulators, and companies on areas you highlighted, specifically continuous water quality monitoring, storm overflows and nutrient neutrality.

# A11 EA PR24 WINEP feedback on IED (2022)

Aim: collaboratively agree what is the issue and evidence for the issue.

Line Ref	WINEP Driver	Generic Risk	Risk / Issue	Referenced in WINEP Driver Guidance	Commentary (EA driver guidance text in italics)	Water Industry Assumptions	Supporting Evidence	In / Out of Scope	Are Requirements Clear?	EA Action / Agreement	Further Work Needed (Atkins)	Inform Long term Strategy
3	WINEP_IMP	Statutory Obligation	IED (Biological Treatment of Waste)	No	New assets to be delivered to IED standard. Retrospective compliance assumed AMP7 driver and no link to WINEP	Risk that new UK BAT standards may be developed in AMP8. Assumed that any updates to EU BAT standards will not apply to UK. Any updates to BAT are outside WINEP scope (&AMP8 investment) as no known plans. Investment to meet 2018 BREF assumed AMP7, rather than AMP8 driver. Companies may have site specific investment which rolls into AMP8, to be agreed on a permit by permit basis.		Out of Scope	n/a	AGREED		
4	WINEP_IMP	Statutory Obligation	IED (Phys/chem)	No	Linked to need for disposal outlet for resilience	Potential AMP8 driver if company strategy is to move to disposal outlets, rather than biosolids recycling, as upstream Phys/chem sites will fall within IED regulations. Risk of reinterpretation of legislation to apply to sites with a Recovery code, as well as Disposal code. No known plans, so out of scope for AMP8. Risk that new UK BAT standards may be developed in AMP8. Outside WINEP scope as no known plans. Individual companies to assess if sites will require compliance with IED standards in AMP8 resulting from a move to a disposal outlets for biosolids.		Out of Scope	n/a	AGREED		

# A12 EA Information Letter (May 2023)

creating a better place  
for people and wildlife



Information Letter: EA/12/2023  
Date: 19 May 2023

To: Regulatory Contacts in Water and Sewerage Companies

Dear Sir/Madam,

## **Water Industry National Environment Programme - Sludge (Use in Agriculture) update**

This information letter is to be read in conjunction with the decisions made on sludge (use in agriculture) options contained within the second draft release of the WINEP, that was shared with all water companies on 2 May 2023. These decisions were made following the release of information letter EA/09/2023 and subsequent meetings with all the water and sewage companies (WaSCs). The decisions are referred to as the 'Storage +' assessment.

Based on our current understanding of the WaSCs and their supply of sludge to agriculture we consider that proceeding with proposals for Storage + is sufficient in the short to medium term to develop contingency measures when business as usual is disrupted. This will deliver an improved supply chain resilience for the WaSCs.

### **Principles for assessment**

The sludge (use in agriculture) driver seeks environmental enhancements in sewage sludge (biosolids) to deliver contingency measures (such as storage) when business as usual is disrupted. An objective of the sludge (use in agriculture) driver is to deliver improvements in the resilience of the sludge management chain; a supply chain that is almost totally reliant on agricultural outlets. The sludge (use in agriculture) driver supports actions to bring change to the way sludge is managed to ensure its soil conditioning and fertiliser value meets its full potential.

Storage + is a hybrid assessment in the sewage sludge (biosolids) supply chain. It includes both storage and other actions which deliver environmental improvements of sludge quality and handling prior to storage and before supply to agriculture, such as enhanced dewatering and pelletisation. The assessment also supports in principle the options associated with future EPR requirements for the agricultural use of sludge. The Storage + assessment does not support actions associated with addressing growth or volume of sludge. This means there is an in principle presumption against options such as thermal destruction technologies and optimisation of sludge treatment processes.

### **Next steps**

What to do where the assessment decision is:

[customer service line 03708 506 506](tel:03708506506)  
[gov.uk/environment-agency](https://www.gov.uk/environment-agency)



**Pending**

- Continue conversations with Environment Agency Area contact and submit OAR where new action is being proposed. The OAR will be assessed in accordance with the PR24 process.
- No new OAR is required where option is being amended but additional information can be submitted for consideration.
- Explore potential submission under alternative WINEP drivers with Environment Agency Area contact

**Remove**

- Where you do not agree with the assessment decision, and this cannot be resolved in conversations with Environment Agency Area contact, there is the option to challenge a decision. This can be done using the PR24 WINEP Options Assessment Decision Challenge Form. Challenges to assessment decisions should be submitted as soon as possible.

**Proceed**

- Options marked as proceed in the draft WINEP in due course will require Action Specification Forms to be produced and submitted in accordance with the PR24 process.

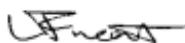
**Timescale**

We will continue to work with you over the coming months on any outstanding matters, to move the detail of the programme forward.

If further conversations are required, please go through your Environment Agency Area contact. We are aiming to have reached agreement on all sludge (use in agriculture) options by 16 June, at which point your WINEP will be updated accordingly.

If you have any queries regarding this letter, please contact [price\\_review@environment-agency.gov.uk](mailto:price_review@environment-agency.gov.uk)

Yours faithfully,



Leonore Frear  
Deputy Director, Water and Land Quality, Environment Agency

# A13 New or future innovation

## Sludge transport

<p><b>WHY? What's the underlying issue or opportunity being addressed?</b></p> <p>Poor visibility of sludge levels at various water recycling centres results in redundant transportation between sites. Improved visibility of the sludge levels across the region combined with an alert system would potentially help reduce the cost of sludge transport.</p>
<p><b>What have we done to date?</b></p> <p>We currently work according to a pre-defined schedule rather than operating according to actual levels at the sites.</p>
<p><b>What is the innovation we propose for 2025-30?</b></p> <p>A use of a new 'digital twin' presenting a geographical region and the sites on it. This could serve as basis for future development of transport path optimisation and anomaly detection of sludge levels.</p>
<p><b>How advanced is it?</b></p> <p>This is new to Wessex Water, and utilises new digital capabilities not yet adopted in the business</p>
<p><b>What are the expected benefits?</b></p> <p>Financial, as detailed above</p>
<p><b>Any anticipated challenges?</b></p> <p>Access sludge data in real-time from sites Transportation path optimisation algorithm</p>
<p><b>Financial points</b></p> <p>Currently selected as an IoT Lab proof-of-value to present capabilities</p>
<p><b>Any other points</b></p> <p>Would potentially relate to 'site of the future' initiatives</p>