

**WSX-D06 –
Commentary on
data table changes
– Bioresources**

Response to
Ofwat's PR24 draft
determination



Wessex Water
YTL GROUP

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WSX-D06 – Commentary on data table changes – Bioresources

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This document is part of Wessex Water's response to Ofwat's PR24 draft determination.

More information can be found at wessexwater.co.uk

1. Introduction

Our original data table commentary for the Bioresources tables accompanying our business plan submission in October 2023 is available here: [WSX52 - BIO1, 2, 3a, 3b, 4, 5 & 6 Commentaries](#).

Data table changes since that submission are summarised in this commentary.

2. BIO1 – Bioresources sludge data

Line no.	Line description	Change
BIO1.1	Total sewage sludge produced, treated by incumbents	<p>Values for years 2023-24 to 2029-30 have been revised.</p> <p>We revised our historic APR sludge production volumes for 2020/21, 2021/22 and 2022/23 due to issues identified with our back-calculation methodology. We have restated these values and updated our sludge production forecast model. Our model shows that there will be an overall 4.1% increase in sludge production volumes in AMP8 (i.e., from 2024/25 to 2029/30). The forecast sludge production in 2029/30 is 74.7ttds.</p> <p>Please refer to Supporting Document WSX-C18 – Bioresources and the Industrial Emissions Directive (IED), Section 2.1 for more information on these changes.</p>
BIO1.2	Total sewage sludge produced, treated by 3rd party sludge service provider	<p>Values for years 2023-24 to 2029-30 have been revised. We have updated our forecast based on values in our 2023-24 APR submission.</p>
BIO1.3	Total sewage sludge produced	Calculated line.
BIO1.4	Total sewage sludge produced from non-appointed liquid waste treatment	<p>Values for years 2023-24 to 2029-30 have been revised. We have updated our forecast based on values in our 2023-24 APR submission.</p>
BIO1.5	Percentage of sludge produced and treated at a site of STW and STC co-location	<p>Values for years 2023-24 to 2029-30 have been revised.</p> <p>The percentage of sludge produced and treated on a collocated site is affected by our capital maintenance (CM) programme in AMP8, which has been updated since the Business Plan submission.</p> <p>We are expecting larger volumes of sludge that will need to be diverted from anaerobic digestion (AD) sites when they are taken out of service for major CM. As a result, less sludge will be treated on collocated sites in AMP8.</p> <p>Please refer to Supporting Document WSX-C18 – Bioresources and the Industrial Emissions Directive (IED), Sections 2.2-2.3 for more information on these changes.</p>

Line no.	Line description	Change
BIO1.6	Total sewage sludge disposed by incumbents	<p>Values for years 2023-24 to 2029-30 have been revised due to:</p> <ul style="list-style-type: none"> the revised forecast of sludge volumes in BIO1.1 the shutdown of the AD plant at Taunton and conversion to lime treatment as part of our asset rationalisation programme in AMP8 driven by Industrial Emissions Directive (IED) compliance. <p>Please refer to Supporting Document WSX-C18 – Bioresources and the Industrial Emissions Directive (IED), Sections 2.1-2.3 for more information on these changes.</p>
BIO1.7	Total sewage sludge disposed by 3rd party sludge service provider	Values for years 2023-24 to 2029-30 have been revised. We have updated our forecast based on values in our 2023-24 APR submission.
BIO1.8	Total sewage sludge disposed	Calculated line.
BIO1.9	Total measure of intersiting 'work' done by pipeline	No changes.
BIO1.10	Total measure of intersiting 'work' done by tanker	<p>Values for years 2023-24 to 2029-30 have been revised.</p> <p>Our Bioresources CM programme in AMP8 has been updated since the Business Plan was submitted. The temporary closure of our AD sites to enable digester refurbishment works in AMP8 will result in additional transport as sludge from the affected sites will need to be diverted to other sites for lime treatment.</p>
BIO1.11	Total measure of intersiting 'work' done by truck	<p>Values for years 2023-24 to 2029-30 have been revised.</p> <p>Our Bioresources CM programme in AMP8 has been updated since the Business Plan was submitted. The temporary closure of our AD sites to enable digester refurbishment works in AMP8 will result in additional transport as sludge from the affected sites will need to be diverted to other sites for lime treatment.</p>
BIO1.12	Total measure of intersiting 'work' done (all forms of transportation)	Calculated line.
BIO1.13	Total measure of intersiting 'work' done by tanker (by volume transported)	<p>Values for years 2023-24 to 2029-30 have been revised.</p> <p>Our Bioresources CM programme in AMP8 has been updated since the Business Plan was submitted. The temporary closure of our AD sites to enable digester refurbishment works in AMP8 will result in additional transport as sludge from the affected sites will need to be diverted to other sites for lime treatment.</p>
BIO1.14	Total measure of 'work' done in sludge disposal operations by pipeline	No changes.
BIO1.15	Total measure of 'work' done in sludge disposal operations by tanker	No changes.

Line no.	Line description	Change
BIO1.16	Total measure of 'work' done in sludge disposal operations by truck	Values for years 2023-24 to 2029-30 have been revised. Our sludge disposal volumes will be increasing in AMP8 due to increased lime treatment as explained in BIO1.6.
BIO1.17	Total measure of 'work' done in sludge disposal operations (all forms of transportation)	Calculated line.
BIO1.18	Total measure of 'work' done by tanker in sludge disposal operations (by volume transported)	Values for years 2023-24 to 2029-30 have been revised. Our sludge disposal volumes will be increasing in AMP8 due to increased lime treatment as explained in BIO1.6.
BIO1.19	Chemical P sludge as % of sludge produced at STWs	Values for years 2023-24 to 2029-30 have been revised. We have updated our AMP8 P removal programme since the Business Plan was submitted.

3. BIO2 – Bioresources operating expenditure analysis

Line no.	Line description	Change
BIO2.1	Power	No change aside from indexed actuals for 23-24 and updated budget for 24-25
BIO2.2	Income treated as negative expenditure	No change aside from indexed actuals for 23-24 and updated budget for 24-25
BIO2.3	Discharge consents	No change
BIO2.4	Bulk discharge	No change
BIO2.5	Renewals expensed in year (Infrastructure)	No change
BIO2.6	Renewals expensed in year (Non-Infrastructure)	No change
BIO2.7	Other operating expenditure excluding renewals	Increase due to expenditure expectations around
BIO2.8	Total functional expenditure	As per BIO2.7
BIO2.9	Local authority and Cumulo rates	Trivial changes
BIO2.10	Total operating expenditure (excluding 3rd party)	Calculated line.

Line no.	Line description	Change
BIO2.11	Power	No change aside from indexed actuals for 23-24 and updated budget for 24-25
BIO2.12	Income treated as negative expenditure	No change aside from indexed actuals for 23-24 and updated budget for 24-25
BIO2.13	Discharge consents	No change
BIO2.14	Bulk discharge	No change
BIO2.15	Renewals expensed in year (Infrastructure)	No change
BIO2.16	Renewals expensed in year (Non-Infrastructure)	No change
BIO2.17	Other operating expenditure excluding renewals	Increase due to updated plan regarding increased liming treatment, see BIO1.16
BIO2.18	Total functional expenditure	As per BIO2.17
BIO2.19	Local authority and Cumulo rates	Reduced as a result of review of local authority rates RPE
BIO2.20	Total operating expenditure (excluding 3rd party)	As per BIO2.17 and BIO2.19
BIO2.21	Power	No change aside from indexed actuals for 23-24 and updated budget for 24-25
BIO2.22	Income treated as negative expenditure	No change aside from indexed actuals for 23-24 and updated budget for 24-25
BIO2.23	Discharge consents	No change
BIO2.24	Bulk discharge	No change
BIO2.25	Renewals expensed in year (Infrastructure)	No change
BIO2.26	Renewals expensed in year (Non-Infrastructure)	No change
BIO2.27	Other operating expenditure excluding renewals	No change
BIO2.28	Total functional expenditure	No change
BIO2.29	Local authority and Cumulo rates	No change
BIO2.30	Total operating expenditure (excluding 3rd party)	No change

4. BIO3a – Bioresources energy analysis

Line no.	Line description	Change
BIO3a.1	Energy consumption - bioresources	Figures for 2024-25 updated following changes to sludge treatment numbers as described in BIO1
BIO3a.2	Energy generated by and used in bioresources control	No change
BIO3a.3	Energy generated by bioresources and used in network plus control	No change
BIO3a.4	Energy generated by bioresources and exported to the grid or third party	Figures for 2024-25 updated following changes to sludge treatment numbers as described in BIO1
BIO3a.5	Energy generated by bioresources that is unused	No change
BIO3a.6	Energy bought from grid or third party and used in bioresources control	Figures for 2024-25 updated following changes to sludge treatment numbers as described in BIO1
BIO3a.7	Energy consumption - bioresources	Values are aligned to energy consumption values
BIO3a.8	Energy generated by and used in bioresources control	Values are aligned to energy generation values
BIO3a.9	Energy generated by bioresources and used in network plus control	Values are aligned to energy generation values
BIO3a.10	Energy generated by bioresources and exported to the grid or third party	Values are aligned to energy generation values
BIO3a.11	Energy bought from grid or third party and used in bioresources control	Values are aligned to energy generation values
BIO3a.12	Energy consumption - bioresources	Figures for 2024-25 onwards updated following changes to sludge treatment numbers as described in BIO1
BIO3a.13	Energy generated by and used in bioresources control	No change
BIO3a.14	Energy generated by bioresources and used in network plus control	No change
BIO3a.15	Energy generated by bioresources and exported to the grid or third party	Figures for 2024-25 onwards updated following changes to sludge treatment numbers as described in BIO1
BIO3a.16	Energy generated by bioresources that is unused	No change
BIO3a.17	Energy bought from grid or third party and used in bioresources control	Figures for 2024-25 onwards updated following changes to sludge treatment numbers as described in BIO1

Line no.	Line description	Change
BIO3a.18	Energy consumption - bioresources	Values are aligned to energy consumption values
BIO3a.19	Energy generated by and used in bioresources control	Values are aligned to energy generation values
BIO3a.20	Energy generated by bioresources and used in network plus control	Values are aligned to energy generation values
BIO3a.21	Energy generated by bioresources and exported to the grid or third party	Values are aligned to energy generation values
Bio3a.22	Energy bought from grid or third party and used in bioresources control	Values are aligned to energy generation values

5. BIO3b – Bioresources; income, liquors and metering analysis

Line no.	Line description	Change
BIO3b.1	Income claimed from Renewable Energy Certificates (ROCs)	No change.
BIO3b.2	Income claimed from Renewable Heat Incentives (RHIs)	No change.
BIO3b.3	Income claimed from [other renewable energy subsidy (1)]	No change.
BIO3b.4	Income claimed from [other renewable energy subsidy (2)]	No change.
BIO3b.5	Income claimed from [other renewable energy subsidy (3)]	No change.
BIO3b.6	Total income claimed from renewable energy subsidies	Calculated line.
BIO3b.7	% of total number of renewable energy subsidies due to expire in the next 2 financial years	No change.
BIO3b.8	This year's value of renewable energy subsidies due to expire in the next 2 financial years	No change.

Line no.	Line description	Change
BIO3b.9	BOD load of liquor or partially treated liquor returned from bioresources to network plus	<p>Values for years 2023-24 to 2029-30 have been revised.</p> <p>We have updated our forecast of liquor volumes and BOD load based on increased raw sludge liming and decreased AD in AMP8. This change in treatment process is due to the additional CM works planned on our AD sites and the closure of Taunton's AD plant (as explained in BIO1.6).</p>
BIO3b.10	Ammonia load of liquor or partially treated liquor returned from bioresources to network plus	<p>Values for years 2023-24 to 2029-30 have been revised.</p> <p>We have updated our forecast of liquor volumes and ammonia load based on increased raw sludge liming and decreased AD in AMP8. This change in treatment process is due to the additional CM works planned on our AD sites and the closure of Taunton's AD plant (as explained in BIO1.6).</p>
BIO3b.11	Recharge to Bioresources by network plus for costs of handling and treating bioresources liquors	<p>Values for years 2023-24 to 2029-30 have been revised.</p> <p>We have updated our forecast recharge due to the same reasons above.</p>
BIO3b.12	Percentage of bioresources energy consumption that is metered	No change.

6. BIO4 – Bioresources sludge treatment and disposal data

Line no.	Line description	Change
BIO4.1	% Sludge - untreated	No change.
BIO4.2	% Sludge treatment process - raw sludge liming	<p>Values for years 2023-24 to 2029-30 have been revised.</p> <p>We will be treating a larger proportion of our sludge via lime stabilisation in AMP8 due to additional planned CM works on our AD sites and the closure of Taunton's AD plant (as explained in BIO1.6).</p>
BIO4.3	% Sludge treatment process - conventional AD	<p>Values for years 2023-24 to 2029-30 have been revised.</p> <p>Due to the same reasons above, a smaller proportion of our sludge will be treated via conventional AD in AMP8.</p>
BIO4.4	% Sludge treatment process - advanced AD	<p>Values for years 2023-24 to 2029-30 have been revised.</p> <p>Due to the same reasons above, a smaller proportion of our sludge will be treated via advanced AD in AMP8.</p>

Line no.	Line description	Change
BIO4.5	% Sludge treatment process - incineration of raw sludge	No change.
BIO4.6	% Sludge treatment process - other (specify)	No change.
BIO4.7	% Sludge treatment process - Total	Calculated line.
BIO4.8	% Sludge disposal route - landfill, raw	No change.
BIO4.9	% Sludge disposal route - landfill, partly treated	No change.
BIO4.10	% Sludge disposal route - land restoration/ reclamation	No change.
BIO4.11	% Sludge disposal route - sludge recycled to farmland	No change.
BIO4.12	% Sludge disposal route - other (specify)	Calculated line.

7. BIO5 – Bioresources - additional treatment and storage data

Line no.	Line description	Change
BIO5.1	Tonnes of dry solids treated via main sludge treatment	No change.
BIO5.2	Tonnes of dry solids undertaking thickening/dewatering	No change.
BIO5.3	Additional sludge storage - tank volume (pre-thickening/pre-dewatering/untreated sludge)	No change.
BIO5.4	Additional sludge storage - tank volume (thickened/dewatered/treated sludge)	No change.
BIO5.5	Additional sludge storage - cake pads/bays area or equivalent (cake)	Values for years 2027-28, 2028-29 and 2029-30 have been updated to reflect year-on-year additional sludge storage provided not in cumulative form. This was requested via Query OFW-OBQ-WSX-133.
BIO5.6	Total number of sludge treatment schemes providing sludge storage	No change.

Line no.	Line description	Change
BIO5.7	Total number of sludge treatment schemes providing sludge thickening and dewatering	No change.
BIO5.8	Total number of sludge treatment schemes providing main sludge treatment enhancement	No change.
BIO5.9	Volume of sludge processed via thickening or dewatering	No change.
BIO5.10	Landbank availability	No change.
BIO5.11	Additional Line 1; Sludge management/sludge treatment/ Bioresources cost driver	Values for years 2027-28, 2028-29 and 2029-30 have been updated to reflect year-on-year additional sludge thickening provided not in cumulative form.
BIO5.12	Additional Line 2; Sludge management/sludge treatment/ Bioresources cost driver	Values for years 2027-28, 2028-29 and 2029-30 have been updated to reflect year-on-year additional sludge thickening provided not in cumulative form.
BIO5.13	Additional Line 3; Sludge management/sludge treatment/ Bioresources cost driver	No change.
BIO5.14	Additional Line 4; Sludge management/sludge treatment/ Bioresources cost driver	No change.
BIO5.15	Additional Line 5; Sludge management/sludge treatment/ Bioresources cost driver	No change.

8. BIO6 – Bioresources - NMEAV for capital enhancement schemes

No changes to BIO6.