

Bioresources Additional Information Request

Reallocation of Costs

Supporting document

July 2022

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1. Methodology

1.1. Purpose

The bioresources additional information request submission comprises of the following documents:

1. **Data Tables (Original Energy Splits)**- “220309-Reallocation-of-costs-information-request (updated 220531) WSH- Original Energy Splits”
2. **Data Tables (Revised Energy Splits)**- “220309-Reallocation-of-costs-information-request (updated 220531) WSH-Revised Energy Splits”
3. This supporting document contains an independent assurance report and relevant submission commentary outlining our approach for completing the tables.

1.2. Background

Ofwat published the consultation “Our proposed approach to funding bioresources activities at PR24” in December 2021. The consultation refers to a number of issues identified in Ofwat’s review of the bioresources market, which identified significant variations in the cost allocations between companies. Additional reporting guidance was provided to account for sludge liquor costs¹, energy generation costs² and overheads³. Companies are to shadow report the sludge liquor costs for AMP7 in table 8C of the APR.

This submission enables a comparison of costs before and after the application of the additional guidance.

The new guidance requires additional energy metering between sewage treatment and sludge treatment, with the guidance requiring at least 80% metering. We have been undertaking a programme of energy meter installation which is providing new information on energy usage. We have provided two versions of the table: ‘original splits’ and ‘revised splits’. The ‘original splits’ templates uses the energy consumption data available at the time of the data submissions. The ‘revised splits’ backcasts the energy consumption using the new information available. Further information on the method used for the backcasting is outlined in section 2.2 and 2.3.

1.3 Structure

The document provides line commentary for each of the tables in the submission.

OP_Liquor_Old

This section provides commentary for the completion of the table OP_Liquor_Old

Energy_G_Old

This section provides commentary for the completion of the table Energy_G_Old

¹ <https://www.ofwat.gov.uk/publication/reporting-of-sludge-liquor-treatment-costs-final-decisions/>

² <https://www.ofwat.gov.uk/publication/bioresources-cost-allocation-energy-generation-and-odour-control-final-decision/>

³ <https://www.ofwat.gov.uk/publication/rag-2-09-guideline-for-classification-of-costs-across-the-price-controls/>

OP_Liquor_New

This section provides commentary for the completion of the table OP_Liquor_New

Energy_G_New

This section provides commentary for the completion of the table Energy_G_New

Inflation Assumptions

Section 2.4 outlines the inflation assumptions used in the submission.

Assurance

We have adopted our “three lines of defence” approach to the assurance of this submission, in line with our usual approach to regulatory data submissions. Each data line was assigned an owner and peer reviewer, with sign off provided by the responsible manager and director. In addition, the submission has been subject to external assurance from Jacobs. Jacobs concluded that:

- *The restatement of numerical data are, where applicable, consistent with our previous ARP and Business Plan audits of the information before restatement, and are appropriately robust;*
- *[The Welsh Water] teams have a good understanding of their processes to produce the data in line with Ofwat guidance;*
- *Data is competently sourced and fit for purpose; and*
- *[The Welsh Water] teams’ internal commentaries were consistent with the data we saw at the time of reviewing them and did not contain any obviously false or misleading statements in relation to the data.*

The assurance letter is included in the appendix.

Confidence Grades

Confidence grades have been provided for each component of submission where appropriate. The confidence grades include two components, firstly a letter is assigned for the reliability of the data and secondly a number to reflect the accuracy.

Reliability Bands

- A- Measured Data from Sound textual records, procedures, investigations or analysis properly documented and recognized as the best method of assessment
- B- As A, but with minor shortcomings. Examples include old assessment, some missing documentation, some reliance on unconfirmed reports, some use of extrapolation
- C- Extrapolation from limited sample for which Grade A or B data is available
- D- Unconfirmed verbal reports, cursory inspections or analysis

Accuracy Bands

1. Accuracy to or within +/- 1%
2. Accuracy to or within +/- 5%
3. Accuracy to or within +/- 10%
4. Accuracy to or within +/- 25%

2. Table Commentaries

This section provides commentary for the completion of each table in the submission.

2.1. OP_Liquor_Old

This table provides data on the pre-existing methodology in the format of the 2021-22 APR. The data sources are:

- Data for 2011/12 to 2016/17 are obtained from the Cost Assessment Tables submitted in 2017;
- Data for 2017/18 to 2021/22 are obtained from the Annual Performance Report (APR); and
- Data for 2022/23 to 2024/25 are obtained from the PR19 business plan tables submitted in September 2019.

This section provides an overview of key assumptions and changes to the data in the submission.

Changes in reporting guidance over time

The table OP_Liquor_Old reports operating expenditure and the bioresources liquor recharges. The table references table 4K of the current APR. Prior to 2020-21 table 4K was not reported in the APR and Cost Assessment Tables. The reporting guidelines vary between the different submissions over time, table 1 provides a summary of the changes in the treatment of developer services, enhancement opex and exceptional items. These differences were highlighted to Ofwat⁴ in a query response and it was noted that the submission will be used to look at the difference between the 'old' and 'new' tab and therefore they were happy with the inconsistencies over time.

Table 1- RAG Changes over the period

	2011-12- 2016-17	2017-18 to 2019-20	2020-21 to 2021-22	2022-23 to 2024-25
Developer Services	Developer Services Costs are included in the reported opex in the table	Developer Services Costs are included in the reported opex in the table	Developer Services Costs are excluded in the reported opex in the table	Developer Services Costs are included in the reported opex in the table
Enhancement Opex	Enhancement Opex are included in the reported opex in the table	Enhancement Opex are included in the reported opex in the table	Enhancement Opex are excluded in the reported opex in the table	Enhancement Opex are included in the reported opex in the table
Exceptional Items	Exceptional items are excluded in the reported opex in the table	Exceptional items are included in the reported opex in the table	Exceptional items are included in the reported opex in the table	N/A
Principal use recharge	Principal use recharge was not applied.	Principal use recharge was not applied.	Principal use recharge has been applied.	Principal use recharge has been applied.

⁴ Email From Alex Whitmarsh on 10 May 2022

Split of Wastewater Network Costs

The submission splits wastewater network costs into Foul, Surface Water Drainage and Highway Drainage. The original data submissions for 2011/12 to 2014/15 did not report disaggregated network costs into these three categories. The costs have been allocated into these categories using our 2015/16 cost allocation splits.

Forecast Data

Forecast Data for 2022/23 to 2024/25 are obtained from PR19 Business Plan Tables submitted in September 2019. The PR19 business plan tables reported the data in 2017/18 prices. These have been inflated to nominal prices using the CPIH indices in section 2.4.

Restatement of Data

The data for 2020-21 in the 'old' table has been restated to correct for a misposting error at our Five Fords site. An adjustment has been made to transfer (£1.15m) of income from sewage treatment and (£0.829m) sludge liquor treatment to sludge treatment (£1.979m).

Line description	Units	DPs	RAG 4 reference	For the 12 months ended 31 March 2021								
				Wastewater network+					Bioresources			Total
				Foul	Surface water drainage	Highway drainage	Sewage treatment and disposal	Sludge liquor treatment	Sludge Transport	Sludge Treatment	Sludge Disposal	
Operating expenditure												
Power	£m	3	4K.1	4.062	1.334	0.667	21.804	2.28	0.662	2.308	0.019	33.136
Income treated as negative expenditure	£m	3	4K.2	0.002	0.001	0	-1.729	-0.913	0	-4.214	0	-6.853
Bulk discharge - recollected	£m	3	4K.3	0	0	0	0	0	0	0	0	0.000
Renewals expended in year (infrastructure)	£m	3	4K.4	14.895	7.325	4.241	0	0	0	0	0	26.461
Renewals expended in year (non-infrastructure)	£m	3	4K.5	0	0	0	0	0	0	0	0	0.000
Other operating expenditure	£m	3	4K.6	23.289	6.562	2.27	35.683	2.327	4.664	10.519	4.395	89.709
Local authority and Cumulo rates	£m	3	4K.7	0.059	0.015	0.005	8.074	0	0.004	0.633	0.003	8.793

Revised

Line description	Units	DPs	RAG 4 reference	For the 12 months ended 31 March 2021								
				Wastewater network+					Bioresources			Total
				Foul	Surface water drainage	Highway drainage	Sewage treatment and disposal	Sludge liquor treatment	Sludge Transport	Sludge Treatment	Sludge Disposal	
Operating expenditure												
Power	£m	3	4K.1	4.062	1.334	0.667	21.804	2.28	0.662	2.308	0.019	33.136
Income treated as negative expenditure	£m	3	4K.2	0.002	0.001	0	-0.579	-0.084	0	-6.193	0	-6.853
Bulk discharge - recollected	£m	3	4K.3	0	0	0	0	0	0	0	0	0.000
Renewals expended in year (infrastructure)	£m	3	4K.4	14.895	7.325	4.241	0	0	0	0	0	26.461
Renewals expended in year (non-infrastructure)	£m	3	4K.5	0	0	0	0	0	0	0	0	0.000
Other operating expenditure	£m	3	4K.6	23.289	6.562	2.270	35.683	2.327	4.664	10.519	4.395	89.709
Local authority and Cumulo rates	£m	3	4K.7	0.059	0.015	0.005	8.074	0	0.004	0.633	0.003	8.793

Bioresources Liquor Recharges

A full analysis of recharges to Bioresources by network plus for costs of handling and treating bioresources liquors was not carried out for 2011-12 to 2015-16. Bioresources recharges for 2016-17 to 2021-22 are calculated using the ammonia strength at each of our 28 sludge treatment Centres and are applied to direct costs. The PR19 business plan tables did not include recharges for the treatment of sludge liquors.

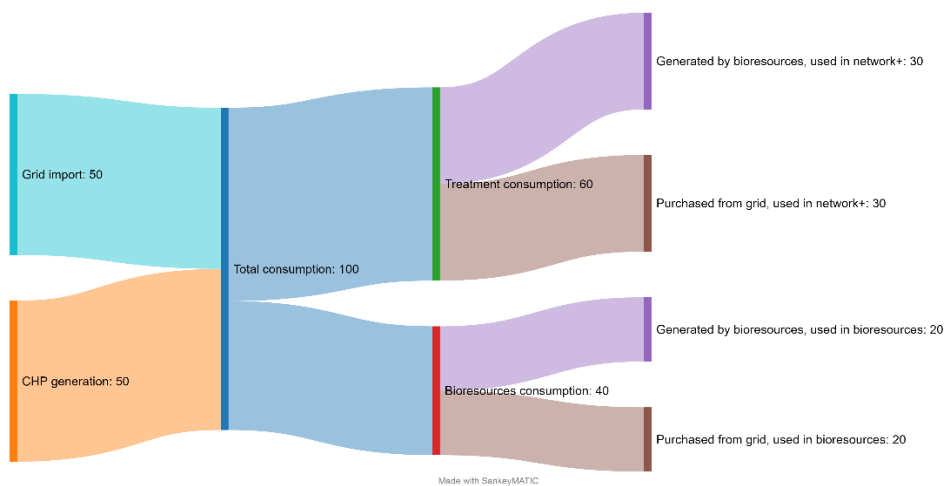
2.2. Energy_G_Old

This table reports the energy generated by bioresources and used in network plus price control based on our 'old' methodology.

Confidence Grade- The confidence grade for the data is B2 for the current year, C4 for the past years and C3 for the future years.

The 'old' methodology splits energy usage between bioresources and network plus based on their consumption (with the exception of heat which is used exclusively in bioresources), we have provided an illustrative example in figure 1.

Figure 1- Old Methodology Energy Allocation



Metering Energy Data

The additional guidance published by Ofwat on Energy Costs requires companies to meter at least 80% of their bioresources energy consumption across the portfolio. Prior to the installation of submeters energy consumption has generally been estimated from spot reads. Additional meters have been installed over recent years and we expect to be over 80% metered by the end of the financial year 2022/23. The installation of new meters has provided additional data on the level of energy consumption in bioresources. The energy consumption from the meters for bioresources is lower than the estimated consumption from the spot reads. The large change is mainly due to metering at three of our largest wastewater treatment works - Cardiff, Cog Moors and Afan – in 2022.

Table 2 shows the energy sewage treatment recharge for the original and revised splits. The impact of the revised energy splits is larger for the new methodology as energy is used first in the bioresources price control instead of being allocated based on consumption. Further information is outlined in section 2.3.

Table 2- Energy generated by bioresources and used in network plus price control

Year	Old methodology with previously reported energy splits		Old methodology with revised energy splits	
	MWh	£m	MWh	£m
2011/2012	22,879	2.217	30,210	2.928
2012/2013	20,261	2.159	26,873	2.864
2013/2014	22,421	2.543	29,511	3.347
2014/2015	23,770	2.602	31,061	3.400
2015/2016	22,523	2.563	29,740	3.384
2016/2017	20,643	2.460	27,505	3.278
2017/2018	20,202	2.632	27,099	3.530
2018/2019	22,507	2.796	30,406	3.778
2019/2020	22,580	3.072	30,986	4.216
2020/2021	17,595	2.464	24,457	3.425
2021/2022	26,459	4.194	26,459	4.194
2022/2023	27,772	4.033	27,772	4.033
2023/2024	27,772	3.978	27,772	3.978
2024/2025	27,772	4.064	27,772	4.064

Consequently, we have provided two versions of all the tables. The first version 'Original splits' uses the data and estimates available at the time. The second version 'Revised splits' adjusts the historical data based on the new metering data now available. We have provided two versions as the metering data available for the sites is limited as these were only installed in 2022 and data is only available for as little as two weeks. The backcasting of the data using the new meter data to 2011-12 makes the assumption that the processes are constant over the period considered. The data request does not ask for companies to backcast for other changes and we note that this is one of a number data improvements over the period.

2.3. OP_Liquor_New

This table reports the costs following the updated guidance on sludge liquor costs⁵, energy costs⁶ and overheads⁷. This section will outline our approach to calculating the adjustments to the reported costs in the liquor old tab.

Confidence Grade- The confidence grade for the data is B2 for the current year, C4 for the past years and C3 for the future years.

Energy costs

Ofwat’s revised guidance for bioresources energy costs provides a summary of the key decisions which are outlined in the table below. The table reports whether the ‘old’ methodology was in line with the updated guidance and if not, the changes that have been applied for the ‘new’ methodology.

Guidance	Old methodology	New methodology
Energy generated and consumed within the bioresources control should be treated as an avoided cost	Compliant	Compliant
Energy exported from bioresources to other price controls should be considered a sale and therefore have revenue to bioresources associated with it	Our ‘old’ methodology does not treat the energy exported as a sale and therefore does not have revenue to bioresources associated with it.	Compliant- energy consumption exported from bioresources to another price control is treated as a sale and is included in income treated as negative expenditure.
Incentive payments associated with the generation of renewable energy in bioresources should be allocated to bioresources;	Compliant	Compliant
To maximise accuracy, energy generation should be accounted for at site level and then aggregated, rather than at portfolio level.	Not compliant	Compliant

⁵ <https://www.ofwat.gov.uk/publication/reporting-of-sludge-liquor-treatment-costs-final-decisions/>

⁶ <https://www.ofwat.gov.uk/publication/bioresources-cost-allocation-energy-generation-and-odour-control-final-decision/>

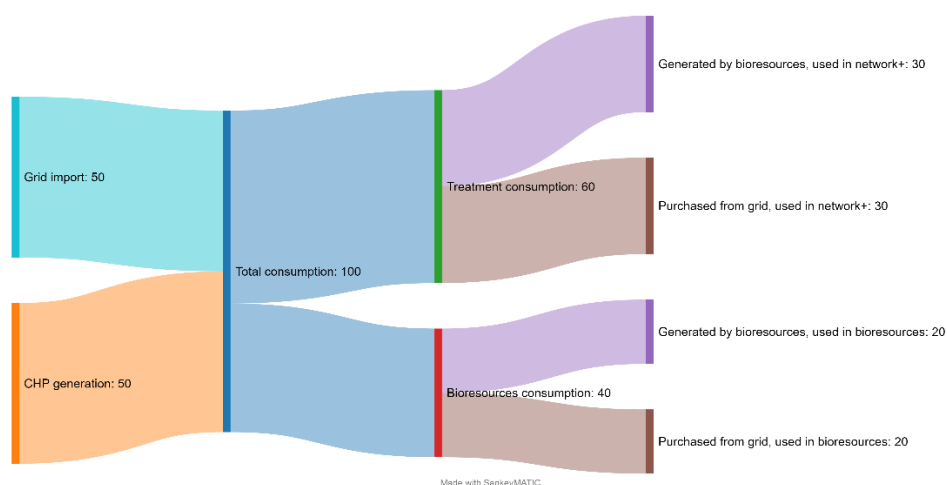
⁷ <https://www.ofwat.gov.uk/publication/rag-2-09-guideline-for-classification-of-costs-across-the-price-controls/>

Guidance	Old methodology	New methodology
Companies should meter at least 80% of their bioresources energy consumption across their portfolio	Not compliant, based on surveys.	Not compliant for financial year 2021/22 as submetering introduced part way through the year therefore extrapolated. Expected to be compliant in 2022/23.
The price paid by other controls to bioresources should be benchmarked against the price that the business unit would have paid to import energy from an external source, were it not receiving energy from the bioresources control. In the majority of cases, this is likely to be the price to purchase energy from the national electricity/gas network (the grid).	Compliant, average grid price used.	Compliant, average grid price used.

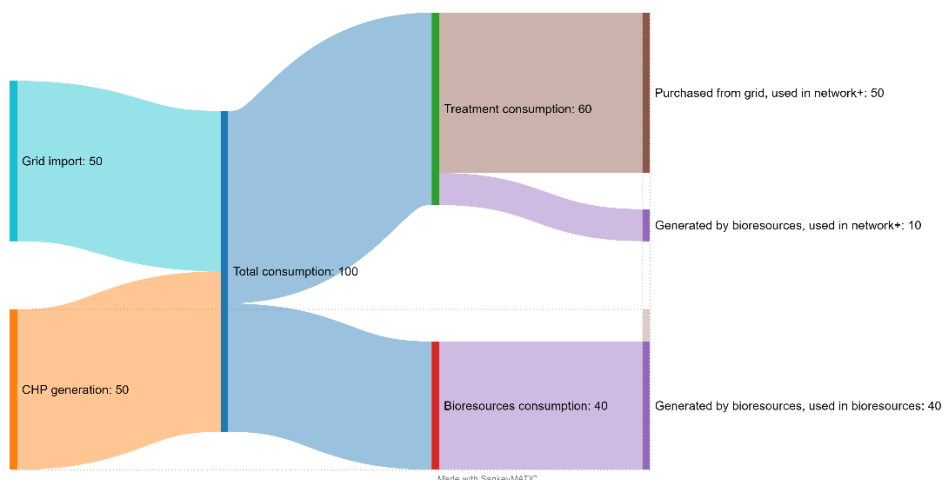
Allocation of Generated Energy between Price Controls

The 'old' methodology splits electricity generation in bioresources between treatment and bioresources using based on proportion of consumption (with the exception of heat which is used exclusively in bioresources). The 'new' methodology uses the energy generated from the bioresources assets in the bioresources price control first and then exports the excess to Network+. The diagrams below provides an illustrative visual representation of the treatment of recharges between the 'old' methodology and the 'new' methodology.

Old Methodology



New Methodology



The table below shows the amount of energy generated by bioresources and used in the network plus price control based on the 'old' and 'new' methodology. The recharge under the 'new' methodology is smaller as a result of using the generated energy in the bioresources price control first. The table reports the energy usage under the old and new methodology and with the revised energy splits from the metered data.

Table 3- Energy generated by bioresources and used in network plus price control

Year	Old methodology with previously reported energy splits		New methodology with previously reported energy splits		Old methodology with revised energy splits		New methodology with revised energy splits	
	MWh	£m	MWh	£m	MWh	£m	MWh	£m
2011/2012	22,879	2.217	7,675	0.744	30,210	2.928	16,415	1.591
2012/2013	20,261	2.159	3,699	0.394	26,873	2.864	12,890	1.374
2013/2014	22,421	2.543	6,186	0.702	29,511	3.347	14,649	1.661
2014/2015	23,770	2.602	7,756	0.849	31,061	3.400	16,242	1.778
2015/2016	22,523	2.563	6,740	0.767	29,740	3.384	15,947	1.815
2016/2017	20,643	2.460	6,168	0.735	27,505	3.278	15,249	1.817
2017/2018	20,202	2.632	6,517	0.849	27,099	3.530	15,067	1.963
2018/2019	22,507	2.796	0,274	1.277	30,406	3.778	17,622	2.190
2019/2020	22,580	3.072	11,964	1.628	30,986	4.216	19,985	2.719
2020/2021	17,595	2.464	5,645	0.791	24,457	3.425	19,893	2.786
2021/2022	26,459	4.194	20,511	3.251	26,459	4.194	20,511	3.251
2022/2023	27,772	4.033	2,488	3.266	27,772	4.033	22,488	3.266
2023/2024	27,772	3.978	22,488	3.221	27,772	3.978	22,488	3.221
2024/2025	27,772	4.064	2,488	3.291	27,772	4.064	22,488	3.291

Reporting of Energy Recharges

Historic reporting for the APR recharged the power costs from bioresources to sewage treatment in the power line. The new guidance outlines that the recharge should be considered as a sale and therefore should have revenue associated with it. The new methodology therefore adjusts the power line to move the recharge from the power line to income treated as negative expenditure.

'Old' Methodology Reporting

	Sewage Treatment	Bioresources
Power	Power Consumption- Old Methodology Recharge from bioresources-Old Methodology	Power Consumption- Old Methodology (Recharges to Sewage Treatment-Old Methodology)
Income Treated as Negative Expenditure	-	(Income treated as negative expenditure)

'New' Methodology Reporting

	Sewage Treatment	Bioresources
Power	Power Consumption- New Methodology Recharge from bioresources- New methodology	Power Consumption- New Methodology
Income Treated as Negative Expenditure	-	(Income treated as negative expenditure) (Recharges to Sewage Treatment- New Methodology)

Liquor Costs

Ofwat outlines a standard methodology for the calculation of liquor costs⁸. The standard methodology takes into account volume flow, % of solids, BOD, COD and Ammonia. The standard methodology has been applied to calculate the proportion of costs for sludge liquor treatment.

The data availability to estimate the key variables in the standard methodology varies across Sludge Treatment Centre (STC) and time. Therefore, we have developed three methods to provide estimates at all of the sites which are outlined below.

Method 1

The first method uses the mass of sludge cake produced for each STC which is measured at weighbridges at our Advanced Anaerobic Digestors (AAD). This is used to determine an estimate of liquors generated from the dewatering of the raw sludge (assumed at 2.5% dried solids) against an assumed concentration of the sludge cake (25% dried solids). Using a sludge cake density of 1.1 tonnes/m³ the volume of liquors can be calculated. Adjustments are made where better information is available.

⁸ <https://www.ofwat.gov.uk/wp-content/uploads/2020/11/Reporting-of-sludge-liquor-treatment-costs.pdf>

Method 2

The second method uses total flow meter readings available on site to measure the actual liquor total flow.

Method 3

The third method is used when neither of the other methods can be used and uses the sludge imports together with an estimate of the indigenous sludge produced from a population equivalent for the site, allowing for losses from storm spills. The total sludge treated and the volume of return liquor are determined as in the first method.

Typical BOD values determined from previous liquor sample analysis are used depending on the source of the sludge (e.g. surplus activated, raw primary or digested) to calculate the total BOD in the sludge liquors for the specific STC. However, in many cases, if actual samples have been taken for that STC, these are used for BOD concentration. The total BOD for all the STCs is determined by adding the mass of BOD in return liquors for each STC. BOD and Ammonia concentrations are based on sample data, where data is not available an average of historical data for the site is used and where historical data is not available an average for other sites is applied.

The table shows the methods used for each site over the sample period. Data for recent years is mostly derived using methods 1 and 2, the availability of the data reduces as we go further back in time and therefore method three is utilised. Aberystwyth and Porthmadog were not included within the samples for in the greyed out years as they were liquid to land sites and therefore did not have liquor returns.

Table 4- Liquor Treatment Methodology

Sludge Centre	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Aberystwyth						1	1	2	2	2	2
Afan	3	3	3	3	3	3	2	2	2	2	2
Cardigan	1	1	1	1	1	1	1	1	1	1	1
Cardiff	3	3	3	3	3	3	2	2	2	2	2
Chester	3	3	3	3	3	3	2	2	2	2	2
Cog Moors	3	3	3	3	3	3	3	3	3	3	3
Coslech (SAS only)	1	1	1	1	1	1	1	1	1	1	1
Eign	3	3	3	3	3	3	3	3	3	3	
Five Fords	3	3	3	3	3	3	2	2	2	2	2
Garnswllt	2	2	2	2	2	2	2	2	2	2	2
Ganol	3	3	3	3	3	3	1	1	1	1	1
Gowerton	1	1	1	1	2	2	2	2	2	2	1
Kinmel Bay	2	2	2	2	2	2	2	2	2	2	1
Lampeter	3	3	1	2	2	2	2	2	2	2	2
Llanelli	1	1	1	1	1	1	1	1	1	1	1
Llanfoist	3	3	3	3	3	3	3	3	3	3	3
Llangefni	3	3	3	3	2	2	2	2	2	2	2
Llanina	3	1	1	1	1	1	1	1	1	1	1
Merlins Bridge	1	1	1	1	2	2	2	2	2	2	2
Monmouth	3	3	1	1	1	1	1	1	1	1	1
Nash	1	1	1	1	1	1	1	1	1	1	1
Parc Y Splott	1	1	1	1	1	1	2	2	2	2	2
Pembroke Dock	1	1	1	1	1	1	1	1	1	1	1
Penybont	1	1	1	1	1	1	1	1	1	1	1
Porthmadog								2	2	2	2
Queensferry	3	3	3	3	3	3	3	3	3	3	3
Swansea Bay	3	1	1	1	1	1	1	1	1	1	1
Treborth	3	3	3	3	3	3	2	2	2	2	2

Costs in scope for liquor recharges

The costs in scope of the recharge includes an opex and a capex element. Opex costs are the direct costs which include power costs, income treated as negative income and other operating expenditure.

Capital costs are the sum of the annualised cost of capital and depreciation on the net MEAV of the assets. It also includes a share of the capital costs and annual depreciation on shared assets. The MEAV is based on our 2012-13 asset revaluation and is rolled forwards and backwards using additions, depreciation and disposals. The MEAV is indexed using RPI until 2019-20. The MEAV for 2020-21 onwards uses Ofwat's approach to the RCV indexation at PR19. The MEAV is split so that

50% is indexed by RPI and 50% by CPIH and additions are added to the CPIH component. Depreciation is based on our standard asset lives and the cost of capital is based on Ofwat's Final Determination real WACC outlined in table 5.

Table 5- Cost of Capital

	2011-12	2012-13	2013 -14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Cost of Capital- Real RPI	5.10%	5.10%	5.10%	5.10%	3.60%	3.60%	3.60%	3.60%	3.60%	1.92%	1.92%
Cost of Capital- Real CPI(H)										2.92%	2.92%

Forecast Data

Forecast data for 2022-23, 2023-24 and 2024-25 are based on our PR19 Business plan. Energy cost adjustments are based on the energy price and volume forecasts at the time of the business plan submission. Forecast sludge liquor opex have been estimated as 3.12% of sewage direct costs based the average proportion of costs that are recharged to sludge liquor for 2016-17 to 2021-22. Forecast capital cost sludge liquor recharges are forecast forwards using inflation and the proportion of costs that are recharged to sludge liquor for 2016-17 to 2021-22.

Overheads

For other operating expenditure we have used RAG 2.09 to allocate the costs with the main changes being in other business activities where is split across 10 upstream services areas whereas previously this was over 9 upstream service areas. Forecast data for 2022/23, 2023/24 and 2024/25 has been adjusted to reflect the changes as a result of the update guidance for the historical period 2011-12 to 2021-22.

2.4. Inflation Assumptions

The following table sets out the inflation figures up to May 2022 and the assumptions for the remainder of AMP7 that have been used.

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
Consumer Price Index (with housing) for April	103.2	105.5	107.6	108.6	110.4	119.0	125.0	127.4
Consumer Price Index (with housing) for May	103.5	105.9	107.9	108.6	111.0	119.9	124.7	127.2
Consumer Price Index (with housing) for June	103.5	105.9	107.9	108.8	111.4	120.3	125.1	127.6
Consumer Price Index (with housing) for July	103.5	105.9	108.0	109.2	111.4	120.3	125.1	127.6
Consumer Price Index (with housing) for August	104.0	106.5	108.3	108.8	112.1	121.1	125.3	127.8
Consumer Price Index (with housing) for September	104.3	106.6	108.4	109.2	112.4	121.4	125.6	128.2
Consumer Price Index (with housing) for October	104.4	106.7	108.3	109.2	113.4	122.5	125.5	128.0
Consumer Price Index (with housing) for November	104.7	106.9	108.5	109.1	114.1	123.2	126.3	128.8
Consumer Price Index (with housing) for December	105.0	107.1	108.5	109.4	114.7	123.9	127.0	129.5
Consumer Price Index (with housing) for January	104.5	106.4	108.3	109.3	114.6	123.2	125.7	128.2
Consumer Price Index (with housing) for February	104.9	106.8	108.6	109.4	115.4	124.1	126.5	129.1
Consumer Price Index (with housing) for March	105.1	107.0	108.6	109.7	116.5	124.7	127.1	129.7
CPIH: Financial Year Average Indices	104.2	106.4	108.2	109.1	113.1	122.0	125.7	128.3

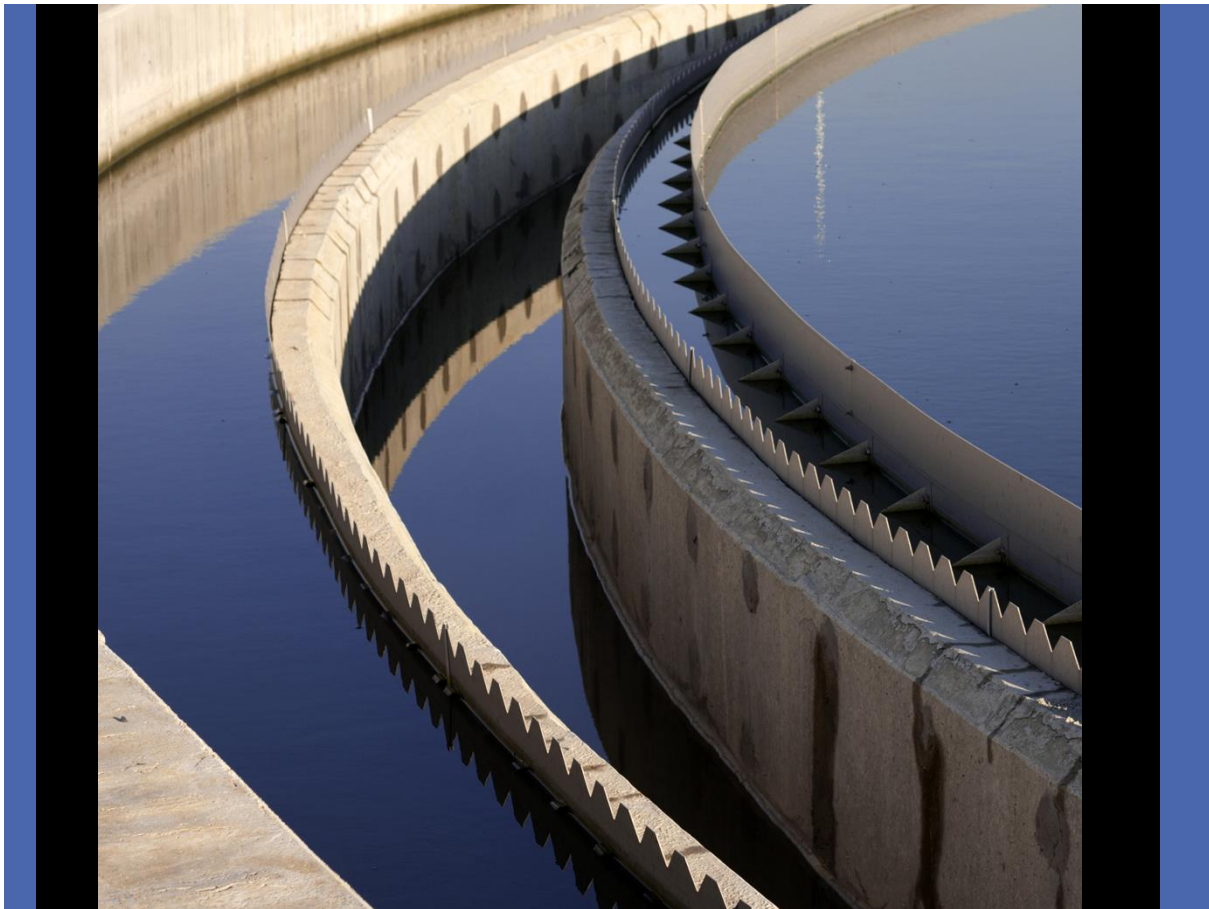
	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25
Retail Price Index for April	270.6	279.7	288.2	292.6	301.1	334.5	356.3	366.8
Retail Price Index for May	271.7	280.7	289.2	292.2	301.9	335.1	355.2	365.7
Retail Price Index for June	272.3	281.5	289.6	292.7	304.0	337.4	356.0	366.5
Retail Price Index for July	272.9	281.7	289.5	294.2	305.5	339.1	357.8	368.3
Retail Price Index for August	274.7	284.2	291.7	293.3	307.4	341.2	360.0	370.6
Retail Price Index for September	275.1	284.1	291.0	294.3	308.6	342.5	359.7	370.3
Retail Price Index for October	275.3	284.5	290.4	294.3	312.0	346.3	360.2	370.8
Retail Price Index for November	275.8	284.6	291.0	293.5	314.3	348.9	362.8	373.5
Retail Price Index for December	278.1	285.6	291.9	295.4	317.7	352.6	365.0	375.8
Retail Price Index for January	276.0	283.0	290.6	294.6	317.7	349.5	359.8	370.4
Retail Price Index for February	278.1	285.0	292.0	296.0	320.2	352.2	362.6	373.3
Retail Price Index for March	278.3	285.1	292.6	296.9	323.6	354.4	364.8	375.6
RPI: Financial Year Average Indices	274.9	283.3	290.6	294.2	311.2	344.5	360	370.6

Bioresources additional information request

Revision no: 1.2

Dŵr Cymru Welsh Water

Non-financial Assurance Services Framework
13 July 2022



Bioresources additional information request

Client name: Dŵr Cymru Welsh Water

Project name: Non-financial Assurance Services Framework

Client reference:

Project no: B2271302

Project manager: Alex Reoyo

Revision no: 1.2

Prepared by: Alexandra Martin

Date: 13 July 2022

File name: Assurance Letter for Ofwat
Bioresources additional information
request

Doc status: DRAFT

Document history and status

Revision	Date	Description	Author	Checked	Reviewed	Approved
1.0	060622	Draft	HT	LH		
1.1	240622	Updated draft	HT	LH		
1..1	040722	Final	HT	LH	AKM	AKM
1.2	130722	Final – post company update	HT			

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13 July 2022

Attn: Eleri Rees. Strategy and Regulation Director, Dŵr Cymru Welsh Water

Project name: Non-financial Assurance Services Framework
Project no: B2271302

Subject: Bioresources additional information request

Background

In IN 22/01, Ofwat set out the requirement for wastewater companies to provide additional bioresources information alongside their regulatory reporting for 2021-22. In the information request, Ofwat asks companies to provide information on costs and energy generated for 2011-12 to 2024-25 both on the basis that companies have previously reported this information and restated to take account of Ofwat's recent cost allocation guidance for overheads and guidance for bioresources including for sludge liquors. In response to queries from companies, Ofwat issued an updated data request at the end of May 2022.

Ofwat is collecting this information to improve its econometric cost benchmarking models and to better enable it to set a specific efficiency challenge for bioresources (and separately for wastewater network plus) when it sets price controls. This letter provides an overview of our assurance activity relevant to your submission.

Scope of our assurance

You asked us to undertake a risk-based review to check the robustness and accuracy of the data you intend to submit for Ofwat's bioresources additional information request, including your compliance with the guidance set out in the submission template. Our assurance of your data is designed to support your own first and second line assurance activity.

Our assurance approach

In May and June 2022, we met remotely with the individual teams responsible for each of the tables in the request. We reviewed their processes and the data you intend to submit to Ofwat. The submission includes previously reported APR actual data and PR19 Business Plan forecast data, as well as restatements of data for the years 2011-12 to 2024-25. Therefore some, but not all, of this data and the supporting processes have been subject to previous or ongoing external assurance either by Jacobs as your non-financial assurers or by your external financial assurers KPMG.

We have taken a risk-based approach (via sampling) to assessing the completeness, reliability and accuracy of the source data, the robustness of the reported data and the appropriateness of the confidence grade for the non-financial data which the team had assigned. We also checked the consistency of internal commentaries with the data we reviewed to ensure that they did not contain any obviously misleading or false statements.

After each audit, we provided you with detailed feedback which explained our assessment of the risk associated with the reported performance figure and set out the actions arising from our assurance.

Findings

During the course of our audits, we identified a number of material issues which therefore presented a medium to high level of reporting risk. Subsequent to our audit, you confirmed that you had completed the actions and for each action explained how you had resolved the issue. We reviewed the evidence which supported the

Bioresources additional information request

completion of the actions and found no issues. You also confirmed that you had completed internal first and second line assurance of the changes to your data. We did not trace the updated data back to source.

We note that you had not completed all internal checks and due diligence prior to our audits. You confirmed after our audits that you had completed all of these checks.

There are no outstanding material issues at the date of this assurance letter.

Assurance Statement

Overall, we conclude that:

- the restatements of numerical data are, where applicable, consistent with our previous APR and Business Plan audits of the information before restatement, and are appropriately robust;
- your teams have a good understanding of their processes to produce the data in line with Ofwat guidance;
- data is competently sourced, processed and fit for purpose; and
- your teams' internal commentaries were consistent with the data we saw at the time of reviewing them and did not contain any obviously false or misleading statements in relation to that data.

Yours sincerely,



Alexandra Martin
Director of Operations

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