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By email: [redacted] and
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22 July 2021

Dear Ofwat

Re: Review of the bioresources market – consultation

Thank you for the opportunity to study and provide comments on the review of the bioresources market consultation as part of Ofwat's preparations for the PR24 price review. This consultation, and the supporting technical report from Jacobs effectively starts to lay out the proposed strategic form of the bioresource control for AMP8.

There are some critical regulatory issues embedded in the consultation where we have some concerns around the options for interventions, most notably under:

- the bioresources market model (consultation Issue 1),
- improving cost allocations (consultation Issue 2),
- the approach to cost assessment (consultation Issue 3), and,
- the appropriate cost of capital (under 'other issues' in the consultation).

These four key issues are interconnected, and we discuss them in more detail in our company response appended to this letter. The proposals under the remaining identified issues are less contentious, and we understand Ofwat's preferred options and the associated rationale.

We agree there is further opportunity in the bioresources market which remains, at least in-part, untapped due to the existing constraints Jacobs outlines, such as regulatory uncertainty and other market constraints around energy incentives.

Notwithstanding the proposals laid out in the consultation, we are encouraged that some of the key constraints to increased market activity may be resolved in

future as Ofwat continues to work with environmental regulators and other stakeholders to ensure environmental regulation or other barriers are addressed as appropriate.

We append our detailed responses to this letter, but we would like to draw your attention to the key points we make in regard to the proposals and preferred options indicated for the bioresources control within the PR24 framework.

Should you have any questions in relation to this response please contact Colin Fraser via email at Colin.fraser@yorkshirewater.co.uk

Yours sincerely,

Wendy Kimpton, Head of Regulation

Yorkshire Water response to: Review of the bioresources market – consultation (May 2021)

We present below our feedback on the issues detailed in the consultation, the options proposed within it and our observations on the the findings and recommendations Jacobs present In Its report "Bioresources Market Review." commissioned by Ofwat.

Our feedback on the consultation proposals are laid out in the order Ofwat presents Its view of the key Issues impacting the bioresources revenue control and market.

Q1: Do you agree with, or have any comments regarding, Jacobs' bioresources market review report?
Review of the Jacobs report We agree there is further market opportunity which remains, at least in-part, untapped due to the existing constraints, such as regulatory uncertainty. Part of the challenge is also in timing, as the cost of new capacity only really becomes viable if there is a rapid yet sustained increase in sludge production or assets of significant capacity reach end of life. For instance, we forecast a future shortfall in sludge treatment capacity and therefore expect to use the market for additional treatment capacity. We will be timing the procurement and contract start around when this requirement materialises, toward the end of the AMP7. Our own experience also leads us to believe that market potential is almost reverse that proposed, with outsourcing and headroom trades at the top. We welcome the reports clear structure and the classification of ‘constraints’ and ‘recommendations’, which we refer to where relevant in our feedback on Ofwat’s proposals.

Q2: Do you agree with, or have any comments regarding, the proposals and views we set out in this document?

We agree with Ofwat that there is potential for a market for bioresources subject to a number of regulatory constraints and issues being addressed, and therefore we understand the intention to continue with a separate 'control' for bioresources.

The four key themes expressed by Ofwat to help the sector meet its potential to create economic and environmental value from bioresources are through:

- technological changes making treatment more cost effective and enabling greater generation of renewable energy.
- economies of scale.
- inter-company optimisation through trading or development of joint capacity.
- co-digestion of sludge with other organic waste.

We would welcome Ofwat to augment this list with the potential for this control to play an important part in meeting the UK governments' ambition of **net zero** emissions by 2050, as noted in the Climate Change Committees 6th Carbon Budget and in particular its substantial expectations of the waste sector, and the sectors aspirations for net zero by 2030.

For the remainder of this response we address in turn each of the issues identified by Ofwat in its consultation, as below with our page references for ease.

Issue 1 – Market models

Bidding market model: We agree with Ofwat's preferred option to establish a bidding market for bioresources, and its suggested implementation approach for each company to develop independently a Bid Assessment Framework (BAF) tailored to the bioresources market. Each company should design and publish their own approach, learning from their own experiences from the water bidding market and utilising work already carried out this AMP. Some consistent guidance would however be beneficial, as for the Water Bidding market.

We believe this will contribute to clear, objective, and non-discriminatory evaluation of third-party bids when tendering for work and capacity in the market. We also agree that demonstrating compliance with the frameworks developed and published would also provide assurance and confidence with stakeholders that market options had been considered appropriately.

Uncertainty around the regulation of long-term contracts is a challenge still to be addressed, as noted by Jacobs in its report under 'Constraint E' in terms of the "*risk of the revenue for a long term contract not being partly or fully allowed*", and "*if the revenue risk caused by this uncertainty is transferred to a third party capacity provider, it will translate into a higher cost of capital and a potentially unaffordable contract*". To resolve this uncertainty, Jacobs recommends (Recommendation R10) that third party revenues which are demonstrated as efficient under the BAF are guaranteed for the duration of the contract. We consider that such guarantees should ultimately be provided by customers. Some of the principles developed by Ofwat for the Direct Procurement for Customers (DPC) should also apply to the bioresource bidding market model.

Resilience of third-party providers and their contract arrangements is essential to understand when evaluating bid options; without it, companies risk holding spare capacity in case of market failure, incurring further costs for customers.

It would be appropriate to carry across some relevant features from the DPC regime to support this, or for DPC to be considered to be extended to cover this control and support market development.

Interaction with price controls: We agree that the bioresources bidding market model proposed, subject to appropriate long term contract revenue guarantees, could work alongside the traditional regulatory approaches of revenue building blocks supported by base and enhancement cost assessments to inform a modified average revenue control (as referenced in Ofwat's Option 1 under Issue 3).

In our opinion it does not then also require the triple step change to "assessing costs" as suggested in Option 2 (under Issue 3) to reduce the issue of perceived in-house bias.

Interaction with Cost Assessment: In its executive summary, Ofwat states that *"inhouse investment and long term contracts would be included within the same [cost] assessment".*

We disagree with this position and this runs contrary to the Jacobs recommendation R10 about providing a revenue guarantee and certainty in support of third-party long-term contracts.

As is a fair approach under DPC arrangements, these bioresource capacity contracts should be excluded from subsequent established cost assessment activity. As advised in Ofwat's PR19 methodology[1], the DPC model provides third party investors a degree of certainty about their contractual revenue stream, whilst allowing a way to assess any flexible elements of the contract (for example, changes in opex over time), which Ofwat stated *"... may improve credit quality and therefore customer outcomes".*

Like the DPC, such long-term contracts will represent a change in method of delivery, from in-house to third party, especially where operated at scale.

Risk Alignment: Jacobs recommend to *"align revenue risk between in-house and external capacity"*. To provide the suggested revenue risk alignment, we consider that all such associated bidding market revenues should remain outside of subsequent cost assessment exercises, irrespective of the final method of delivery selected.

Ultimately we would argue that if in-house provision of new capacity proves to offer the lowest cost bioresource solution these equivalent costs (and associated revenues) have been evaluated as market efficient and should also be ring-fenced from a regulatory perspective (in a similar manner to the alternative of long term contracts with third parties).

These company costs (capacity and operating) and the associated revenues will have been market tested within the proposed capacity bid assessment framework[2].

However, we recognise that the bidding market for bioresources may not yet be very competitive in its early stages.

In this case it may be legitimate for the PR19 approach to remain:

i) associated in-house revenues and costs to be treated asymmetrically and to remain inside the regulatory benchmarking exercise for a period; and
ii) the post 2020 RCV to be deemed as unprotected.

Ofwat may wish to consider a pathway to achieve risk parity with the suggested revenue guarantees offered to third party long-term contracts. It could, for example, set a threshold of market activity before it steps back from benchmarking all new bioresource capacity revenues. And this may be to what Ofwat was referring to in its Issue 3 proposal to *"provide regulatory protection where companies demonstrate appropriately innovative, pro-market plans/activities and/or comply with our proposed bidding market arrangements".*

As a point of principle, we consider that the revenues associated with the proposed competitive capacity bidding market and the regulator's comparative competition benchmarking exercise need to be clearly delineated, with any linkages made explicit. Otherwise the level of efficient bioresource costs for new capacity could be assessed through two separate competitive lenses (initially via the bidding market framework and subsequently via Ofwat's cost assessment exercises) with potentially conflicting and confusing results.

[1] Delivering Water 2020: Our methodology for the 2019 price review Appendix 9: Direct procurement for customers – section 5 Cost assessment. (December 2017)
[2] We assume in a similar way to water bidding market BAFs, companies bioresources BAFs would be subject to some form of review and endorsement by Ofwat.

Issue 2 – Cost allocations

Ofwat focuses on two important boundary issues in respect of cost allocation risks and perverse incentives that companies could mis-allocate to improve cost sharing levels, namely *"a standard methodology for calculating sludge liquor treatment costs"* and developing *"further guidance on energy generation revenues"* and overheads.

Material Importance: We agree with this twin boundary focus as Ofwat identifies there has been "*significant variation in the way that companies account for the costs*" in these two material cost allocations and note that Ofwat is consulting on these separately.

The associated bioresource sludge liquor treatment costs and energy generation revenues are of a scale that this identified variation will have impacted on the robustness of the bioresource econometric models developed by Ofwat during PR19, and company accounting variations in valuing both of these material financial flows will likely have impacted on the apparent bioresource efficiency positioning. We observe that for some companies these two monetary flows can be above £100/TDS and in some cases may be broadly self-cancelling (we can provide further explanation of our views should this be useful to Ofwat).

We believe there is an opportunity for Ofwat to enhance the econometric modelling so the legacy value from higher Renewable Heat Incentives (RHI) impacting its future view of the efficient benchmark is improved. Biomethane to grid has seen RHI tariff digression that is particularly noteworthy, with the associated RHI halving from over 8 p/kWh to under 4 p/kWh in under 5 years. This reduction in the RHI may be equivalent to a bioresource income "loss" of £80-160/TDS.

The emerging importance of sludge liquor treatment costs may also require further consideration of the bioresource boundary and, in particular, in which price control sludge thickeners not receiving imports are located.

Further Considerations: In terms of possible future bioresource cost assessments further regulatory consideration is required for:

i) the legacy of renewable energy incentives such as the Renewable Heat Incentives (RHI) that have been locked-in previously; and

ii) whether these are then available (at the same level) for anaerobic digestion (AD) capacity in the future.

On boundary matters and sludge liquors, whilst we have reservations about the technical details, we welcome a new standard industry methodology for calculating sludge liquor treatment costs at each relevant site.

We look forward to commenting in more detail on the consultation on *"methods to improve the allocation of energy costs and revenues in bioresources"* and to then receiving the new Regulatory Accounting Guidelines with inclusions on energy generation and overheads.

We make the following early observations on Ofwat's proposed position on electricity pricing and views on the appropriateness of using the export price over the import price:

In its 2018 feedback to companies on the bioresource RCV, Ofwat stated: "To aid consistency, we expect all companies to use their average import price for the value of the energy generated and used by the appointed business, whether it is used on a bioresources site or "sold" to any co-located wastewater treatment works." Ofwat will need to consider the ramifications of any import to export pricing policy switch.

Three market distortion issues could be considered:

- Level Playing Fields: Using the electricity export price will not mirror the historic or future renewable energy export prices available to the organic waste AD sector via differential ROs, exclusive access to FiTs, enhanced administrative strike prices under the Contracts for Difference mechanism, and the RHI/GGSS regime. The levels of these renewable energy export prices are more comparable to electricity import prices. Selecting the electricity export price benchmark for the water industry could potentially distort fair competition in other related markets such as the purchase of energy intensive feedstocks for possible co-digestion (industrial food waste, energy crops).

- Optimal Biogas Use: Electricity is an important input into wastewater treatment and it may be more economic for the company to continue to generate electricity for local private wire use rather than benefit from the latest biomethane incentive (to grid or vehicle). This will partly depend on getting the internal price control electricity price set at the correct level.

- Cooperative Game Theory: Using cooperative game theory concepts we do not consider the arguments made are wholly valid. These arguments are based on a price taker construct and do not consider that these hypothetical bilateral negotiations will involve two prices: the gate price and the electricity price. But we do agree that "*where exactly within this range [between export and import prices] the price paid by a wastewater company for energy generated by a bioresources operator would fall, would depend on the relative bargaining power of the two parties*". This would inherently depend on the new entrants potential cost advantage and the associated gate price offer.

We will consider these issues further as part of our detailed response to the separate consultation on this important matter.

Issue 3 – Cost assessment

In the consultation Ofwat presents a perceived problem with the 'building blocks approach' applied at PR19 to set companies' allowed revenue for bioresources. Ofwat econometric modelled 'base' costs plus case-by-case 'enhancement' expenditures. This was presented as a 'modified average revenue control' using tonnes of dry solids sludge produced plus a forecasting incentive for accurate plans. Revenues vary with volume.

For PR24 Ofwat considers two issues with the above approach:

i) Companies' costs and revenues were determined through a regulatory process which is likely to be less efficient than a market based one and could distort competition between companies and the wider waste sector.
ii) Enhancement and base costs were assessed through different processes, which subject to company cost allocations could distort Ofwat's cost benchmarking. Or create an incentive for companies to choose solutions with costs in the lower risk cost category, which may not be best for customers or create an 'in-house bias' for new investment.

Ofwat then presents two options for consideration:

- **Option 1.** Retain the **'building-block approach'** with an allowed revenue principally determined by PAYG, RCV run-off and an allowed return of capital. Ofwat states this approach *"is well understood and helps to ensure the risk of stranded assets is low".* This option expected to keep the cost of capital, and associated customer bills, lower as a consequence.

- **Option 2.** (Ofwat's preferred option). **'Benchmarking of average revenue'** with pre-2020 RCV protection. This would consider all companies' costs (i.e. depreciation, opex, capital maintenance, enhancement costs, and cost of capital) per unit of dried sludge produced.

Our understanding of the Options: We understand that Option 1, "*would retain the same broad approach to determining companies' allowed revenue as at PR19…".* Option 1. appears to be the status quo option as it would retain the modified average revenue control. The modified average revenue control and the associated Bioresource Forecasting Accuracy Incentive (BFAI) provides for

a sensible fixed-variable cost-based price control that also provides an incentive on companies to improve their sludge production forecasting methodologies.

If then combined with the proposed new capacity bidding market (Issue 1) and the proposed improvements in the control boundary cost allocation (Issue 2), retaining Option 1 would further improve the inherent consistency of the current bioresource price control. Ofwat believes that the disadvantages to Option 1 (and the associated claimed advantages of Option 2) are largely resolved by the introduction of the new capacity bidding market and a simple widening the cost assessment to include bioresource enhancements.

We agree with the possible use of a fuller version of totex (i.e. base plus enhancement expenditure), noting that some enhancement items may still need to be managed separately. And there may well also be a need to revisit and refine: i) the assumed fixed/variable revenue split of the modified average revenue "price control"; and ii) the design details of the BFAI in due course.

We would support an evolution to Option 1, noting that the separate modified average revenue bioresource price control was only introduced at PR19.

Ofwat's preferred option is Option 2: Benchmarking of average revenue with pre-2020 RCV protection. We understand this would move the bioresource revenue control from a "modified average" to a "full average", by setting price limits based on "gate fees", as expressed by Ofwat as follows "*An average revenue control would come closer to a "gate price" type of approach which is how waste is frequently charged for in the wider waste sector. In addition, an econometric-based approach to benchmarking companies average revenue requirements would introduce comparative competition on a wider set of costs than just base costs*". This approach moves the associated benchmarking exercise from total expenditure to average revenues, noting that both *"in-house investment and long-term contracts would be included within the same assessment".*

Based on our understanding of Option 2, **we disagree that Option 2 is the better option**. We would prefer Ofwat to build on the strong foundations of Option 1 and the associated modified average revenue control, having already agreed with the need for improvement in the current approach to bioresource cost allocation under Issue 2.

In terms of bioresource revenue control we could reconsider our opposition to the proposed move from the "modified average" to a full average price control

mechanism (i.e. gate fee), if a differential cost of capital is also introduced to reflect the associated additional demand risks being reintroduced back into the price control.

We do not accept Ofwat's supportive logic of:

i) moving to benchmarking (average) revenues instead of (base and enhancement) costs as current; and
ii) returning to previous regulatory approaches (e.g. PR09 and before) to "considering" individual accounting items such as depreciation and opex to inform these (average) revenues.

Location of Benchmark Challenge. We consider the potential addition of regulatory constructs (such as the bioresource RCV) and the proposed use of accounting constructs (such as depreciation) to the bioresource benchmarking exercise will further complicate the comparative challenge. And we do not consider the material benefits of widening the challenge exercise are sufficient to outweigh these additional complications.

These issues are briefly addressed below:

- Materiality of Including Enhancement Costs: Bioresource enhancement costs were not a substantial part of the bioresource revenue determination at PR19 (around 2% of totex at an industry level).

- Materiality of Switching from Bioresource Costs to Bioresource Revenues: The Ofwat proposal to move the PR24 benchmarking exercise from comparing (base and enhancement) costs to average revenues does not widen the financial portfolio for challenge by a material margin. Based on PR19 FD information we estimate that on average bioresource revenues might be around 28% higher than average bioresource costs with about two-thirds of that increase relating to the return on bioresource RCV. The inclusion of this RCV return component brings in a number of other regulatory difficulties, as discussed in the next three points below.

- Bioresource RCV – Adds RCV Protection Complexity: Adding in the return on the RCV building block to the challenge exercise adds much regulatory complexity, as the pre-2020 RCV (confirmed in the PR19 FD) is supposed to be unchallenged. The small materiality benefits of including the return on RCV into the benchmarking exercise does not seem to warrant the additional complexities of maintaining the

associated RCV protection, pre-2020 (and depending on the design of the new capacity bidding market possibly post-2020).

- Bioresource RCV – A Circularity Problem: The bioresource pre-2020 RCV and the allowed return on it is already "benchmarked" against a hypothetical new entrant's prospective gate fees. Including a return on the bioresource RCV in a (gate fee type) challenge is therefore circular as gate fees are already built into the previous bioresource RCV allocation calculations.

- Bioresource RCV - A Regulatory Construct: Much detailed guidance and regulatory challenge on the bioresource RCV allocation was provided by Ofwat. It is a regulatory construct and depends on the judgement of regulatory managers on either side of the regulatory fence. Indeed, the final bioresource RCV was an Ofwat decision so the proposed challenge on average revenues could then include some revenues over which the company did not have final control.

- Depreciation – An Accounting Construct: Depreciation is an accounting construct. It is noted that Current Cost Depreciation (CCD) was used by Ofwat to set prices prior to PR14. At PR09 Ofwat "*carried out our overall check on depreciation by comparing current cost depreciation with non-infrastructure capital maintenance expenditure over the period 1997-98 to 2024-25*". So "*challenging these figures*" under Option 2. may actually then rely on much of the same capital expenditure data that informs Option 1. directly now.

- Financial Levers – A Regulatory Construct: Run-Off (RO) of RCV (5-10%) and Pay As You Go (40-85%) are the financial levers that are applied by companies/Ofwat as part of the revenue setting process. These financial levers are essentially another regulatory construct developed by Ofwat before PR14 and implemented by companies/Ofwat at each subsequent Price Review. Other management factors such as affordability can impact how hard these levers are pulled. Isolating these management decisions from the challenge exercise could be difficult.

- Gate Fee Comparator Development: Jacobs was able to easily construct a pseudo gate price from the building blocks approach used at PR19 (see Appendix B of Jacobs report). Therefore, the building blocks approach is not the stumbling block to constructing bioresource gate fees.

- Level Playing Field on Quality: An average revenue control approach may undervalue where companies have made the quality of biosolids as a differentiator. For example, we have a bespoke Performance Commitment (PC) for AMP7 where 100% of our biosolids sent to agricultural land should achieve the Biosolids Assurance Scheme (BAS) certification.

Supplementary Approaches. Ofwat states that: "*Under either option, we could use supplementary approaches to inform our assessment of allowed revenue. For example, modelling of the bioresources market (E.g. the expected costs of an alternative party treating and disposing of the sludge, e.g. through a trade) or comparison with gate prices in the wider waste sector*."

We would be supportive of using supplementary approaches within an enhanced or evolved version of Option 1. as we outline above.

There is further information on bioresources for Ofwat to now develop its own modelling expertise regarding the expected costs of an alternative party treating and disposing of the sludge. As noted above, the hypothetical gate fee formed the basis of the bioresource RCV allocation exercise. And much more information on bioresource costs is now published by companies.

However, we would caution against relying too heavily on gate fees from the wider organic waste sector as firm benchmarks. As discussed by Jacobs, these gate fees are very dependent on anaerobic digestion (AD) capacity and geographic location, feedstock quality, pre-treatment needs, complementarity to existing feedstocks, impact on digestate recycling and critically energy potential.

We also question the true economic accuracy of the gate fees of the wider market. There is anecdotal evidence that the scale of historic and current renewable energy support for anaerobic digestion is distorting the gate price for organic wastes, so some regulatory caution is advised.

We consider that more detailed bottom up Ofwat bioresource cost modelling will provide more accurate comparative results.

Issue 4 - Planning and Collaboration

Of the three options presented in the consultation, we agree with Ofwat's preferred Option 1. to encourage greater sector collaboration in a transparent and proactive way.

We are already working with our neighbouring WaSCs to develop the market for trading, having done a significant amount of short term trading out of Yorkshire, and we are now in a position to offer opportunities to trade short-term into Yorkshire. We are planning on an outsourced market solution for our capacity requirements, which will be open to other WaSCs and organic waste operators to compete in. We also work jointly with others on innovation in technology and environmental regulation.

We are not clear that Options 2. or 3.; proposing Bioresources Management Plans are developed by companies and formalising regional coordination and plans respectively, would provide materially better information to market participants. The expanding market information already being published by companies and the proposal for a BAF for each company we believe is the best approach.

We are pleased Ofwat has confirmed it will continue to work with environmental regulators to improve the collective understanding of how joint interventions can improve the market for the benefit of customers and the environment. As Jacobs has noted in its report many of the constraints to achieving the full, as yet untapped, potential of the market are related to complex regulatory barriers and uncertainties, such as the Environment Agency's sludge strategy.

Issue 5 – Information Remedies

We support Ofwat's coverage of the ways companies provide information related to their bioresources activities on a regular basis, through their Annual Performance Reports (APRs) and as required by the information remedies required under Ofwat's information Direction.

The recent amendments made to the information remedies direction in May 2021 will increase the market information by requiring companies to publish information on

i) future projections of supply and demand information,
ii) transport route information, and
iii) information on renewable energy incentives, and
iv) to provide all information in a way that is more consistent.

Issue 6 – Outcomes

Ofwat considers 3 options that build on one another,

i) Retain the current bespoke Performance Commitment (PC) framework,
ii) Ofwat to ensure the definition of bespoke PCs are appropriate, and
iii) Explore the potential for common PC's.

Ofwat prefers option 3. to explore with the sector the potential for some common PC's for AMP8, and ensure bespoke PCs are appropriately defined (ideally reducing the number and range of bespoke PC's in the process).

We support the intention to simplify the approach for PCs in PR24, especially in ensuring that PCs focus on long-term outcomes. Different performance commitments do drive different behaviours, standards, and costs and this would enable better comparison between companies for Ofwat and customers. A reduction in the number of bespoke PCs may be part of the simplification process. However, this reduction shouldn't be at the expense of other customer priorities that are unique to the company but still linked with core company services and strategies and aligned with national priorities and ambitions.

Ofwat has pointed out that some PCs (e.g. operational carbon emissions) could lead to unintended actions (for example, hoarding sludge) in order to achieve the PC. This could be avoided by identifying overlaps and incompatibilities between PCs, targets and financial incentives. Ofwat has also indicated in its "*Creating tomorrow, together*" document that incentives could be linked not only with company performance but with how the performance was achieved.

In its "*Creating tomorrow, together*" document, Ofwat is also considering publication of its initial views on performance commitment levels that correspond to base costs. Assuming that this also applies to Bioresources, the consultation does not make clear if and how Bioresources could be different on this area to other price controls and what opportunities and uncertainties (on PC levels and Outcome Delivery Incentives) could be introduced due to Ofwat's preferred approach.

We look forward to working with Ofwat on the potential for common PC's for the Bioresources control.

Issue 7 – Trading Incentives

We agree with Ofwat's preference to continue with no trading incentives for WaSCs in relation to export trades. We agree this may add a further distortion to the market and this would be inappropriate at this time.

The other proposals looking to address wider Issues identified, most notably on the bidding market, strengthen the incentive on companies to engage with the market and protect customer interests.
We have seen limited growth in trading incentives achieved by companies in the water resources market. The biggest blockers to sludge trading remain environmental regulatory uncertainty and gate price comparability, plus resilience, blockers which a trading incentive will do little to address.

Other issues: Cost of Capital

As Jacob confirms in its findings, "*The Bioresources weighted average cost of capital (WACC) is below that which third parties would typically seek for similar investments, which may limit water companies' ability to engage these suppliers…",* and *"The AMP 7 WACC is 4.98% nominal. However, our experience shows that for a third party the WACC would be at least 8-9% nominal on a comparable project. The gate fee is highly sensitive to the WACC and so an equivalent third-party solution may cost more per unit…"* concluding *"For incumbent Bioresources functions and third parties to compete using the same cost of capital, they must both carry the same level of risk and the level of risk must be correctly translated into a risk premium…"*

We also observe a notable difference between the cost of capital allowed by BEIS in developing renewable energy support tariffs/mechanisms and that provided by Ofwat for bioresources at PR19. But there are legitimate risk related reasons for these cost of capital differences.

We therefore support Jacob's suggested improvement to enable better risk alignment between in-house and external capacity (see above for our agreement on Jacobs recommendation R10).

We agree that competition should not be promoted by unduly raising the allowed return on capital. However, we also believe the cost of capital for bioresources should reflect the differential risks associated with the bioresource business unit, the introduction and design of the bidding market and the proposed nature of the bioresource price control. The allowed cost of capital should ensure appropriate levels of investment within the sector without overcompensating investors at the expense of customers.

In an Ofwat commissioned report on risk and reward across the water and sewerage value chain, PWC stated in 2015 that:

> *"The decision as to whether to apply differential betas in the context of segmental controls will need to consider further analysis as well as the variation in the estimation of beta across companies and over time."*

Ofwat should reinvestigate this differential beta consideration further, irrespective of the need to also consider the potential impact on the bioresource cost of capital of the proposed bioresource market/regulatory reforms including:

- recognising that future post-2020 RCV is at a different risk stage, as compared to pre-2020 RCV, whole project hurdle rate considerations may now be relevant to the nascent new capacity bid market (see Issue 1);
- potentially including long-term third party contract revenues originating from the new capacity bid market in Ofwat's PR24 challenge exercise (see Issues 1 and 3)
- the proposed potential use of gate fees (average revenues) instead of the current modified average revenue formula (see Issue 3) thereby increasing bioresource revenue volatility; and
- providing for the ongoing regulatory risks of an unprotected post-2020 RCV (see Issue 3).

We consider that a more detailed and nuanced consideration is now required on these fundamental regulatory matters.

Other issues: Double Funding and Pricing of Trades

Ofwat discusses some concerns that 'double funding' could occur where assets funded by wastewater customers created excess capacity that could be used in import trades and a future open co-digestion market. Ofwat does not see this as a present risk as excess capacity is limited; transfer pricing rules should be followed to protects customers interests; and that a share of profit would be passed back to customers through price controls.

We agree, in the short term this is not a significant problem.

Ofwat then confirms it is not convinced it should change its transfer pricing guidance or provide additional bioresources pricing guidance to companies in relation to this risk. Again, we agree, although more detailed guidance may be required in the future.