

PR19  
Ofwat  
Centre City Tower  
7 Hill Street  
Birmingham B5 4UA

By email only

4<sup>th</sup> May 2018

Dear Cost Assessment team

### **Cost modelling consultation response**

We are pleased to submit our response to the cost modelling consultation. In line with our approach over the last year, we have worked with our academic advisor, Professor David Saal of Loughborough, on this response.

We are grateful to Ofwat for the open and collaborative approach it has taken towards cost modelling at PR19. In particular we welcome Ofwat's willingness to publish its initial draft models as a starting point for discussion.

In this response, we are only addressing the wholesale botex models due to lack of time. We intend to submit further responses on the retail and enhancement models as soon as is feasible. In the meantime we note the very high level of variability which characterises the published enhancement models. In the context of relatively simple models, this does not surprise us: our experience has been that while it is possible to develop worthwhile enhancement models, they require a very large number of cost drivers to make them work; drivers which we found possible to create internally given the availability of our own data but which could not be replicated for other companies given the lack of comparable detailed (project by project) data.

We have a few overarching points to make about the published models.

1. We strongly believe that demographics and geography are the most important key exogenous drivers of costs in the water industry. We set out in our Update report on cost modelling published in March 2018 how these factors can be incorporated into viable, economically (and econometrically) sound cost models.

2. We also believe that the insight we set out in our report regarding Wastewater Integrated and Network Plus models is both important and novel- that it is the size of the *average* sewage collection and treatment system and not the aggregate size which is the key cost driver for wholesale wastewater.
3. We welcome the focus on botex cost modelling in this consultation and note that generally the totex models perform less well than the botex models.
4. The sparsity and density measures developed by Ofwat through the Cost Assessment Working Group appear to work better than more conventional passing distance measures of density. Given this, it is a pity that the Ofwat measures were not more widely used in its own models.
5. Regional wages as a variable continue to perform poorly. Although we recognize the theoretical rationale for using a regional wage variable, we also recognize the fact that time after time they fail to show significant coefficients.
6. With regards to multicollinearity, there appear to be some very surprisingly low VIF figures quoted in models which have squared or interaction terms. More broadly, we are concerned that models with high VIF may be rejected out of hand even though multicollinearity does not bias the model result and it is the model result (rather than the individual contributions from specific cost drivers) which is important in the context of the Price Review.

We are very keen to continue working together with Ofwat to refine the models to be used at PR19. We hope that it will be possible to discuss the cost modelling report we published just before the opening of this cost modelling consultation with Ofwat.

With this letter I attach our completed consultation response sheet and a short document giving our detailed comments on Ofwat's draft models.

Please do not hesitate to contact me if you have any queries about our submission.

Yours sincerely



**Alex Plant**  
Regulation Director  
Anglian Water