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Letter of assurance regarding the costs proposed under NWL's PR24 Business Plan

Instructions

Northumbrian Water Limited (NWL) has instructed Economic Insight Ltd (EI) to undertake an assurance review of the costs proposed within its PR24 Business Plan. Accordingly, this letter sets out the scope of our review and our findings, in which we confirm the nature of the assurance we are able to provide.

Scope

In relation to scope, we have reviewed NWL's proposed costs as to the following four considerations:

- Firstly, the extent to which the approach NWL has taken to developing its proposed base costs is consistent with Ofwat's published Final Methodology for PR24.
- Secondly, the extent to which the approach NWL has taken to developing its proposed base costs accords with best practice.
- Thirdly, the extent to which NWL has implemented its determination of proposed base costs (as per its overarching approach) in a manner that is robust and reliable.
- Fourthly, the extent to which NWL's overall strategy and approach to quality assurance and governance (as regards its base cost data) is fit for purpose.

In addressing the above matters, we have specifically considered NWL's proposed 'base' costs. In doing so, we have considered in particular detail NWL's approach to determining the 'catch up' efficiency challenge applied to its base costs; and its approach to real price effects (RPEs).

Outside of the scope of our review has been an assessment of whether NWL has populated the relevant final Ofwat data tables accurately. Nor do we comment on whether we consider that the overall efficiency challenge NWL has adopted under its Plan is appropriate, that being a matter for the company (which we comment further on subsequently).

Our findings

Turning to each of the above four matters in turn, and following our assurance review, our findings are as follows.

Consistency with Ofwat's method

In relation to NWL's approach to setting **base costs,** the approach taken by NWL is consistent with the guidance in Ofwat's Final Methodology. Specifically, NWL has taken an approach which: (i) appropriately identifies 'modelled base costs' and applies an efficiency challenge to those costs; (ii) separately identifies and allows for 'unmodelled base costs' (noting NWL has correctly classified the following as unmodelled: pension deficit recovery costs; business rates; abstraction and discharge charges; Traffic Management Act costs; wastewater Industrial Emissions Directive; third party costs; and non-section 185 diversions costs); (iii) takes into account changes in cost drivers over the PR24 time period; (iv) allows for 'growth' related expenditure; and (v) considers the impact of real price effects (i.e. inflationary pressure relating to individual cost items, which might differ from that within CPIH).

Consistency with best practice

In relation to its determination of **base costs,** our view is that NWL's overarching approach is consistent with best (and established) practice. Specifically, in determining the efficiency of its base costs, the company has considered both its scope to make catch-up gains (relative efficiency) and gains from ongoing productivity improvements (known as frontier shift), which is appropriate. In determining the former, the company has relied upon a statistical benchmarking approach. In doing so, the company has used Ofwat's published suite of econometric models, and has 'triangulated' (taking an unweighted average of the implied efficiency estimates they give) across them. Without commenting on the merits of Ofwat's models, drawing on a suite of models is good practice, because it recognises that any individual model may have certain strengths or weaknesses; and it can be difficult to determine whether one objectively provides a more accurate assessment of a company's efficient costs than another. In addition, by taking a straight average across them, NWL is not applying any subjective judgement as to the relative merits of individual models.

NWL has set itself an 'upper quartile' efficiency challenge in relation to its relative efficiency (on base costs). We also consider that this is consistent with best practice. The underlying principle is that actual companies may be (relatively) inefficient, and so should include an efficiency challenge, which 'closes the gap' to the efficiency frontier for the industry. As no statistical model is perfect, in practice, if one were to set an unadjusted catch up efficiency target based on the frontier (most efficient) firm, one would strictly overstate the true appropriate efficiency challenge. Therefore, some adjustment must be made for this measurement error.[1] In earlier price controls, this was done by taking the frontier firm as the reference point (i.e. setting a 'frontier challenge') and then reducing the implied % catch up efficiency target in two steps.[2] More latterly (in PR14 and PR19) the catch up efficiency challenge was generally set by Ofwat relative to the upper quartile, in order to capture the same measurement error concern. By definition, the 'amount' of measurement error under any econometric modelling approach is unobservable. Therefore, objectively, one cannot say whether taking the upper quartile (or any other) benchmark appropriately takes this into account. That is to say, predicted efficient costs for companies may be over, or under, stated, under any benchmark.[3] In this context, in our view particular attention should be paid to the predictability of the regulatory regime, which affects the risk-reward balance for investors, especially over the long term. In this context, we would highlight that the CMA in its PR19 redeterminations adopted an upper quartile benchmark, explaining that (in its judgement)

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[1] *By which we are primarily referring to the fact that, under benchmarking analyses, model residuals are interpreted as being 'inefficiency'. However, they strictly just measure variation in the dependent variable (predicted costs) not explained by other modelled variables. Therefore, that unexplained variation may not solely relate to inefficiency, but may also reflect omitted variables under the models.*

[2] *Firstly, reducing the size of the model residuals; secondly by making a further (subjective) % reduction to the implied efficiency gap, typically 50%.*

[3] *Other than the frontier, which by definition must strictly understate 'true' efficient costs as it takes no account of measurement error.*

this appropriately reflected modelling imperfections and was consistent with relevant precedent. Therefore, in our view, NWL's approach regarding catch up efficiency is entirely reasonable (as a way of proxying the efficiency frontier).

In relation to the ongoing efficiency challenge (frontier shift / productivity) NWL has set itself a target of 0.8% pa over PR24. We understand that this is informed by recent regulatory precedent (and, indeed, is *broadly* consistent with the challenge the company set itself at PR19). In this regard, we would highlight that this figure is at the top end of our own estimated 'plausible range' for industry frontier shift at PR24 (which we found to be 0.3% to 0.8% pa).[4] Specifically, a challenge of 0.8% pa is at the upper end of what productivity could 'plausibly' be for the water industry; or, indeed, for almost any industry in the UK (noting that UK productivity has been close to zero for around a decade and a half). There is, therefore, a risk that this aspiration is highly challenging for NWL. However, this may be rationalised if the company has good reason (and evidence) to believe that future productivity will be greater than in the recent past.[5] For example, one such way an increase in productivity might be rationalised is if the company were to both increase investment, and moreover, target that investment at specific projects it expects to deliver significant productivity gains. More innovative projects are often higher risk, and so we note that the plausibility of this rationale will likely interact with the allowed rate of return (WACC). That is to say, it is perhaps more plausible if the WACC is objectively 'higher', reflecting a riskier mix of projects, relative to prior determinations. Conversely, were the allowed return not to reflect this, it is more difficult to rationalise such a high productivity assumption. There may be other rationale for electing a 'high' frontier shift challenge; but nonetheless, overall, our view is that this is a highly challenging goal for NWL.

Considering the totality of an upper quartile catch up efficiency challenge (noting that this is, in effect, a frontier challenge), combined with a 0.8% frontier shift challenge, our view would be that, were NWL to achieve this, it would be providing excellent value for money to its customers, from a 'base costs' perspective.

When forecasting base costs over PR24, NWL's approach uses forecasts of cost drivers from credible third-party sources. This is also standard good practice. In forecasting base costs, it is further important to take inflationary pressure into account. NWL's approach does this and, moreover, its approach to factoring individual inflationary pressure is sound (where appropriate, also relying on credible independent forecasts).

Robustness and accuracy of implementation

We have further reviewed how NWL has *implemented* its approach to determining its costs in practice, to verify its robustness and accuracy. Here, we are able to confirm that NWL has:

- Accurately determined its relative efficiency, as implied by averaging across Ofwat's published suite of benchmarking models. This includes us verifying that: the relevant input data has been accurately mapped from its underlying source into the model input dataset; and that the Stata (econometric software) code and other relevant calculations necessary to calculate NWL's relative efficiency using the models, is accurate.

- Accurately applied forecasts of cost drivers to its projections of modelled base costs.

- Accurately applied forecasts of growth to further inform its projected base costs.

- Accurately applied forecasts of inflation (where relevant) to inform its proposed RPEs (where they apply).

- Accurately applied its assumed frontier shift to its proposed costs.

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[4] *'An independent view on the scope for frontier shift in the water industry at PR24.' Economic Insight (April 2023).*

[55] *Notwithstanding our observation regarding the company's similar assumption over PR19, whereby actual industry productivity remained well below 1% pa over that period.*

- Accurately applied the combined impact of catch up efficiency; frontier shift; and RPEs (where appropriate) to its projected based costs over the PR24 period.
- Accurately implemented its assessment of unmodelled costs.

Overall strategy for data quality assurance and governance

Finally, we have considered and appraised NWL's overall approach to data quality and governance, as regards its costs. Here, our view is that NWL has put in place appropriate steps and processes to ensure that its final proposals are fit for purpose. These include: (i) having a clear audit trail of all data back to source; (ii) use of credible underlying sources; (iii) internal and external challenge and review; and (iv) verification sense checks.

Assurance statement

Following from the above, EI is able to assure that NWL's proposed base costs are consistent with Ofwat's methodology; and furthermore, have been developed using an overall approach (and specific analytical techniques and evidence) that is fit for purpose and in-line with best practice. In our view, NWL has implemented said approach (and specific methods relied upon) accurately.

We note that the use (and accurate implementation of) appropriate methods nonetheless affords companies a degree of discretion in the overall determination of their proposed costs. Those choices are a matter for NWL, and so we do not comment on them (nor, therefore, the overall efficiency of the company's proposed costs) within the scope of this review. Moreover, the appropriateness of cost proposals cannot be considered in isolation, as they may (in part) also be a function of NWL's: (i) proposed outcomes targets (service quality); (ii) cost structure (including capital structure), due to potential trade-offs between higher investment in order to drive lower opex; and (iii) risk-reward balance (as this affects the scope and nature of investment the company may undertake, which may in turn impact its ability to realise productivity gains). The company should, therefore, consider its overall cost proposal in this wider context.

I am happy to confirm that the above is the independent opinion of EI, having undertaken our review.

Yours sincerely,

Sam Williams, Director