

PC21 Capex ‘Minded To’ Methodology

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Chapter 1 - Background

1.1. Context

- 1.1.1. The purpose of this document is to detail the expected approach when determining either capital maintenance or enhancement at PC21 for NI Water through use of some econometric, procurement audit and / or frontier shift modelling.
- 1.1.2. It is important to stress that the Regulator **cannot fetter its discretion** at this stage. This means that methodologies or decisions cannot be finalised until receipt of NI Water's PC21 submissions and our determinations. To do so may result in adopting a suboptimal approach. This could in turn have a harmful impact on either consumers or NI Water.
- 1.1.3. This methodological note provides information on:
 - frontier shift;
 - re-fresh of PC15 procurement efficiencies audit;
 - modelling approaches; and
 - setting capital maintenance and enhancement
- 1.1.4. Whilst decisions remain to be made, our 'minded to' approach provides the company with information on options being considered and intended methodology.

Chapter 2 - Modelling Approaches

2.1. Introduction

- 2.1.1. Building on our engagement to date, CEPA drafted two important short papers with the Regulator as regards to our PC21 Approach to Opex Efficiencies.
- 2.1.2. These are included here along with this 'minded to' approach document as they provide a useful although broad indication of the likely modelling strategy we would be 'minded to' adopt for any capex econometric modelling:
- UR PC21 Modelling Strategy Short Paper (December 2018 draft)
 - UR PC21 Assessing Model Robustness Short Paper (December 2018 draft)
- 2.1.3. Both documents would be expected to form the building blocks of econometric capex modelling in PC21. Even when econometric models are expected to be used mainly for maintenance costs, the spirit underpinning these documents should be also followed in the development of any form of model to be applied for Enhancement expenditure.
- 2.1.4. In addition, a useful early short note from CEPA is included (see PC21 CEPA Options for Measuring Capital Efficiency) which examines the potential options for modelling capital maintenance and enhancement at PC21. The note is included here in the interests of transparency and to help drive the engagement process at CAWG further forward.

2.2. Modelling Capital Maintenance

- 2.2.1. Our PC21 Approach to Asset Maintenance paper details a variety of techniques¹ which we intend to be used to assess capital maintenance including, but not limited to, for example:

Technique 2 – Projection of historical expenditure

- time series forecasting; as well as
- forecasting using unit cost techniques

Technique 3 – Econometric analysis of historical expenditure by other companies

¹ Our Approach to Asset Maintenance of 19 October 2018 identified and reviewed eight generic asset maintenance techniques.

- 2.2.2. The Regulator is 'minded to' triangulate estimates using a combination of these models, including **Technique 2** and **Technique 3** (the two techniques which use econometric modelling techniques).
- 2.2.3. One such method is the use of econometrics to calculate an efficient amount of capital maintenance to compare to the company's own estimates in their PC21 Business Plan.
- 2.2.4. The aim of the models is not to establish relative efficiency. Rather, the analysis is intended to be used to determine an econometric prediction of the level of spend NI Water could be expected to incur at, for example, upper quartile performance.

2.3. Modelling Capital Enhancement

- 2.3.1. Further examination of the options for modelling capital enhancement have been explored at CAWG with the company. To date, we have made very limited progress given the inherent difficulty for benchmarking such lumpy expenditure.
- 2.3.2. We note the company's suggestion that a bottom-up review of enhancement expenditure within the PC21 Business Plan is, "likely to be the only suitable means of assessment".

2.4. Modelling Adjustments

- 2.4.1. A number of adjustments will be required to complete such an analysis. With respect to these decisions the Regulator is 'minded to':

- **Regional adjustments** – apply the local Regional Price Adjustment (RPA) to predicted costs. The proportional application of this RPA to infrastructure and non-infrastructure spend would need to be accounted for also.

Building on our development of the RPA during previous price controls, we shall consider whether and how to incorporate a PC21 RPA into our various and triangulated approaches, specifically capital maintenance (see PC21 Approach to Asset Maintenance). This will allow us to examine cost differences and take into account for example N Ireland's comparative advantage in such areas as aggregates and construction wages, as well as any cost disadvantages, material to PC21.

The calculation and proportion of costs to which the RPA will be applied will be subject to ongoing engagement with NI Water through our Cost Assessment Working Group (CAWG) process.

We would intend to provide the company with an indicative RPA number during 2019 and would wish to agree a more precise milestone date through the CAWG.

Our indicative RPA would examine the proportions to be applied to inform company drafting of their PC21 Business Plan.

- **Levels of spend** – consider the use of frontier or upper quartile expenditure levels as the basis for NI Water predicted spend. The Regulator considers movement towards the upper quartile as a reasonable expectation² as the company develops and improves efficiency in this its forth price control.
- **PPP** – apply PPP adjustment(s). This will likely be required as PPP works will be included in the asset base which contribute to predicted costs. The corresponding cost however should not be included as their maintenance would be expected to be provided for within their opex unitary charges.

Separate considerations would be required across the three forms of PFI/PPP NI Water continues to manage (Alpha, Omega and Kinnegar PFI), noting Kinnegar PFI will reach the end of its contract during PC21.

- **Special factors and atypical expenditure** – give consideration to any special factors and atypical events which will impact on NI Water’s capital spend in either positive or negative fashion.

As with previous price controls for NI Water, we would be content to consider any relevant special factors which the company might choose to submit. For example, there may be factors outside management control which are contributing to NI Water costs to a greater extent than other companies and/or there may be factors which the company consider are material to their costs which they consider are not adequately reflected in modelling cost drivers.

The special factors process and consideration at CAWG would likely require the same timetabling of submission dates and feedback from Regulator as proposed for opex (see PC21 Approach to Opex Efficiencies). We are open to some flexibility around timetabling with regard capital expenditure models.

Such flexibility around timetabling can be agreed at CAWG meetings where capital expenditure modelling progresses through 2019. A separate timeline for submission of special factors claims is being developed (through CAWG) to include the following two stages:

- draft special factors submission from NI Water to the Regulator for initial “comprehensibility” feedback; prior to
- final special factors submission by NI Water on submission of its PC21 Business Plan

In order to be awarded a special factor, NI Water must as in previous price controls, adequately demonstrate:

² Previously at NI Water price controls and following the old OFWAT approach to opex econometric modelling prior to PR14, the Regulator would have calculated the efficiency gap to “frontier” company (not necessarily the company with the least comparable costs if deemed an outlier) and after significant discounts had been applied to the efficiency gap (to account for potential biases inherent in the modelling process).

- what is different about the circumstances that cause materially higher costs (“material” claims have previously been agreed by company and Regulator as those individual claims which amount to greater than 1% modelled expenditure)?
 - why these circumstances lead to higher costs?
 - what the net impact of these costs is for prices over and above that which would have been incurred without these factors?
 - what the company has done to (i) manage the additional costs arising from such different circumstances and (ii) limit their impact?
 - are there any other different circumstances that reduce the company costs relative to industry norms? If so, have these been quantified and offset against the upward cost pressures?
- **Frontier shift** – apply the frontier shift to predicted costs. The Regulator continues to presume there is scope for continuing efficiencies on behalf of consumers.

It is the intention of the Regulator to undertake its own analysis of frontier shift. This is likely to mirror the approach first introduced for opex at PC13 (and proposed in our PC21 Approach to Opex Efficiencies). The assessment will consider inflation, real price effects and productivity (tailored to the kinds of cost included in maintenance and enhancement activities).

- 2.4.2. Alternative modelling has yet to be completed. This document does however give a steer on the issues mentioned above and the Regulator’s intentions at this time.

2.5. Engineering-economic Review

- 2.5.1. A procurement efficiency approach may also be relevant to capital maintenance and/or capital enhancement.
- 2.5.2. We will also consider whether our PC15 engineering-economic review of NI Water’s procurement processes might benefit from a refresh at PC21, to indicate the scope for and extent of any remaining procurement efficiencies that the company might deliver across the PC21 period.
- 2.5.3. We would expect the company to submit as part of its Business Plan its own view of where? and when? it would make further capital efficiencies across PC21, especially those derived from new and /or improved procurement practices.

Chapter 3 - Setting Capital Enhancement and Maintenance

3.1. Capital Enhancement

- 3.1.1. A bottom-up assessment of capital enhancement unit costs is likely to be the primary method involved in determining expenditure.
- 3.1.2. The Regulator will consider giving weight to alternative modelling assessments if these can be developed during 2019 through the CAWG engagement process with company. These may include, for example, some kind of simplified Cost Base approach for specific areas of costs.
- 3.1.3. In terms of informing enhancement expenditure via modelling at PC21, the Regulator is 'minded to':
- **Glide path** – consider the extent of any required reduction to arrive at our estimated values and specifically whether (i) this is immediate at the beginning of the PC21 period or (ii) allowed over a period of time greater than a single year.
We shall consider further the reasonableness of such an approach given PC21's 6-year duration and company plans³.
 - **Frontier shift** – apply frontier shift targets in any event, based on a separate frontier assessment. The Regulator continues to presume there is scope for continuing efficiencies on behalf of consumers.

3.2. Capital Maintenance

- 3.2.1. It is the intention of the Regulator to assess NI Water's capital maintenance plan using the methods outlined in our PC21 Approach to Asset Maintenance to determine the efficient level of expenditure⁴.

³ For example, it would be important to distinguish between entirely new enhancement projects and those where some historical data is available. The latter might then lend itself to a run-rate analysis or some form of unit cost comparison (equivalent to the old Cost Base approach where funding at median or upper quartile industry performance was a key consideration).

⁴ In setting PC21 efficiency targets relating to both opex and capital maintenance we may, as previously stated in Our Approach to PC21 document, "consider the application of more recent Ofwat modelling which combines operational expenditure with base or capital maintenance (botex modelling)".

3.2.2. In the event that NI Water's maintenance costs are higher than projected spend, the Regulator is minded to:

- **Glide path** – consider the extent of any required reduction to arrive at our estimated values and specifically whether (i) this is immediate at the beginning of the PC21 period or (ii) allowed over a period of time greater than a single year.

We shall consider further the reasonableness of such an approach given PC21's 6-year duration and company plans.

- **Frontier shift** – apply frontier shift targets in any event, based on a separate frontier assessment. The Regulator continues to presume there is scope for continuing efficiencies on behalf of consumers.

Chapter 4 - Conclusions

- 4.1.1. This annex details the 'minded to' approach to capex efficiency at this early stage.
- 4.1.2. Whilst decisions remain to be made, our 'minded to' approach provides the company with information on options being considered and our intended methodology.
- 4.1.3. We would intend to continue discussions around the development of the above as part of our ongoing CAWG engagement process. So far in 2018 and first quarter 2019 the CAWG is meeting at least monthly.