



**Gladstone Area
Water Board**

17 September 2021

Mr Charles Millsteed
Chief Executive Officer
Queensland Competition Authority
GPO Box 2257
Brisbane QLD 4001

Transmission via: www.qca.org.au/submissions

Inflation Forecasting Review 2021

Dear Mr Millsteed

The Gladstone Area Water Board (GAWB) appreciates the opportunity to respond to the Queensland Competition Authority's (QCA) 2021 Inflation Forecasting Review Draft Position Paper (Draft Position Paper). GAWB is supportive of this review, given the material nature of the issue for both regulated businesses (i.e. for the purpose of investment signals, financial viability) and customer prices.

GAWB has previously contributed to the QCA's 2021 Inflation Forecasting Review, through its submission to the Inflation Forecasting Issues Paper (Issues Paper) and this submission reiterates the positions from GAWB's previous response. GAWB's submission on the Draft Position Paper is set out in the attached.

If you wish to discuss any of the issues raised in our submission, please do not hesitate to contact Justine Kenny on 3020 8018.

Yours sincerely,

Angela Moody
Chief Financial Officer

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GAWB response to QCA's Draft Position Paper

In responding to the Draft Position Paper¹, GAWB has structured this submission in line with the issues identified in Table 1 of the Executive Summary of the Draft Position Paper.

Inflation objectives

GAWB supports the QCA maintaining its existing inflation objective of targeting a real rate of return on investments for regulated infrastructure assets. However, it should be recognised that, in practice, achieving this important objective is only possible to the extent that the QCA adopts a robust inflation forecasting methodology that reliably tracks actual inflation over time.

In the absence of a robust inflation forecasting methodology, the real return component of the nominal capital return will not be achieved because the adjustment to maximum allowable revenues and prices, used to target the real return, will be too big or too small. This will depend on whether the value of the inflation forecast used to make the revenue adjustment is materially higher or lower than actual inflation.

As noted in GAWB's previous submission, this element of the QCA's current inflation forecasting methodology is of significant concern. The consistent poor performance of the QCA's forecasting methodology over the past decade has meant that GAWB has not been able to achieve the targeted real rate of return on capital approved by the QCA at the start of each of the past two price determinations.

Further, this shortcoming has meant that the following statement by the QCA regarding its use of a real rate of return framework with associated minimisation of inflation risk has not been attained:²

A modelling framework with a real rate of return target maintains the real purchasing power of the investor and minimises inflation risk for both the regulated firm and customers.

Inflation forecasting term for capital revenue purposes

GAWB supports the proposed move to align the QCA's inflation forecasting period to the length of the regulatory period as indicated in our submission to the Issues Paper. This approach should reduce the level of uncertainty associated with longer term forecasting periods.

This is particularly the case where inflation expectations are highly uncertain and/or potentially subject to large change. GAWB considers the current inflation outlook as being highly uncertain given the economic effects of the Covid-19 pandemic, including disruptions to international supply chains, and associated significant government stimulus provided to the economy.

Different uses of expected inflation

GAWB supports the QCA using a mix of CPI, input-specific and asset-specific escalators for escalation purposes. These escalators should primarily be targeted to underlying cost drivers. To this end, GAWB sees merit in the QCA providing further guidance on the use of non-CPI

¹ QCA (2021), Inflation forecasting, Draft position paper, July

² QCA (2021), p5

forecasting approaches, including how non-publicly available information may be used in proposed inflation forecasting methodologies.

Operating and capital expenditure cost escalation

GAWB notes that CPI is the QCA's default escalator for operating and maintenance expenditure (opex) and capital expenditure (capex) escalators and that, in practice, the use of a non-CPI escalator for a specific cost or asset-specific input will need to satisfy a high threshold in order to be accepted by the QCA..

Use of non-CPI escalators

GAWB strongly supports the QCA's use of non-CPI escalators where the affected cost category does not closely track movements in CPI.

In this regard, the QCA has recognised that CPI is not a good indicator of inflation for some opex and capex components. For example, CPI inflation was not used by the QCA as an escalator for electricity and insurance costs in GAWB's most recent price determination.

As stated in our submission to the QCA's Issues Paper, GAWB considers that the identification of reliable unbiased estimators of inflation should be the overriding objective in the choice of forecasting methods.

In practice, GAWB considers that non-CPI escalators could be justified based on its performance against criteria reflective of good forecasting practices. This would include transparency on the basis of the proposed forecasting methodology, quality of the sources of information required to apply the methodology (whether public or private) and the methodology's reported performance over a reasonable period.

Ultimately, the onus will always be on the regulated entity to justify its prices to customers and this extends to the way in which it develops cost forecasts which ultimately flow through to prices.

Use of non-publicly available information in specific escalators

A high threshold for the use of non-CPI escalators is further reinforced by the QCA's concerns on the potential lack of transparency in regulated entities' use of proprietary models and/or non-publicly available data for an inflation forecasting purpose.

While GAWB agrees with the QCA's view that customers should be able to understand the basis on which their prices are calculated, this does not mean inflation forecasts derived using some non-publicly available information should be rejected based on this reasoning. Rather, the test should be whether there is sufficient supporting information and explanation of the model outputs and/or data associated with the inflation forecast such that its basis is clearly understood by the QCA.

The development of forecasts based only on publicly available sources should not be favoured if this means that poorly performing forecasting approaches are adopted. Such an approach effectively creates avoidable inflation risk for both the regulated entity and its customers.

To this end, GAWB considers that various forecasting approaches for specific cost inputs should be tested as part of regulatory reviews to ensure the best approach is adopted over time and that public availability of data should not be the primary criterion when determining preferred approaches.

Revenue/price smoothing

GAWB supports the QCA's draft position on using an estimate of expected CPI over the regulatory term to smooth allowable revenues and prices.

GAWB notes that the key underlying principle is that the regulated entity's prices are adjusted over the term of the regulatory period in a way that allows for the recovery of efficient costs as approved by the QCA in the price determination, which is consistent with the pricing principles in the Queensland Competition Authority Act 1997 (QCA Act). As such, the forecast CPI used for this purpose should align with the methodology used to inflate prices throughout the regulatory term.

Under GAWB's contracts with its customers, there is a provision for annual escalation of the QCA reviewed price, as determined at the start of the regulatory period, in line with actual Brisbane CPI movements over subsequent years of the period.

Inflation forecasting approach

Chapter 3 of the QCA's Draft Position Paper discusses the use of inflation forecasts under regulatory frameworks, as well as its proposed new inflation forecasting methodology having regard to possible alternative forecasting methodologies.

Importance of choice of inflation forecasting methodology

In adopting its preferred inflation forecasting methodology, the QCA must recognise that each regulated business has different regulatory mechanisms to deal with inflation risk. For example, some regulated businesses such as GAWB, have none. Furthermore, that a generic approach to inflation forecasting will present different risk profiles to each business. Hence, it is critical that the chosen forecast methodology is a good, unbiased predictor of actual inflation over time.

In this regard, the QCA's current forecasting approach has proven to be an unreliable forecasting methodology that has had a real adverse financial impact on GAWB over the last decade. While GAWB recognises that the QCA's proposed revised forecasting methodology is likely to result in an improvement on the current approach, GAWB still believes that alternate methods, like market-based inflation expectations, would provide a better estimation of actual inflation and thus minimise the real financial risks for GAWB and customers.

These issues are explored further in the sections below.

Purpose of inflation forecasts

The QCA's Draft Position Paper makes the following contextual statement regarding inflation forecasting approaches:³

Expected inflation is a forward-looking concept and it is not about actual inflation outcomes. If the actual inflation outcome diverges from an expected inflation estimate, this does not mean the estimate was incorrect. Divergences will occur due to unexpected inflation outcomes, for which we are seeking to provide compensation under our regulatory framework.

³ QCA (2021), p16

The QCA further clarifies that unexpected inflation outcomes are the difference between actual inflation outcomes and the true level of the market's inflation expectations.

GAWB agrees with the QCA that expected inflation is a forward-looking concept. However, GAWB disagrees with the QCA's apparent de-linking of actual inflation outcomes from inflation expectations simply on the grounds that divergences occur due to unexpected inflation outcomes. Further, the statement that the QCA is *seeking to provide* compensation is incongruous with GAWB's regulatory framework; as noted above.

GAWB agrees that inflation expectations may prove to be wrong given the potential for unexpected economic shocks to periodically affect actual inflation outcomes. However, this is not the same issue as an inflation forecasting approach (serving as a proxy for inflation expectations) that systematically under or over-estimates actual inflation outcomes.

Critically in terms of the QCA's regulatory framework, the use of an inflation forecast to develop the regulated entity's maximum allowable revenue that is materially different to actual inflation outcomes, will create a wedge between the targeted and actual real rate of return earned by the regulated entity as part of its allowable nominal rate of return. Only if the same value of inflation is used to develop maximum allowable revenue and index the value of the regulatory asset base to establish its starting value for the next regulatory period, will the regulated entity earn its allowable nominal rate of return approved by the QCA.

If not, the wedge created between the targeted and actual real rate of return is effectively an inflation-related windfall revenue loss or gain to the regulated entity, with its customers benefiting from any windfall revenue loss (at least in the short term) or losing from any windfall revenue gain. In other words, there is no mechanism under the regulatory framework applied to GAWB that allows for ex-post revenue or regulatory asset base revaluation adjustments associated with the removal of inflation forecasting errors. This represents unmitigable inflation risk for both the regulated entity and its customers that is created by the economic regulator's inflation forecasting approach.

GAWB considers that the potential for an economic regulator's inflation forecasting approach to create the potential for windfall revenue gains and losses is greater when it has little or no regard for market inflation expectations. This is the reason why GAWB has previously argued that the QCA should place more reliance on market-based measures of inflation expectations in determining its inflation forecasts.

QCA's proposed new forecasting methodology

Choice of an inflation expectations anchor point

GAWB considers that the QCA's proposed new inflation forecasting approach is likely to deliver better outcomes than its current approach that has delivered a downward biased forecast of CPI for a decade. This is consistent with the analysis that GAWB presented in its submission to the Issues Paper.

However, GAWB notes the proposed new approach is based on an assumed smooth glide path from a short-term RBA CPI forecast to an assumed anchor point at year 5 of the relevant regulatory period. The anchor point will depend on the RBA's forecast in year two of the relevant regulatory period as follows:

- if the RBA forecast is less than or equal to 2%, the anchor point will be 2.25%;
- if the RBA forecast is between 2% and 3%, the anchor point will be 2.5%; and

- if the RBA forecast is 3% or higher, the anchor point will be 2.75%.

While this approach is not based on the current forecasting methodology's 80% weighting applied to the 2.5% mid-point of the RAB's inflation target band, historical evidence suggests the QCA's proposed approach is similarly flawed, as CPI will almost never follow a smooth glide path to an assumed anchor point over a 5 year period.

Further, the QCA's proposed new forecasting approach is still fundamentally linked to the 2.5% mid-point of the RBA's inflation target band. GAWB argued in its submission to the Issues Paper that the 2.5% value is not an RBA inflation forecast, nor is the RBA setting Australian monetary policy with the aim of achieving this percentage value. To use this mid-point as an anchor to inform inflation forecasts in the later years of the regulatory period introduces similar flaws to those that exist in the QCA's current forecasting approach.

QCA's analysis of alternative forecasting approaches

GAWB questions the QCA's analysis regarding the respective merits of alternative inflation forecasting methodologies, including RBA-based and market-based approaches.

The QCA acknowledges that, since 2013, the break-even methodology has produced measures of expected inflation that were closest to actual CPI inflation. This is consistent with the analysis presented in GAWB's submission to the Issues Paper. Nevertheless, the QCA questions whether this superior performance is due to biases in the methodology. However, the same claim has not been explored for the RBA-based methodology over this period.

The QCA evaluated the RBA-based and market-based methodologies using two metrics, widely used to compare estimators:

- bias - which is the tendency for a forecast to be consistently higher or lower than the actual value, and
- root mean square error (RMSE) - which takes into account forecasting variances in relation to the average actual value.

In evaluating these methodologies the QCA considered two timeframes:

- 1993-present (coinciding with the commencement of inflation targeting by the RBA); and
- 2008-present (reflecting data limitations before 2008 for inflation swaps).

Using data from 2008 onwards, the QCA's Draft Position Paper analysis shows that the best performing methodology (in terms of bias and RMSE) for a 5-year forecasting horizon is the break-even approach, while the RBA-based method is superior for a 10 year forecasting horizon.

Based on this analysis the QCA's decision to retain an RBA-based approach is inconsistent with its proposal to align the forecasting term with the length of the regulatory period.

The QCA's draft position is also inconsistent with its commentary on page 31 of the Draft Position Paper, where it recognises the likelihood that structural changes in the economy may have resulted in inflationary pressures now taking longer to emerge than was previously the case. Furthermore, the QCA notes in Table 7 of its Draft Position Paper that market-based measures could have the capacity to respond more quickly to precisely such structural changes.

The QCA's draft position appears to have been guided, at least in part, by the observation that the RBA methodology has performed better than the break-even approach since the commencement of inflation targeting in 1993, a period which covers a larger range of economic conditions.

In contrast, given the potential for structural change over time, GAWB considers that more emphasis should be given to inflation methodologies that have performed well under contemporaneous market conditions, with relatively less emphasis assigned to performance over the last three decades, which may no longer be representative of inflation dynamics in the future.

In summary, GAWB's view is that the best methodology is one which offers the lowest possible bias for the forecasting horizon. The relative bias of each candidate methodology should be evaluated based on predictive performance during market conditions that bear the closest resemblance to those that are most likely to prevail while the QCA's inflation methodology is in effect.

GAWB notes that this approach may require periodic changes in inflation forecasting methodology for a specific cost variable, recognising that potentially significant structural changes and economic shocks will take place in the economy over time and should be recognised in the choice of forecasting methodologies.

In this context, if the QCA decides to implement its proposed new CPI forecasting methodology, GAWB considers that the methodology's performance should be closely monitored over time with a view to it being changed expeditiously if its performance proves to be poor. This will ensure that inflation risk is minimised under the regulatory framework as intended, which is not being achieved under the current forecasting methodology.

Measure of inflation

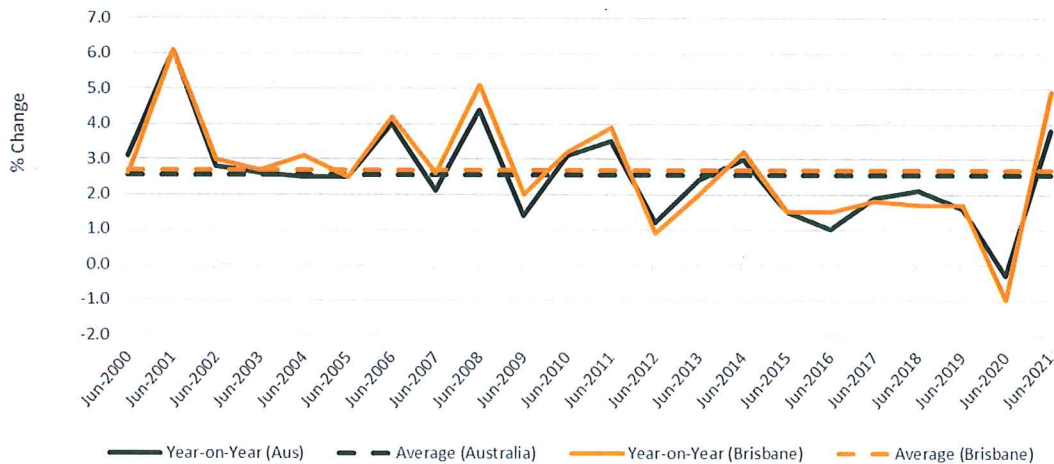
As noted in our submission to the Issues Paper, GAWB supports the QCA using headline CPI rather than trimmed mean estimates as the appropriate measure of CPI inflation in revenue and price modelling, other than in abnormal and transient economic circumstances. In GAWB's view, this approach would represent good forecasting practice.

National or Brisbane CPI

GAWB would prefer that the QCA uses Brisbane CPI for capital revenue purposes (i.e. inflation deduction and RAB indexation), and appropriate cost escalators, as this aligns with GAWB's customer agreements.

As illustrated by the following figure, Brisbane CPI has tracked Australian CPI closely on a year-on-year basis over the last two decades. Since 2000, CPI growth averaged 2.6% per annum for Australian and 2.7% for Brisbane.

Figure 1 Historical CPI movements for Australia and Brisbane



Data source: ABS

GAWB agrees there may sometimes be underlying cost drivers affecting the Brisbane CPI that are materially different to the national CPI inflation measure, although since 2000 this does not appear to have been the case. However, GAWB's bigger concern, as noted above, is the appropriate use of non-CPI escalators for opex and capex items whose costs do not grow closely in line with CPI movements. In practice, this will nearly always be a more important issue than any differences between movements in Brisbane and National CPI.

In addition, GAWB supports the QCA using the same measure of CPI (Brisbane or National) to make the revenue adjustment estimate to target the real rate of return and to index the RAB recognising the inextricable link between targeted real and nominal rates of return under the regulatory framework.