QUEENSLAND COMPETITION AUTHORITY

Final Report

SEQ Interim Price Monitoring for 2010/11

Part B – Detailed Assessment

March 2011

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1. QUEENSLAND URBAN UTILITIES

1.1 Ministerial Direction

Under the Ministerial Direction, the Authority must inform customers of the costs and other factors underlying the annual increase in water and wastewater prices, and distinguish the bulk and distribution/retail components to the extent that it is possible given the availability and reliability of relevant information (**Appendix A**).

The Authority must also monitor the revenues of Queensland Urban Utilities (QUU) water and wastewater activities against the maximum allowable revenue (MAR) determined by the Authority based on prudent and efficient capital and reasonable operating costs. Further, the Authority must advise the entities by 1 March 2011 and 1 March 2012 of the weighted average cost of capital (WACC) benchmark it will consider in 2011/12 and 2012/13 respectively.

1.2 Background

Queensland Urban Utilities (QUU) provides water and wastewater services to 1.3 million people in the Brisbane, Ipswich, Somerset, Scenic Rim and Lockyer Valley local government areas.

Key characteristics of QUU's service and asset base, as provided by QUU in its submission, appear in Table 1 below.

Table 1: QUU Service and Asset Base

	Brisbane	***Ipswich***	***Somerset***	***Scenic Rim***	***Lockyer Valley***	***Total***
Population	1,052,458	162,383	21,608	37,419	35,633	1,309,501
Residential Water Connections	399,922	61,482	4,178	5,025	10,172	480,779.
Non-Residential Waster Connections	30,687	4,217	518	2,210	531	38,163
Water reservoirs	42	29	9	19	16	115
Water supply network (km)	6,368	1,536	207	300	431	8,842
Wastewater network (km)	6,842	1,388	80	150	77	8,537
Wastewater treatment plants	9	4	5	6	4	28

Source QUU (2010).

A map of the area serviced by QUU is shown in Figure 1 below.

Figure 1: QUU Service Area

1.3 Prices

There is a wide range of prices set by QUU relating to the range of services provided to each of the previous council areas and customer groups in SEQ.

As noted previously, the Authority has not sought to review prices (or tariff structures) in detail in this first review but, for broad comparative purposes, notes the changes in average prices and residential bills. Average prices provide, at best, a broad overview of price changes.

Average Prices

QUU's average water and wastewater prices increased across all customer groups in 2010/11. For reasons identified further below, the average price charged by QUU differs from that implied by the Authority's analysis. Charts 1 and 2, and Table 2 refer.

Only a minor adjustment has been necessary to the estimates outlined in the Draft Report, with the Authority's estimate of the average water price falling from $3.46 to $3.45 per kl and the average wastewater price rising from $679.76 to $681.83 per connection. These variations reflect advice from the (then) Minister for Natural Resources, Mines and Energy and Minister for Trade regarding allowable establishment costs for 2009/10 (section 1.6) and changes to estimation of depreciation.

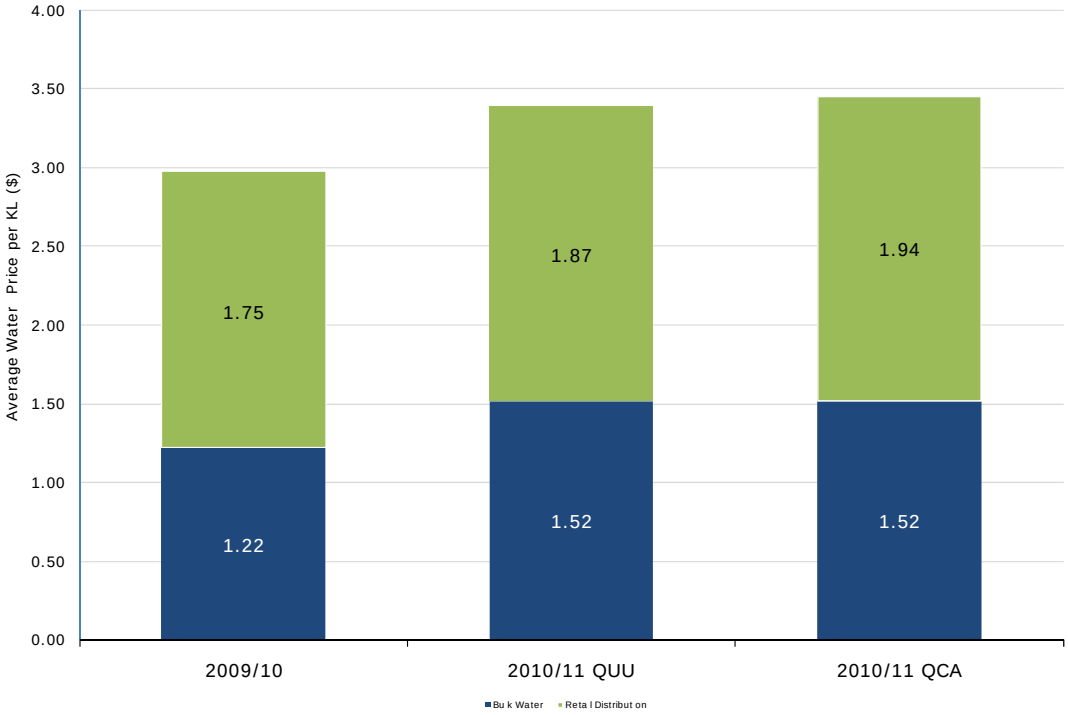
As noted previously, prices are not necessarily set by the entities on the basis of costs alone although QUU has advised that costs were the dominant driver in 2010/11. The Authority's previous monitoring of councils' prices indicated that councils did not always base prices on costs in previous years.

Also indicated is the share of average prices accounted for by bulk water charges (it is assumed that, based on the Government's policy, bulk water prices are passed through to customers in full). There is no material bulk component of wastewater prices.

Average prices were calculated by dividing total revenues by volumes – per kl (for water) and per connection (for wastewater).[1]

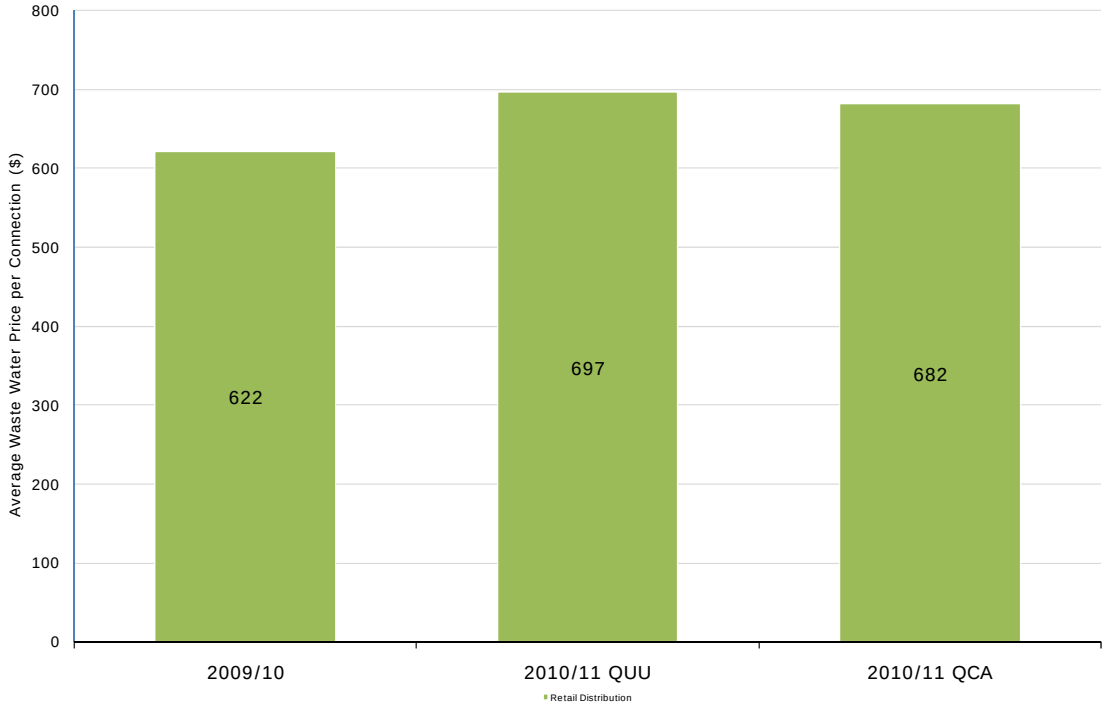
[1] The ABS adopts a similar approach to calculate an average water price in national water accounts – the ABS average price is derived by dividing a state's total residential water revenue ($) by residential water consumption (kL).(ABS, 2010).

Chart 1: Average Water Prices



Source QUU (2010), QCA (see section 1.1.3)

Chart 2: Average Wastewater Prices



Source QUU (2010), QCA (see section 1.13)

Table 2: Average Prices[ab]

	2009/10	*QUU 2010/11*	*QCA 2010/11*
Water ($/kl)	2.97	3.39	3.45
% increase compared to 2009/10		13.89%	16.12%
Wastewater ($/connection)	622.03	697.25	681.83
% increase compared to 2009/10		12.09%	9.61%

[a] Average water price = Annual water revenue ($) / total kl sold . [b]Average wastewater price = Annual wastewater revenue ($) / total connections. Average QCA price = QCA MAR / QCA kL (water) or connections (wastewater). Note 2009/10 and QUU 2010/11 average prices are the same as in the Authority's Draft Report. The QCA 2010/11 figures have been updated since the Draft Report.

The Authority's analysis suggests even higher average annual water prices of $3.45/kL could be justified on the basis of costs alone for water. For wastewater, average prices appear too high when considered against the Authority's assessment of costs, which indicated an average price of $681.83. This largely follows from the Authority's adoption of higher, more recent estimates of wastewater connections than QUU used in setting prices. The more recent estimates were provided by QUU.

The Authority's average price is based on 2010/11 costs alone (the Authority's MAR). That is, the Authority's average price for 2010/11 reflects full costs estimated on an annual basis. Ideally, prices should be set, and smoothed, over a longer period to avoid large annual variations.

QUU indicated that significant work is required to reform tariffs across QUU. QUU further indicated that, in order to effectively commence this work, the pricing principles to be applied and the form of regulation need to be determined by the Authority, following consultation with all relevant stakeholders. While noting that the Authority will be shortly commencing this work, QUU was of the view that the timely resolution of these matters will be critical to QUU's ability to propose prices for the Authority to approve as from 1 July 2013.

The Authority proposes to progressively address these issues in consultation with relevant stakeholders. In the price monitoring period the entities retain control over prices.

Residential Bills

Total residential bills for household water and wastewater services increased across SEQ, except for in Somerset (Chart 3). Bill increases ranged from $37 in Lockyer Valley up to $134 in Ipswich. In Somerset, bills fell by $7.08, as a decrease in the wastewater bill more than offset the increase in the water bill.[2]

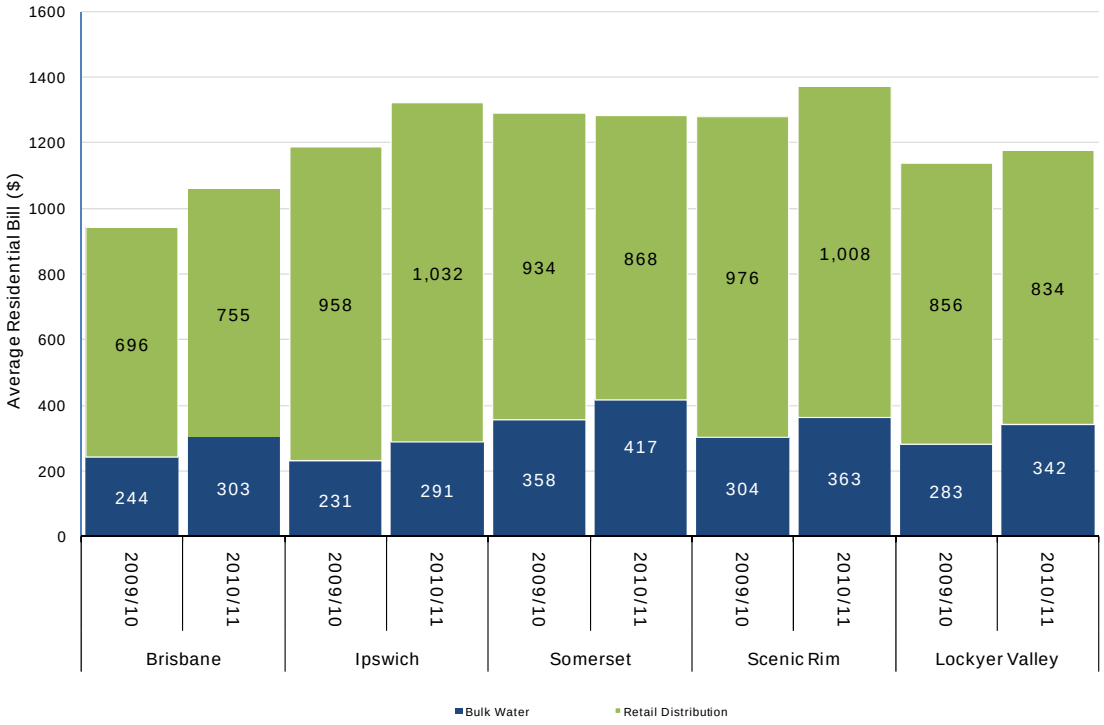
The residential bills used in the Authority's analysis were estimated on the basis of usage of 200kL of water per year, as this is the basis adopted for national performance reporting (NWC 2010). As there is no national standard for wastewater, the analysis was based on the approach adopted in each council area. For Somerset and Lockyer Valley this was one pedestal per household, in other council areas the bill is based on a fixed access charge.

[2] The Somerset bill fell as QUU applied any previous council discounts for early payment to 2009/10 fixed access charges before an increase in water and wastewater prices was applied. A 15% discount was applied to Somerset's 2009/10 fixed access charges before a 5% increase in water prices and a 10.5% increase in wastewater prices was applied. The Authority has used published prices for its calculations.

Bulk water accounts for a smaller proportion of residential bills than for average water prices as the residential bill includes water and wastewater, and wastewater has no bulk water component.

The Authority did not calculate a residential bill consistent with Authority estimates of efficient costs in 2010/11, as the Authority's assessment of costs in this review period has only been able to be undertaken on an aggregate basis, rather than by customer group as there is no alignment of costs with individual tariffs.

Chart 3: Total Residential Bills



Notes Based on metered usage of 200kL per annum and one pedestal (where relevant). The retail/distribution component includes water and wastewater. Somerset data does not include Kilcoy. Lockyer Valley data is based on connected households receiving full pressure, and excludes Forest Hill. No early payment discounts were applied.

1.4 Demand

The cost of providing water and wastewater services is affected by the quality and the quantity of the services provided.

For the purposes of the current review, the Authority has accepted the current standards of service. Details of those standards are addressed further below.

Estimates of demand for water and wastewater have a direct impact on the prudency and efficiency of operating and capital expenditure.

QUU's submission

QUU forecasts water demand, sewage volumes and recycled water usage on an annual basis. QUU submitted that these forecasts are based on the latest available data and growth rates, correlated with projections developed for the Queensland Government by the Queensland Water Commission (QWC), primarily through its South East Queensland (SEQ) Water Strategy.

Subsequent information provided by QUU indicates that the demand estimates in their submission are consistent with those at the time of price setting.

QUU stated that the major drivers of annual demand are:

(a) population growth – these are drawn from the Queensland Government's Population Information and Forecasting Unit (PIFU), the SEQ Regional Plan, town planning decisions made by shareholding councils and the Urban Land Development Authority, and requests and feedback from QUU's major customers;

(b) industrial and commercial growth – QUU stated that, in the Brisbane and Ipswich districts, this constituted approximately 41% of the 2008/09 total customer demand;

(c) water restrictions and water efficiency – while anticipating that reductions in water use due to the drought and the resulting water restrictions will continue in the short term, QUU is forecasting some upward creep to a plateau of between 200-230 litres per person per day (L/p/d) and has set its infrastructure design standards accordingly. This target has been set in consultation with the QWC; and

(d) non-revenue water – QUU noted that bulk water purchases and volumes billed to customers differs as a result of background leakage, legal unmetered use (e.g. for fire fighting), illegal use (theft) and meter inaccuracies (generally resulting in under billing). QUU noted that the SEQ Pressure Leakage Management Program has reduced non-revenue water by around 29 ML/day or 22 L/p/d. The program is due to end between 2010 and 2012 and savings will taper off. Further, QUU noted that meter replacements are improving meter accuracy and reducing the quantity of unrecorded consumption.

Authority's Analysis

The Authority engaged Frontier Economics (Frontier) to review the appropriateness of QUU's demand forecasts for water and wastewater activities from 1 July 2010. Frontier was required to determine whether the demand forecasts have been developed using appropriate forecasting methodologies and reflect reasonable data assumptions.

General Approach

Frontier reviewed the key drivers of demand. In addition to those set out by QUU in their submission, Frontier noted that dwelling demographics, temperature, rainfall, prices and pricing structures can also affect demand.

Frontier considered that the relevance of each driver should be determined using a progressive selection process that takes into account the statistical significance of each variable.

Data Adequacy

The Authority requested data on past and forecast demand by deemed category in its information requirement for 2010/11. In particular, the Authority requested that a demand forecast for each tariff or tariff component be provided.

In undertaking its review, Frontier noted that SEQ water has recently undergone significant structural reform and, while such reform is expected to ultimately benefit water users, relevant historical data is not always available or has not been transferred from councils to the entities, making forecasting difficult.

Frontier noted that QUU did not provide historical data (except for Brisbane) or forecasts of demand for each tariff component. Frontier also noted that QUU's pricing is based on average usage data (e.g. residential L/p/d).

The Authority considers that it would be prudent for QUU to collect data on the demand corresponding to each component of prices, as this data is generated at any rate for billing purposes and would form a useful basis for future forecasts – and particularly when tariff structures are to be reviewed. This data will be expected in future years.

Further to this, Frontier noted that an independent review of demand for regulatory purposes typically requires a written description of the forecasting method, including the key issues addressed and assumptions adopted. Consistency between the demand estimates used for forecasting revenue and for capital planning should be documented, with any differences between the two approaches and values explained and made transparent.

Frontier noted that, while QUU had not formally documented its forecasting method, QUU had advised that demand forecasts for pricing and operating costs are done separately to those for capital planning, but both look at historical trends and project forward official growth forecasts and anticipated water use trends.

The Authority considers that QUU should document the method and approach undertaken in preparing its demand forecasts. Any differences between the forecasting approaches used for pricing and capital planning should be clearly identified and explained.

Residential Connections

Given that the majority of QUU's revenue derives from residential usage, Frontier first assessed residential connections and growth, and then corresponding volumes.

Frontier used the growth in private dwellings from the PIFU's May 2010 forecasts to review residential connections. Frontier noted that PIFU lies within the Queensland Government's Office of Economic and Statistical Research (OESR) and that this unit provides transparent and rigorous analysis of population dynamics and forecasts based on statistical analysis to clients at all levels of government and in the private sector. PIFU provides the Government's official population forecasts.

Frontier noted that alternative (or complementary) forecasts could include those based on:

(a) historical data from the QWC (2008-2010). However, Frontier noted that this data is not consistent over time due to significant local council restructuring that occurred in 2008. In addition, the data is unaudited billing data and, as a result, may contain errors relating to billing and meter reading. As a result, while Frontier considered this historical data a relevant point of comparison with QUU forecasts, Frontier preferred PIFU's forward-looking forecasts;

(b) the SEQ Regional Plan 2009-2031 (the Plan) which provides dwelling projections from 2006 to 2031. However, the Plan's projections are a policy target rather than an actual forecast, and are more aggregated than PIFU's – for example, a single dwelling projection only is provided for Lockyer Valley, Scenic Rim and Somerset whereas PIFU provides more disaggregated estimates. Therefore, Frontier preferred PIFU estimates;

(c) the Water Grid Manager. The South East Queensland Market Rules require the Water Grid Manager to issue grid instructions to bulk suppliers that specify the volume of water

to be made available at each bulk supply point. Under the system operating plan made under the *Water Act 2000*, grid instructions must be based on an approved operating strategy, which must detail how the Water Grid Manager intends to supply water to meet the forecast demands of each of its customers. The operating strategy was not available at the time of the Authority's assessment.

The Authority accepts that PIFU growth rates are the most reliable independent estimates of connections growth currently available.

Residential Connections – QUU Estimates

Table 3 outlines the estimates of residential water connections provided by QUU.

Table 3: QUU Water Connections – residential

	2010/11	*2011/12*	*2012/13*
Brisbane	399,922	403,921	407,960
Ipswich	61,482	62,097	62,718
Lockyer Valley	10,172	10,274	10,376
Somerset	4,178	4,241	4,304
Scenic Rim	5,025	5,100	5,177
QUU	**480,779**	**485,633**	**490,536**

Source: QUU (2010) data template

Frontier compared QUU's forecast growth in residential connections with PIFU 2010 dwellings growth and historical trends based on council data from the QWC. Table 4 refers. Frontier considered that QUU had forecast relatively low growth in connections over 2011-13 compared to past trends and estimates by PIFU.

Table 4: QUU residential annual growth rates (%)[3]

	QWC 2008-10 Connections	*QUU 2011-13 Connections*	*PIFU 2006-16 Dwellings*
Brisbane	2.9	1.0	1.6
Ipswich	3.0	1.0	4.5
Lockyer	3.5	1.0	3.1
Somerset	4.8	1.5	2.6
Scenic Rim	3.8	1.5	2.9

Source: QWC historical data, QUU (2010) data template, PIFU (2010)

[3] Growth rates are the annual average compound rates.

In follow up discussions, QUU provided Frontier with actual billing statistics for residential water and wastewater accounts for the period between July-September 2010.

Taking into account the actual first quarter billing data, Frontier adjusted the QUU forecasts for 2010/11 for each QUU council area using PIFU growth rates (Table 5). This generated forecasts which were consistent with QUU estimates. Frontier then applied PIFU growth rates to forecast the connection numbers for 2011/12 and 2012/13. This resulted in higher estimates in those years than QUU estimated.

The Authority has accepted Frontier's approach and estimates in its review of capital and operating expenditure.

Table 5: QUU Water Connections (Amended) – residential

	2010/11	***2011/12***	***2012/13***
Brisbane	397,502	403,966	410,535
Ipswich	62,788	65,634	68,610
Lockyer Valley	10,013	10,326	10,649
Somerset	4,641	4,762	4,887
Scenic Rim	5,852	6,019	6,192
QUU (Frontier)	480,796	490,708	500,871
QUU (QUU)	480,779	485,633	490,536
Difference	**18**	**5,075**	**10,335**

Source Frontier (2010)

The Authority considers that residential connections for water should be based on PIFU forecasts and the updated billing data provided by QUU.

Water Volumes

Frontier noted that QUU has based its forecasts of water volumes on assumptions of average usage and growth factors provided, but not substantiated, by councils. Forecast average residential water usage (L/p/day) varies across each council area (Table 6). Forecast total residential water demand is derived from assumed average residential water usage per person per day, residential occupancy rates and connections (Table 7).

Table 6: QUU assumptions regarding per person per day (litres)

	2008/2009	*2009/2010*	*2010/11*	*2011/12*	*2012/13*
Brisbane	-	-	175	180	185
Ipswich	-	-	175	180	185
Lockyer Valley	-	-	157.5	162	166.5
Somerset	-	-	157.5	162	166.5
Scenic Rim	-	-	157.5	162	166.5

Source QUU (2010) Note No historical data provided by QUU.

Table 7: QUU Residential Water Demand (ML/year)

	2008/2009	*2009/2010*	*2010/11*	*2011/12*	*2012/13*
Brisbane	53,095	58,897	60,291	62,633	65,017
Ipswich	-	-	9,968	10,355	10,749
Lockyer Valley	-	-	1,066	1,108	1,150
Somerset	-	-	601	627	654
Scenic Rim	-	-	722	754	787
QUU	-	-	72,647	75,477	78,356

Note Residential water demand (ML/year) = litres per person per day x residential occupancy rate x number of connections x 365 / 1,000,000.
Source QUU (2010)

The Authority notes that the assumptions regarding daily residential usage differ from the Target 200 (L/p/day) and the infrastructure planning assumption of 230 L/p/day in the SEQ Water Strategy.

The QWC has advised that the SEQ Water Strategy assumptions are macro level regional forecasts designed to inform long term planning decisions and are not relevant to pricing decisions made by individual distributor-retailers. The QWC advised that it is questionable whether there is any correlation between these macro demand forecasts and hydrological assessments and localised demand forecasts developed by retailers. The QWC further advised that localised demand forecasts would be more relevant in assessing the impact of demand on the water distribution and sewerage networks.

Frontier noted that average SEQ water consumption in 2010 has been below 200 L/p/day. Frontier was unable to comment on the appropriateness of the assumed average use per person per day in 2010/11 given the lack of historical data provided by councils to the entities.

The Authority notes that QWC subsequently provided 2009/10 data showing average residential use of 154 L/p/day across QUU's service area. QWC considered that relatively lower levels of residential usage per person per day in the more rural areas of Lockey Valley, Somerset and Scenic Rim would be expected given their rural nature and as a higher proportion of residential

properties have large water tanks, which would be their first water source before drawing on the reticulated supply.

The Authority also notes that QUU's media releases in late June 2010 calculated the average residential bill based on average household use of 149kl/year. This level of usage translates into residential use of 173 L/p/day (assuming 2.36 persons per household) which is broadly consistent with a weighted average of the assumptions in 2010/11 (in Table 6).

Frontier noted that QUU have included a gradual increase ("bounceback") in demand (Table 6). Frontier considers that this is consistent with expectations given the history of water restrictions. The period between 2008 and 2010 captures a period of relative easing of water restrictions and subsequently demand for this period may already include high levels of bounceback. Permanent water restrictions were introduced on 1 December 2009. For the period 2011-13, permanent restrictions are assumed to be maintained and Frontier expects bounceback to be less pronounced. The installation of permanent water saving devices is relevant in this regard.

Nonetheless, Frontier noted that the rate at which customers respond to permanent water restrictions given the structural efficiencies now in place will be a key factor in water demand over the period.

Frontier also noted that QUU had not applied price elasticity of demand estimates to volume forecasts. Frontier considered that elasticity estimates were relevant to QUU, as discretionary use will increase as restrictions remain relatively relaxed. As a result, customers will be more responsive to price increases, although the absolute price elasticity will remain quite low. Based on a number of studies of urban water use, Frontier noted a range of potential elasticity estimates ranging from 0.05 to 0.51.[4]

However, Frontier noted that QUU's prices in 2011/12 and 2012/13 do not represent actual price paths and it is methodologically unsound to apply price elasticity estimates in the absence of actual proposed prices. The Authority notes the wide range of estimates for elasticity, and considers that an estimate relevant to SEQ should be developed by entities for projections of demand.

In view of the above considerations, Frontier recommended QUU's forecast residential volumes only be amended to reflect the amended growth rates for connections. Frontier also recommended that QUU's demand forecasts be adjusted for price elasticity of demand in future reviews once forecast prices and price components are provided along with corresponding demand estimates.

[4] A price elasticity of 0.05 means that for every 1% increase in price demand falls by 0.05%.

Table 8: QUU Residential Water Demand (Amended) (ML/year)

	2008/2009	*2009/2010*	*2010/11*	*2011/12*	*2012/13*
Brisbane	53,095	58,897	59,926	62,640	65,427
Ipswich	-	-	10,180	10,945	11,759
Lockyer Valley	-	-	1,049	1,113	1,180
Somerset	-	-	667	704	742
Scenic Rim	-	-	841	890	941
QUU (Frontier)	-	-	72,663	76,292	80,049
QUU (QUU)	-	-	72,647	75,477	78,356
Difference			**16**	**815**	**1,693**

Source Frontier (2010).

The Authority accepts Frontier's recommendations for 2010/11. The Authority also considers that tariff structure will be a very significant determinant of demand. No changes in tariff structure were made in 2010/11 pending the development of approved pricing principles.

The Authority notes that QUU's estimates of residential water volumes are broadly confirmed by Frontier's analysis, with Frontier increasing volumes by only 0.02% in 2010/11 up to 2.16% in 2012/13. The Authority considers that Frontier's approach, and the use of the latest billing data, represents the best available estimate of demand and therefore has accepted Frontier's estimates in its review of capital and operating expenditure.

The Authority accepts Frontier's residential water demand estimates.

Wastewater

QUU's estimates of residential wastewater connections are shown in Table 9 below.

Table 9: QUU Wastewater Connections – residential

	2010/11	*2011/12*	*2012/13*
Brisbane	389,215	393,107	397,038
Ipswich	44,112	44,553	44,999
Lockyer Valley	4,200	4,242	4,284
Somerset	2,991	3,036	3,081
Scenic Rim	3,549	3,602	3,656
QUU	**444,067**	**448,540**	**453,059**

Source QUU (2010)

In line with the approach used in its analysis of residential water usage, Frontier adjusted residential wastewater connection forecasts in 2010/11 to reflect actual billing data for the September 2010 quarter and adjusted wastewater connections growth to reflect the PIFU growth forecasts used with water connections (Table 10).

Frontier noted that QUU is not proposing to introduce volumetric charges for wastewater and therefore there is no need for QUU to produce wastewater volumetric forecasts at this stage.

Frontier's adjustments resulted in an increase of 3.1% for 2010/11, 4.2% in 2011/12 and 5.2% in 2012/13.

Table 10: QUU Wastewater Connections Amended – residential

	2010/11	***2011/12***	***2012/13***
Brisbane	390,486	396,836	403,289
Ipswich	56,536*	59,099	61,777
Lockyer Valley	4,131	4,260	4,393
Somerset	2,818	2,891	2,966
Scenic Rim	3,975	4,089	4,206
QUU (Frontier)	457,945	467,174	476,631
QUU (QUU)	444,067	448,540	453,059
Difference	**13,878**	**18,634**	**23,572**

*Source Frontier (2010. * Residential connections for Ipswich were increased to correct for the reclassification of certain customers from non-residential to residential.*

The Authority accepts Frontier's residential wastewater demand estimates.

Non-residential and Trade waste

Frontier noted that QUU have forecast non-residential connections and trade waste connections and volume over the three year interim period to grow at an annual compound rate of 1% per annum.

Frontier stated that it did not consider it appropriate to apply a blanket assumption regarding growth rates for different activities to non-residential and trade waste. Frontier recommended that, ideally, demand forecasts associated with each activity should reflect the historical trends specific to that activity and any expectations regarding future events that impact specifically on that activity or service.

Unlike water connections, Frontier was unable to obtain historical data from alternative sources. While Frontier considered that the growth rate proposed was not appropriate, it did not have access to the data needed to generate an alternative estimate despite requesting this from QUU.[5]

[5] QUU subsequently provided updated billing data for non-residential connections for Ipswich, this data has been used by the Authority in its calculations.

Recycled Water

Frontier noted that QUU provided forecasts for recycled water volumes for Brisbane and Ipswich. These arise from supply to approved water carriers from tanker filling stations and direct connections for non-residential use. Frontier commented that QUU has adopted a blanket growth assumption of one percent per annum over both sets of forecasts. As for trade waste, individual forecasts should reference circumstances specific to the service and location under consideration.

In the absence of historical data or alternative sources of data, Frontier is unable to provide alternative forecasts to those proposed by QUU.

The Authority accepts QUU's forecasts but requires QUU to develop more specific short-term forecasts for trade waste customers and recycled water for future years.

Summary

Demand estimates are an essential component of economic regulation. The more reliable the demand estimates, the more informed will be the choices businesses can make about expenditure and prices. It is therefore important that demand forecasts represent the best possible assessment of future consumption given the available information.

The Authority acknowledges that structural change in the SEQ water sector has led to a number of legacy issues, particularly regarding the transfer of data from the councils. This was evident as QUU was only able to provide historical water connection information for Brisbane. Frontier requested historical information from QUU and, in response to this request, QUU noted that no further information was available from councils.

The Authority has adjusted QUU's residential connections for water and wastewater and residential volumes for water to reflect updated billing data and PIFU forecasts. Nonetheless, the Authority notes that these (revised) estimates broadly confirm QUU's estimates for 2010/11, with differences only becoming material in later years.

The Authority considers that, prior to the next price monitoring period, QUU should document its approach to forecasting demand for all purposes, and establish procedures and protocols for the collection and collation of data, including:

(a) connections for residential and non residential water users;

(b) connections for wastewater customers (residential, non-residential, recycled water customers and trade waste customers); and

(c) volumetric consumption for residential and non-residential customers for potable water, wastewater, recycled water and trade waste.

The Authority also considers that QUU should also take into account the response of consumers to increasing prices (that is, estimate the elasticity of demand) when estimating future consumption.

1.5 The Initial Regulatory Asset Base

In March 2010, the (then) Minister for Natural Resources, Mines and Energy and the Minister for Trade advised the Authority of the initial regulatory asset base (RAB) as at 1 July 2008 for interim price monitoring. The Minister advised the RABs for each entity as well as the RABs

for each participating council, and other adjustments. For QUU, the Minister also advised the RAB for the Esk Gatton Laidley Water Board.

The Authority engaged SKM to review the method used by the entities to apportion the advised RAB to each deemed category and its implementation.

QUU's Submission

In its initial submission, QUU noted that it had allocated the advised RAB of $3.94 billion to each asset on the basis of their audited values (see Table 11). .

QUU also apportioned the $9.48 million initial RAB for the Esk Gatton Laidley Water Board, 80% to the Lockyer Valley and 20% to Somerset.

Table 11: QUU RAB as at 1 July 2008 ($m)

	Water	***Wastewater***	***RAB***
Brisbane City Council	1,377.33	2,039.52	3,416.85
Ipswich City Council	166.26	262.55	428.81
Scenic Rim Regional Council	20.45	16.96	37.41
Somerset Regional Council	17.35	12.35	29.70
Lockyer Valley Regional Council	24.65	7.63	32.28
QUU	**1,606.04**	**2,339.01**	**3,945.05**

Source QUU (2010).

Authority Analysis

SKM noted that the total RAB value in QUU's submission reconciles with the Ministers advised RAB. However, there were differences in the asset values for each geographic area arising from:

(a) QUU allocating the $4.02 million value of the Brisbane billing system (as at 1 July 2008) across all geographic areas on the basis of properties serviced.

The Authority considers this to be reasonable as it reflects the expected use of the billing system. The Authority also notes that it affects the council RABs by less than 0.25% and is therefore not material;

(b) QUU allocating the $9.48 million initial RAB for the Esk Gatton Laidley Water Board, 80% to the Lockyer Valley and 20% to Somerset. QUU subsequently advised that this allocation reflects the Water Board's advice that the apportionment of assets is most closely aligned with consumption, and has been agreed to by the two councils.

SKM verified that the RABs for each council area were apportioned to asset classes based on their audited values. This approach was recommended in the Authority's Final Report on the *SEQ Interim Price Monitoring Framework* and *Information Requirements for 2010/11* and endorsed by Government in the Ministerial Direction.

The Authority, in its Draft Report, therefore accepted QUU's apportionment of the Minister's advised RAB. The Authority also accepted the allocation of assets as adjusted for the billing

system and, in the absence of any further details to suggest otherwise, accepts the allocation of the Esk Gatton Laidley Water Board to Lockyer Valley and Somerset as agreed between the relevant councils.

No stakeholder commented on this issue.

The Authority proposes no change to its Draft Report finding on the initial RAB.

The Authority has accepted QUU's apportionment of the Minister's advised RAB and the adjustments proposed by QUU.

1.6 Capital Expenditure

Capital Expenditure from 1 July 2008 to 30 June 2010

The Ministerial Direction requires the Authority to accept as prudent and efficient, actual capital expenditure (excluding establishment costs) as included in councils' financial accounts from 1 July 2008 to 30 June 2010; allowable establishment costs as advised by the (then) Minister for Natural Resources, Mines and Energy and Minister for Trade; and contributed, donated and gifted assets and capital expenditure funded through cash contributions from 1 July 2008 to 30 June 2010.

Draft Report

In its initial submission, QUU stated that the capital expenditure for 2008/09 was $117.7 million and $211.0 million in 2009/10.

QUU also noted that the costs associated with the establishment of the distributor-retailer authorities under the water reform models are to be carried forward as part of the RAB provided they meet eligible purpose criteria and verification requirements. QUU estimated its establishment costs at $43 million. QUU noted that, as the data template did not specifically cater for the addition of establishment costs into the 1 July 2010 opening RAB, QUU has added these costs as capital expenditure for 2009/10.

The Authority engaged SKM to verify QUU's capital expenditure from 1 July 2008 to 30 June 2010.

SKM noted that QUU allocated capital expenditure to only two of the seven categories (drinking water and wastewater via sewer). SKM requested this information from QUU and, in response, QUU noted that it is not able to populate this section of the template as councils did not previously collect this data. SKM recommended that, where these services are offered in future years, QUU should collect information within the above categories.

SKM were asked to compare actual capital costs for the 2008/09 and 2009/10 financial years to council's financial accounts provided by QUU. The supporting information provided by QUU set out capital expenditure and donated assets separately. SKM verified the 2008/09 capital expenditure on this basis.

The Authority noted that 2009/10 capital expenditure cannot be verified against councils' financial accounts as supporting information based on 2009/10 audited accounts is yet to be provided by the entities. QUU suggested that it provide the 2009/10 audited capital expenditure information to the Authority with its responses to the Draft Report, early in 2011.

Further, allowable establishment costs had not yet been advised by the (then) Minister for Natural Resources, Mines and Energy and Minister for Trade.

QUU excluded contributed, donated and gifted assets (contributed assets) from its total capital expenditure for 2008/09 and 2009/10 and included a switch in the data template to allow for their inclusion if required. The Authority adjusted QUU's estimates for their inclusion (Table 13).

Authority's Analysis

In its initial submission, QUU estimated its establishment costs at $43 million.

Subsequently, on 17 February 2011, the (then) Minister for Natural Resources, Mines and Energy and Minister for Trade advised the Authority of the approved establishment costs for the entities. For QUU, these costs totalled $39.11 million up to 30 June 2010. This was comprised of $27.58 million in costs directly incurred by QUU and $11.54 million in CoMSEQ costs.

The Ministerial Direction requires allowable establishment costs to be accepted as prudent and efficient and to be rolled into the RAB at 1 July 2010 and recovered over an appropriate period.

The Authority subsequently sought and received clarification from the QWC, QUU and relevant councils that the approved costs were not already included in councils' financial accounts for capital expenditure for 2008/09 and 2009/10.

QUU's nominated asset life of five years for establishment costs is consistent with the smoothing period of between 5-8 years endorsed by the Government to avoid unnecessary price shocks to customers.

The Authority has therefore adjusted QUU's estimate of establishment costs to reflect the costs approved by the Minister (Tables 12 and 13 refer).

Table 12: Establishment Costs ($m)

	$m
QUU proposed establishment costs	43.0 (in 2009/10 capital expenditure)
Minister's approved establishment costs	39.1 (as at 30 June 2010)
Difference	-3.9

Table 13: Capital Expenditure 2008/09 and 2009/10 ($m)

	2008/09 Final	***2009/10 Draft***	***2009/10 Final***
Capital expenditure (QUU)	117.7	211.0	211.0
Capital expenditure (including contributed assets and establishment costs)*	182.4	268.3	264.4
Difference	64.7	57.3	53.4

*Note No adjustments have been made to 2008/09 capital expenditure since the Draft Report. *Includes contributed, donated and gifted assets. Approved establishment costs are reflected in 2009/10 Final.*

The Authority has revised QUU's capital expenditure to reflect the establishment costs approved by the Minister. The Authority will further review past capital expenditure claimed by QUU once audited information is available.

Capital Expenditure from 1 July 2010

The Ministerial Direction requires the Authority to review the prudency and efficiency of capital expenditure for inclusion in the RAB from 1 July 2010. Only expenditure found to be both prudent and efficient can be included in the RAB.

The Authority requires capital expenditure from 1 July 2010 to be included in the RAB only when it is commissioned, and contributes productivity capacity to the system.

Draft Report

In an initial submission, the SEQ Water Grid Manager noted that the entities will be required to develop a drinking water quality management plan consistent with the SEQ water grid quality management plan developed by the SEQ Water Grid Manager.

In its initial submission, QUU proposed a capital works program of $883 million over three years, of which water accounts for $186 million and wastewater $697 million[6].

Supporting information provided by QUU identified that its forecast of $114.9 million of capital expenditure to be commissioned in 2010/11 was derived from $268.96 million of capital expenditure to be incurred in 2010/11.[7]

(a) Proposed Capital Expenditure

QUU assigned the increase in capital works to the following cost drivers: growth, renewal, improvement and compliance (Table 14).

[6] All figures in this section are in nominal terms unless otherwise stated.

[7] Supporting information indicates that QUU estimated that $323.5 million of capital expenditure would be incurred in 2010/11 at the time of price setting. The costs submitted to the Authority reflect more recent information available to QUU at the time of making its submission.

Table 14: Forecast Capital Expenditure Water and Wastewater ($m)

	2010/11	*2011/12*	*2012/13*	*Total*
Growth	21.0	230.0	302.6	553.6
Renewal	71.8	87.7	98.1	257.6
Improvement	13.8	18.8	11.8	44.5
Compliance	8.3	5.5	13.5	27.3
Total	**114.9**	**342.0**	**426.1**	**883.0**
Comprising				
Water	**40.6**	**70.3**	**74.8**	**185.7**
Wastewater	**74.3**	**271.8**	**351.3**	**697.3**

Note Capital expenditure is presented here on an as commissioned' basis as per QUU's submission. Commissioned assets are able to contribute productive capacity to the system. Source QUU (2010) data template

The water and wastewater costs related to each of QUU's five geographic areas are detailed in Tables 15 and 16.

Table 15: Capex for Water by Geographic Area ($m)

	2010/11	*2011/12*	*2012/13*	*Total*
Brisbane	26.1	42.5	45.1	113.7
Ipswich	11.2	19.9	15.6	46.6
Lockyer Valley	0.6	0.8	3.1	4.6
Scenic Rim	2.2	6.2	10.2	18.5
Somerset	0.5	0.9	0.9	2.3
Total	**40.6**	**70.3**	**74.8**	**185.7**

Source QUU (2010) data template

Table 16: Capex for Wastewater by Geographic Area ($m)

	2010/11	*2011/12*	*2012/13*	*Total*
Brisbane	54.6	70.0	177.2	301.8
Ipswich	15.0	171.7	131.0	317.8
Lockyer Valley	0.6	21.3	0.8	22.8
Scenic Rim	3.3	6.8	29.0	39.2
Somerset	0.7	1.8	13.2	15.8
Total	**74.3**	**271.8**	**351.3**	**697.3**

Source QUU (2010) data template

In its submission, QUU noted that the majority of the works across the region will be in wastewater transport and treatment assets.

(b) Service Standards

In its submission, QUU indicated that it operates under the customer service standards prepared by its five shareholding councils in compliance with the *Water Supply (Safety and Reliability) Act 2008*. Further, QUU noted that there is considerable variation in customer service standards across the state, across SEQ, and across QUU's operational areas.

QUU indicated that a key element in its decision making on future operating, maintenance and capital expenditure is ensuring that all of its customers receive at least the minimum agreed and regulated service standards. The Office of Water Supply Regulator (DERM) approves Strategic Asset Management Plans (SAMPs), System Leakage Management Plans (SLMPs) and drinking water plans and customer service standards.

(c) Capital Planning

Each of the councils which formed QUU have addressed their statutory requirements in a number of documents, including a SAMP, a SLMP, a Drinking Water Quality Management Plan (drinking water plan) and a Customer Service Standards as required by the *Water Supply (Safety and Reliability) Act 2008.*

Under transitional arrangements, the *South East Queensland Water (Distribution and Retail Restructuring) Act 2009* transfers SAMPs, SLMPs and existing drinking water plans developed by its five shareholding councils to QUU until such time as QUU develops an approved drinking water plan (due by 1 July 2011) and an endorsed Water Netserv Plan (due by 1 July 2013). The Water Netserv Plan must have regard to planning documents included in the South East Queensland Regional Plan 2009-2031 and the planning assumptions made by shareholding councils for QUU's operating area.

QUU identified its approach to identifying and prioritising capital projects. This involves QUU undertaking a systematic process which includes system planning, master planning, feasibility studies, preliminary design, a 30-year capital investment plan and a more detailed five year 'slice' of the 30 year plan taken forward for detailed budget deliberations. Annual prioritisation ensures that limited capital funds are directed towards the highest priority works.

Further, for projects with costs greater than $5 million, QUU proposed that a gateway review approach be taken. This approach intends to provide independent support to projects by having peers examine them at critical stages in their lifecycle.

In subsequent information provided to the Authority, QUU identified that the adoption of these processes in 2010/11 led to a reduction in the capital program of $454 million as incurred provided by participating councils to the current program of $268.9 million as incurred, and $114.9 million as commissioned. This equates to a reduction of $185.1 million as incurred. These savings are already incorporated in their costs as submitted to the Authority. QUU estimates that this reduction in the capital expenditure program reduced the total costs of supply in 2010/11 by around $8.1 million.

For the Draft Report, the Authority engaged SKM and Halcrow to review the adequacy of data provided by QUU and the prudency and efficiency of the proposed capital expenditure, within the framework outlined in the Authority's *Final Report SEQ Interim Price Monitoring Framework*. In accordance with this framework, SKM and Halcrow reviewed the cost drivers of the capital expenditure in detail and the need for, scope and standard of the works when assessing the prudency and efficiency of the proposed capital works.

(a) Adequacy of Capital Expenditure Data

As noted previously, QUU excluded contributed, donated and gifted assets from its forecast capital expenditure (but included capital expenditure to be funded by cash contributions). Total capital expenditure should include contributed, donated and gifted assets and those funded by cash contributions (Table 17). Subsequent adjustments to ensure the appropriate treatment of contributed assets are discussed separately below.

Table 17: Revised Capital Expenditure Profile including contributed assets* ($m)

	2010/2011	***2011/2012***	***2012/13***	***Total***
Capex (QUU)	114.9	342.0	426.1	883.0
Capex (QUU + contributed assets*)	169.5	432.5	524.3	1,126.3
Difference	54.6	90.5	98.3	243.3

Source QUU (2010) and QCA calculations. includes contributed, donated and gifted assets.*

QUU has indexed 2010/11 capital costs on the basis of a forecast CPI of 2.5%. In the Draft Report, the Authority noted SKM's finding that CPI is a conservative index. The Authority acknowledged that there are options for the indexing of asset values ranging from a broad-based inflation index such as CPI to a specific industry input index or combination of input indices.

Industry input indices should provide a more accurate estimate of replacement cost-based asset values and could provide a reasonable substitute for a full revaluation. However, such indices may be subject to significant step changes over short periods, and would be expected to rise and fall in line with market conditions. This could lead to significant price variations within and between regulatory periods.

Until a more appropriate index is established which is particularly relevant to the entities, the Authority considered that QUU's use of CPI to index capital expenditure is reasonable and notes that any variations subsequently found between the forecast amount and the actual amount can be taken into account at the next price monitoring review.

SKM also noted that QUU allocated capital expenditure to only two of the seven categories (drinking water and wastewater via sewer and that costs associated with recycled water are included within the "wastewater via sewer" category). SKM recommended recycled water costs be separated out (despite the difficulties in doing so) as QUU has a recycled water network and there may be an alternative pricing strategy for the provision of recycled water in the future. The Authority notes SKM's comment, and acknowledges that pricing principles are yet to be developed and that disaggregated information on costs will inform this process.

As QUU only provided disaggregated costs for two of the seven categories, the Authority noted that it is not possible at this time to develop a maximum allowable revenue (MAR) at a more disaggregated level than for water and for wastewater.

(b) Service Standards

The Authority did not review service standards as part of this price monitoring review. The Authority accepted the service standards provided by the entities so long as they were been approved by other relevant agencies.

As noted, there was considerable variation in customer service standards across QUU's operational area. SKM noted that this is expected to continue until the release of a water and wastewater customer code which will provide minimum guaranteed service standards for the customers of the three distributor-retailers, under the *South East Queensland Water (Distribution and Retail Restructuring) Act 2009.*

SKM noted that, in addition to its customer service standards, QUU also has asset standards (such as pressure, fire flows and storage requirements), as outlined in *Queensland Urban Utilities' Water & Sewerage Planning Guidelines (2010).* This document outlines the water network and wastewater network planning parameters for Brisbane.

Based on further information from QUU, SKM noted that these standards are likely to be consistent for Brisbane and Ipswich projects, but not for the three other areas. However, QUU noted that work is underway to revise the current Brisbane based planning guidelines to reflect QUU's entire service area. Where service standards are the driver for increased capital expenditure, SKM reviewed this against the documentation provided by QUU to assess the prudency and efficiency of the works.

(c) Capital Planning

QUU demand forecasts for pricing and operating costs and those for capital planning are done separately. While both look at historical trends and project forward official growth forecasts and anticipated water use trends, there are considerable differences in some cases. In assessing the prudency of the sampled projects, the consultant assessed each project individually against planning documents. In other words, the consultant accepted the demand forecasts used. This is not unreasonable on this occasion.

SKM commented that the Brisbane and Ipswich districts have well defined policies and procedures which are in line with good industry practice. SKM noted that, while this may not be the case for other districts, work is currently underway by QUU to review these policies and procedures.

From the documents reviewed for the representative sample, SKM concluded that documentation was appropriate for the large single projects (e.g. master plans, feasibility studies business cases, etc). However, documentation was less comprehensive for rolling programs. SKM noted that some projects and programs were initiated under the previous council arrangements, and may not have required the same level of documentation at the time.

The key deficiencies identified for rolling programs include:

(a) documentation of project scope is limited for future years. This may be due to the program not yet being fully developed, However, without the information provided, SKM found difficulty in comparing project estimates with benchmark prices;

(b) documentation of project need and justification is limited;

(c) documentation of alternatives considered, and reasons for selecting the recommended option, is limited; and

(d) cost estimate basis and accuracy is generally not discussed.

SKM noted that to ensure prudency and efficiency of the major wastewater projects that are planned to be implemented, QUU initiated a review which made a number of recommendations. These included:

(a) a standardised approach to cost estimating, including a standardised approach to estimates for items such as contingency, preliminary and general items, design fees and contractor margins, so that there is uniformity of cost estimating across all proposed major projects;

(b) a summary document be prepared for identified major projects so as to develop a standardised reporting

(c) an implementation strategy to be developed for each major project to assist in ensuring the deliverability of the project in the proposed timeframe;

(d) establishment of a benchmark for determining the prudency of a project based on design flows and projected growth; and

(e) a 'toll gate' or 'gateway' review process to be implemented so that appropriate reviews are undertaken at milestone stages for selected projects.

While agreeing with the recommendations of this review, SKM further recommended that QUU develop a process for considering synergies between the districts and, where possible, that these synergies be developed. Relevant initiatives could include combined programs of work or optimised infrastructure between the five districts. SKM recommended that, where relevant, master planning studies, feasibilities studies and network models should take into consideration opportunities and risks in neighbouring areas, to allow the development of an integrated and optimised network.

In the Draft Report, the Authority agreed with SKM's findings and recommendations with regards to the policies and procedures followed by QUU. In particular, the Authority noted that QUU has commenced the process of taking into account a regional perspective (for example see below the Modified Regional Approach to the upgrade of the Goodna sewerage treatment plant) and recommends that this be comprehensively applied when developing future capital works programs.

(d) Prudency and Efficiency

For capital expenditure to be included in the RAB, it is required to be prudent (there is a demonstrated need for the expenditure) and efficient (it is cost-effective in its scope and standard, using market benchmarks).

The Authority noted that QUU's submission to the Authority already incorporates reductions of around $185.1 million in the capital expenditure program (as incurred) for 2010/11.

In assessing the cost efficiency of the sampled projects, SKM used published unit rates from Rawlinsons, available unit rates from SEQ water entities and also other water utilities, previous project experience on similar projects and quotes from various suppliers. Some of these unit rates are confidential and are therefore not published in this report. Unit rates identified or calculated from the supporting data provided by QUU were compared to a range of rates from the above sources. If the rate was within 30% of the benchmark identified for a similar type, length and diameter or pipe, or similar type of project, SKM considered the expenditure to be cost efficient.

SKM noted that there are a number of factors that can significantly affect the cost of the projects including the project location (e.g. highly urbanised areas are significantly more expensive than greenfield sites), material types (e.g. different pipeline materials such as PVC and MICL pipe),

the fittings and fixtures required (e.g. many connections and valves versus only a few), and geotechnical conditions (e.g. rock versus sandy soils).

Having regard to the above sources of variation, and the time available for this review, SKM considered that variation above 30% required further detailed evaluation. The Authority noted that contingency allowances can vary from 5 to 40% depending on the stage of a project's planning (Evans and Peck, 2009).

The Authority accepted SKM's approach for this first review but notes that it will be seeking to refine this range over the interim period wherever possible. The Authority also noted that, in previous reviews of infrastructure charges, 25% was recommended to the Authority by another consultant.

The sample chosen for review of prudency and efficiency includes the projects which account for at least 10% of the overall capital project spend and an additional medium value project for each of the geographic areas. For QUU, this resulted in a sample of 15 projects for review which accounted for 27% of QUU's total capital expenditure program (as submitted) over the three year interim period. A range of projects across councils by size and over the interim period was chosen to test the application of policies and procedures across a variety of projects.

The Authority did not limit its sample to expenditure proposed to be commissioned in 2010/11 in order to signal its view of the prudency and efficiency of projects currently underway and due to be commissioned in later years.

The list of capital expenditure programs reviewed in detail for 2010/11 is shown in table 18 (with expenditure shown as incurred).

Table 18: Capital expenditure programs reviewed ($m)

Project	*Activity*	*2010/11*	*Total 2010/11-2012/13*
Ipswich Goodna STP Upgrade	Wastewater Treatment	55.9	136.8
Brisbane Bulimba Creek Trunk Sewer Upgrade	Wastewater Transport	13	51.9
Brisbane Burst Mains Renewal Program	Water Project	6.8	27.2
Lockyer Valley Eastern Regional STP Upgrade	Wastewater Treatment	3	18.2
Somerset Fernvale STP Implementation	Wastewater Treatment	5	17.8
Scenic Rim – Bromelton STP	Wastewater Treatment	-	16.7
Ipswich Distribution Water Main Minor Enhance Program	Water Project	0.11	6.9
Scenic Rim Upgrade Walker Drive Reservoir Kooralybn	Water Project	-	2.6
Brisbane Lang Parade Wet Weather Pump Station	Wastewater Transport	-	2.1
Lockyer Valley Water Reticulation Mains Improvement Program	Water Project	0.1	1.9
Somerset Water Reticulation Mains Renewal Program	Water Project	0.3	1.3
Lockyer Valley Water Reticulation Mains Renewals Program	Water Project	0.16	1.12
Ipswich Sewerage Rising Mains Renewal Program	Wastewater Project	0.6	0.9
Somerset Wastewater Reticulation Mains Renewal Program	Wastewater Transport	0.3	0.8
Scenic Rim Brookes Drive Reservoir	Water Project	0.2	0.2

Source QUU supporting information. Capital expenditure shown in nominal dollars as incurred.

SKM/Halcrow found that most, but not all, of QUU's forecast expenditure in 2010/11 was prudent and efficient. For much of the expenditure in 2011/12 and 2012/13, insufficient data (and the early stage of planning) meant that the consultants were unable to come to a conclusion on prudency or efficiency. The consultant's conclusions and the Authority's response with respect to the prudency and efficiency of the proposed capital expenditure programs are detailed below on a project by project basis.

(i) Ipswich Goodna STP Upgrade

In its submission, QUU proposed total expenditure of $136.8 million for the Ipswich Goodna STP upgrade over the 2010/11-2012/13 period. The total cost of the Ipswich Goodna STP upgrade is $206.9 million over the interim period and beyond (see Table 19).

Table 19: Ipswich Goodna proposed Expenditure Profile ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*2013-2014*	*2014-2015*	*Subsequent*	*Total*
Goodna Stage 4a	55.9	74.1	-	-	-	-	130.0
Goodna Stage 4b	-	-	6.8	30.1	-	-	36.9
Goodna Stage 4c	-	-	-	-	1.6	38.4	40.0
Total	55.9	74.1	6.8	30.1	1.6	38.4	206.9

Source Halcrow (2010)
Note Halcrow's review focuses on expenditure of $136.8 million over the interim period to 2012/13.

QUU proposed that the Ipswich Goodna STP requires upgrading to meet growth. Current STP design capacity is 65,000 equivalent persons (EP) while forecast load by 2012 is assessed to be 77,000 EP. This represents a growth rate of 5.8% pa (compound annual growth rate). The Authority notes that this compares with 4.5% PIFU forecast of dwellings in the Ipswich region. The planned upgrade is expected to increase plant capacity by 25,000 EP, resulting in a total capacity of 90,000.

Halcrow noted that following QUU's submission to the Authority, an integrated regional planning process initiated by QUU identified a superior regional approach to providing sewerage services. This new Modified Regional Approach, which QUU has adopted, amends the proposed upgrade of Goodna to:

(a) Phase 1 – construction of Goodna STP 4a in conjunction with optimised use of other existing infrastructure; construction of Goodna STP Stages 4b and 4c will not proceed; and

(b) Phase 2 – other infrastructure works (Wacol Catchment) to be implemented from 2014 onwards. Costs associated with this phase were not provided (or reviewed) as it lies outside the forecast period.

The cost of the Modified Regional Approach is approximately $129.7 million and the revised profile is shown in Table 20. As a detailed breakdown of costs was not available from QUU, Halcrow recommended that the proposed expenditure be incorporated at a uniform rate over the next three years. The Authority therefore proceeded on the basis that the STP is commissioned in the last year of expenditure.

Table 20: Revised Ipswich Goodna Expenditure Profile ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*2013-14*	*Total*
Goodna Stage 4a	42.2	43.2	44.3	-	129.7

Source Halcrow (2010)

With regards to prudency, Halcrow recommended that the Modified Regional Approach to upgrade the Ipswich Goodna STP is prudent, based on the key driver of growth. According to the Population Review Report, growth in the region is expected to significantly increase the load on the Goodna STP from the 2008 level of 54,000 EP to the expected load of 208,000 EP by 2031 (an annual growth rate of 6%).

This growth was forecast to occur in stages with 123,000 EP by 2016 and 186,000 EP by 2026. Halcrow noted that raw data for the growth predictions identified in the Population Review Report was sourced from the Catchment Population Appraisal Addendum (January 2010), which in turn references the South East Queensland Regional Plan 2009-2031. Halcrow noted that the drivers appear to be adequately supported, with detailed assessment of the growth projections having been completed and made available.

Halcrow considered that QUU has demonstrated a well-documented and justified development of options and has engaged independent consultants to support and review proposals at key stages of option development. Goodna STP is an example of where QUU used its gateway review process as appropriate peer reviews are undertaken at milestone stages to ensure a cost-effective outcome.

With regards to efficiency, Halcrow noted that the proposed costs have not been provided in sufficient detail to enable a detailed assessment of efficiency, however, the equivalent unit rate cost of approximately $4,400 per EP is considered to be generally consistent with the estimated and actual costs of other similar works. Halcrow also noted that the Modified Regional Approach has led to a reduction of approximately 7.5% in the (nominal) cost of the works proposed to be undertaken during the interim price monitoring period.

The Authority accepted Halcrow's finding that the Modified Regional Approach to upgrade the Ipswich Goodna STP is prudent and efficient. However, the Authority considered that QUU should provide a detailed breakdown of costs associated with this upgrade to ensure detailed assessment of efficiency is conducted in future reviews.

Further, the Authority considered the expenditure costs advised by QUU in its submission to the Authority for the Ipswich Goodna STP be replaced with the revised profile in Table 20 above and be taken into account for price monitoring purposes. This adjustment does not affect the commissioned expenditure relevant to the RAB in 2010/11.

(ii) Brisbane Bulimba Creek Trunk Sewer Upgrade

The Bulimba Creek Trunk Sewer Upgrade (Stage 1) includes the installation of a tunnelled gravity augmentation sewer, which will consist of a vitrified clay pipe, running approximately parallel to the existing trunk sewer. The construction method will be predominantly micro-tunnelling with trenched branch and cross connections.

The capital expenditure is proposed to be $52 million over 2010/11-2012/13 (see Table 21).

Table 21: Bulimba Creek Trunk Sewer Upgrade proposed Expenditure Profile ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
Bulimba Creek	13.0	27.7	11.2	51.9

Source SKM (2010)

SKM considered that this project is prudent as under current hydraulic loads, both recorded and predicted overflows are occurring from Bulimba Creek Trunk Sewer between Padstow Road and Coora Street (Stage 1) during wet weather. These overflows are occurring at levels that could compromise regulatory obligations administered by the Queensland EPA. Other potential impacts include creek contamination, public health, access restrictions and potential community discontent.

SKM noted that there were a number of documents provided as part of the submission that imply that this project has been well considered. These documents include a strategic study, feasibility study and business case report.

With regards to efficiency, SKM noted that Brisbane Water have utilised milestone review processes (Gateway reviews) which include cost estimates at relevant milestones. Brisbane Water has completed other comparable tunnelling projects (Woolloongabba area) which provide good benchmarks. In addition, the provision of Review Reports by consultants provides independent assessment of the costs. Based on the above SKM considered the project costs to be reasonable. However, SKM noted that works of this form (tunnelling) have site specific issues which can significantly affect the cost.

SKM also commented that the project should be deliverable over the three year advised timeframe.

The Authority accepted SKM's findings that the capital expenditure proposed for this project is prudent and efficient.

(iii) Brisbane Burst Mains Renewal Program (Rolling Program)

The capital expenditure is proposed to be $27 million over 2010/11 - 2012/13 (see Table 22).

Table 22: Brisbane Burst Mains Renewal Program Expenditure Profile ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
Brisbane Burst Mains	6.8	9.9	10.5	27.2

Source SKM (2010)

The Brisbane Burst Mains Renewal Program involves the replacement of water mains with unacceptable probability of failure. Expenditure under the program also takes into account major future urban re-development. The program focuses on assets that are in poor condition, unable to be maintained and/or are under performing. These can be assets approaching the end of their lives, but also include assets that show sign of early failure.

SKM noted that this program replaces or rehabilitates existing infrastructure to ensure desired standards of service are achieved and is therefore prudent. SKM commented that without replacement, it is reasonable to expect that the burst frequency would increase. SKM stated that there appears to be a business case for the renewal program for 2010/11.

While details of the procurement policy were not provided, there was evidence that a tendering process occurred as a number of tendered schedule of rates were provided. On this basis, SKM noted that the expenditure is cost efficient for 2010/11 and also that the rehabilitation estimates are within an acceptable range of benchmarks identified by SKM.

However, for 2011/12 and beyond the cost escalation was not fully explained. SKM noted that no detail for the escalation was provided, only a general explanation of the process that was undertaken, which includes using pipe material and asset age data to predict failure rates. Without further information, it is expected that the increase in failure rate would be more gradual than the 30-50% expected increase assumed by QUU.

Based on the available information, SKM concluded that the capital expenditure for this project is prudent and efficient for 2010/11. However, there is insufficient information provided to demonstrate prudency and efficiency of future years.

Where this is the case, SKM has distinguished between projects where insufficient information is provided to demonstrate prudency and efficiency, but that the level of information is consistent with the stage of development and the emerging capabilities of the entities.

For these projects SKM considered a cautionary approach recommending that the expenditure remain in the forecast but be reviewed during future evaluations. SKM noted that if removed from the budget, this is likely to cause disruption to the provision of service delivery in the future. The inclusion of these costs provides the entities with the opportunity to undertake the appropriate preliminary works and produce sufficient supporting documentation.

For Brisbane Burst mains projects detailed information is not available for 2011/12 and 2012/13, but SKM considered that the level of information provided is consistent with the stage of development and should be further reviewed before approval.

The Authority accepted SKM's findings that the capital expenditure for 2010/11 is prudent and efficient and that the capital expenditure for future years should be further reviewed. It was not proposed to remove the 2011/12 and 2012/13 expenditure from the RAB at this stage. The Authority noted that such projects are likely to be reviewed as part of 2011/12 price monitoring review. At this time it is expected that the entities would have more substantial information available to determine prudency and efficiency.

(iv) Lockyer Valley East Sewerage Scheme

This project involves the upgrade of a sewage treatment plant at Gatton, servicing Plainland, Laidley and Forest Hill.

In its submission, QUU proposed expenditure of approximately $18 million over the 2010-13 period (see Table 23).

Table 23: Lockyer Valley Expenditure Profile ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
Lockyer Valley East Sewage Scheme	3.0	15.2	-	18.2

Source Halcrow (2010)

Halcrow noted that the proposed capital expenditure is around $1.1 million lower than in supporting documentation. The reason for this discrepancy was not explained in the supporting documentation provided by QUU.

Subsequently, QUU advised Halcrow that the expenditure profile for this project has been revised slightly due to the deferred timing of the expenditure (see Table 24).

Table 24: Lockyer Valley Revised Expenditure Profile ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
Lockyer Valley East Sewage Scheme	0.5	17.7	-	18.2

Source Halcrow (2010)

Halcrow considered that on the basis of growth and licence compliance requirements this project is prudent. Halcrow noted that there is growth in the catchment and some facilities are

currently running at or close to full capacity. Further, existing facilities are performing poorly and there are constraints on the ability to upgrade these facilities.

Halcrow commented that a review of the available information indicates that a sound and reasonable approach has been undertaken during the master planning phase of this project.

With respect to the current status of the project, QUU have advised that a further feasibility study has commenced and is due to be completed in December 2010. Documentation for approvals is to be lodged with the relevant agencies in December 2010/January 2011.

However, Halcrow noted that in the absence of such information, it is reasonable to expect that the project can be completed within the timeframe indicated by the expenditure profile included in the Interim Price Monitoring Return, although any delay to progress would compromise this achievement.

With regards to efficiency, Halcrow concluded that while a definitive statement on the efficiency of the project cannot be made at this early stage, the unit rate cost of approximately $3,700 per EP is considered to be generally consistent with the estimated and actual costs of other similar works.

The Authority accepted Halcrow's findings that the capital expenditure associated with this project is prudent and efficient and that the revised expenditure profile in Table 23 is taken into account for price monitoring purposes. This adjustment does not affect the commissioned expenditure relevant to the RAB in 2010/11.

(v) Somerset Fernvale Sewage Treatment Plan

Given the historical and projected population increase in Fernvale, QUU is proposing to construct a new plant to service a forecast additional 4,000 EP load.

QUU has proposed expenditure of approximately $17.8 million for the Somerset Fernvale STP (see Table 25).

Table 25: Fernvale Sewage Treatment Plant (STP) proposed Expenditure Profile ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*2013-2014*	*Total*
Fernvale Treatment Plant	5.0	7.1	5.2	0.5	17.8

Source Halcrow (2010)

Halcrow noted that these costs exclude the purchase cost associated with land required to enable construction of the new STP and the costs are therefore understated.

Halcrow also noted that in its submission, QUU lists responsive renewal costs that appear to be associated with the existing STP at Fernvale (see Table 26).

Table 26: Fernvale Sewage Treatment Plant Responsive Renewal Program ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*2013-2014*	*2014-2015*	*Total*
Fernvale Treatment Plant		.06	-	.06	.22	0.34

Source Halcrow (2010)

With regards to prudency, Halcrow concluded that the construction of the new STP at Fernvale is prudent on the basis of historic and predicted growth in the Fernvale community. While noting that the growth assumptions to 2010 used to underpin the construction of the new treatment plant are higher than the PIFU growth assumptions recommended by Frontier for the Somerset Regional Council of 2.6%.

QUU also advised that a secondary driver is compliance with key environmental licence conditions, noting that the existing plant regularly exceeds licence limits for effluent release quantity.

With regards to the responsive renewal program, Halcrow considered this also to be prudent as it is required to meet statutory requirements (health and safety) over the remaining life of the existing plant.

With regards to efficiency, Halcrow concluded that the proposed expenditure for the new STP is efficient as the adopted solution has been selected through a robust planning process of consultation, investigation, option development and option evaluation. Halcrow noted that the cost estimate also appears to be reasonable and includes a contingency allowance of 25% (reasonable at this stage of project development) and an engineering design and project management allowance of 15%.

QUU proposed the upgrade works to start in 2010/11, and expects completion in 2013/14. Halcrow noted that based on the information available, the proposed timing appears fair, and should be deliverable over the period, providing land acquisition of the chosen site presents no unexpected delays.

The Authority accepted Halcrow's finding that the cost associated with the Somerset Fernvale STP upgrade is prudent and efficient and notes Halcrow's observation that the cost excludes land.

(vi) Bromelton (Scenic Rim) Regional Sewage Treatment Plant

In its submission QUU has proposed sewerage infrastructure upgrades in the Bromelton region (see Table 27).

QUU proposed expenditure amounting to a total of approximately $16.7 million for the Bromelton Regional STP over the period 2010-2013, with an additional $4.7 million for land.

Table 27: Bromelton Proposed Expenditure Profile ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
Bromelton STP	-	3.6	13.0	16.7
Land	-	1.0	3.7	4.7
Total	-	4.6	16.7	21.4

Source Halcrow (2010)

Note The Authority notes that the value of land in the QUU template ($3.5 million) is different to the value in the commissioning model ($4.7 million).

Halcrow noted an extreme variation between the $20.5 million cost detailed in the Authority's information templates from $102.8 million in a Cardno report for the Beaudesert Shire, for a STP in Bromelton Central.

Halrcow noted that limited information has been provided regarding the proposed sewerage infrastructure upgrades in the Bromelton region. Whilst the forecast population growth indicates that the project may be prudent, however, at the time of review no concept or detailed design proposal was provided to enable any meaningful review of prudency and efficiency. This information should be available for such a project at this stage of development.

Therefore the project was not prudent and efficient and should be removed from QUU's forecast expenditure. The Authority proposed to do so unless further justification is provided in the future. This adjustment did not affect the commissioned expenditure relevant to the RAB in 2010/11.

(vii) Ipswich Distribution Water Main Minor Enhance Program

This program includes some small water main enhancements and a number of larger projects in the Ipswich region. Most of the projects entail the replacement/upgrade of plant and water mains to augment the water distribution system, and to improve the security of water supply and fire flows.

The capital expenditure is proposed to be around $7 million over 2010/11 - 2012/13 (see Table 28).

Table 28: Ipswich Distribution Water Main Minor Expenditure Profile ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
Ipswich Rising Mains	0.1	3.3	3.6	6.9

Source SKM (2010)

SKM noted that sufficient information has been provided to support the case for addressing growth and compliance with safety, operational and environmental standards.

In assessing the prudency of the project SKM noted that this project appears to be prudent with respect to appropriate processes based on the information provided.

However, while a sample of documents such as planning studies, project justifications and preliminary designs were provided for a number of these projects, SKM noted that there appeared to be a lack of rigour with respect to financial analysis. SKM suggested that the Minor Capital Project Submission documents should include cost estimates for alternative solutions

and an appropriate financial comparison to demonstrate that the preferred solution is not only technically efficient but is the most cost effective solution.

With respect to efficiency, SKM noted that where project scope documents were provided, these typically discussed technical issues, environmental impacts and risks as well as the cost of the selected solution. SKM considered this to be appropriate. SKM noted that according to QUU, the smaller projects in this program tend to be urgent in relation to priority, small in value, but material enough to be outside the scope of maintenance and operational activities.

SKM recommended that in such instances there should be some discussion justifying why those works should be capitalised. It may well be the case that some projects may be a mix of capital expenditure and operational expenditure given their nature.

Based on additional information from QUU, SKM noted that:

(a) WNI00288 and WNI00266 – Goodna Water Zone main and WNI00037 Altitude Valve Installation at Barallon Reservoir are no longer required following recent reviews by QUU and the value of the 2010/11 program should be reduced by $40,000. SKM's finding is predominantly based on an internal QUU memo dated 11 August 2010. This date falls before the provision of expenditure forecasts to the Authority (31 August 2010) but after the expenditure forecasts for price setting were developed (in early to mid 2010);

(b) the two large projects associated with the new Chuwar reservoir (associated water main works totalling $3.16 million) and the new Walloon reservoir (associated water main $0.71 million) will be delivered as separate projects in the future, and when this is done they should be removed from the program to avoid double counting; and

(c) the Springfield Elevated HLZ Tower West (WNI00251) project has been deferred as part of the current budget process as development in this part of the Springfield catchment and does not require the construction of this infrastructure at this point in time. SKM therefore recommended that the value of the 2011/12 program should be reduced by $384,000.

SKM considered that limited information is available regarding the projects which form the 2011/12 and 2012/13 program. However, SKM noted that the projects which form the program will be the subject of either a detailed Feasibility Study or Minor Capital Project Submission in the coming years.

In summary, SKM recommended that the future program requires further review. Based on information provided, the Goodna Water Zone Projects and Altitude Valve Installation at Barallon Reservoir are no longer required for 2010/11, and the WNI00251 Springfield Elevated HLZ Tower West should not be included in the future program. In addition, if the projects associated with the new Chuwar and Walloon reservoirs are to be delivered as separate projects, these should be removed from the program.

The Authority accepted SKM's findings with regards to this program. The effect for 2010/11 is that some minor works to enhance water mains are no longer needed and are therefore removed from the commissioned capital expenditure for 2010/11 ($0.04 million). The Authority noted that this finding is underpinned by QUU's ongoing review of its expenditure forecasts.

Further, in relation to the distinction between operating and capital expenditure, the Authority notes that it has previously defined capital expenditure as a non-current asset where the expenditure:

(a) relates to the purchase, development or construction of a new non-current asset; and/or

(b) will increase the capacity or functionality of non-current assets; and/or

(c) will significantly reduce the ongoing maintenance of non-current assets; and/or

(d) will extend the service life of non-current assets beyond that expected when they were originally installed.

This definition established the criteria for capital expenditure and should be adopted by QUU in the future.

(viii) Ipswich Sewage Rising Mains Renewal Program Project (Rolling Program)

Ipswich sewerage network is currently serviced by 62 sewage pump stations. A preliminary investigation of 56 rising mains undertaken during 2006 identified 14 high-risk pipelines requiring detailed assessment. An investigation was undertaken to determine the extent of corrosion in these 14 pipelines. The investigation has identified four rising mains requiring rehabilitation.

A detailed condition survey of all rising main air release valves has commenced in order to identify air valves requiring rehabilitation.

Projects identified under this program for inclusion mainly in the 2010/11 financial year include: replacing rising main air valves; Lamont St rising main rehabilitation; and, Enterprise St Wulkuraka rising main replacement.

The capital expenditure proposed is $0.9 million over the 2010/11 – 2012/13 financial years (see Table 29).

Table 29: Ipswich Sewerage Rising Mains Renewal Expenditure Profile ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
Ipswich Rising Mains	0.6	0.2	0.1	0.9

Source SKM (2010)

SKM considered that this project is prudent as sufficient information has been provided to support the case for addressing renewal based on compliance with safety, operational and environmental standards. However, SKM noted that there appeared to be minimal financial analysis during the project justification stage. SKM suggested that future project justifications should contain some basic financial analysis/comparison and an Asset Management check where whole of life considerations can be taken into account.

With regards to efficiency, SKM considered that the costs associated with this project are efficient. However, SKM noted that given the nature of this program, that is, typically small renewal works, some discussion should be included justifying why the works should be capitalised. SKM stated that some projects could be determined as a mix of capital expenditure and operational expenditure given their nature.

Based on the information provided, SKM concluded that the capital expenditure for this program of works for the three years commencing 2010/11 appears to be prudent and efficient.

The Authority accepted SKM findings that this project is prudent and efficient.

(ix) Lockyer Valley Water Reticulation Mains Improvement Program (Rolling Program)

This project comprises of upgrade to the water mains in William St and a link main in Spencer/Crescent Street in Gatton.

The capital expenditure proposed is $2 million over 2010/11 – 2012/13 (see Table 30).

Table 30: Lockyer Valley Water Reticulation Mains Improvement Expenditure Profile ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
Water Mains Improvement	0.1	0.1	1.8	1.9

Source SKM (2010)

SKM considered that this project is prudent as the upgrade of the water main in William Street is required to meet fire-flow requirements. The new link main in Spencer/Crescent Streets will benefit the area through improved flows, reliability and decreased risk of dirty water complaints that are usually associated with dead-end-mains. The program provides enhanced services to customers in order to achieve standards of service, minimise complaints, and services to new developments.

With regards to efficiency, SKM notes that the project costs appear to be reasonable. The unit rates provided are within 30% of the benchmarks identified by SKM.

Based on the information provided, SKM recommended that for 2010/11 the project is prudent and efficient. However, SKM notes that due to insufficient information provided for future years (although this is consistent with the stage of development), it is not possible to comment on the efficiency of costs in 2011/2012 and 2012/13.

The Authority accepted SKM's recommendation that the project is prudent and efficient in 2010/11. The Authority also accepted SKM's recommendation that while the costs of future years should be further reviewed, the capital expenditure profile not be adjusted at this stage.

(x) Lockyer Valley Water Reticulation Mains Renewal Program

The program includes the replacement of five water mains in the townships of Gatton and Laidley.

The capital expenditure proposed is $1.1 million over 2010/11 – 2012/13 (see Table 31).

Table 31: Lockyer Valley Water Reticulation Mains Renewal Expenditure Profile ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
Water Mains Renewal	0.16	0.16	0.80	1.12

Source SKM (2010)

SKM considered that the program was prudent as the replacement of the five existing watermains ensures that the existing standards of service are met. Mains identified as being older than 60 years were selected for replacement using historical construction records, a method SKM considers to be appropriate.

With regards to efficiency, SKM concluded that the costs associated with this project appear to be reasonable, as unit rates provided are within a reasonable range of the SKM benchmarks.

Based on the information provided, SKM recommended that for 2010/11 the project is prudent and efficient. However, SKM notes that due to insufficient information provided for future years (although this is consistent with the stage of development), it is not possible to comment on the efficiency of costs in 2011/2012 and 2012/13.

The Authority accepted SKM's findings that the capital expenditure for 2010/11 is prudent and efficient and that the capital expenditure for future years should be further reviewed. It was not proposed to remove the 2011/12 and 2012/13 expenditure from the RAB at this stage.

(xi) Scenic Rim Brookes Drive Reservoir (Kooralbyn) Implementation

This project will construct a new 250kL reservoir at Brookes Drive, Kooralbyn to replace the existing 20kL reservoir. The project also includes construction of new inlet and outlet pipework and relocation of the existing telemetry equipment and water booster.

The capital expenditure is proposed to be $0.2 million in 2010/11 (see Table 32).

Table 32: Scenic Rim Brookes Drive Expenditure Profile ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
Brookes Drive	0.2	-	-	0.2

Source SKM (2010)

SKM considered the project to be prudent as replacing the existing reservoir improves fire flow protection, ensures the ability to meet peak demands through increased storage, improves the reliability of supply during power outages to properties supplied under gravity from the reservoir and reduces the number of instances where the water pressure falls below standards of service levels.

Based on the information provided, SKM considered the project to be efficient based on SKM quotes from suppliers.

The Authority accepted SKM's finding that the project is prudent and efficient.

(xii) Somerset Water and Wastewater Reticulation Mains Renewal Programs

Two Somerset renewals projects were reviewed by SKM – relating to water reticulation mains and wastewater reticulation mains.

The Somerset water program involves the replacement of assets that are in poor condition and/or are under performing. These are assets approaching the end of their lives, but also include assets that show sign of early failure. Capital expenditure of $1.3 million over 2010/11 – 2012/13 is proposed (see Table 33).

Table 33: Somerset Water Reticulation Mains Renewal Expenditure Profile ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
Water Reticulation	0.3	0.5	0.5	1.3

Source SKM (2010)

The Somerset wastewater program involves the management of assets that are in poor condition and/or are under performing. These are assets approaching the end of their lives, but also

include assets that show sign of early failure, such as through excessive tree root intrusion. Capital expenditure of $0.8 million over 2010/11 - 2012/13 is proposed.

Table 34: Somerset Wastewater Reticulation Mains Renewal Expenditure Profile ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
Wastewater Reticulation	0.3	0.1	0.4	0.8

Source SKM (2010)

SKM considered both programs to be prudent as existing infrastructure is replaced to ensure desired standards of service are achieved.

However, SKM noted that there is an opportunity for improvement in processes based on the information provided. For both programs QUU does not have a written policy and procedure for target levels of service, prioritisation of investigations, compilation of relevant information on the mains, consideration of the NPV of replacement against ongoing repair and compilation and approval of the submission.

Further, SKM noted that no previous reports and studies, for example, NPV analysis, planning reports, feasibility studies, concept reports and detailed design reports including any costs associated with proposed works were provided.

SKM therefore recommended that QUU apply a more rigorous assessment and documentation process for both the water and wastewater main renewal program.

Based on the information provided, SKM recommended that for 2010/11 the programs are prudent and efficient. However, SKM noted that due to insufficient information provided for future years (which SKM considers is consistent with the stage of development), it is not possible to comment on the efficiency of costs in 2011/2012 and 2012/13.

The Authority accepted SKM's recommendation that the programs are prudent and efficient for 2010/11. The Authority also accepted SKM's finding that QUU should develop a more rigorous assessment for these programs before the costs of future works can be assessed and pending this assessment the expenditure for 2011/12 and 2012/13 should not be removed from the capital expenditure forecasts at this stage.

(xiii) Lang Parade Wet Weather Pump Station

The capacity upgrade of Lang Parade Wet Weather Pump Station (LPWWPS) is proposed to address the surcharging issue (overflow), located between Lang Parade and the intersection with the Hocking Street siphon. This option involves the construction of a new wet weather pumping station, a rising main and a high level gravity sewer.

The capital expenditure is proposed to be $2.1 million in 2012/13 (see Table 35).

Table 35: Lang Parade Expenditure Profile ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
Lang Pde	-	-	2.1	2.1

Source SKM (2010)

In response to a Request for Information from SKM, QUU revised its cost for this project up to $4.38 million.

LPWPS was identified as being required in the 2002 Northern Sewerage Catchment Master Plan. The 2006 Master Plan did not identify LPWWPS as being required as other options were being canvassed at the time. The sewerage scheme is currently being reviewed as part of the 2010 Master Plan and the Master Plan is expected to be completed in 2010.

Given this, SKM noted that there was a lack of information to justify the decision to go-ahead with this project, no business case was provided, no detailed design of the project was provided, there was a lack of accompanying documents that reflected integration with risk and asset management planning and corporate directives and a lack of details with regards to the procurement policy.

With regards to the scope of the works, SKM noted that it is unclear from the feasibility report, master plan (2002) and master plan review (2006) on how the conclusion to implement this project was reached. Further, SKM commented that it is difficult to confirm whether the project is of the right order of magnitude given the limited data available, and the fact the need for the project will not be confirmed until the completion of the 2010 master plan.

SKM recommended that this project should be reviewed again for its prudency and efficiency when more detailed information is available (particularly on the market conditions, and deliverability and timing).

The Authority accepted SKM's finding that this project be removed from the forecast capital works for QUU until additional information is available to assess its prudency and efficiency. This adjustment does not affect the commissioned expenditure relevant to the RAB in 2010/11.

(xiv) Scenic Rim Upgrade Walker Drive Reservoir Kooralbyn

The Scenic Rim Upgrade Walker Drive Reservoir Kooralbyn project comprises the augmentation of a new 8ML reservoir at Walker Drive, Kooralbyn. The capital expenditure is proposed to be $2.6 million in 2011/12 (see Table 36).

Table 36: Scenic Rim Walker Drive Upgrade Expenditure Profile ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
Walker Drive	-	2.6	-	2.6

Source SKM (2010)

SKM noted that supporting information stated that the infrastructure is not required during the interim regulatory period and that the project should be removed from the 2011/12 budget and reviewed again for inclusion into future budgets once more information is available.

The Authority accepted SKM's findings that this project be removed from QUU's proposed capital works for 2011/12. This adjustment does not affect the commissioned expenditure relevant to the RAB in 2010/11.

Summary

Draft Report

In the Draft Report, the Authority noted that QUU's submission to the Authority already incorporated reductions of around $185.1 million in the capital expenditure program initially proposed by councils for 2010/11.

Based on the analysis outlined earlier, the Authority noted that of the 15 projects reviewed for QUU, the majority were found to be prudent and efficient for 2010/11. For 2010/11, the only adjustments related to some minor works to enhance water mains which were not needed ($0.04 million), and this finding arose from recent information provided by QUU.

For much of the expenditure in 2011/12 and 2012/13, insufficient data (and the early stage of planning) meant that the consultants were unable to come to a conclusion on prudency or efficiency. Other projects were found to require some adjustment. However, these were not due to be commissioned in 2010/11. These included Ipswich Goodna STP Upgrade, Brisbane Burst Mains Renewal Program, Lockyer Valley East Sewerage Scheme, Bromelton (Scenic Rim) Regional Sewage Treatment Plant, Lang Parade Wet Weather Pump Station, Scenic Rim Walker Drive Upgrade. Again, some of these adjustments arose from more recent information provided by QUU in response to the Authority's investigation and review.

The Authority proposed to subject these projects and programs to ongoing review as part of its 2011/12 Price Monitoring review. If as part of future reviews, the information to justify the projects is not available (despite the stage of planning), the Authority proposed to remove these costs from the capital expenditure forecasts. On the other hand, if projects can be demonstrated to be prudent and efficient, they will be included.

The Authority expected that entities would be developing their process and systems to ensure that the prudency and efficiency of all projects can be optimally demonstrated over time. The Authority noted that its 2011/12 price monitoring review would involve a review of actual capital expenditure in 2010/11, and the reasons for variations with original forecasts would be explored.

Based on SKM's findings, the Authority considered that the level of information provided for this review is broadly in line with the context of the newly formed entity, whereby QUU is undertaking a process of aligning the policies and procedures across all the five geographic areas.

The Authority supported the findings of the internal review initiated by QUU which recommended that:

(a) a standardised approach to cost estimating, including a standardised approach to estimates for items such as contingency, preliminary and general items, design fees and contractor margins, so that there is uniformity of cost estimating across all proposed major projects;

(b) a summary document be prepared for identified major projects so as to develop standardised reporting;

(c) an implementation strategy be developed for each major project that includes recommendations on delivery methodology, program and a risk review process; and

(d) a 'toll gate' or 'gateway' review process is implemented so that appropriate reviews are undertaken at milestone stages for selected projects.

In addition, the Authority considered that QUU should continue to develop processes for considering prudency and efficiency from a regional perspective. The Authority would expect further efficiencies in capital expenditure to be found by QUU over the interim period.

Table 37: Comparison between QUU and Authority's capital expenditure ($m)

	2010/2011	*2011/2012*	*2012/13*	*Total*
Capex (QUU)	114.9	342.0	426.1	883.0
+ Contributed assets	54.5	90.5	98.3	243.3
- Further QCA adjustments	-0.04	-137.0	117.3	-20.0
Total adjustments	54.5	-46.7	215.5	223.3

Source QUU (2010) and QCA calculations. Note The Authority's adjustments for 2011/12 onwards are based on its revised estimates including the Authority's revised WACC, see Appendix B. The revised WACC does not affect QUU's expenditure estimates in 2010/11, as the WACC is only applied to expenditure in 2010/11 that is due to be commissioned in later years.

Stakeholder Submissions on the Draft Report

In its comments on the Draft Report, QUU restated that prices for 2010/11 were based on capital expenditure incurred and not as commissioned as required by the Authority.

After setting prices for 2010/11, QUU developed capital expenditure information on an as commissioned basis and the Authority assessed QUU's pricing on this basis. As this was different to the methodology used for price setting, QUU requested that it be assessed on the basis of as incurred capital expenditure, as used at the time of price setting. In this regard, QUU noted that the other distributor-retailers were either unable to provide information or provided only an estimate of commissioned capital expenditure.

QUU also requested that the Authority provide a comparative analysis of incurred versus commissioned capital expenditure, particularly in relation to the revenue offset approach.

QUU also stated that its infrastructure sustained significant damage as part of the flooding events in Brisbane, Ipswich, Lockyer Valley and Somerset. The estimate of the damage stands at $55 million. QUU noted that while it had insurance, it was not likely to cover all the costs and, as a result, sought guidance from the Authority on the treatment of flood related operating and capital costs and any associated insurance recovery.

Authority's Analysis

The Authority notes that there are methodological differences between the approach used by QUU during price setting and the Authority's calculation of the MAR. Nonetheless, the Authority notes that, in its Final Report on *SEQ Interim Price Monitoring Framework* (April 2010) [8], it had indicated that capital expenditure should only be included into the RAB upon commissioning. However, the Authority has noted QUUs estimated MAR using QUU's estimates of its capital expenditure on an as incurred basis for illustrative purposes (see section 1.12).

The Authority retains its view that capital expenditure should only be included in the RAB when the relevant asset is able to contribute to the productive capacity of the system. The Authority acknowledges QUU's efforts in developing a model to capture and report capital expenditure data on an as commissioned basis.

Further, while the Authority calculated the MAR for the other distributor-retailers on the information provided (capital expenditure as incurred), the Authority recommended that for

[8] See section 4.9 Depreciation of the *SEQ Interim Price Monitoring Framework* Final Report.

future returns entities only include capital expenditure in the RAB when the asset (or relevant portion of the asset) has been commissioned. The Information Requirements for 2011/12 have been amended to emphasise this requirement.

With regards to guidance on treatment of flood related operating and capital costs, the Authority has had insufficient information to fully consider the particular circumstances of the recent floods.

However, the Authority notes that any expenditure will be assessed under the Authority's prudency and efficiency framework criteria as outlined in the Authority's *Final Report SEQ Interim Price Monitoring Framework.* In addition, the Authority would also consider any subsidies or grants should these be provided by the government to offset any costs associated with the floods.

For further reference, the Authority provided some guidance on extraordinary circumstances in its Draft Report on *General Pricing Principles for Infrastructure Investments made in Response to Extraordinary Circumstances (2004).* This Report stated that, notwithstanding the need to consider the particular characteristics of each extraordinary circumstance, service providers are in general entitled to pass costs through to users to the extent that the risk is commercially relevant, the provider is (and has been) prudent, the response is cost-effective, the provider is best able to manage the risk, and there is no double charging.

In relation to QUU's concerns on insurance, the Authority addressed some aspects of this issue in the 2009 QR Network Draft Access Undertaking(DAU) , where the Authority accepted QR Network's claimed self insurance costs as being reasonable, on the basis that QR Network's claim included:

(a) the identification of the specific risks to be self-insured;

(b) quantification of the expected incidence and costs of the risks by a method consistent with an actuarial assessment;

(c) confirmation of a board resolution to self-insure;

(d) explicit confirmation that the regulated entity will not recover costs covered by self insurance through other regulatory cash-flows; and

(e) evidence that the regulated entity has the financial capacity to assume the self-insured risks.

The Authority is willing to work with QUU over the coming months to provide further guidance on the treatment of flood related costs and any insurance recoveries, and any information required to validate their claim.

The Authority proposes no change to its Draft Report findings on capital expenditure.

In respect of data adequacy, the Authority notes that QUU provided capital expenditure as commissioned, as requested by the Authority. However, QUU only provided disaggregated costs for two of the seven service categories as such it is not possible to develop a MAR at a more disaggregated service level than water and wastewater.

The Authority notes that currently QUU has a number of varying standards of service for customers and asset design as is expected of a newly formed entity. Work should be progressed to consolidate standards across the region.

The Authority supports the findings of an internal QUU review into cost estimation and further considers that QUU should continue to develop processes which take into account a regional perspective when developing its future capital works program.

The Authority notes that of the proposed $883 million capital expenditure to be commissioned over the interim period, the majority of sampled projects for 2010/11 were found to be prudent and efficient, except for some minor works to enhance water mains which were not needed ($0.04 million). For 2011/12 onwards, a number of projects were found to require adjustment or further information is required to demonstrate prudency and efficiency and these will be subject to ongoing review by the Authority.

Contributed, Donated and Gifted Assets

As noted above, the Ministerial Direction requires the Authority to accept as prudent and efficient contributed, donated and gifted assets (contributed assets) and capital expenditure funded through cash contributions and subsidies (capital contributions) for water and wastewater for the period 1 July 2008 to 30 June 2010.

The Direction also requires the Authority to accept that, in setting prices from 1 July 2008, the councils applied a revenue offset approach to account for contributed assets and capital contributions received and that this approach is to remain in effect until such time that the entity nominates that it will adopt the asset offset method. Where a change in methodology is adopted, the RAB is not to be adjusted retrospectively.

Under the price monitoring framework accepted by the Government, the Authority recommended that the Government align the review processes for infrastructure charges and ongoing prices, and that the entities be made responsible for infrastructure charges. The Authority noted that, if this was not possible, the Authority would assess whether the method adopted by the entities to forecast contributed assets and capital contributions was reasonable in the circumstances.

Draft Report

In its initial submission, the Department of Infrastructure and Planning questioned the benefits of permitting an entity to earn a return on contributed assets.

In its initial submission, QUU indicated that it expected to receive $243 million in contributed, donated and gifted assets over the interim period and $308 million in capital (cash) contributions (Table 38). The vast majority of cash contributions arise from Planning Scheme Policies (PSP).

Table 38: QUU - Contributed, Donated and Gifted Assets & Capital Contributions ($m)

	2008/09	*2009/10*	*2010/11*	*2011/12*	*2012/13*	*Total 2011-13*
Contributed Assets	64.72	57.24	54.54	90.51	98.26	243.31
Capital Contributions[a]	80.55	88.81	92.63	101.21	114.15	307.98
Total	**145.27**	**146.05**	**147.17**	**191.72**	**212.41**	**551.30**

[a] *includes grants and subsidies*
Source QUU (2010)

In allocating capital contributions, QUU has assigned contributions to the relevant asset classes by using the asset classes' proportion of total new capital expenditure going forward.

QUU submitted that, while its forecast revenues have been estimated under a revenue offset approach, it has not formed a view on the method that will be used in 2011/12 and 2012/13.

QUU indicated that the primary drivers of the growth in contributed assets and capital contributions are population growth and future development demand.

QUU noted that the 2010/11 budget and forward forecasts for contributed assets and capital contributions are as provided by the shareholding councils.

Brisbane capital contributions for 2010/11 were forecast using the forecasts contained in its current planning scheme and with a phased in transition to a proposed ICS by 2015/16. Ipswich used the preceding year's growth in lots multiplied by the previous year's average contribution per lot indexed by the rate outlined in the Ipswich PSPs. QUU noted that it made adjustments to these forecasts to exclude the bulk water components of these charges.

Lockyer Valley and Scenic Rim submitted forecasts of capital contributions developed and provided to Council of Mayors South East Queensland as part of water reform due diligence. Somerset has not forecast any contributed assets or capital contributions over the interim period.

QUU noted that it intends to investigate an appropriate method of forecasting contributed assets and capital contributions across all districts.

In its submission, QUU also noted that, in 2008/09, the Somerset Regional Council received an extraordinary donation of water assets from the Queensland Government valued at $11 million. QUU noted that the relative size of this donation compared to Somerset's annual utility revenue did not allow for a compensating offset against the maximum allowable revenues and therefore charges. Rather than applying its standard revenue offset approach for this asset, it has excluded the asset from the RAB. QUU noted that this was done to avoid charging customers for assets that Somerset did not pay for and QUU did not have the ability to reduce utility charges to the extent required.

In the Draft Report, the Authority noted that it proposed to accept as prudent and efficient and include in the RAB via capital expenditure all contributed assets and capital contributions received between 1 July 2008 and 30 June 2010.

Under the approved price monitoring framework, the entities should not earn a return on, or of, contributed assets and capital contributions. This is in accordance with the principle six of the National Water Initiative Pricing Principles for the recovery of capital expenditure (Natural

Resource Management Ministerial Council, 2010). The Ministerial Direction allows the entities to choose an asset or revenue offset approach to the treatment of these assets from 1 July 2010. Both approaches can be such as to ensure that a return on, and of, these assets cannot be charged to users.

The Authority noted the value of QUU's contributed assets for 2008/09 and 2009/10 can be traced to supporting QUU documents based on council's financial records. Capital contributions for 2008/9 and 2009/10 were not able to be verified as supporting information based on council records had not been provided. Further, the Authority noted that 2009/10 data could not yet be verified, as audited records were not yet available.

From 1 July 2010, the water and wastewater components of the infrastructure charging regimes of QUU's five council areas (council PSPs) transitioned to become QUU's SEQ Infrastructure Charges Schedule (ICS). In essence, QUU has inherited these upfront charges from councils. Under relevant legislation, QUU cannot significantly alter these charges unless they are approved by the Minister for Infrastructure and Planning.

The Authority also noted that the Government has convened an infrastructure charges taskforce to investigate the current infrastructure charging regime and opportunities to simplify charges and provide greater certainty. The taskforce had released for comment an interim consultation report which includes maximum standard infrastructure charges. The Authority noted that, should these maximum charges be adopted by Government, and apply to QUU, they would be likely to affect forecasts of contributed assets and cash contributions.

Given the above, the Authority considered it to be reasonable for QUU's forecasts of contributed donated and gifted assets and cash contributions from 1 July 2010 to be based on available council forecasts. For QUU, these forecasts were generally based on the PSPs that have now become QUU's SEQ ICS. The Authority supported QUU's proposal to further investigate an appropriate method of forecasting contributed assets and capital contributions across all districts.

The Authority noted that QUU has applied the revenue offset approach to the treatment of contributed assets and capital contributions for 2010/11 (while reserving its decision on this for years beyond 2010/11). In line with this decision, the Authority reduced its estimate of QUU 2010/11 costs for water by $61.4 million and by $85.7 million for wastewater. This ensured customers are not paying twice for relevant assets.

The Authority considered that the treatment of the extraordinary donation to Somerset regional council is appropriate. The Authority noted that, if QUU was to apply its standard revenue offset approach, it would have required a reduction in water charges for Somerset residents to zero for a period of more than two years. The possibility for zero or negative prices has previously been identified by the Authority as a key risk in the adoption of the revenue offset approach.

Stakeholder Submissions on the Draft Report

QUU requested clarification of the treatment of capital revenues under the as commissioned approach.

QUU also suggested that the Authority discuss the relative merits of the asset offset approach compared to the revenue offset approach for the treatment of capital contributions.

QUU considered that the Authority's comment in the Draft Report that the asset offset approach to the treatment of capital contributions has a lesser immediate impact than the revenue approach should be clarified as it could be interpreted that the asset offset approach has a lesser impact on revenue than the revenue offset approach.

Authority's Analysis

In response to QUU's request for clarification on the treatment under the revenue offset approach of capital revenues under the 'as commissioned' approach, the Authority notes that, under the revenue offset approach, all capital revenues are deducted from the MAR in the year of receipt rather than the year of commissioning.

In response to QUU's suggestion that the Authority discuss the relative merits of asset offset approach, the Authority notes that the *Final Report on SEQ Interim Price Monitoring Framework (April 2010)* stated that the asset base offset approach is considered to offer several advantages:

(a) it is consistent with the initial line-in-the-sand RAB advised by government, in which past contributed assets and capital contributions have been accounted for in lower asset values. The initial RAB was established using a discounted cash flow methodology which 'excluded any returns from contributed assets' and contributed assets and cash contributions were 'netted off the regulatory asset base' (KPMG 2007);

(b) it maintains a more direct relationship between the regulatory asset base and ongoing prices. This results as the initial RAB is only increased by the capital expenditure that is directly paid for by the entities, the costs of which should be recovered in ongoing prices. Assets that the entities have not paid for are quarantined from the RAB; and

(c) the resulting annual revenue benchmark is more stable. This allows for simpler comparisons over the three years of the interim period and between the three entities. It also reduces forecasting risk, as the effect of capital contributions is spread over the life of assets.

In particular, the asset offset approach to the treatment of capital contribution results in more stable allowable revenues as the impact of the contribution is spread over the life of the asset rather than the full impact of the offset being felt in the year of receipt. The impact of the extraordinary donation to Somerset highlights the potential impact of the revenue offset approach.

The Authority proposes no changes to its Draft Report findings on contributed, donated and gifted assets.

The Authority considers that the QUU's reliance on councils' forecasts of contributed assets and capital contributions is reasonable. The Authority supports QUU's proposal to further investigate an appropriate method of forecasting contributed assets and capital contributions across all districts.

1.7 Rolling Forward the RAB

In accordance with the Ministerial Direction and normal regulatory practice, the initial regulatory asset base is rolled forward to account for capital expenditure, inflationary gain, depreciation (return of capital) and disposals.

The Authority generally applies a straight line approach to depreciation. Under the Direction, the Authority must also take into account, for the period 1 July 2008 to 30 June 2010, evidence that depreciation has been calculated using the Minister's advised RABs allocated to council assets and existing useful lives.

Under the roll forward, indexation and depreciation are calculated on the assumption that forecast capital expenditure and disposal occur evenly throughout the year.

For indexation, the Authority is required under the Direction to take into account the latest available ABS CPI (all groups, Brisbane) - however for 2009/10, the Queensland State Budget inflation forecast may be used.

As noted above, actual capital expenditure from 1 July 2008 to 30 June 2010 is included in the RAB, while from 1 July 2010 only prudent and efficient capital expenditure is to be rolled forward. Further, where the entity chooses to apply the asset base offset approach, contributed assets and capital contributions are deducted from the assets to be paid for by users.

Draft Report

In its initial submission, QUU adopted a straight line approach to depreciation based on existing asset lives. In relation to indexation, 2008/09 was based on ABS CPI (all groups, Brisbane) of 2.0% and, for 2009/10 onwards, an inflation forecast of 2.5% was used. Disposals for 2008/09 and 2009/10 were based on council's written down asset values, adjusted to reflect their RAB value. QUU has not forecast disposals from 1 July 2010.

The initial RAB as at 1 July 2008 for QUU is $1.60 billion for water and $2.33 billion for wastewater. To this has been added actual capital expenditure to 30 June 2010 and the Authority's view of prudent and efficient capital expenditure in 2010/11.

For the Draft Report, the Authority engaged SKM to review the asset lives provided by QUU against those in their fixed asset registers. SKM found that the asset lives for existing assets provided in the templates align with those in council financial records.

For new assets, SKM noted that QUU's asset lives are based on Brisbane averages, which SKM considered to be reasonable. SKM noted that QUU is revising asset lives and recommended that this revision take into account data for all geographic areas. SKM compared some specific QUU asset lives to benchmarks sourced from water industry codes of practice and found them to be reasonable.

As a result, for the Draft Report, the Authority accepted the asset lives provided by QUU and supported QUU's decision to review them. It would be expected that a comprehensive review of individual asset lives would form part of any deterministic regulatory regime.

Under the approved framework, the Authority recommended that forecast inflation be estimated using forecasts of CPI as determined by the difference between the RBA return on the market rate for five year bonds and five year capital indexed bonds.

The Authority adopted the ABS CPI for Brisbane for use in indexing the asset values in the RAB. For 2008/09, this was 2.02%. For 2009/10, the Authority accepted QUU's 2.5% estimate as this is the Queensland State Budget inflation forecast for 2009/10. In relation to forecast CPI from 1 July 2010, the Authority adopted an estimate of 2.48% which is the difference between the RBA return on the market rate for five year bonds and five year capital indexed bonds, as proposed in the Authority's framework report.

The Authority accepted QUU's approach to estimating disposals in 2008/09 and 2009/10 as this is consistent with council's financial records and their RAB values. The Authority noted that QUU has not forecast disposals from 1 July 2010. The Authority noted this is unlikely to be a material issue given the extent of disposals in 2007/08 and 2008/09 (0.7% and 0.2% respectively, for water).

The Authority rolled forward the initial RAB for capital expenditure, indexation and disposals.

In the Draft Report, the Authority's estimate of the regulatory opening asset base for price monitoring purposes in 2010/11 did not differ materially from that of QUU ($1,778.06 million for water compared with QUU's $1,775.64 million and $2,501.40 million for wastewater compared with QUU's $2,496.78 million).[9]

Further, the Authority's estimate of the closing asset value as at 30 June 2011 was $1,847.93 million for water and $2,558.45 million for wastewater. QUU's estimate for water was $1,844.20 million and $2,551.47 million for wastewater.

Stakeholder Submissions on the Draft Report

No stakeholder commented on this issue.

Authority Analysis

Due to the finalisation of establishment costs, the opening RAB for 2009/10 and the roll forward have been updated since the Draft Report. Tables 39 and 40 refer.

The opening RAB as at 1 July 2010 is slightly lower than the Draft Report reflecting the changes to the quantum and timing of approved establishment costs.

The Authority's estimate of the regulatory opening asset base for price monitoring purposes in 2010/11 did not differ materially from that of QUU ($1,774.45 million for water compared with QUU's $1,775.64 million and $2,495.73 million for wastewater compared with QUU's $2,496.78 million).

Further, the Authority's estimate of the closing asset value as at 30 June 2011 is $1,844.12 million for water and $2,551.38 million for wastewater. QUU's estimate for water was $1,844.20 million and $2,551.47 million for wastewater.

Table 39: Asset Base Roll Forward – Water ($m)

	2008/09	***2009/10***	***2010/11***
Opening RAB	1,606.04	1,679.79	1,774.45
+ Capital expenditure	92.84	96.94	72.18
+ Indexation	33.32	43.99	45.96
- Depreciation	-41.10	-42.66	-48.46
- Disposals	-11.31	-3.61	-
- Capital contributions[1]	-	-	-
Closing RAB (QCA)	1,679.79	1,774.45	1,844.12

[1] Only relevant for asset base offset approach to the treatment of capital contributions. QUU has adopted a revenue offset approach.
Source QUU (2010), SKM (2010), QCA

[9] At the time of price setting, QUU estimated a $4,297.56 million opening RAB, with indexation in 2010/11 of $111.76 million and depreciation of $150.77 million. The costs submitted to the Authority reflect more recent available to QUU at the time of making its submission and capital expenditure for 2010/11 as commissioned as required by the Authority.

Table 40: Asset Base Roll Forward – Wastewater ($m)

	2008/09	*2009/10*	*2010/11*
Opening RAB	2,339.01	2,373.24	2,495.73
+ Capital expenditure	89.60	167.43	97.25
+ Indexation	48.09	62.11	64.11
- Depreciation	-94.26	-97.51	-105.71
- Disposals	9.19	-9.54	-
- Capital Contributions[1]	-	-	-
Closing RAB	2,373.24	2,495.73	2,551.38

[1] *Only relevant for asset base offset approach to the treatment of capital contributions. QUU has adopted a revenue offset approach.*
Source QUU (2010), SKM (2010), QCA

The Authority's estimate of the regulatory opening asset base for price monitoring purposes in 2010/11 does not differ materially from that of QUU ($1,774.45 million for water compared with QUU's $1,775.64 million, and $2,495.73 million for wastewater compared with QUU's $2,496.78 million).

The Authority's estimate of the closing asset value as at 30 June 2011 is $1,844.12 million for water and $2,551.38 million for wastewater.

1.8 Return on Capital

Under the Ministerial Direction, the Authority must advise the entities by 1 March 2011 and 1 March 2012 of the WACC benchmark for 2011/12 and 2012/13 respectively.

The return on capital compensates investors for the opportunity cost of their investment. The Authority uses a nominal post-tax WACC to determine the appropriate return on capital on the regulatory asset base, specifically Officer's 'vanilla' WACC3.

For this price monitoring review, the Authority has adopted its standard approach to estimate the WACC. To this end, the Authority engaged Dr Martin Lally to provide specialist advice in relation to appropriate WACC parameter values.

Whether the current approach should be applied to SEQ water in future is an issue to be explored over the interim period along with the form of regulation to be applied.

Draft Report

In its initial submission, QUU proposed a WACC of 10.25% for price monitoring. QUU noted it adopted a WACC of 9.2% in setting prices for 2010/11 and reflected this in their information return for 2010/11. QUU also made a detailed submission on relevant WACC parameters.

QUU, in conjunction with Allconnex Water and Unitywater, engaged Competition Economists Group (CEG) to provide advice on WACC parameters. QUU adopted many of CEG's recommended parameter values in its submission but adjusted others to reflect the Authority's most recent approach. QUU's and CEG's reasoning is outlined in **Appendix B**.

The other two entities proposed a WACC of 9.88%, on the basis of CEG advice.

In the Draft Report, the Authority proposed a WACC of 9.35%. Detailed analysis of entity submissions, expert advice and key parameters was in Appendix B.

Stakeholder Submissions on the Draft Report

In response to the Draft Report, the entities again engaged CEG to provide advice. QUU referred to the CEG advice and that of Professor Bruce Grundy in its submission. QUU's, CEG's and Grundy's arguments are outlined in more detail in Appendix B.

QUU submitted that, in its view, a WACC of 10.25% remained appropriate rather than the 10.81% proposed by the (more recent) CEG advice (which advice was adopted by the other distributor-retailers).

Authority's Analysis

Many of the issues raised in the QUU submission are similar to those raised by the other entities.

Therefore, for clarity and to avoid repetition, the Authority has set out its detailed assessment of QUU's (and the other entities') comments in Appendix B. The analysis in this appendix is relevant to all entities.

The main methodological difference between QUU's and the Authority's WACC remains that, under the Authority's current approach, it matches the term of the risk-free rate and debt margin to the term of the regulatory period. The Authority's current approach has been explained in detail and applied by the Authority in its June 2010 Draft Decision on QR Network's 2010 DAU - Tariffs and Schedule F (which forms part of the undertaking approved in October 2010) and in its June 2010 Final Report on the Gladstone Area Water Board.

After taking into account all the comments made in response to the Draft Report, the Authority retains its view that the most appropriate estimate of the WACC for the interim price monitoring period is 9.35% (Appendix B), subject to variation for 2012/13 if considered appropriate following the Authority's proposed Authority-wide WACC review. This is lower than QUU's proposed 10.25% for price monitoring but higher than the 9.2% WACC QUU actually used in setting prices.

To calculate the return on capital, the Authority applied the WACC of 9.35% to the entity's opening regulatory asset base and half the capital expenditure during the relevant year.

While the Authority has undertaken a comparison of the Authority's proposed return on capital for 2010/11 against that claimed by QUU, the Authority also sought to compare the QUU and Authority estimates for 2010/11 with those of councils for 2009/10.

As noted in the Draft Report, estimates of council's 2009/10 return on capital are based upon available records of dividends, actual cost of debt, retained earnings and capital gain (see Table 41). These do not necessarily reflect the cash benefit to councils over the costs of providing services as they do not necessarily reflect other benefits accruing to councils such as franchise fees. Further, capital gain is based on the Ministers advised RAB.

Any such comparison should therefore be treated with caution. A review of past arrangements was not considered to be consistent with the terms of reference of this review which relates to QUU's forecasts of revenues and costs for 2010/11.

The Authority's final estimate of the return on capital resulting from the 9.35% WACC and the (updated) asset base is set out below.

Table 41: Return on Capital ($m)

	Costs 2009/10	*Costs 2010/11*	*Water Costs 2010/11*	*Wastewater Costs 2010/11*
Return on Capital (QUU)[10]	369.25	400.86	166.68	234.18
Return on Capital (QCA)	-	407.29	169.33	237.96
Difference	**-**	**6.43**	**2.65**	**3.78**

Source QUU data template and subsequent information – return on and of capital for 2009/10 reflect financial data provided by council. Return on capital in 2009/10 is the sum of interest, dividends, retained earnings and capital gain. Return on capital for 2010/11 onwards is based on economic regulatory approaches.

The Authority proposes to use a WACC of 9.35% for interim price monitoring, subject to the findings of an Authority-wide WACC review due to commence soon, which may impact on the proposed WACC for 2012/13.

1.9 Operating Expenditure

Operating costs include the cost of purchasing bulk water, as well as both retail and distribution costs such as materials and services (including chemical and electricity costs), employee, corporate and customer service costs.

The Ministerial Direction requires the Authority recognise the Government's policy that the prices charged by the SEQ Water Grid Manager for bulk water storage, treatment and delivery are to be passed through to customers in full. The Ministerial Direction also requires the Authority to accept the operational constraints imposed by the SEQ Urban Water Arrangements Reform Workforce Framework 2010. These constraints include that there are to be no forced redundancies during the interim period.

The Authority notes that these constraints do not apply to new employees engaged temporarily to perform work on the establishment of the entities or independent contractors or employees engaged by labour hire companies that provide services to either the entity or participant council.

The Authority engaged SKM to review the reasonableness of QUU's forecasts of operational expenditure for its water and wastewater activities from 1 July 2010.

Draft Report

In its initial submission, QUU proposed a total of $1.37 billion of operational expenditure over the interim period, comprised of $932 million of expenditure for water and $439 million for wastewater.

[10] At the time of price setting, QUU estimated a $410.03 million required return on capital for 2010/11, applying a 9.2% WACC to a higher asset base due to higher estimates of capital expenditure for 2010/11 at that time. The costs submitted to the Authority reflect more recent information available to QUU at the time of making its submission and the use of commissioned capital expenditure as required by the Authority.

QUU allocated these operational expenditures to just four cost categories, bulk water costs, employee costs, contractor costs and materials and services. QUU allocated its operational costs only to drinking water and wastewater via sewer services. Bulk water costs accounted for more than half of QUUs total operating costs over the interim period while materials and services accounted for a further 40% of total operating costs.

Operational Budget Development

QUU adopted a structured approach to the development of its operational expenditure budget for 2010/11. The budget was developed in two stages. Firstly, the five former council water businesses prepared a budget for 2010/11 as if they were to continue without any institutional reform ('as is' budget). QUU developed a series of budget guidelines and required each council to confirm that their 'as is' budgets were developed in accordance with the guidelines.

The second stage of the budgetary process involved the determination of changes needed for the merger of the five business and the formation of QUU ('to be' budget). This was conducted by line managers within QUU. These budgets are underpinned by zero base models for asset maintenance, planned schedule maintenance, corrective maintenance, responsive maintenance, electricity, chemicals and sludge handling.

The final QUU operational budget for 2010/11 is a combination of the 'as is' budgets developed by the councils and the 'to be' budget developed by QUU. The final budget is maintained within the QUU financial model with the relevant assumptions and reasoning documented. The use of the 'as is' budgets allows for the majority of costs to be directly attributable to geographic areas and services. The final budget for 2010/11 was approved by the QUU Board.

In subsequent information provided to the Authority, QUU identified that the adoption of these processes in 2010/11 led to the reduction of operating costs of $43 million, and these savings are already incorporated in the costs submitted to the Authority.

In forecasting operating cost beyond 2010/11, QUU has applied both generic cost indices and geographic specific growth factors to the 2010/11 budget. The high level indices and growth factors used by QUU to develop the 2011/12 and 2012/13 budgets are detailed in Table 42.

Table 42: Operating Cost Indexes and Growth Factors

Cost Group	***Cost Index***		***Annual Growth Factors***				
	2011/12	***2012/13***	***Brisbane***	***Ipswich***	***Lockyer Valley***	***Scenic Rim***	***Somerset***
Population growth			1.33%	5.44%	2.83%	3.3%	2.57%
Direct Labour	4.30%	4.25%	1.00%	1.50%	1.50%	1.50%	1.50%
Bulk Water	Estimate bulk volumes at Water Grid Manager forecast prices indexed at 2.5% pa						
Electricity	2.50%	2.50%	Aligned to percentage change in bulk water volume				
Chemicals	2.50%	2.50%	Aligned to percentage change in bulk water volume				
Sludge Handing	2.50%	2.50%	_	_	_	_	_
Other Costs	2.50%	2.50%	0.25%	0.40%	0.40%	0.40%	0.40%

Source QUU (2010)

Operational Expenditure forecasts

QUU's forecast total operational expenditure over the period 2010/11 to 2012/13 is set out in Tables 43 and 44 respectively.

Table 43: QUU's Forecast Operating Costs Water 2010-2013 ($m)

	2010/11	***2011/12***	***2012/13***
Bulk Water Costs	188.73	230.85	276.48
Retail Operating Costs			
Customer service and billing	na	na	na
Regulated demand management costs	na	na	na
Community service obligation costs	na	na	na
Distribution Operating Costs			
Employee expenses	12.92	13.65	14.39
Contractor expenses	0.13	0.13	0.14
GSL payments	na	na	na
Materials and services (including electricity and chemicals)	61.91	65.09	68.12
Licence or regulatory fees	na	na	na
Natural resources management costs	na	na	na
Corporate costs	na	na	na
Total Operating Costs	**263.69**	**309.72**	**359.13**

Note na indicates that costs were not disaggregated to these categories in a manner consistent with the Authority's data template.
Source QUU (2010), SKM (2010), QCA

Table 44: QUU's Forecast Operating Costs Wastewater 2010-2013 ($m)

	2010/11	*2011/12*	*2012/13*
Bulk Water Costs	0.94[a]	1.13	1.31
Retail Operating Costs			
Customer service and billing	na	na	na
Regulated demand management costs	na	na	na
Community service obligation costs	na	na	na
Distribution Operating Costs			
Employee expenses	23.81	25.16	26.52
Contractor expenses	0.13	0.13	0.14
GSL payments	na	na	na
Materials and services (including electricity and chemicals)	114.95	120.02	124.96
Licence or regulatory fees	na	na	na
Natural resources management costs	na	na	na
Corporate costs	na	na	na
Total Operating Costs	**139.83**	**146.44**	**152.93**

[a] *QUU has included costs related to the purchase of purified recycled water from the SEQ Bulk Water Grid Manager in the bulk water costs for wastewater. na indicates that costs were not disaggregated to these categories in a manner consistent with the Authority's data template.*
Source QUU (2010), SKM (2010), QCA

QUU has forecast that its total operational expenditure will increase from $269.5 million in 2008/9 to $403.52 million in 2010/11 and then to $512.1 million in 2012/13; an average annual increase of 17.14%.[11]

QUU operating costs for water and wastewater are forecast to increase over the interim period by 36% and 9% respectively. QUU stated in its submission that the primary drivers for increases in operating costs were increased bulk water costs, population growth and compliance with environmental standards.

In subsequent information provided to the Authority in late 2010, QUU identified further internal operating efficiency targets of $5 million in both 2011/12 and 2012/13. These targets were not included in their submission to the Authority.

For the Draft Report, the Authority engaged SKM to review the reasonableness of QUU's operational expenditure. The assessment of the reasonableness of operational expenditure was intended to take into account the relevant service standards, Frontier's revised demand forecasts, possible substitution between capital and operating expenditure and the potential for efficiency gains and economies of scale.

Adequacy of Operational Expenditure Data Provision

Prior to assessing the reasonableness of proposed operational expenditure, SKM reviewed QUU's submission to ensure that QUU provided comprehensive and accurate information.

[11] At the time of price setting, QUU estimated $400.51 million in operating expenditure for 2010/11. The costs submitted to the Authority reflect more recent information.

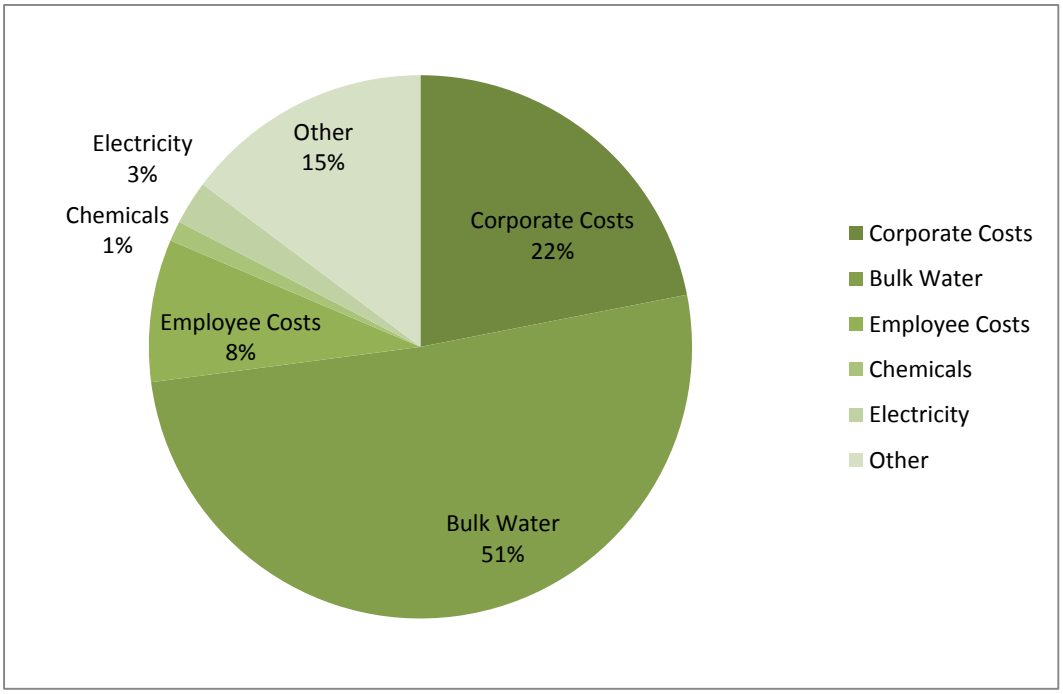
QUU's submission did not assign operating costs against all of the cost categories requested in the Authority's Information Requirements for 2010/11, with some cost categories aggregated into other categories.

SKM found that, in order to review the reasonableness of operational expenditure, data at a greater level of disaggregation was required. This was particularly true in the case of the materials and services category which comprised 40% of QUU's of total operational expenditure and includes all cost with the exception of employee costs and bulk water costs.

In response to a request for information from SKM, QUU provided operational expenditure on a more disaggregated basis which separately identified electricity and chemical costs (Chart 4).

SKM identified data in QUU's data template that referred to corporate (labour and material and services allocations) and other costs. SKM noted these did not align with the Authority's definitions in the information requirements.

Chart 4: QUU's Operating Costs 2010-2013



Note Corporate costs reflect labour corporate allocations and materials and services corporate allocations as defined by QUU. This does not align with the Authority's definition of corporate costs.
Source SKM (2010)

Operational Budgeting

SKM reviewed the policies and procedures followed by QUU to ensure that they represented good industry practice. SKM reviewed the budget guidelines used in the preparation of the 2010/11 operational budget and found that the guidelines provided a comprehensive guide to a range of aspects associated with the budget development and approval process including:

(a) outline of the budget process;

(b) who has approved the process;

(c) responsibilities;

(d) budget approval and development;

(e) protocols for changes and inter-council communications;

(f) parameters to be applied (e.g. CPI);

(g) review and approval programme; and

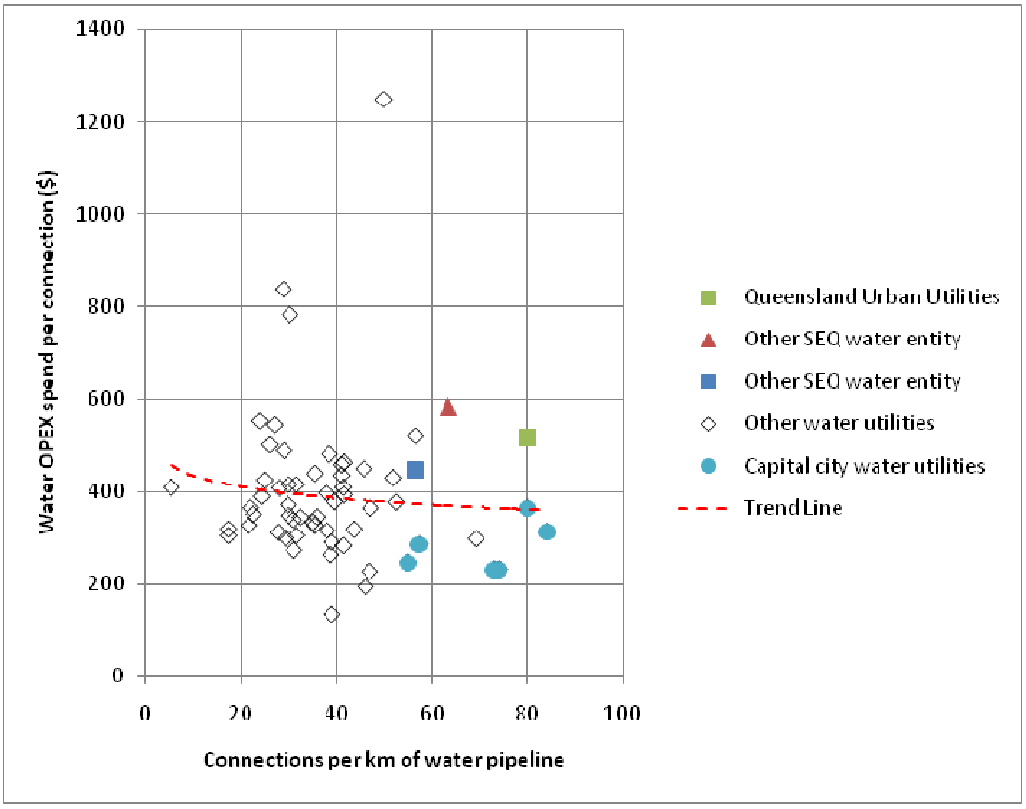
(h) schedules to be produced.

In regards to the budget process adopted by QUU, SKM found that the operational expenditure budget process represented good industry practice.

Reasonableness

SKM benchmarked QUU's 2010/11 aggregate operational expenditure for water and wastewater against a range of other Australian utilities using two key benchmarks. For water, QUU's relative performance was measured using both opex spend per connection and the number of connections per kilometre (Chart 5).

Chart 5: Water Operational Expenditure



Note Other utilities data derived from the 2008/09 NWC Performance Report with costs inflated by CPI to 2010/11
Source SKM (2010)

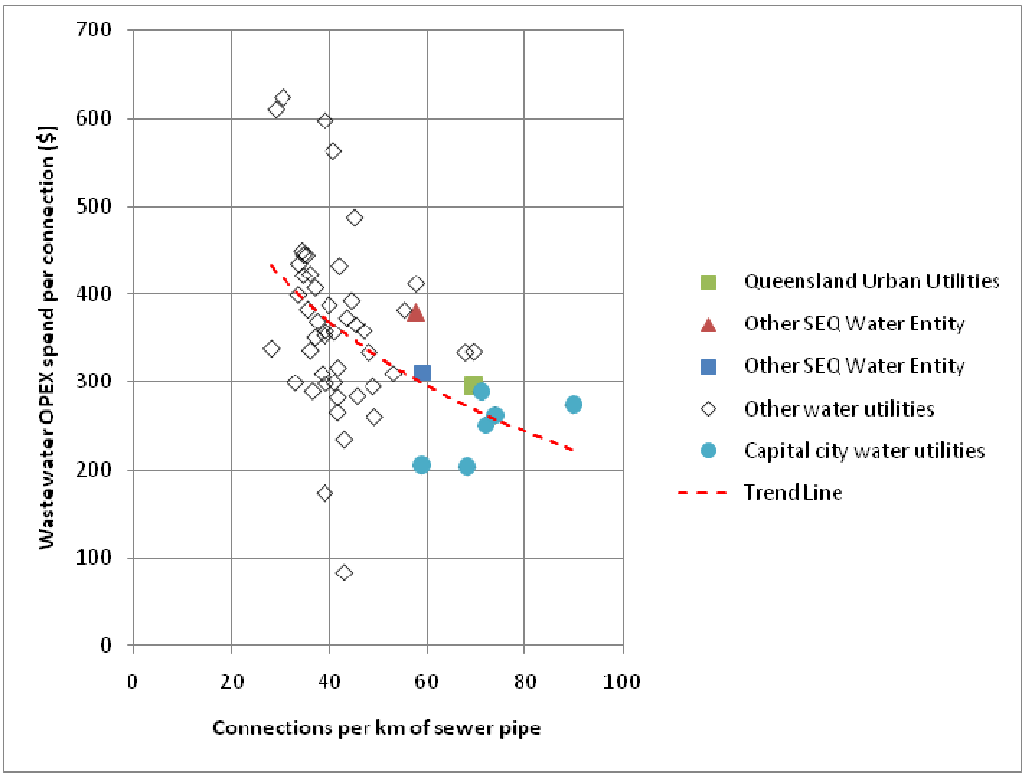
SKM found that QUU operational expenditure for water in 2010/11 was generally higher than that of similar sized water utilities in other jurisdictions. SKM noted that this was due in part to higher SEQ bulk water costs. When bulk water costs were removed from this analysis, SKM found that, on a per connections basis QUU's operating expenditure for 2010/11

($147/connection) is broadly consistent with some of its interstate peers (Sydney $139/connection and Melbourne $97-$168/connection).

In the Draft Report, the Authority noted that SKM's benchmarks for operating costs for other water utilities (barring those in SEQ) assume other entities' costs per connection have remained constant in real terms since 2008/09. There would therefore appear to be some further opportunity for efficiency gains to achieve best practice.

Using the same method for QUU's wastewater operational expenditure (Chart 6), SKM found that QUU's proposed 2010/11 wastewater operating expenditure is in line with that of other Australian water utilities.

Chart 6: Wastewater Operational Expenditure



Note CPI has been applied to other utilities data to inflate the costs contained in the 2008/9 NWC Performance Report to 2010/11
Source SKM (2010)

The Authority noted that this high-level analysis showed QUU's operating costs for 2010/11 fall within a range of values bounded by other water utilities, and indicated the extent of operating efficiencies that could potentially be achieved.

The Authority noted that economic regulators in other jurisdictions have applied efficiency gains to water retail businesses' proposed operating expenditures of up to 3.5% (NWI Steering Group on Water Charges 2007).

For the Draft Report, the Authority considered whether to apply operating efficiency targets upon QUU's non-bulk operating costs. However, the Authority noted that 2010/11 operating expenditure in QUU's submission already incorporates a 16.7% saving on non-bulk operating costs ($43 million on initial estimates of non-bulk operating costs).

The Authority therefore did not impose further high level efficiency targets for 2010/11. Efficiency targets for 2011/12 and 2012/13 are discussed further below.

SKM then sought to review key components of QUU's submitted operating expenditure.

Reasonableness of Sampled Costs

SKM selected a sample of expenditure for detailed review. The sample included the top 10% of operational expenditure by value in each activity and geographic area, over the forecast period. SKM has reviewed bulk water costs, employee costs, corporate costs, electricity and chemical costs. This sample captures 86% of the total operational expenditure (see Table 45) over the forecast period.

Table 45: Queensland Urban Utilities Operating Costs ($m)

Cost Centre	*2010/11*	*2011/12*	*2012/13*
Bulk water	189.68	231.98	277.79
Corporate Costs [a]	96.07	100.24	104.46
Employee costs	38.89	41.09	43.31
Electricity	11.27	11.89	12.54
Chemicals	5.19	5.48	5.78
Total Sample	**341.10**	**390.68**	**443.88**
Total Expenditure	**403.52**	**456.16**	**512.05**

[a] *Does not align with the Authority's definition of corporate costs.*

Source QUU (2010), SKM (2010)

(a) Bulk Water Cost

SKM examined QUU's tariffs and noted that the bulk water tariffs charged to customers are consistent with those charged by the SEQ Water Grid Manager. SKM found that QUU's operating budget demonstrates that prices charged by the SEQ Water Grid Manager for bulk water storage, treatment and delivery are passed through to customers in full.

The review of QUU's demand forecasts for bulk water by Frontier Economics recommended adjustments to the volume of water sales forecast by QUU (see section 1.4) and made corresponding changes to bulk water purchases. SKM has accepted Frontier Economics' recommendations and has adjusted QUU's operating costs associated with the purchase of bulk water for 2010/11 (see Table 46). Bulk water costs for water decreased slightly in 2010/11 as a result of an estimated reduction of demand in Brisbane.

Table 46: 2010/11 Bulk Water Costs

Geographic Area	*QUU Submitted Bulk Water Cost ($m)*	*QUU Submitted Demand (ML)*	*Revised Frontier Demand (ML)*	*Unit Price (/kL)*	*SKM Revised Bulk Water Cost ($m)*
Brisbane	156.55	102,464	102,099	1.517	154.88
Ipswich	24.39	16,788	17,000	1.453	24.70
Lockyer Valley	2.49	1,459	1,442	1.710	2.47
Scenic Rim	2.64	1,378	1,497	1.817	2.72
Somerset	2.66	1,274	1,341	2.087	2.79
Total	**188.73**	**123,362**	**123,378**	**n/a**	**187.57**

Source Frontier Economics (2010), QUU (2010), Queensland Water Commission

On 5 December 2010, the Treasurer and the (then) Minister for Natural Resources, Mines and Energy and Minister for Trade announced a series of reforms to the SEQ water industry. Included in these reforms was a revision to the long term bulk water price path from 2011/12. Bulk water prices for 2010/11 were unchanged. The Authority revised the QUU bulk water expenditure in 2011/12 and 2012/13 to reflect these revised prices. These changes reduce the QUU bulk water expense by $10.29 million over the three year price monitoring period.

(b) Corporate Costs

Supporting information provided by QUU referred to 'Labour Corporate Allocations' and 'Materials and Services Corporate Allocations' which SKM added together to form an estimate of corporate costs. QUU subsequently identified these as labour, materials and service expenses for support services. SKM noted that these two categories (labour and materials and services) do not fully encompass the items to be included as corporate costs (as per Section 6 of the Information Requirements for 2010/11). SKM requested further information from QUU.

QUU indicated to SKM that it would require significant effort to provide the required level of disaggregation in the first monitoring period, largely due to time constraints. Hence, SKM noted the level of information provided is not sufficient to accurately determine corporate costs as per the QCA required definition.

SKM was unable to accurately identify the quantum of corporate costs contained in the materials and services category. As such, SKM was unable to review the reasonableness of 2010/11 corporate costs, and focused on the escalation factors applied by QUU to achieve 2011/12 and 2012/13 estimates.

SKM noted that QUU adopted a general cost escalation factor of 2.50% and did not apply a growth factor to these costs. SKM found this 2.50% rate to be lower than the average actual CPI over the last five years, but nonetheless a reasonable estimation. It is consistent with the CPI adopted by the Authority for regulatory purposes.

SKM found that further refinement of QUU's Financial Model is required to allow disaggregated data to be recorded against each of the cost categories for future price monitoring submissions.

SKM considered the amalgamation of the five council water businesses into QUU should ultimately achieve efficiency gains in service delivery, economies of scale and reduced corporate costs.

SKM considered that this is unlikely to occur over the three year price monitoring period as the costs associated with establishing QUU, including the establishment of new administrative processes and systems, would negate any efficiency gains and economies of scale.

However, the Authority noted in the Draft Report that establishment costs will be capitalised once Ministerial approval of them is received.

(c) Employee Costs

Under the Ministerial Direction, the Authority must accept the operational constraints imposed by the SEQ Urban Water Arrangements Reform Workforce Framework 2010 (SEQ Framework). SKM noted the most significant constraint is that there are to be no forced redundancies or overall loss of employment directly as a result of the water reforms, during the reform period. Also, there are to be no forced relocations within 12 months from the date of transfer.

SKM noted that the operational constraints imposed by the SEQ framework limit the ability of QUU to achieve full labour efficiency.

The increase in QUU's employee costs (Table 44) were attributed by QUU to both an increase in employee numbers and labour cost increases.

QUU have in their submission nominated a growth in employee numbers of between 1% and 1.5% depending on geographic area, while the cost escalation rates for labour costs were set at 4.30% and 4.25% for 2011/12 and 2012/13 respectively.

In subsequent information provided to the Authority, QUU provided data indicating that total employee numbers had risen 1.04% in the year to date. As noted previously, QUU also identified that its submission already included savings in operating costs.

SKM benchmarked QUU's labour cost escalation index against both the historic ABS Labour Price Index for the hourly rates for public servants in the Electricity, Gas, Water and Waste Services and the AER's forecasts of wage price increases in the utilities sector (see Table 47).

SKM concluded that QUU's labour cost indices are in line with both the AER forecast indices and the historic trends as derived from the Labour Price Index. The labour cost indices are therefore considered reasonable. SKM also found that the growth factor used by QUU to determine employee numbers was reasonable to build required capability and service growth that is increasing at a higher rate.

The Authority noted that natural attrition should be a source of potential efficiencies even within the constraints of the SEQ framework, however the natural attrition of required skills will require replacement through training, relocation or other replacement.

However, given the savings already pursued by QUU, and in the absence of a readily available benchmark, the Authority did not attribute quantifiable efficiency gains specifically to labour costs in this review. However, the Authority noted it intends to pursue this issue further over the interim period, and an overall target for efficiency gains is discussed further below.

Table 47: Comparison of Labour Cost Escalation Indices

	2008/09	*2009/10*	*2010/11*	*2011/12*	*2012/13*
Queensland Urban Utilities	-	-	-	4.30%	4.25%
Australian Energy Regulator	4.90%	3.60%	3.80%	4.20%	3.90%
ABS, Labour Price Index	4.38%	4.40%			

Source Australian Energy Regulator (2010), Australian Bureau of Statistics (2010)

(d) Electricity Costs

SKM found that the electricity model used by QUU to develop the majority of its 2010/11 costs provides a comprehensive calculation of electricity costs by taking into account forecast water and wastewater flows, peak/off-peak splits and allowance for sourcing green energy. QUU subsequently indicated that the model included a cost escalation of 13.3% for 2010/11 across regulated tariffs and a price reduction of 1.5% across contestable market contracts. The fall in contestable market contracts was due to a fall in energy costs under a new contract that took effect in January 2011. Regulated tariffs make up 25% of the total 2010/11 expenditure on electricity, with the remaining 75% purchased under contestable market contracts.

However, the QUU electricity model only encompasses the Brisbane service area. For the other four service areas, the 2010/11 budget for electricity was as per the 'as is' council submitted budgets. Nonetheless, Brisbane accounts for 80% of QUU's 2010/11 electricity costs.

QUU indicated to SKM that the Brisbane model would be expanded to other service areas in future years. In this first information return, QUU did not use its electricity model for 2011/12 and 2012/13 forecasts. Instead, it has applied a cost escalation factor of 2.5% and a growth factor aligned to the percentage change in bulk water volumes (see Table 48).

Table 48: QUU Electricity Costs ($m)

	2010/11	*2011/12*	*2012/13*
Water	1.32	1.39	1.47
Wastewater	9.95	10.50	11.07
Total	**11.27**	**11.89**	**12.54**

Source QUU (2010),

SKM benchmarked QUU's regulated tariffs against the Queensland Benchmark Retail Cost Index (BRCI) and the Australian Bureau of Statistics Consumer Price Index for electricity (see Table 49). SKM found that QUU's price escalation for regulated tariffs in 2010/11 (13.3%) is (broadly) consistent with both the BRCI (13.29%) and CPI for electricity (15.5%).

Table 49: Electricity Cost Escalation Benchmarks

	2008/09	*2009/10*	*2010/11*	*2011/12*	*2012/13*
QUU – Contestable Market Contract Prices	-	-	-1.5%	2.50%	2.50%
QUU – Regulated Tariffs	-	-	13.30%	2.50%	2.50%
BRCI	5.38%	11.82%	13.29%	5.83%[a]	
ABS CPI for electricity in Brisbane	11.60%	8.30%	15.50%		

Note [a] *QCA BRCI Draft Decision (2010)*
Source QCA (2010), Australian Bureau of Statistics (2010)

In the Draft Report, the Authority noted that a weighted average of the 2010/11 price increases for QUU's Brisbane area electricity is 2.20%.[12] This is broadly consistent with QUU's forecast price increase of 2.5% in 2011/12 and 2012/13.

SKM noted that the type of electricity purchase arrangement will have significant impact on QUU's electricity costs. The Authority supported this view and noted that QUU should seek out the most efficient option within its regulatory and contractual obligations. In particular, if QUU chooses to continue to purchase (more expensive) green energy, it should demonstrate that there is sufficient customer support for the additional expenditure associated with this decision.[13]

The Authority released its Draft Decision on the 2011/12 BRCI on 17 December 2010, of 5.83%. Taking this into account, the Authority calculated that to achieve a weighted average electricity price increase of 2.5% for 2011/12 as per QUU's submission, contestable prices would need to increase by only 1.39%.[14] The Authority accepted QUU's forecast for 2011/12 and will track the change in electricity prices under contestable market contracts that are achieved. (Prior to the release of the Authority's Draft Decision on the 2011/12 BRCI, SKM estimated a 7.6% increase as reasonable – this view is now superseded by subsequent events.) The Authority has also accepted the 2.5% price increase for 2012/13.[15]

The Authority revised QUU's growth forecasts to align with the percentage change in bulk water volumes arising from Frontier Economics' revised demand forecasts.

Revised electricity costs are presented in the Table 50.

[12] 2.20% = (0.75 x -1.5) + (0.25 x 13.29)
[13] The Authority notes that in its 2009 review of Melbourne water prices, the ESC considered that green energy purchases of 10 to 20% of total energy to be efficient and that higher levels are acceptable where a business can demonstrate that there is sufficient customer support for the associated expenditure. The ESC accepted Melbourne Water's proposal to source 61% of total energy from renewable sources as it had conducted a willingness to pay study which showed support for this policy.
[14] 2.5% = (0.75 x 1.39) + (0.25 x 5.83). This calculation assumes the same share of contestable market contracts (75%) in 2011/12 as in 2010/11. QUU should adopt the most efficient option.
[15] The Authority has not yet formed a view on the BRCI for 2012/13.

Table 50: Revised QUU Electricity Costs ($m)

	2010/11	*2011/12*	*2012/13*
Water	1.33	1.41	1.50
Wastewater	9.95	10.58	11.25
SKM Total	**11.28**	11.99	12.75
QUU Proposed Total	**11.27**	**11.89**	**12.54**
Variance	**0.09%**	**0.84%**	**1.63%**

Source SKM (2010), QCA (2010)

(e) Chemical costs

Chemicals are used to treat drinking water before delivery to customers, and for wastewater prior to discharge. The need for chemical use is dictated by drinking water standards and compliance with operational licenses for wastewater discharge.

QUU's expenditure on chemicals is forecast to increase from $5.2 million in 2010/11 to $5.8 million in 2012/13. In determining these forecasts, QUU have used a general price escalation index of 2.5%.

SKM noted that transport costs are recognised as a significant cost component for chemicals (the cost of transporting chemicals to depots and throughout the distribution network).

The amalgamation of the five former council water businesses increases the purchasing power of QUU with potential efficiency gains or reduction in cost through economies of scale through the consolidation of supplier contracts and purchasing power.

In this regard, QUU has indicated that it has negotiated a chemical supply contract that covers all districts. This contract is for three years initially and with a price escalation clause based on CPI. Thus the cost escalation rate assumed by QUU of 2.5% is reasonable.

The growth factor applied by QUU to chemical cost is derived from the growth of bulk water demand, and has been revised as a result of Frontier's recommendations. The adjusted chemical costs for QUU are contained in Table 51.

Table 51: Revised Chemical Costs ($m)

	2010/11	*2011/12*	*2012/13*
Water	0.18	0.19	0.20
Wastewater	5.01	5.32	5.64
SKM Chemical Costs	**5.19**	**5.50**	**5.84**
QUU Submitted Costs	**5.19**	**5.48**	**5.78**
Variance	**0.12%**	**0.48%**	**1.07%**

Source SKM (2010), QCA (2010)

Efficiency Gains and Other Amendments

As noted above, QUU's submitted operating costs for 2010/11 already include $43 million of savings in non-bulk operating costs. As a result, the Authority has not imposed further efficiency targets for 2010/11.

In the Draft Report, the Authority noted that QUU announced further cost savings targets of $5 million per annum in 2011/12 and 2012/13. These savings were not included in their original submission to the Authority. The Authority supported QUU's endeavours to find efficiency gains over the interim period and included these gains in its revised estimates. The Authority allocated the $5 million between water and wastewater based on their share of non-bulk operating costs.

However, the Authority noted that, even with these gains, SKM's analysis indicated there remains scope for further efficiency gains to bring QUU to the forefront of operating efficiency. Economic regulators in other jurisdictions have applied annual efficiency gains to water retail businesses of up to 3.5%.

In the Draft Report, the Authority noted that it expected that further operating efficiencies in non-bulk operating costs should be achievable over the remainder of the interim period. Further operating efficiencies of at least 2% per annum in non-bulk operating costs should be achievable in 2011/12 and 2012/13. This almost doubles the level of efficiency gains recently announced by QUU.

The Authority therefore revised its estimates of operating expenditure for these years to include QUU's recently announced savings and this further efficiency target (these are reproduced in Table 53 with revised estimates).

The Authority noted that QUU did not include the Authority's regulatory fees in its operational expenditure forecasts. The Authority included these regulatory fees in the revised operating costs, allocated on the basis of 2010/11 revenues. In addition to the Authority's fee, the Authority also amended QUU regulatory and licence fees to include the newly established Queensland Water and Electricity ombudsman fees (see Table 52).

Table 52: Revised QUU Licence and Regulatory fees ($m)

	2010/11	***2011/12***	***2012/13***
Water	0.40	0.49	0.53
Wastewater	0.39	0.45	0.46
Revised Total	0.79	0.94	0.99
QUU Proposed	-	-	-

Draft Report Summary

In its Draft Report, the Authority's revised operating expenditure for QUU over the interim period for water and wastewater was as outlined in Tables 54 and 55 respectively. The Authority noted that QUU had already included $43 million in operating efficiency gains in its estimated costs for 2010/11. Therefore, the Authority had not imposed further efficiency targets on QUU for 2010/11, but had done so for 2011/12 and 2012/13.

For water, the Authority reduced QUU's operating expenditure ($263.69 million) by 0.29% in 2010/11, mainly due to the reduced bulk water costs from Brisbane arising from Frontier Economics' revised bulk water demand forecasts. For wastewater, the Authority increased QUU's operating expenditure ($139.83 million) by 0.27% mainly due to the inclusion of the Authority's and Ombudsman's regulatory fees.

The cumulative impact of the Authority's revision to QUU forecast operational expenditure was a decrease of $27.12 million over the interim period (see Table 52). This represented a decrease of 1.98% on QUU's forecasts.

The Authority adjusted for revised demand forecasts, bulk water prices, electricity costs, expected efficiency gains and regulatory fees, but noted these will be subject to ongoing review in 2011/12 and 2012/13. The Authority expected that QUU may realise additional operational efficiencies in the future as it achieves economies of scale. The Authority also noted that there may be opportunities even within the constraints imposed by the SEQ workforce framework.

The Authority found that the level of disaggregation of cost was a significant impediment to the assessment of the reasonableness of the proposed expenditure. The Authority expected that in subsequent submissions that QUU would allocate costs to all relevant categories.

Stakeholder Submissions on the Draft Report

QUU stated that the Authority provided no discussion on the setting of the efficiency target of 2% on non-bulk operating costs. QUU further noted that the target set for QUU is in effect 4.2% as QUU had previously announced a $5 million annual reduction for each 2011/12 and 2012/13. QUU requested specific information in relation to this target. However, at the same time, QUU noted that a number of initiatives are already underway including improved procurement practices for operating and capital expenditure, benchmarking, integration and organisational design projects.

With regards to benchmarking, QUU stated that care needs to be taken to ensure that suitable benchmarks are used. For example, QUU noted that, in comparing water costs, the bulk water costs have been removed, however the dividing line between bulk and distribution is not clearly identified. QUU stated that it has many mains and reservoirs that add to electricity and maintenance costs that previously would have been considered bulk. QUU has sought access to the detailed calculations by SKM to further understand the opportunities for improved performance.

Authority's Analysis

The Authority notes that it is common regulatory practice within the Australian water industry for regulators to set general (non specific) operating efficiency targets of up to 3.5% per annum. The Authority considers that the establishment of QUU from five former council water businesses provides it with significant scope for cost saving as many functions were duplicated in each business.

The Authority notes that QUU has identified significant costs savings and other gains will continue to present themselves as the QUU continues to develop its internal capacity and become less reliant on service level agreements with councils and renegotiates contracts for the provision of goods and services utilising its significantly increased buying power. The initiatives outlined by QUU would make a significant progress towards achieving the Authority's efficiency targets.

The Authority welcomes any further information from QUU on more suitable benchmarks. The calculations by SKM are clearly identified in charts 5 and 6, and in the SKM report published on the Authority's website.

The Authority has made some minor adjustments to QUU's (and the other entities') efficiency targets, excluding of regulation and licence fees from the calculation of efficiency gains as these costs are externally imposed and are not controllable by the regulated entity (Table 53).

The Authority has not imposed an efficiency target for 2010/11, reflecting the gain already identified by QUU. In setting additional efficiency targets for 2011/12 and 2012/13, the Authority has adopted an effective total savings of 4% in 2011/12 and 6% in 2012/13 consistent with those imposed on other entities. To deliver this requires a further efficiency gain equal to 2% of controllable costs in 2011/12 and 1.77% in 2012/13. The effect of these adjustments is incorporated in the Authority's estimates of efficiency gains in Table 53.

Table 53: Further Efficiency Gains ($m)

	2011/12 Draft	***2011/12 Final***	***2012/13 Draft***	***2012/13 Final***
QCA efficiency target - water	-1.59	-1.58	-3.33	-1.46
QCA efficiency target - wastewater	-2.92	-2.91	-6.09	-2.69
Announced by QUU in late 2010 – allocated to water	-1.76	-1.76	-1.77	-3.53*
Announced by QUU in late 2010 – allocated to wastewater	-3.24	-3.24	-3.23	-6.47*
Revised Total	**-9.50**	**-9.49**	**-14.42**	**-14.15**

*Note QUU submitted costs include efficiencies of $43 million in 2010/11 costs * Amended since the Draft Report to reflect that $5 million efficiency to be achieved in each year of 2011/12 and 2012/13.*

The Authority's operating expenditure for QUU over the price monitoring period for water and wastewater over are outlined in Tables 54, 55 and 56.

Table 54: Reasonable Operating Costs - Water 2010- 2013 ($m)

	2010/11 Final	*2011/12 Draft*	*2011/12 Final*	*2012/13 Draft*	*2012/13 Final*
Bulk Water Costs	187.57	229.00	229.00	273.18	273.18
Retail Operating Costs					
Customer service and billing	na	na	na	na	na
Regulated demand management costs	na	na	na	na	na
Community service obligation costs	na	na	na	na	na
Distribution Operating Costs					
Employee expenses	12.92	13.65	13.65	14.39	14.39
Contractor expenses	0.13	0.13	0.13	0.14	0.14
GSL payments	na	na	na	na	na
Materials and services (including electricity and chemicals)	61.92	65.11	65.11	68.15	68.15
Licence or regulatory fees	0.40	0.49	0.49	0.53	0.53
Natural resources management costs	na	na	na	na	na
Corporate costs	na	na	na	na	na
SKM Total Operating Costs	**262.93**	**308.38**	**308.38**	**356.40**	**356.40**
Efficiency gains	-	-3.35	-3.34	-5.10	-5.00
Total Operating Costs	**262.93**	**305.05**	**305.04**	**351.30**	**351.40**
QUU Proposed Total	**263.69**	**309.72**	**309.72**	**359.13**	**359.13**
Variance	-0.29%	-1.51%	-1.39%	-2.18%	-2.14

Source SKM (2010), QCA (2010)
Note 2010/11 data unchanged from Draft Report

Table 55: Reasonable Operating Costs - Wastewater 2010-2013 ($m)

	2010/11 Final	*2011/12 Draft*	*2011/12 Final*	*2012/13 Draft*	*2012/13 Final*
Bulk Water Cost	0.94	1.13	1.13	1.31	1.31
Retail Operating Costs					
Customer service and billing	na	na	na	na	na
Regulated demand management costs	na	na	na	na	na
Community service obligation costs	na	na	na	na	na
Distribution Operating Costs					
Employee expenses	23.81	25.16	25.16	26.52	26.52
Contractor expenses	0.13	0.13	0.13	0.14	0.14
GSL payments	na	na	na	na	na
Materials and services (including electricity and chemicals)	114.94	120.13	120.13	125.19	125.19
Licence or regulatory fees	0.39	0.45	0.45	0.46	0.46
Natural resources management costs	na	na	na	na	na
Corporate costs	na	na	na	na	na
SKM Total Operating Costs	**140.21**	**146.99**	**146.99**	**153.62**	**153.62**
Efficiency gains	-	-6.16	-6.15	-9.33	-9.15
Total Operating Costs	**140.21**	**140.83**	**140.84**	**144.29**	**144.46**
QUU Proposed Total	**139.83**	**146.44**	**146.44**	**152.93**	**152.93**
Variance	0.27%	-3.85%	-3.82	-5.65%	-5.53%

Source SKM (2010), QCA (2010)

Table 56: Comparison of QUU and Authority's operational expenditure for water and wastewater ($m)

	2010/11	*2011/12*	*2012/2013*	*Total*
QUU forecast	$403.52	$456.16	$512.05	$1,371.73
QCA forecast	$403.14	$445.89	$495.86	$1,344.89
Difference	**-0.09%**	**-2.25%**	**-3.16%**	**-$26.84**

Source QUU (2010) and QCA calculations.

QUU's forecast operational expenses for 2010/11 are generally reasonable, as the Authority's current estimates are consistent with QUU forecasts which already include a $43 million reduction in operating costs. The Authority has adjusted for revised demand forecasts, bulk water prices, regulatory fees and electricity costs, but notes these will be subject to ongoing review.

The Authority expects that QUU may realise further operational efficiencies in 2011/12 and 2012/13 as it achieves economies of scale and considers further efficiencies in non-bulk operating costs should be pursued in 2011/12 and 2012/13 in addition to the operating efficiency targets of $5 million per annum recently announced by QUU.

The level of disaggregation of cost was a significant impediment to the assessment of the reasonableness of the proposed expenditure. The Authority expects that in subsequent submissions that QUU should allocate costs to all relevant categories.

1.10 Costs

The Ministerial Direction requires the Authority to monitor the entities' revenues with regard to the Authority's assessed MAR, which is based on the total costs of carrying on the activity.

Total costs identified earlier have not been adjusted for any revenue offsets required to calculate the MAR and include:

(a) operating and maintenance costs, including tax;

(b) return on capital;

(c) return of capital, allowing for depreciation of assets over time.

The Direction also requires the Authority to take into account any revenue glide path submitted by the entity for the purpose of avoiding price shocks over the interim period. In its information request to the entities, the Authority requested full details of the method used for smoothing and for underlying data to be provided.

The impact of recent floods in SEQ has not been taken into account.

Draft Report

QUU's initial submission did not include an estimate of total costs for 2009/10 and 2010/11. However, the QUU data template provided information on bulk water costs and distribution and retail operating and maintenance costs, and the data to calculate tax, return on capital and return

of capital for each activity from 1 July 2008. The Authority used QUU's data template to estimate QUU's 2009/10 total costs, for broad comparative purposes.

Subsequently, QUU provided the Authority with its estimate of QUU's total costs for 2010/11 based on information available at the time of its submission to the Authority.

QUU indicated that its estimate of tax is based on including capital contributions as taxable income and a deduction for the deprecation of these assets. QUU indicated that it is likely to change this approach to reflect the approach prescribed by the updated local government tax equivalents manual which applies to the entities. This should occur as soon as possible as the current calculations are not correctly based.

QUU's estimate of 2010/11 costs at the time of price setting was essentially the same as that shown in Table 57, with a minor difference (less than 0.6% in total) arising from the use of capital expenditure 'as incurred' rather than 'as commissioned', minor data variations and modelling differences.

Table 57: QUU Total Costs ($m)

	Costs 2009/10	***%***	***QUU Costs 2010/11***	***%***	***QUU Water Costs 2010/11***	***%***	***QUU Wastewater Costs 2010/11***	***%***
Bulk Water Costs	148.36	16.64%	189.67	19.5%	188.73	38.9%	0.94	0.2%
Distribution and Retail Costs								
Other operating costs	200.90	22.53%	213.85	21.9%	74.96	15.4%	138.89	28.4%
+ Tax	31.13	3.49%	14.90	1.5%	6.01	1.2%	8.89	1.8%
+ Return on Capital	369.25	41.42%	400.86	41.1%	166.68	34.3%	234.18	47.9%
+ Return of Capital	141.88	15.91%	155.12	15.9%	48.94	10.1%	106.18	21.7%
Total Costs	**891.52**	**100.00%**	**974.40**	**100.0%**	**485.32**	**100.0%**	**489.08**	**100.0%**

Source QUU data template and subsequent information – return on and of capital for 2009/10 are sourced from QUU's estimates of councils' cash flows statements. Return on capital in 2009/10 is the sum of interest, dividends and retained earnings and inflationary capital gain.

On the basis of the Authority's analysis of the regulatory asset base, asset lives, cost of capital, and operating and maintenance costs, the Authority calculated the total costs of carrying on QUU's water and wastewater activities for 2010/11.

In doing so, the Authority calculated single year or 'unsmoothed' cost estimate, to allow for comparison with QUU's revenues and costs, which were predominantly set on this basis.

For both water and wastewater, the Authority's estimate of total costs was below QUU's estimate. However, the difference was not large. For water, the Authority's estimate of total costs of $480.95 million was only 0.90% below that of QUU. For wastewater, the Authority's estimate of total costs $484.83 million was 0.87% below that of QUU.

Key differences between QUU's submitted costs and the Authority's arose from:

(a) bulk water costs – the Authority had slightly lower bulk water cost estimates due to the Authority's revised demand volumes for 2010/11;

(b) other operating costs – the Authority had slightly higher estimates of other distribution and retail operating costs due to regulatory fees and electricity costs;

(c) tax – the Authority had a lower tax allowance for 2010/11, while QUU has a higher tax allowance as it included all capital contributions as taxable income. The Authority's tax calculations use only unallocated contributions as taxable income. In the Draft Report, the tax expense for water was zero as deductions exceeded taxable income. For wastewater, tax payable was $1.68 million.

The Authority's approach to tax was consistent with that set out in the relevant tax manual for the entities, whereby the value of a contributed asset or the amount of the contribution towards an asset will not be assessable and no deductions of any kind will be allowed in respect of the value of the contributed asset or in respect of the amount of the contribution towards an asset (LGTER 2010);

(d) the return on capital – the Authority had slightly higher cost estimates than QUU, as a WACC of 9.2% was used by QUU compared with 9.35% for the Authority (Appendix B); and

(e) the return of capital – the Authority had slightly lower estimates than the entities arising from minor differences in the indexation of the underlying assets.[16]

Stakeholder Submissions on the Draft Report

QUU noted that the draft local Government Tax Equivalents Manual was received by QUU on 13 August 2010 while confirmation of the Treasurer's approval of the application of the tax equivalents arrangements was received by QUU on 18 October 2010. QUU stated that the timing of the finalisation of these matters meant that there was uncertainty about the application of the Local Government Tax Equivalent to QUU at the time of setting prices.

Further, QUU noted that there is significant difference between QUU's calculation of the tax allowance and the Authority's. QUU stated that the difference in the tax calculation alone results in QUU being shown as over recovering under the Authority's MAR calculation. QUU suggested that the Authority report the difference due to the tax treatment on non cash donated assets.

QUU noted that it is seeking expert advice on tax, however, given the timeframe, QUU was unable to include this advice in this submission. QUU will provide this advice as soon as possible.

However, QUU noted the following issues in the regulatory tax calculation:

(a) interest expense is calculated on the average regulatory asset base including donated assets (2008 to 2011). QUU noted that interest incurred in earning non assessable income is not normally deductible however no adjustment has been made; and

[16] QUU had lower depreciation ($150.77m), higher tax ($36.97m) and higher return on capital ($410.03m) at the time of price setting. Estimates in their submission reflect more recent information and commissioned capex.

(b) interest expense calculated on the average regulatory asset base includes indexation. QUU noted that an increase in the value of an asset in accounting terms is normally attributed to the owner of the asset not the debt provider.

QUU further stated that, at the time of price setting, QUU did not have access to the depreciated tax asset values from the two council businesses that were part of the Local Government Tax Equivalent Regime. QUU noted that this information is currently being sought and will form part of the next price monitoring submission.

Subsequently, QUU noted the Authority's estimate of depreciation used a weighted average of council asset lives for each asset class and that this estimate did not add to total depreciation by council area. QUU submitted that depreciation calculated at the QUU level must agree with the sum of the depreciation by council area.

Authority Analysis

In response to QUU's request for the Authority to report the difference in tax under an alternative treatment of donated assets, the Authority notes that its tax treatment is consistent with advice from the Tax Assessor that contributed, gifted and donated assets are not assessable and not deductible. Further, this treatment is the same as that which applied to councils subject to tax equivalents. The Authority has published QUU's proposed tax estimate and does not propose to calculate an alternative estimate of tax using an approach that is not consistent with the tax advice of the Tax Assessor.

In response to the specific queries raised by QUU about the calculation of interest expenses for tax purposes, the Authority notes that the actual practice adopted by the Queensland Tax Assessor is not relevant to the estimation of the MAR. In determining a MAR for regulatory purposes, a benchmark tax payment is calculated using the benchmark cost of debt and capital structure adopted for WACC purposes.

Therefore, the Authority has retained its approach of calculating the interest expense for tax purposes using the regulatory asset base, benchmark capital structure (and thus debt) and benchmark cost of debt.

The Authority notes that tax asset values are adopted for the regulatory calculation of tax depreciation. A minor amendment to its calculation of tax depreciation has, however, been made as, in the Draft Report, tax depreciation was applied to capital expenditure for a full year whereas the expenditure would have been incurred throughout the year. This reduces tax depreciation) and increases tax payable.

In response to QUU's comments on depreciation, the Authority has now adjusted its calculations to ensure that depreciation at the entity level matches the sum of the depreciation by council area. This increases depreciation marginally for both water and wastewater.

A reconciliation of QUU and the Authority's costs for 2010/11 is shown below. Changes in the Authority's analysis from that contained in the Draft Report are minor, reflecting the reduction in approved establishment costs and the changes to depreciation.

For water the Authority's overall estimate of total costs have fallen (slightly) since the Draft Report. For wastewater, however, total costs have increased (slightly) since the Draft Report, mainly the increase in tax payable and depreciation outweighs the lower return on capital resulting from the lower wastewater asset base.

Table 58: Comparison of QUU and QCA Costs for 2010/11

	Water QUU Costs	*Water QCA Costs*	*QCA % of total*	*Wastewater QUU Costs*	*Wastewater QCA Costs*	*QCA % of total*
Bulk Water Costs	188.73	*187.57*	39.00%	0.94	*0.94*	0.19%
Distribution and Retail Costs						
Other operating costs	74.96	*75.36*	15.68%	138.89	*139.27*	28.67%
+ Tax	6.01	*0*	0.00%	8.89	*1.83*	0.38%
+ Return on Capital	166.68	*169.33*	35.22%	234.18	*237.96*	48.99%
+ Return of Capital	48.94	*48.46*	10.1%	106.18	*105.71*	21.76%
Total Costs	**485.32**	***480.72***	100.00%	**489.08**	***485.71***	100.00%

Source QUU subsequent information and QCA calculations. Note This table is updated from the Draft Report

1.11 Revenues for 2010/11

For price monitoring purposes, QUU's revenues as forecast at the time of price setting form the relevant forecast revenues. These revenue forecasts for 2010/11 are consistent with 2010/11 prices.

QUU's submission

QUU's revenue forecasts for water and wastewater (as at the time of price setting) are shown in Table 59.

Table 59: QUU's 2010/11 Revenue Forecasts for water and wastewater ($m)

	QUU Revenues
Water	366.08
Wastewater	352.85
Total revenue	**718.93**

Source QUU subsequent information

1.12 Comparing Revenues with MARs

Under the Ministerial Direction, the Authority must compare the entities' revenues with the MAR calculated by the Authority.

The MAR is based on the Authority's estimate of total costs of carrying on a water and wastewater activity. The MAR is calculated using the Authority's estimate of total costs less relevant deductions to ensure no double counting of inflationary gain and capital contributions.

Under the Direction, the entities have the choice of adopting a revenue offset or asset offset approach to capital contributions.

Draft Report

QUU's estimate of its total costs of carrying on its water and wastewater activities in 2010/11 is presented in Table 60 below (these costs were first identified in section 1.9). QUU had chosen a revenue offset approach to the treatment of capital contributions.

A comparison of QUU's total costs and QUU's revenue forecast (at the time of price setting) is also provided in the table below. This comparison showed under-recovery in water activities being addressed through over-recovery in wastewater activities, with total over-recovery of $0.64 million or 0.09%.

Table 60: QUU's 2010/11 Total Costs and Total Revenues ($m)

	Water QUU 2010/11	***Wastewater QUU 2010/11***	***Total***
Total Costs (QUU)	485.32	489.08	974.40
- Indexation (QUU)	- 45.29	-63.64	-108.93
- Capital contributions (QUU)	- 61.46	- 85.71	-147.17
Total Costs (QUU)[17]	**378.57**	**339.73**	**718.30**
Total Revenues (QUU)	366.08	352.85	718.94
Total Revenues - Costs (QUU)	**-12.48**	**13.12**	**0.64**
Per cent of Total Costs (QUU)	-3.30%	3.86%	0.09%

Source QUU subsequent information

A comparison of QUU's forecast revenues of its water and wastewater activities with the MAR based on the Authority's estimate of the total costs of carrying on QUU's water and wastewater activities, is provided in Table 61.

The Authority's MAR is unsmoothed and based on 2010/11 total costs, and the revenue offset approach to the treatment of capital contributions is adopted, as per QUU's approach.

The Authority's analysis in the Draft Report indicated that, as a whole, QUU's revenues exceeded the Authority's maximum allowable revenue of $708.31 million by around $10.63 million (or 1.48%). Water revenues fell below the MAR ($373.44 million) by around $7.386 million, or 2.01%. Wastewater revenues exceeded the MAR ($334.87 million) by around $17.98 million – at 5.10% this was more material.

Stakeholder Submissions on the Draft Report

QUU sought clarification of the treatment of any under or over recoveries.

[17] Notwithstanding the differences in the cost components at the time of price setting to those in QUU's submission, the total costs estimated by QUU at the time of price setting ($720.86m) are not materially different from that calculated using more recently submitted data ($718.30m).

QUU also noted that, while the Draft Report indicated that it was marginally over-recovering under the revenue offset approach, the use of the asset offset approach to capital contributions rather than the revenue offset approach it adopted would result in a significant under-recovery – in the order of $58 million and $82 million for water and wastewater respectively in 2010/11.

QUU estimated the MAR at price setting – using capital expenditure as incurred – at $720.86 million. QUU estimated it would under-recover overall by $1.93 million in 2010/11.

QUU noted that it welcomes the opportunity to work with the Authority on information requirements and how these requests can be met. QUU noted that its accounting and other systems will continue to be a key constraint on providing more disaggregated information. QUU further stated these constraints, along with the timing of the publication of the Authority's report, mean that there is little time to make significant modification to systems.

Authority's Analysis

In response to QUU's request, the Authority notes that, in calculating the benchmark MARs for the purposes of price monitoring, it would take account of any smoothing adopted by entities to avoid price shocks. If an entity smoothes prices or revenues over a period in order to avoid price shocks, full details of the method used should be provided to the Authority. In calculating the MARs to recover efficient and prudent costs, the Authority would smooth on an NPV neutral basis, wherever possible.

The Authority notes QUU's comments in respect of the asset offset approach and capital expenditure as incurred which show the impact of these approaches on QUU's estimated costs.

The Authority has calculated the MAR based on updated information since the Draft Report using allowable establishment costs.

The Authority's updated analysis indicates that, as a whole, QUU's revenues exceed the Authority's maximum allowable revenue of $709.19 million by around $9.73 million (or 1.37%).

Water revenues fall below the MAR ($373.31 million) by around $7.23 million while wastewater revenues exceed the MAR ($335.89 million) by around $16.96 million – overall, the variation of $9.73 million or 1.4% is not significant given the variations possible from the adoption of alternate methodologies such as 'as incurred' capital expenditure recognition and the use of an asset offset approach to capital contributions.

Table 61: Comparison of QUU Revenues and the QCA MAR ($m)

	Water QUU 2010/11	*Wastewater QUU 2010/11*	*Total*
Total Costs (QCA)	480.72	485.70	966.43
- Indexation (QCA)	-45.96	-64.11	-110.06
- Capital contributions (QCA)	-61.46	-85.71	-147.17
Total Costs (QCA MAR)	**373.31**	**335.89**	**709.19**
Total Revenues (QUU)	366.08	352.85	718.93
Total Revenues – Costs (QCA)	**-7.23**	**16.96**	**9.73**
Per cent of Total Costs (QCA)	-1.94%	5.05%	1.37%

Source QCA calculations and QUU subsequent information.

A comparison of the MARs in the Authority's Draft and Final Reports is in Table 62 below. Differences arise from the approved establishment costs and the adjustment to depreciation, as previously noted.

Table 62: QCA Draft and Final Report MARs ($'000)

	Water			*Wastewater*		
	Draft	*Final*	*Difference*	*Draft*	*Final*	*Difference*
Operating Costs	262,930	262,930	-	140,207	140,207	-
Tax	-	-	-	1,684	1,829	+145
Return on Assets	169,666	169,329	-337	238,489	237,959	-530
Return of Assets	48,346	48,464	118	104,448	105,711	1,263
Total Costs	**480,942**	**480,722**	**-219**	**484,828**	**485,705**	**877**
- Indexation	46,046	45,957	89	64,246	64,106	+141
- Capital Contributions	61,457	61,457	-	85,713	85,713	-
MAR	**373,438**	**373,309**	**-130**	**334,868**	**335,886**	**1,018**

Source QCA calculations

1.13 Costs, Revenues and Prices

The reconciliation of costs, revenues and average prices is outlined in Table 63 below.

Table 63: Costs, Revenues and Prices

	Council 2009/10	*QUU Water 2010/11*	*QUU Wastewater 2010/11*	*QCA Water 2010/11*	*QCA Wastewater 2010/11*
Bulk Water Costs ($m)	148.36	188.73	0.94	187.57	0.94
Distribution and Retail Costs ($m)					
Other operating costs	200.90	74.96	138.89	75.36	139.27
+ Tax	31.13	6.01	8.89	0	1.83
+ Return on Capital	369.25	166.68	234.18	169.33	237.96
+ Return of Capital	141.88	48.94	106.18	48.46	105.71
Total Costs ($m)	**891.52[a]**	**485.32**	**489.08**	**480.72**	**485.71**
- Indexation	-	- 45.29	-63.64	-45.96	-64.11
- Capital contributions	-	- 61.46	- 85.71	-61.46	-85.71
Total Costs (MAR)	**-**	**378.57[b]**	**339.73[b]**	**373.31**	**335.89**
Total Revenues	**630.12**	**366.08[c]**	**352.85[c]**	**n/a**	**n/a**
Over / (Under) recovery	**-**	**-12.49**	**13.12**	**n/a**	**n/a**

	2009/10 Water	*2009/10 Wastewater*	*QUU Water 2010/11*	*QUU Wastewater 2010/11*	*QCA Water 2010/11*	*QCA Wastewater 2010/11*
Total Revenues/MAR ($m)	319.66	310.46	366.08	352.85	373.31	335.89
Volume (ML or connections)[d]	107,470	499,111	108,064	506,056	108,080	492,628
Price ($/kL or $/connection)	**$2.97/kL**	**$622.03**	**$3.39/kL**	**$697.25**	**$3.45/kL**	**$681.83**

Notes [a] The Authority has not calculated a MAR for 2009/10 as per its Framework Report (April 2010). [b] QUU costs as per their submission to the Authority and subsequent information. [c] QUU revenues at the time of price-setting. [d] 2009/10 council volumes calculated using QUU 2010/11 data and growth assumptions. Source QCA calculations and QUU subsequent information.

1.14 Findings

For QUU:

(a) average retail water and wastewater prices in 2010/11 increased by 13.9% and 12.1% respectively;

(b) residential bills for households using 200kl of water per year increased across all council areas, except for Somerset where the total bill fell by $7.08;

(c) bulk water costs account for 38.9% of QUU's proposed total water costs in 2010/11. Retail and distribution operating costs account for 15.4%, return on capital accounts for 34.3%, tax for 1.2% and return of capital 10.1%;

(d) for wastewater, retail and distribution operating costs account for 28.4% of QUU's proposed total costs, return on capital accounts for around 47.9%, tax for 1.8%, and return of capital about 21.7%; and

(e) the most significant increases in proposed costs in 2010/11[18] relate to a 27.8% increase in bulk water costs and a 8.7% increase in the return on capital (based on a comparison of councils' interest, dividend payments and retained earnings to QUU's forecast return on capital after including a forecast marginal over-recovery in 2010/11 of total costs).

The Authority's estimate of the costs of supply in 2010/11 is marginally lower than QUU's. Although the Authority has a higher return on capital (due to a higher WACC), this is more than offset by the Authority's lower tax allowance, and lower return of capital and bulk water costs. In this regard:

(a) QUU's forecast water revenues of $366.1 million is marginally below the MAR of $373.31 million calculated by the Authority;

(b) QUU's forecast wastewater revenues of $352.8 million are marginally above the MAR of $335.89 million calculated by the Authority;

(c) as a whole, QUU's revenues of $718.9 million marginally exceed the MAR of $709.2 million calculated by the Authority. Overall, the variation of $9.7 million or 1.4% is not significant given the variations possible from the adoption of alternate methodologies (such as 'as incurred' capital expenditure and the asset offset approach to capital contributions).

[18] As previously noted, the Authority has not reviewed costs for 2009/10.

2. ALLCONNEX WATER

2.1 Ministerial Direction

Under the Ministerial Direction, the Authority must inform customers of the costs and other factors underlying the annual increase in water and wastewater prices, and distinguish the bulk and distribution/retail components to the extent that it is possible given the availability and reliability of relevant information (**Appendix A**).

The Authority must also monitor the revenues of Allconnex Water's (Allconnex's) water and wastewater activities against the maximum allowable revenue (MAR) determined by the Authority based on prudent and efficient capital and reasonable operating costs. Further, the Authority must advise the entities by 1 March 2011 and 1 March 2012 of the WACC benchmark it will consider in 2011/12 and 2012/13 respectively.

2.2 Background

Allconnex provides water and wastewater to 933,404 people in the Logan, Redland and Gold Coast local government areas.

Key characteristics of Allconnex's customer base and proposed capital expenditure appear in Table 1 below.

Table 1: Allconnex's Customer Base and Proposed Capital Expenditure for 2010/11

	Gold Coast	***Logan***	***Redland***	***Total***
Population[a]	515,157	277,556	140,691	933,404
Residential Water Connections	214,189	90,928	57,556	362,673
Non-Residential Water Connections	16,020	18,309	1,662	35,991
Wastewater treatment plants	4	1	7	12

[a]*Estimated residential population at 30 June 2009*
Source Allconnex (2010), OESR(2010), Synergies Economic Consulting (2009)

A map showing the area serviced by Allconnex is shown in Figure 1 below.

Figure 1: Allconnex Service Area

Source Allconnex

2.3 Prices

There is a wide range of prices set by Allconnex relating to the range of services provided to each of the previous council areas and customer groups in SEQ.

As noted previously, the Authority has not sought to review prices (or tariff structures) in detail in this first review but, for broad comparative purposes, notes the changes in average prices and residential bills. Average prices provide, at best, a broad overview of price changes.

Average Prices

Allconnex's average water and wastewater prices increased across all customer groups in 2010/11. For reasons identified further below, the average price charged by Allconnex differs from that implied by the Authority's analysis. Charts 1 and 2, and Table 2 refer.

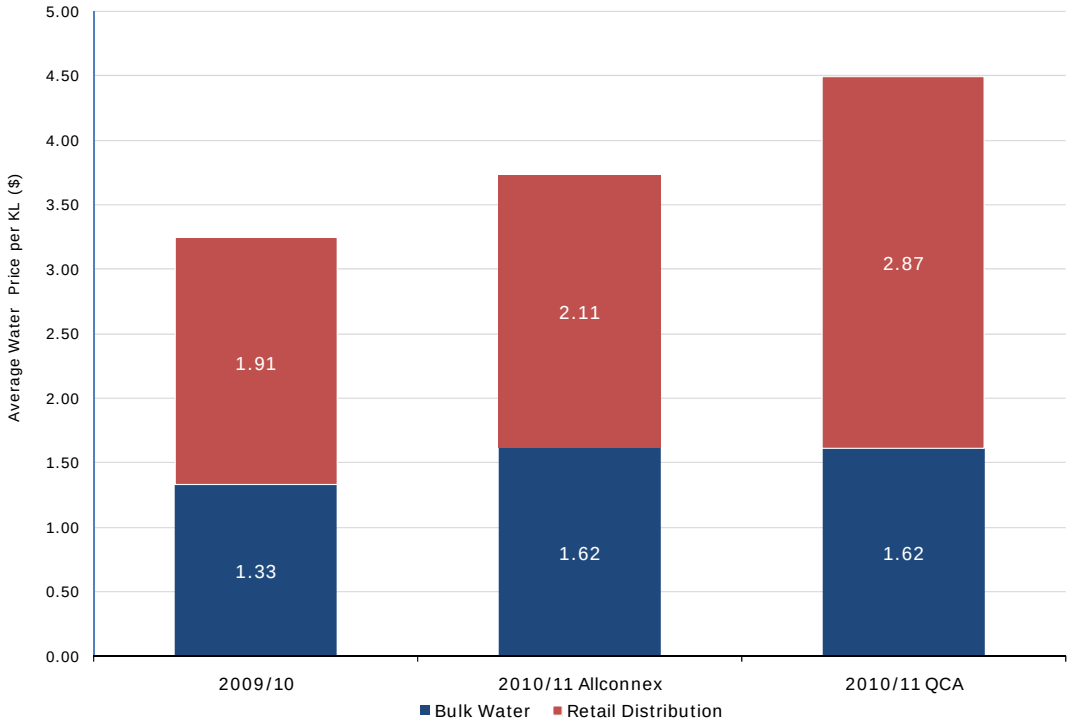
Only a minor adjustment has been necessary to the estimates outlined in the Draft Report, with the Authority's estimate of the average water price increasing from $4.45 to $4.49 per kl and the average wastewater price rising from $1,066.02 to $1070.69 per connection. These variations reflect advice from the (then) Minister for Natural Resources, Mines and Energy and Minister for Trade regarding allowable establishment costs 2009/10 (section 1.6) and changes to the estimation of depreciation.

As noted previously, prices are not necessarily set by the entities on the basis of costs alone. Allconnex has advised that it took other factors (including the avoidance of price shocks) into account. The Authority's previous monitoring of councils' prices indicated that councils did not always base prices on costs in previous years.

Also indicated is the share of average prices accounted for by bulk water charges (it is assumed that, based on the Government's policy, that bulk water prices are passed through to customers in full). There is no bulk component of wastewater prices.

Average prices have been calculated by dividing total revenues by volumes – per kl (for water) and per connection (for wastewater).[19] Allconnex's average price reflects its decision to limit price increases for individual services to 20% in 2010/11 to ameliorate customer impacts. Allconnex has also indicated that it will recover costs over a 10-year period.

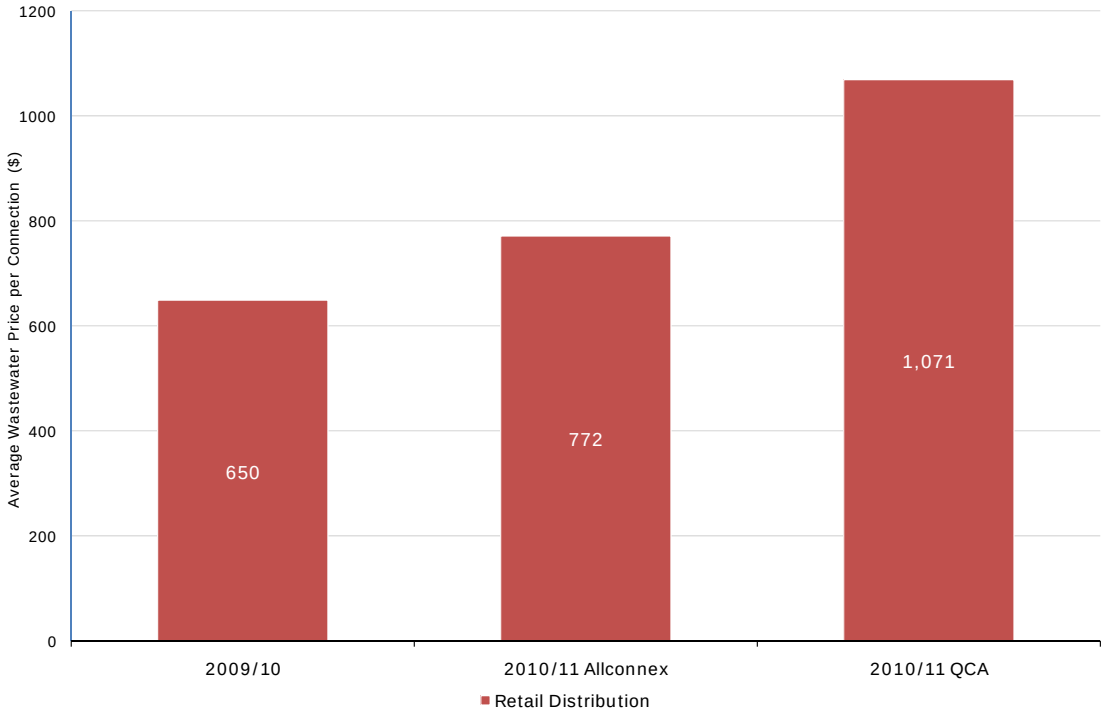
Chart 1: Average Water Prices



Source Allconnex (2010), QCA calculations (see section 2.13)

[19] The ABS adopts a similar approach to calculate an average water price in national water accounts – the ABS average price is derived by dividing a state's total residential water revenue ($) by residential water consumption (kL) (ABS 2010).

Chart 2: Average Wastewater Prices



Source Allconnex (2010), QCA calculations (see section 2.13)

Table 2: Average Prices[ab]

	2009/10	*Allconnex 2010/11*	*QCA 2010/11*
Water ($/kL)	3.24	3.73	4.49
% increase		15.12%	38.38%
Wastewater ($/connection)	649.68	772.35	1,070.69
% increase		18.88%	64.80%

[a] Average water price = Annual water revenue ($) / total kl sold . [b]Average wastewater price = Annual wastewater revenue ($) / total connections. Average QCA price = QCA MAR / QCA kL(water) or connections (wastewater). Note 2009/10 and Allconnex 2010/11 average prices are the same as in the Authority's Draft Report. The QCA 2010/11 data has been updated since the Draft Report.

As evident from the above table, the Authority's analysis suggests higher average annual water prices of $4.49/kl could be justified on the basis of costs alone for water. For wastewater, average prices also appear low when considered against the Authority's assessment of costs, which indicate an average price of $1,070.69 per connection.

The Authority's average price is based on 2010/11 costs alone (the Authority's MAR). The Authority's average price for 2010/11 reflects full costs estimated on an annual basis. Ideally, prices should be set, and smoothed, over a longer period to avoid large annual variations.[20]

[20] See the Authority Final Report *SEQ Interim Price Monitoring Framework* (April 2010).

In submissions on the Draft Report:

(a) Allconnex stated that the Authority had not provided any guidance on future pricing structures, and that as a result the SEQ entities are navigating difficult and complex price harmonisation and tariff reform issues without guidance from the regulator on key matters of principle. Allconnex noted it is required to publish proposed prices for 2011/12 not later than 31 March 2011.

Allconnex also stated the Authority has not received a formal direction for future deterministic pricing, expected to commence in 2013. Allconnex requested broad guidance in relation to these structural matters associated with pricing should it be provided; and

(b) Mr McDonald stated that Allconnex's price rises were excessive and queried whether the Authority was previously responsible for water price approval when the distribution and retail business was the direct responsibility of council.

In response to Allconnex, the Authority agrees that there a range of complex issues that need to be resolved by it in order to make a pricing determination to apply from 1 July 2013, including form of regulation, pricing principles and their application. Recent legislative changes to the QCA Act have provided the Authority with a future deterministic role. The Authority will progressively address these issues identified and in doing so, will seek input from Allconnex and other relevant stakeholders to ensure their effective development.

In the interim price monitoring period the entities retain control over prices.

In response to Mr McDonald, the Authority notes that it has no role in setting the charges currently levied by Allconnex. The Authority is currently monitoring prices but will only be determining water and wastewater prices or maximum allowable revenues from 1 July 2013 onwards.

Residential Bills

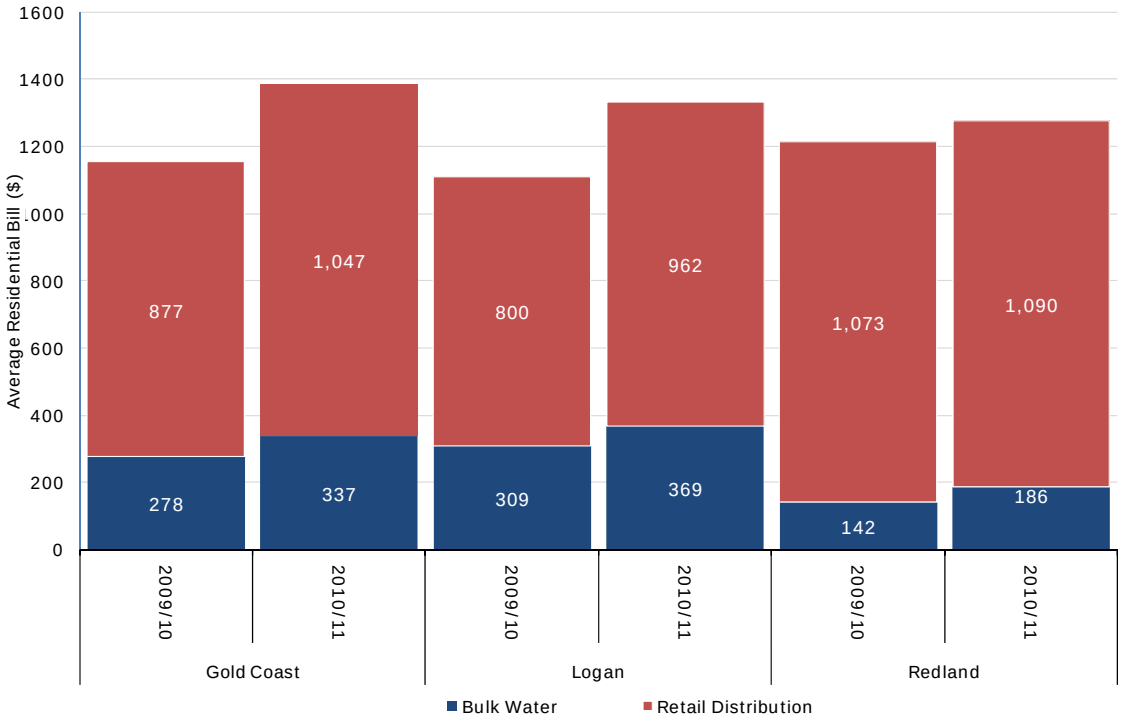
Total residential bills for households increased across all Allconnex geographic areas (Chart 3). Bill increases ranged from an increase of $61 in Redland up to $229 in Gold coast.

The residential bills used in the Authority's analysis have been estimated on the basis of usage of 200 kl of water per year, as this is the basis adopted for national performance reporting and allows for a broad comparison of bills across different areas (NWC 2010). As there is no national standard for wastewater, the analysis has been based on the approach adopted in each council area. All council areas adopt a fixed residential access charge except in Logan for multi-residential accommodation where one pedestal was assumed.

Bulk water accounts for a smaller proportion of residential bills than for average water prices as the residential bill includes water and wastewater, and wastewater has no bulk water component.

The Authority did not calculate a residential bill consistent with Authority estimates of efficient costs in 2010/11, as the Authority's assessment of costs in this review period has only been able to be undertaken on an aggregate basis, rather than by customer group as there is no alignment of costs with individual tariffs.

Chart 3: Total Residential Bills



Notes Based on usage of 200kL per annum and one pedestal. The retail/distribution component includes water and wastewater. Logan data refers to non-transferred areas.

2.4 Demand

The cost of providing water and wastewater services is affected by the quality and the quantity of the services provided.

For the purposes of the current review, the Authority has accepted the current standards of service. Details of those standards are addressed further below.

Estimates of demand for water and wastewater have a direct impact on the prudency and efficiency of operating and capital expenditure.

Draft Report

In its initial submission, Allconnex stated that its key assumptions in forecasting demand include: growth in customer connections of 2.4% per annum, growth in water volumes of 2.1% per annum and growth in wastewater volumes of 1.7% over the period to 2015. Subsequent information provided by Allconnex has confirmed that the demand estimates in their submission are the same as those at the time of price setting.

Allconnex noted that over the period to 2030, it expected its total customer connections to grow from just under 400,000 to around 600,000, an increase of nearly 50%. Over this period, the proportion of residential and non-residential customers is expected to remain relatively stable.

Allconnex stated that in forecasting future water sales it considered historical metered sales, metered water, current water restrictions, QWC water consumption targets, average day demand from desired standards of service, demand analysis modelling, water usage behaviour, customer composition, system losses and growth patterns.

Allconnex stated that while prices have increased significantly in the last three years and will continue to do so in the future, price elasticity has not been considered in Allconnex's demand forecasts. Allconnex noted that further research is required to reliably estimate a price-elasticity coefficient and protocols for the application of this coefficient.

The Authority engaged Frontier Economics (Frontier) to review the appropriateness of Allconnex's demand forecasts for water and wastewater activities from 1 July 2010. Frontier was required to determine whether the demand forecasts have been developed using appropriate forecasting methodologies and reflect reasonable data assumptions.

General Approach

Frontier reviewed the key drivers of demand. In addition to those set out by Allconnex in its submission, Frontier noted that dwelling demographics and prices and pricing structure can also affect demand.

Frontier considered that the relevance of each driver should be determined using a progressive selection process that takes into account the statistical significance of each variable.

Data Adequacy

The Authority requested data on past and forecast demand by deemed category from the entities in its information requirement for 2010/11. In particular, the Authority requested that the entities provide a demand forecast for each tariff or tariff component be provided.

In undertaking its review, Frontier noted that SEQ water has recently undergone significant structural reform and, while such reform is expected to ultimately benefit water users, relevant historical data is not always available or has not been transferred from councils to the entities making forecasting difficult.

Frontier noted that Allconnex had stated that the forecasts have been adopted from the previous councils and are an interim measure until such time that Allconnex is able to develop its own forecasts.

In respect of data, the Authority considers that it would be prudent for Allconnex to collect data on the demand corresponding to each component of prices, as this data is generated at any rate for billing purposes and could form a useful base for future forecasts – and particularly when tariff structures are to be reviewed. This data will be expected in future years.

Further to this, Frontier noted that an independent review of demand for regulatory purposes typically requires a written description of the forecasting method, including the key issues addressed and assumptions adopted. Consistency between the demand estimates used for forecasting revenue and for capital planning should be documented, with any differences between the two approaches and values explained and made transparent.

Frontier noted that, while Allconnex had not formally documented its forecasting methods, Allconnex advised that its long term forecasting is a more complex process that involves input from water engineers and network planners. This process is different from how Allconnex forecasts their demand for revenue. Frontier also noted that Allconnex adopts a number of different assumptions between the two, the most important being that it assumes a higher per person per day consumption level for long-term forecasting than it does for short-term forecasting.

The Authority found that Allconnex should document the method and approach undertaken in preparing its demand forecasts. Any differences between the forecasting approaches used for pricing and capital planning should be clearly identified and explained.

Residential Connections

Given the majority of Allconnex's revenues derives from residential usage, Frontier first assessed residential connections and growth, and then corresponding volumes.

Frontier used the growth in private dwellings from the PIFU's May 2010 forecasts to review residential connections. Frontier noted that PIFU lies within the Queensland Government's Office of Economic and Statistical Research (OESR), and this unit provides transparent and rigorous analysis of population dynamics and forecasts based on statistical analysis to clients at all levels of government and in the private sector. PIFU provides the Government's official population forecasts.

Frontier noted that alternative (or complementary) benchmarks could include those from:

(a) historical data from the QWC (2008-2010). However, Frontier noted that this data is not consistent over time due to significant local council restructuring that occurred in 2008. In addition, the data is unaudited billing data and as a result may contain errors relating to billing and meter reading. As a result, Frontier considered this historical data a relevant point of comparison with Allconnex forecasts, while preferring PIFU's forward-looking forecasts;

(b) the SEQ Regional Plan 2009-2031 (the Plan) which provides dwelling projections from 2006 to 2031. However, the Plan's projections are a policy target rather than an actual forecast, and are more aggregated than PIFU's. Therefore, Frontier preferred PIFU rates; and

(c) the Water Grid Manager. The South East Queensland Market Rules require the Water Grid Manager to issue grid instructions to bulk suppliers that specify the volume of water to be made available at each bulk supply point. Under the system operating plan made under the *Water Act 2000*, grid instructions must be based on an approved operating strategy, which must detail how the WGM intends to supply water to meet the forecast demands of each of its customers. The operating strategy was not available at the time of the Authority's assessment.

The Authority accepted Frontier's view that PIFU growth rates are the most reliable independent estimates of connections growth currently available.

Residential Connections – Allconnex Estimates

Frontier noted that Allconnex was the only entity that was able to provide connections data for 2008-10 (see Table 3).

Table 3: Allconnex Water Connections – residential

	2008/2009	*2009/2010*	*2010/11*	*2011/12*	*2012/13*
Gold Coast	208,108	211,944	214,189	220,292	226,583
Logan	86,957	89,032	90,928	92,901	94,917
Redland	56,372	56,333	57,556	58,132	58,713
Total	**351,437**	**357,309**	**362,673**	**371,325**	**380,213**

Source Allconnex (2010) data template

Frontier compared Allconnex's growth in residential connections with PIFU 2010 dwellings growth and historical trends based on council data from the QWC. Frontier considered that Allconnex had forecast relatively low growth in connections over 2010-13 compared to estimates by PIFU. This was particularly prevalent for Gold Coast, where Allconnex reduced the growth rate in light of historical data showing lower growth trends and Redland where a lower growth rate has been applied reflecting council's current development policies (see Table 4).

Table 4: Allconnex residential annual growth rates (%)[21]

LGA	*QWC 2008-10 Connections*	*Allconnex 2008-10 Connections*	*Allconnex 2010-13 Connections*	*PIFU 2006-16 Dwellings*
Gold Coast	0.7	1.5	2.3	3.0
Logan	3.2	2.3	2.2	2.4
Redland	1.7	1.0	1.4	2.4

Source QWC historical data, Allconnex 2010 data template, PIFU (2010)

Frontier recommended that growth rates based on PIFU forecasts of household connections be adopted. Frontier noted that while these forecasts differ from the QWC and Allconnex historical trend, historical data relates to a relatively short time period of two years and may be less reliable given structural changes in local government areas. Frontier also requested the basis for the lower Redland growth estimate. Allconnex requested this information from council but it was not provided.

The Authority accepted Frontier's approach and estimates in its review of capital and operating expenditure (see Table 5).

[21] Growth rates are the annual average compound rates.

Table 5: Allconnex Water Connections Amended – residential

	2010/11	*2011/12*	*2012/13*
Gold Coast	218,244	220,556	226,841
Logan	91,173	94,027	96,971
Redland	57,711	59,124	60,571
Total (Frontier)	367,128	373,708	384,383
Total (Allconnex)	362,673	371,325	380,213
Difference	**4,455**	**2,383**	**4,170**

Source Frontier (2010)

The Authority found that residential connections for water should be based on PIFU forecasts.

Water Volumes

Frontier noted that Allconnex based forecasts of water volumes on assumptions of average usage and growth factors. Residential average usage (l/p/day) varies across each council area (Table 6). Allconnex forecast total residential water demand using assumed average residential water usage per person per day and population data (Table 7). Growth in residential water volumes is based on forecast population growth.

Allconnex noted that with the relaxation of water restrictions the Gold Coast district has experienced some bounce back towards pre-water restrictions usage. Further, Allconnex noted that this was exacerbated by hot, dry and dusty weather conditions in late 2009.

Table 6: Allconnex assumptions regarding per person per day (litres)

	2008/2009	*2009/2010*	*2010/11*	*2011/12*	*2012/13*
Gold Coast	-	-	215	210	210
Logan	-	-	190	200	200
Redland	-	-	200	200	200

Note Based on total population not connected population. Source Frontier (2010)

Table 7: Allconnex Residential Water Demand (ML/year)

	2008/2009	*2009/2010*	*2010/11*	*2011/12*	*2012/13*
Gold Coast	30,096	39,144	40,955	41,242	42,300
Logan	13,650	15,487	17,203	18,583	18,966
Redland	9,868	10,017	10,379	10,510	10,605
Total	**53,614**	**64,648**	**68,537**	**70,336**	**71,871**

Note Residential water demand (ML/year) = litres per person per day x population x 365/1,000,000. Source Frontier (2010).

The Authority noted that Allconnex's daily residential usage (Table 6) is calculated in a different way to the QWC and other entities'. Allconnex's daily residential usage is based on the total population, as opposed to the connected population that is serviced by the water network. The connected population is less than the total population.

The Authority therefore calculated Allconnex's assumption of daily residential usage based on its connected population (Table 8). The data in Table 8 can then be compared with other available (QWC) data on residential usage.

Table 8: Allconnex assumptions regarding per (connected) person per day (litres)

	2008/2009	*2009/2010*	*2010/11*	*2011/12*	*2012/13*
Gold Coast	172	220	228	223	222
Logan	154	170	185	196	196
Redland	184	187	190	191	190

Note Litres per person per day = Allconnex residential water demand (ML/year) x 1,000,000 / (Allconnex's connections x residential occupancy rates x 365)

The Authority noted that its calculation of Allconnex's daily residential usage differs from the Target 200 (l/p/day) and the infrastructure planning assumption of 230 l/p/day in the SEQ Water Strategy.

The QWC advised that the SEQ Water Strategy assumptions are macro level regional forecasts designed to inform long term planning decisions and are not relevant to pricing decisions made by individual distributors-retailers. QWC stated that it is questionable whether or not there is any correlation between these macro demand forecasts and hydrological assessments and localised demand forecasts developed by retailers. QWC stated that localised demand forecasts would be more relevant in assessing the impact of demand on the water distribution and sewerage networks.

Frontier noted that average SEQ water consumption in 2010 has been below 200 L/p/day. Frontier was unable to comment on the appropriateness of Allconnex's assumed daily residential usage given the lack of historical data extending back to pre-restriction years.

The Authority noted that QWC subsequently provided 2009/10 data showing average residential use of 181 L/p/day across Allconnex's service area. The Authority noted this appears low compared to the Allconnex data for 2009/10.

Frontier noted that the Allconnex forecasts show a number of differing trends for each council area. For the Gold Coast, consumption peaks in 2010/11 and is expected to fall over the interim period. The Authority notes that all water restrictions for residents of the Gold Coast were lifted in January 2009 and permanent water restrictions were introduced in late 2009. Allconnex submitted that dry and dusty weather conditions in late 2009 significantly increased usage in 2009/10 and its forecasts for 2010/11 (despite permanent restrictions).

For Logan, Allconnex expected consumption to increase to 2011/12. For Redland, consumption is relatively constant over the period.

Frontier noted that the rate at which customers respond to permanent water restrictions given the structural efficiencies now in place will be a key factor in water demand over the period.

Frontier also noted that Allconnex had not applied price elasticity of demand estimates to volume forecasts. Frontier considered that elasticity estimates were relevant to Allconnex, as discretionary use will increase as restrictions remain relatively relaxed. As a result, customers will be more responsive to price increases, although the absolute price elasticity will remain quite low. Based on a number of studies of urban water use, Frontier noted a range of potential elasticity estimates from 0.05 to 0.51.[22]

However, Frontier noted that Allconnex's prices in 2011/12 and 2012/13 do not represent actual price paths and it is methodologically unsound to apply price elasticity estimates in the absence of actual proposed prices. The Authority notes the wide range of estimates for elasticity, and considers that an estimate relevant to SEQ should be developed by entities over the interim period for projections of demand.

Allconnex also noted that a further complication for the application of elasticity for users is that the *Residential Tenancies and Rooming Accommodation Act 2008* provides that tenants in properties in SEQ do not in most cases receive water or wastewater bills (which are sent to landlords). Allconnex estimated that in the Gold Coast district, many properties are either tenanted or tourist rentals and subsequently those using water do not receive water bills.

In view of the above considerations, Frontier recommended Allconnex's forecast residential volumes only be amended for the updated PIFU growth rates (see Table 9). Frontier also recommended that Allconnex's demand forecasts be adjusted for price elasticity of demand in future reviews once forecast prices and price components are provided along with corresponding demand estimates.

[22] A price elasticity of 0.05 means that for every 1% increase in price, demand falls by 0.05%. Frontier noted a range of international and Australian studies on the price elasticity of demand.

Table 9: Allconnex Residential Demand for Water (Amended) (ML/year)

	2008/2009	*2009/2010*	*2010/11*	*2011/12*	*2012/13*
Gold Coast	30,096	39,144	41,730	41,292	42,348
Logan	13,650	15,487	17,249	18,808	19,376
Redland	9,868	10,017	10,407	10,689	10,940
Allconnex (Frontier)	53,614	64,648	69,387	70,790	72,665
Allconnex (Allconnex)	53,614	64,648	68,537	70,336	71,871
Difference	**na**	**na**	**850**	**454**	**794**

Note Amended residential water demand (ML/year) = litres per person per day x residential occupancy rate x number of connections x 365 / 1,000,000.
Source Frontier (2010)

The Authority accepted Frontier's recommendations for 2010/11. The Authority also considers that tariff structure will be a very significant determinant of demand. No changes in tariff structure were made in 2010/11 pending the development of approved pricing principles.

The Authority noted that Allconnex's estimates of residential water volumes are broadly confirmed by Frontier's analysis, with Frontier increasing volumes by 1.18% in 2010/11 to 0.63% in 2012/13. The Authority considered that Frontier's approach represents the best available estimate of demand and accepted Frontier's estimates in its review of capital and operating expenditure.

The Authority accepted Frontier's residential water demand estimates.

Wastewater

Allconnex's estimates of residential wastewater connections are shown in Table 10 below.

Table 10: Allconnex Wastewater Connections - residential

	2008/09	*2009/10*	*2010/11*	*2011/12*	*2012/13*
Gold Coast	199,152	199,300	201,000	206,810	212,802
Logan	76,619	76,883	78,548	80,386	82,266
Redland	47,068	47,945	49,068	49,559	50,055
Total	**322,839**	**324,128**	**328,616**	**336,755**	**345,123**

Source Allconnex (2010)

In line with the approach used in its analysis of residential water usage, Frontier adjusted wastewater connections forecasts to reflect the same growth rate as water connections. Frontier noted that Allconnex is not proposing to introduce volumetric charges for wastewater and therefore there is no need for Allconnex to produce wastewater volumetric forecasts at this stage.

Frontier's adjustments resulted in an increase of 1.3% for 2010/11, 0.3% in 2011/12 and 0.3% in 2012/13 (see Table 11).

Table 11: Allconnex Amended Wastewater connections - residential

	2008/09	*2009/10*	*2010/11*	*2011/12*	*2012/13*
Gold Coast	199,152	199,300	205,225	206,975	212,958
Logan	76,619	76,883	78,732	80,437	82,319
Redland	47,068	47,945	49,117	50,247	50,771
Allconnex (Frontier)	322,839	324,128	333,074	337,680	346,049
Allconnex (Allconnex)	322,839	324,128	328,616	336,755	345,123
Difference	**-**	**-**	**4,458**	**925**	**926**

Source Frontier (2010)

The Authority accepted Frontier's residential wastewater demand estimates.

Non-residential and Trade waste

Frontier noted that it was initially unclear how Allconnex derived non-residential growth in connections. Based on further discussions, Allconnex stated that both the Gold Coast and Logan non-residential property forecasts were based on PIFU 2008 medium series population growth, with adjustments in certain instances. For example, a lower growth rate was applied by Gold Coast in 2010-11 to account for the impact of the global financial crisis.

Frontier noted that no data for trade waste was provided by Allconnex.

Unlike residential water connections, Frontier was unable to obtain historical data from alternative sources. Frontier did not have access to the data needed to generate an alternative estimate despite requesting this from Allconnex.

Recycled Water

Frontier noted that insufficient information was available for recycled water for Frontier to make an assessment. Frontier stated that Allconnex indicated that it will consider this issue as part of its ongoing business planning and improvement plan.

In the absence of historical data or alternative sources of data, Frontier was unable to provide alternative forecasts to those proposed by Allconnex.

The Authority accepted Allconnex's forecasts but also accepted Frontier's finding that Allconnex should develop short-term forecasts for trade waste customers and recycled water for future years.

Summary

Demand estimates are an essential component of economic regulation. The more reliable the demand estimates, the more informed will be the choices businesses can make about expenditure and prices. It is therefore important that demand forecasts represent the best possible assessment of future consumption given the available information.

The Authority acknowledged that structural change in the SEQ water sector has led to a number of legacy issues, particularly regarding the transfer of data from the councils.

The Authority adjusted Allconnex's residential connections for water and wastewater and residential volumes for water to reflect PIFU forecasts. Nonetheless, the Authority noted that these (revised) estimates broadly confirm Allconnex's estimates for 2010/11.

The Authority considered that prior to the next price monitoring period, Allconnex should document its approach to forecasting demand for all purposes, and establish procedures and protocols for the collection and collation of data, including:

(a) connections for residential and non residential water users;

(b) connections for wastewater customers (residential, non-residential, recycled water customers and trade waste customers); and

(c) volumetric consumption for residential and non-residential customers for potable water, recycled water and trade waste.

The Authority also considered that Allconnex should also take into account the response of consumers to increasing prices (that is, estimate the elasticity of demand) which estimating future consumption patterns.

Stakeholder Submissions on the Draft Report

Allconnex generally accepted the Authority's refinements to its demand forecasts. However, Allconnex also identified a number of additional issues to be considered in future reviews.

Allconnex was concerned that solely using PIFU forecasts may not fully reflect changing economic and demographic conditions, as PIFU data is updated at irregular intervals. Allconnex noted that it is unclear how the PIFU data has been used in developing the connections forecasts adopted by the Authority and that the use of average cohorts may lead to inconsistencies and inaccuracies in growth projections.

Allconnex noted that it is currently developing a history of property data it believes should be used in conjunction with PIFU forecasts in determining future demand.

Allconnex agreed with the Authority that daily residential usage should be based on the connected population and not total population as originally adopted in Allconnex's submission.

Allconnex noted that recent consumption data indicates demand has fallen significantly since prices and budgets were developed for 2010/11 and since its initial submission. Allconnex indicated that the reduction in demand is most likely due to the current wet weather being experienced within South East Queensland rather than pricing. This weather pattern significantly affects outdoor water use by consumers.

Allconnex submitted water consumption would not return to pre-restriction/ pre-drought levels as quickly, or to the same magnitude as assumed by the Authority. Consumption patterns in

other jurisdictions indicate limited "bounce-back" to original levels of demand following the removal of restrictions.

Allconnex considered a comprehensive investigation into price elasticity of demand would need to be conducted over an extended period of time. However, given the possible introduction of tenant billing in the future, it would appear impractical to conduct such an investigation at this time.

Authority's Analysis

In relation to PIFU, the Authority notes that it engaged Frontier to conduct an independent review of the entities' demand forecasts for the Authority. Frontier recommended that PIFU estimates be adopted as it provided the most reliable, independent estimate of connections growth currently available. Frontier's use of PIFU forecasts is identified in its detailed report (available on the Authority's website). In summary, the PIFU figures were converted to annualised growth rates which were then compared with Allconnex's proposed growth rates. The connection numbers were then adjusted for the difference between PIFU and Allconnex's growth rates.

Notwithstanding the above, the Authority notes that demand forecasting for water is to be progressed by the entities, QWC, the Water Grid Manager and the Authority.

In response to Allconnex's comments that water consumption will not return to pre-restriction levels, the Authority notes that it will monitor this issue in observing actual outcomes against those forecast. The Authority considers that the response of consumers to increasing prices (the price elasticity of demand) remains a relevant factor in estimating demand.

The Authority proposes no change to its Draft Report findings on demand.

2.5 The Initial Regulatory Asset Base

In March 2010, the Minister for Natural Resources, Mines and Energy and the Minister for Trade advised the Authority of the initial regulatory asset base (RAB) as at 1 July 2008 for interim price monitoring. The Minister advised the RABs for each entity as well as the RABs for each participating council and other adjustments.

The Authority engaged SKM to review the method used by the entities to apportion the advised RAB to the each deemed category and its implementation.

Allconnex Submission

In its initial submission, Allconnex noted that it had allocated the advised RAB of $3.56 billion to each asset on the basis of their audited values (see Table 12).

Allconnex allocated $260,000 of Gold Coast's assets to plant and equipment used to deliver non-regulated services (see Table 12). Allconnex subsequently indicated that these assets include laboratory information systems, and their allocation to non-regulated services is required as the Minister's 1 July 2008 RAB was derived from an entity wide value, from which bulk assets were deducted. This resulted in a value that did not exclude any non-regulated assets. Allconnex therefore deducted these (non-regulated) assets from the 1 July 2008 RAB in its submission.

Table 12: Allconnex RAB as at 1 July 2008 ($m)

	Water	*Wastewater*	*Non-regulated Services*	*RAB*
Gold Coast City Council	849.72	1,281.18	0.26	2,130.90
Logan City Council	435.15	570.28		1,005.43
Redland Council	172.08	248.86		420.94
Allconnex	**1,456.95**	**2,100.37**	**0.26**	**3,557.27**

Note RAB = water + wastewater assets. Source Allconnex (2010)

Authority Analysis

SKM noted that the total value of assets in Allconnex's submission (including non-regulated assets) was consistent with the Minister's advised asset values. SKM further confirmed that the RABs for each council area were apportioned to individual asset values based on their audited values, as recommended in the Authority's *SEQ Framework Report* and *Information Requirements for 2010/11* and endorsed by Government in the Ministerial Direction.

The Authority, in its Draft Report, accepted Allconnex's apportionment of the Minister's advised RAB. The Authority noted that the exclusion of assets relating to non-regulated services (including competitive laboratory services) from the regulated asset base is consistent with the framework for price monitoring under which non-regulated services are excluded from detailed regulatory review.

No stakeholder commented on this issue.

The Authority proposes no change to its Draft Report finding on the initial RAB.

The Authority has accepted Allconnex's apportionment of the Minister's advised RAB including the adjustments proposed by Allconnex.

2.6 Capital Expenditure

Capital Expenditure from 1 July 2008 to 30 June 2010

The Ministerial Direction requires the Authority to accept as prudent and efficient, actual capital expenditure (excluding establishment costs) as included in councils' financial accounts from 1 July 2008 to 30 June 2010; allowable establishment costs as advised by the Minister for Natural Resources, Mines and Energy and Minister for Trade; and contributed, donated and gifted assets and capital expenditure funded through cash contributions from 1 July 2008 to 30 June 2010.

Draft Report

In its initial submission, Allconnex stated that the capital expenditure for 2008/09 was $261 million and for 2009/10 was $280 million, which included $36 million in establishment costs. Allconnex's capital expenditure included contributed, donated and gifted assets and capital expenditure funded through cash contributions.

The Authority engaged SKM to review Allconnex's capital expenditure data from 1 July 2008 to 30 June 2010.

SKM noted that Allconnex allocated capital expenditure to only three of the seven categories (drinking water, wastewater via sewer and trade waste). SKM requested further disaggregated information from Allconnex and, in response, Allconnex noted that it is not able to populate this section of the template as councils did not previously collect this data. SKM recommended that where these services are offered in future years, Allconnex should collect information within the above categories.

SKM were asked to compare the actual capital costs for the 2008/09 and 2009/10 financial years to the supporting documentation provided by Allconnex. SKM noted some differences in the capital expenditure values presented in supporting documentation and the data template for 2008/09. SKM noted that total capital expenditure for 2008/09 proposed by Allconnex was lower than that available in supporting information. SKM recommended that the 2008/09 values be subject to further review.

The Authority considered that Allconnex should provide further detailed information on capital expenditure for 2008/09 that can be verified against councils' audited financial accounts, as required under the Direction.

The Authority noted that 2009/10 capital expenditure could not be verified against councils' financial accounts as supporting information based on 2009/10 audited accounts is yet to be provided by the entities. Allconnex subsequently indicated that it would provide the 2009/10 audited capital expenditure information to the Authority with its responses to the Draft Report, in early 2011.

Further, allowable establishment costs have not been advised by the Minister for Natural Resources, Mines and Energy and Minister for Trade.

The Authority noted in the Draft Report that it intended to further review Allconnex's past capital expenditure once audited information was available. As a result, the initial RAB as at 1 July 2010 should be viewed as an interim RAB.

Stakeholder Submissions on the Draft Report

In its submission on the Draft Report, Allconnex provided updated capital expenditure information return for 2008/09 and 2009/10 based upon audited accounts and supporting information provided by councils.

An additional $6.3 million in capital expenditure in 2008/09 was included for assets not captured in the asset valuation conducted by KPMG in establishing the initial RAB. Allconnex provided advice from the Queensland Government (Treasury) confirming that these assets were not included in the initial RAB. The Government advised that council's capital expenditure on this project may be recognised in a commensurate adjustment to the RAB.

Allconnex also provided the Authority with a revised estimate of establishment costs based on the Minister's allowable establishment costs.

Authority's Analysis

The Authority has reviewed the revised capital expenditure information return provided by Allconnex against councils' financial accounts. While the Authority has been able to reconcile more of this information than previously for its Draft Report, particularly for 2009/10, it has been unable to do so comprehensively. While the information provided for price monitoring has therefore been improved, the opening RAB as at 1 July 2010 remains an interim value until

the capital expenditure can be fully reconciled with councils' financial accounts. The Authority proposes to work with Allconnex to resolve this issue for the next price monitoring review.

The Authority notes that the $6.3 million assets involved emergency measures involving an improved connection to Logan City via reticulation upgrades, and these assets have been transferred to Allconnex. The Authority has included the additional $6.3 million in capital expenditure for 2008/09 consistent with the advice from the Queensland Government. The Authority adjusted the 2009/10 capital expenditure to reflect the actual capital expenditure contained in councils' financial accounts.

In its initial submission, Allconnex estimated its establishment costs at $36.17 million.

Subsequently, on 17 February 2011, the Minister for Natural Resources, Mines and Energy and Minister for Trade advised the Authority of the approved establishment costs for the entities. For Allconnex, these costs totalled $28.55 million up to 30 June 2010. This was comprised of $20.34 million in directly incurred costs and $8.21million in CoMSEQ costs.

The Ministerial Direction requires allowable establishment costs to be accepted as prudent and efficient and to be rolled into the RAB at 1 July 2010 and recovered over an appropriate period.

The Authority subsequently sought and received clarification from the QWC and Allconnex that the approved costs were not already included in councils' financial accounts for capital expenditure for 2008/09 and 2009/10, to ensure there was no double counting of these costs.

Further, Allconnex nominated asset life of five years for establishment costs is consistent with the smoothing period of between 5-8 years endorsed by the Government to avoid unnecessary price shocks to customers.

The Authority has therefore adjusted Allconnex's estimate of establishment costs to reflect the costs approved by the Minister (Tables 13 and 14 refer).

Table 13: Revised Allconnex Establishment Costs ($m)

	$m
Allconnex proposed establishment costs	$36.17 (in 2009/10 capital expenditure)
Minister's approved establishment costs	$28.55 (as at 30 June 2010)
Difference	-$7.62

Source Allconnex (2010).

Table 14: Allconnex 2008/09 and 2009/10 capital expenditure ($m)

	2008/09	***2009/10***
Allconnex initial capital expenditure	260.97	279.57
Allconnex revised capital expenditure	267.30	299.21
Difference	6.33	19.64

Source Allconnex (2010).

The Authority has revised Allconnex's capital expenditure to reflect the establishment costs approved by the Minister. The Authority will further review past capital expenditure claimed by Allconnex once further audited information is available.

Capital Expenditure from 1 July 2010

The Ministerial Direction requires the Authority to review the prudency and efficiency of capital expenditure for inclusion in the RAB from 1 July 2010. Only expenditure found to be both prudent and efficient can be included in the RAB.

The Authority requires capital expenditure from 1 July 2010 to be included in the RAB only when it is commissioned, and contributes productive capacity to the system.

Draft Report

In an initial submission, the SEQ Water Grid Manager noted in its submission that the entities will be required to develop a drinking water quality management plan consistent with the SEQ water grid quality management plan developed by the SEQ Water Grid Manager.

In its initial submission, Allconnex proposed a capital works program of $1.3 billion over three years, of which water accounts for $340 million and wastewater accounts for $992 million (all figures are in nominal terms unless otherwise stated).

(a) Proposed Capital Expenditure

Allconnex assigned the increase in capital works to the following cost drivers: growth, renewal and compliance (Table 15). No projects were classified as improvements as the previous council classification did not use this driver.

Table 15: Forecast Capital Expenditure Water and Wastewater ($m)

	2010/11	*2011/12*	*2012/13*	*Total*
Growth	372.7	445.3	242.9	1060.7
Renewal	86.6	78.9	71.1	236.6
Improvement	0	0	0	0
Compliance	26.1	3.4	4.3	33.8
Total	**485.4**	**527.5**	**318.3**	**1331.2**
Comprising				
Water	**105.1**	**119.8**	**115.2**	**340.1**
Wastewater	**380.3**	**407.7**	**203.1**	**991.1**

Note Capital expenditure is presented on an incurred basis as per Allconnex's submission.
Source Allconnex (2010).

The water and wastewater costs related to each of Allconnex's three geographic areas are detailed in Tables 16 and 17 below.

Table 16: Capex for Water by Geographic Area ($m)

	2010/11	*2011/12*	*2012/13*	*Total*
Gold Coast	62.1	58.7	63.5	184.3
Logan	36.6	52.6	44.9	134.2
Redland	6.3	8.5	6.7	21.6
Total	**105.1**	**119.8**	**115.2**	**340.1**

Source Allconnex (2010) data template

Table 17: Capex for Wastewater by Geographic Area ($m)

	2010/11	*2011/12*	*2012/13*	*Total*
Gold Coast	281.9	275.2	56.4	613.6
Logan	80.7	113.5	127.4	321.7
Redland	17.6	18.9	19.2	55.9
Total	**380.3**	**407.7**	**203.1**	**991.1**

Source Allconnex (2010) data template

(b) Service Standards

In its submission, Allconnex stated that it has two types of standards:

(a) customer service standards which include details of the services provided and the water, wastewater and recycled water services areas, details of response and repair completion times; and

(b) desired standards of service which provide standards that can impact on scale and timing of the capital program, including average day demands, demand distribution, peaking factors, pressure parameters, fire fighting parameters, reservoir storage, pump and pipeline design and water, wastewater, trade waste, biosolids, release and recycled water quality.

Allconnex noted that the planning projections currently assume no change to the pre-existing planning and customer service standards for each of the districts. Further, Allconnex stated that the service standards were reviewed for currency and applicability as part of the total management plan and strategic asset management plan review.

(c) Capital Planning

In its submission, Allconnex stated that the general process followed by the three districts to prepare and validate the capital budget comprised of a number of elements described below:

(a) development – the process used to identify projects, build, approve and review a program;

(b) justification – the process used to justify individual projects in terms of meeting corporate goals, identifying service levels, defining the timing of the project in terms of meeting demands, regulatory requirements, maintenance or expected failure;

(c) evaluation and analysis – the process used to define the scope, cost estimates, impacts on capital expenditure and operational expenditure budgets, options evaluation and consequence of failure to make the investment;

(d) procurement – assessment of procurement options;

(e) prioritisation – the process used to prioritise projects on an annual basis, taking into consideration the ability to deliver the program; and

(f) delivery – the process used to plan and deliver the program, including concept and detailed design, construction, asset acceptance and handover, monitoring and reporting on the program, process review, improvement and integration into further phases of planning or the business.

In subsequent information provided to the Authority, Allconnex confirmed that its original submission was premised on a consolidation of the three participating councils' (Gold Coast, Logan and Redlands) budgets for their respective water businesses for 2010/11.

Allconnex noted that it had had limited time to undertake a comprehensive review of all costs at the time of providing its submission to the Authority but has subsequently reviewed its total capital budget, applying the regulatory principles of prudent and efficient investment to the original submitted program.

Allconnex advised that this review has identified possible savings of capital investment in the first five years of its operation (to 2015-16) in the order of $500 million. For 2010/11 approximately $168 million in capital expenditure has been either removed or deferred. Allconnex identified that this represents a saving in 2010/11 of $16M in interest payments.

For the Draft Report, the Authority engaged SKM and Halcrow to review the adequacy of data provided by Allconnex and the prudency and efficiency of the proposed capital expenditure within the framework outlined in the Authority's *Final Report SEQ Interim Price Monitoring Framework*. In accordance with this framework, SKM and Halcrow reviewed the cost drivers of the capital expenditure in detail and the scope and standard of the works when assessing the prudency and efficiency of capital works.

(d) Adequacy of Capital Expenditure Data

SKM commented that Allconnex identified capital expenditure in the year expenditure is incurred rather than the year of commissioning. The Authority noted in its *SEQ Interim Price Monitoring Framework (April 2010)* that capital expenditure should be capitalised (and hence included in the RAB) when the asset for which the capital expenditure occurred is able to contribute to the productive capacity of the system.

SKM recommended that for future returns Allconnex only include capital expenditure when the asset (or relevant portion of the asset) has been commissioned. In doing so, project lists should be provided that link the underlying cost components such as unit rates, on-costs and contingencies and any other supporting materials such as consultant reports.

In absence of anticipated commissioning dates for each of Allconnex's 352 projects, SKM was unable to make these changes to the data templates.

SKM noted that Allconnex allocated capital expenditure to only three of the seven categories (drinking water, wastewater via sewer and trade waste). SKM also noted that costs associated with recycled water are included within the "wastewater via sewer" category. SKM recommended recycled water costs be separated out (despite the difficulties in doing so) as Allconnex has a substantial recycled water network and there may be an alternative pricing

strategy for the provision of recycled water in the future. The Authority notes SKM's comment, and acknowledges that pricing principles are yet to be developed and that disaggregated information on costs will inform this process.

As Allconnex only provided disaggregated costs for three of the seven categories, the Authority notes that it is not possible to develop a MAR at the more disaggregated level originally intended. For the purposes of this review, the Authority has therefore maintained the same level of disaggregation for Allconnex as for the other entities.

With regards to indexation, Allconnex stated that construction costs have continued to rise faster than CPI and Allconnex has therefore used an ABS construction indexation rate from March 1999 to March 2010 of 5% per annum.

The Authority acknowledged that there are a number of options for indexation of asset values effectively and they range from a broad-based inflation index such as CPI to a specific industry input index or combination of input indices.

Industry input indices should provide a more accurate estimate of replacement cost-based asset values and could provide a reasonable substitute for a full revaluation. However, such indexes may be subject to significant step changes, and would be expected to rise and fall in line with market conditions. This could lead to significant price variations within and between regulatory periods.

In a previous review of infrastructure charges for the Authority, Access Economics (AE) noted that escalation rates for construction costs should be based on long-run trends, rather than short run averages that deviate significantly due to idiosyncratic economic conditions. Based on long-run trends, AE recommended escalating the cost of construction by 4% per annum.

Based on the above, the Authority considered that Allconnex proposed indexation rate of 5% per annum is reasonable for the first price monitoring review although the Authority noted that a consistent indexation rate across SEQ will be investigated over the interim price monitoring period, taking into account further research and actual outcomes. The Authority noted that any variations between Allconnex's forecast and actual capital expenditure will be taken into account at the next price monitoring review.

(e) Service Standards

The Authority did not review service standards as part of this price monitoring review. The Authority accepted the service standards provided by the entities as long as they were approved by other agencies.

SKM confirmed that there was variation in service standards across Allconnex's operational area, with each geographic area having its own documented service standards. SKM noted that this is expected to continue until the release of a water and wastewater code which will provide minimum guaranteed service standards for the customers of the three entities, under the *South East Queensland Water (Distribution and Retail Restructuring) Act 2009*.

Further, SKM noted that Allconnex is conducting a review of the standards of each district to ensure that there is consistency across the business. Where service standards are the driver for increased capital expenditure, SKM reviewed this against the documentation provided by Allconnex to assess the prudency and efficiency of the works.

(f) Capital Planning

Allconnex's demand forecasts for pricing and operating costs and those for capital planning are done separately. While both look at historical trends and project forward official growth

forecasts and anticipated water use trends, there are considerable differences in some cases. In assessing the prudency of the sampled projects, the consultant assessed each project individually against planning documents. In other words, the consultant accepted the demand forecasts used. This is not unreasonable on this occasion.

SKM noted that Allconnex currently has different processes for capital planning for the different geographical areas. However, each district within Allconnex had produced either a PIP or Planning Scheme Policies (PSPs), which had been adopted by Allconnex. SKM noted that these documents define the scale, type, timing and location of the growth in the city in order to plan future water supply and wastewater trunk infrastructure and to determine the charges required to fund it. SKM noted that these documents have been used develop the growth component of Allconnex's capital works program.

Under transitional arrangements, the *South East Queensland Water (Distribution and Retail Restructuring) Act 2009* transfers SAMPs, SLMPs and existing drinking water plans developed by shareholder councils to Allconnex until such time as Allconnex develops an approved drinking water plan (due to 1 July 2011) and an endorsed Water Netserv Plan (due by 1 July 2013). The Water Netserv Plan must have regard to planning documents included in the South East Queensland Regional Plan 2009-2031 and the planning assumptions made by shareholding councils for Allconnex' operating area.

SKM noted that Allconnex is in the process of developing a Netserv Plan as required by the *South-East Queensland Water (Distribution and Retail Restructuring) Act 2009.* SKM commented that the development of a NetServ Plan provided a good opportunity for Allconnex to develop a consistent and structured approach to planning for all districts.

Due to time constraints, SKM focussed its review on the policies and procedures of the Gold Coast district. SKM considered that the Gold Coast district's processes and procedures represent many aspects of good industry practice. SKM stated that Allconnex has a system in place for selecting capital expenditure projects based on the three main cost drivers of growth, renewals and compliance.

SKM noted that for the larger projects associated with Gold Coast a number of planning reports and master plans had been undertaken, which appear to be consistent with Gold Coast district's procedures. For the smaller project reviewed, however, SKM noted that the planning did not follow the prescribed outline or include financial analysis.

In order to demonstrate the prudency and efficiency of capital expenditure projects, SKM recommend that Allconnex provide a capital expenditure project list including the following items:

(a) a unique identifier for each project (i.e. project number or similar) and a brief project description;

(b) asset category (drinking water, wastewater via sewer etc) and geographic area (Gold Coast, Logan, etc or future boundaries);

(c) relevant cost driver (and percentage allocation, if split between multiple drivers);

(d) current project status (initiation, preliminary design, detailed design);

(e) links to existing reports, including project initiation forms, business cases; and

(f) links to relevant standards of service.

The Authority also noted that an overall process be developed for selecting and prioritising projects from each of the three districts be adopted, and this process should include:

(a) a standardised approach to cost estimating, including a standardised approach to estimates for items such as contingency, preliminary and general items, design fees and contractor margins, so that there is uniformity of cost estimating across all proposed major projects;

(b) a summary document be prepared for identified major projects so as to develop standardised reporting;

(c) an implementation strategy to be developed for each major project to assist in ensuring the deliverability of the project in the proposed timeframe;

(d) establishment of a benchmark for determining the prudency of a project based on design flows and projected growth;

(e) a 'toll gate' or 'gateway' review process to be implemented so that appropriate reviews are undertaken at milestone stages for selected projects; and

(f) a process for considering synergies between the districts. Where relevant, master planning studies, feasibilities studies and network models should take into consideration opportunities and risks in neighbouring areas, to allow the development of an integrated and optimised network.

In the Draft Report, the Authority agreed with SKM's findings and recommendations with regard to the policies and procedures followed by Allconnex. In particular, the Authority encouraged Allconnex to develop a detailed project list and processes which take into account a regional perspective which developing future capital works programs.

(g) Prudency and Efficiency

For capital expenditure to be included in the RAB, expenditure is required to be prudent (there is a demonstrated need for the expenditure) and efficient (it is cost-effective in its scope and standard, using market benchmarks).

The Authority noted that, after applying a prudency and efficiency test, Allconnex has recently identified savings of capital investment in the first five years of its operation (to 2015/16) in the order of $500 million. For 2010/11 approximately $168 million in capital expenditure has been either removed or deferred.

The Authority supported the ongoing review by Allconnex of its capital expenditure program and has included the identified savings in its review of capital expenditure. The Authority has not yet been provided with details of the nature of these savings.

In assessing the cost efficiency of the sampled projects, SKM used published unit rates from Rawlinsons, available unit rates from SEQ water entities and also other water utilities, previous project experience on similar projects and quotes from various suppliers. Some of these unit rates are confidential and are therefore not published in this report. Unit rates identified or calculated from the supporting data were compared to a range of rates from the above sources. If the rate was within 30% of the benchmark identified for a similar type, length and diameter or pipe, or similar type of project, SKM considered the expenditure to be cost efficient.

SKM noted that there are a number of factors that can significantly affect the cost of the projects including the project location (e.g. highly urbanised areas are significantly more expensive than greenfield sites), material types (e.g. different pipeline materials such as PVC and MICL pipe),

the fittings and fixtures required (e.g. many connections and valves versus only a few), and geotechnical conditions (e.g. rock versus sandy soils).

Having regard to the above sources of variation, and the time available for review, SKM considered that variation above 30% required further detailed evaluation. The Authority noted that contingency allowances can vary from 5 to 40% depending on the stage of a project's planning (Evans and Peck, 2009).

The Authority accepted SKM's approach for this first review but notes that it will be seeking to refine this range over the interim period wherever possible. The Authority also noted that, in previous reviews of infrastructure charges, 25% was recommended to the Authority by another consultant.

The sample chosen for a review of prudency and efficiency includes the projects which account for at least 10% of the overall capital project spend and an additional medium value project for each of the geographic area. For Allconnex this resulted in a sample of 13 projects which accounted for 28% of all the capital expenditure in 2010/11 and 33% capital expenditure between 2011/12 and 2012/13. A range of projects across councils by size and over the interim period was chosen to test the application of policies and procedures across a variety of projects.

The Authority did not limit its sample to expenditure to be incurred in 2010/11 in order to signal its view of the prudency and efficiency of projects currently underway and due to be commissioned in later years.

In addition to the sample, the Authority accepted that findings of a Cardno report, provided by Allconnex, on the prudency of its proposed capital expenditure for the Logan area. The Cardno review applied the Authority's test of prudency, and found four Logan projects could not be confirmed as being prudent. These projects are included in the analysis below. The complete list of capital expenditure programs reviewed is shown in Table 18 (with capital expenditure shown as incurred).

Table 18: Capital expenditure programs reviewed ($m)

Project	*Activity*	*2010/2011*	*2010/11-2012/13*
Merrimac West WW Stage 2	Wastewater	78.7	238.6
Stapylton WWTP Stage 1	Wastewater	31.5	53.3
Southern Relief Sewer Stage 1	Wastewater	5.2	27.6
Chetwynd St Upgrade	Wastewater	2.1	22.0
Potable Water Network	Water	4.7	19.7
Logan North – External Sewer Upgrade	Wastewater	8.1	16.8
Point Lookout WWTP	Wastewater	5.6	12.2
Springwood Master Plan Area Trunk Mains	Water	0	11.3
Lower Logan Effluent Reuse	Wastewater	0	11.3
Provisions for AC Reticulation Main Replacements	Water	1.8	8.0
Retic- Backlog fire flow augmentation	Water	2.5	7.2
Park Ridge MPA	Wastewater	0	5.7
Cleveland WWTP	Wastewater	0	4.8
Gravity & Rising	Wastewater	1.0	1.0
Treatment Plant Future Misc Items Estimates	Wastewater	.1	.6
Pump Station Number 61	Wastewater	.05	.2

Source Allconnex supporting information. Capital expenditure shown in nominal dollars as incurred.

SKM, Halcrow and Cardno found that most, but not all, of Allconnex's forecast programs were prudent and efficient in 2010/11. For much of the expenditure in 2011/12 and 2012/13, insufficient data (and the early stage of planning) meant that the consultants were unable to come to a conclusion on prudency and efficiency. The consultants' conclusions and the Authority's response with respect to the prudency and efficiency of the proposed capital expenditure programs are detailed below on a project by project basis.

(i) Merrimac West Stage 2

The Merrimac West Stage 2 Wastewater Network Augmentation project is proposed to upgrade the current wastewater infrastructure within the Merrimac West catchment to accommodate the proposed level of future growth. Many components throughout the system are reaching the end of their useful asset life including mechanical equipment in major pump stations.

The capital expenditure is proposed to be $240 million over the 2010/11-2012/13 period (see Table 19).

Table 19: Merrimac West Stage 2 Capital Expenditure Profile ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
Merrimac West	78.8	159.3	0.5	238.6

Source SKM (2010)

With regards to prudency, SKM noted that given the region's projected population growth, work involving the upgrading of existing infrastructure is required. SKM considered that as a number of elements of the existing system are currently at capacity, sufficient information has also been provided to support an immediate start to work.

SKM noted that a number of documents were provided that imply that this project has been well considered. These documents include a Master Plan, initially produced in 2004 and updated in 2008 and the PIP of Merrimac Catchment produced by Gold Coast Water.

With regards to efficiency, SKM noted that the project costs appear to be not unreasonable. SKM stated that a number of options have been considered and reviewed during the development of the scope, including the production of an independent cost assessment. SKM concluded that based on a review of the rates and itemised costs of items and works such as gravity sewers, rising mains and the new regional pump station to be delivered, the costs appear to be efficient.

SKM stated that the Target Outturn Cost has yet to be agreed by the Allconnex Board and that the future delivery mechanism of this project is also uncertain, which has a related impact on the quantum and timing of expenditure.

Based on the above, SKM concluded that the capital expenditure for this program of works for 2010/11 appears prudent and efficient. However, the expenditure in years 2011/12 and 2012/13 requires further review.

With regards to deliverability, SKM noted that while construction was scheduled to begin before the end of the year, the project is already behind schedule. SKM stated that the impact of this delay on the budget cannot be determined and recommended that the budget for future years account for any carryover of capital works.

The Authority accepted SKM's findings that the capital expenditure for 2010/11 is prudent and efficient and that the capital expenditure for future years should be further reviewed. It was not proposed to remove the 2011/12 and 2012/13 expenditure from the RAB. The Authority noted that the cost of this project is subject to further review by the Allconnex Board, which may result in further efficiencies.

(ii) Stapylton WWTP Stage 1

This project involves the construction of a new wastewater treatment plant to service growth in the area south of Beenleigh and north of Ormeau. Halcrow noted that the ultimate capacity of the plant is planned to be 37,600ET, with Stage 1 to provide an initial capacity of 13,800ET.

Halcrow further noted that, it is expected that up to 50% of wastewater received at the plant will originate from industrial developments. Consequently the plant will incorporate the latest treatment technologies including biological nutrient removal and disinfection processes.

The capital expenditure is proposed to be $53.3 million over 2010/11-2012/13 (see Table 20).

Table 20: Stapylton WWTP Stage 1 Expenditure Profile ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
Stapylton	31.5	21.5	0.3	53.3

Source Halcrow (2010)

With regards to prudency, Halcrow noted that the proposed plant is included as an item of proposed trunk infrastructure in the current PIP for the former Gold Coast City Council area. Halcrow stated that Allconnex confirmed that the population growth figures on which the PIP was based have been verified by the PIFU. Halcrow considered that on the basis of the planning documentation reviewed, the construction of the Stapylton WWTP was prudent as it is required to service predicted growth in the catchment.

With regards to efficiency, Halcrow considered that the proposed Stapylton WWTP had been the subject of an extensive and robust planning process over a number of years. Halcrow further noted that the estimates presented have been derived using unit rates compiled by an independent consultant and the costs have been determined by estimating the costs of the principal construction activities and/or components of infrastructure. Halcrow stated that the application of a 30% contingency allowance at this stage of the planning process is consistent with water industry practice.

Halcrow noted that Allconex subsequently advised that the estimated cost of the Stapylton WWTP Stage 1 works, which is included as part of the Target Outturn Cost (TOC) determined under the Alliance arrangement is $58.1 million ($57.8 million and carry over expenditure of $264,000) (see Table 21).

Table 21: Stapylton WWTP Stage 1 Revised Expenditure Profile ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
Stapylton	34.1	23.3	0.3	57.8

Source Halcrow (2010)
Note – Carry over expenditure of $264,000 forecast for 2013-14

Halcrow noted that the increase in cost has been identified through the greater detail involved in the TOC development process, which also involves independent verification of the costs. Halcrow considered that the revised cost estimate amounts to approximately $4,190 per EP (previously $3,900 per EP), which is generally consistent with the estimated and actual costs of other similar works. While Halcrow noted that Allconnex was conducting further investigations that may affect the actual cost and cash flows, Halcrow also noted that the use of a properly managed Alliance delivery mechanism should ensure that the revised cost estimate of $58.1 million is efficient.

The Authority accepted Halcrow's findings that the capital expenditure is prudent and efficient and forecasts need to be increased to reflect more recent information provided by Allconnex. The Authority noted that this finding has resulted in an increase of $2.6 million in expenditure in 2010/11 compared to that originally submitted by Allconnex. The Authority nonetheless supported the ongoing investigations by Allconnex and the pursuit of efficiencies in this project.

(iii) Chetwynd St Upgrade, Southern Relief Sewer Stage 1, the Slacks Creek Project and the Slacks Creek Trunk Sewer Extension – RM Stage 1

Allconnex advised that the proposed Chetwynd St Upgrade and Southern Relief Sewer Stage 1 had been replaced by the Slacks Creek Trunk sewer extension and Slacks Creek Trunk sewer extension rising main.

SKM reviewed the Slacks Creek Trunk Sewer Rising Main.

The capital expenditure is proposed to be $34.4 million over 2010/11-2012/13. The original and revised expenditure profiles are contained in Tables 22, 23, 24 and 25 below.

Table 22: Chetwynd St Upgrade Capital Expenditure profile ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
Chetwynd	2.1	16.5	9.2	27.9

Source SKM (2010)

Table 23: Southern Relief Sewer Stage 1 Expenditure Profile ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
Southern Relief	5.2	16.5	5.8	27.5

Source SKM (2010)

Table 24: Slacks Creek Trunk sewer extension Trunk Main (gravity) ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
Slacks Creek Trunk Main	2.1	20.9	1.1	24.1

Source Allconnex (2010)

Table 25: Slacks Creek Trunk sewer extension rising main ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
Slacks Creek rising main	2.1	24.2	8.1	34.4

Source Allconnex (2010)

This project involves the provision of a new wastewater rising between Loganlea and Loganholme Water Pollution Control Centre (LWPCC).

With regards to prudency, SKM considered the project to be prudent with respect to demonstrated need based on the information provided. SKM noted the benefits of this project proceeding as:

(a) ensuring compliance with legislation, e.g. environmental drivers;

(b) significant reduction to the incidence of wastewater overflow events;

(c) providing wastewater conveyance capacity ahead of growth; and

(d) reduction in operational costs for conveyance of wastewater between Slacks Creek and LWPCC.

With regards to efficiency, SKM considered that this project appeared to meet the desired outcomes addressing the growth of the area. However, based the broad scope and past experience, SKM considered that the costs appear to be higher than expected and may be delivered more efficiently. SKM noted that information was not available to assess the reasons for higher than normal commercial levels. SKM also noted that the works were being completed as part of the Logan Water Alliance.

With regards to deliverability, SKM noted that the construction of works was behind schedule.

SKM concluded that the capital expenditure for this program of works for the three years commencing 2010/11 is considered to be prudent (resulting in an increase of $3.1 million to that originally submitted), although the costs reviewed to date are considered to be slightly high and may be delivered more efficiently. SKM recommended that expenditure for 2011/12 and 2012/13 should be further reviewed before approval.

The Authority accepted SKM's findings with regards to this project.

(iv) Potable Water Network – developed areas

The potable water network project is designed to service the existing development areas of Tooraneedin, Jacobs Well and Steiglitz. It involves the construction of two pump stations, two reservoirs and two re-chlorination plants.

The capital expenditure is proposed to be $20 million over 2010/11-2012/13 (see Table 26).

Table 26: Potable Network - Developed Areas Expenditure Profile ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
Potable Network	4.7	9.8	5.2	19.7

Source SKM (2010)

With regards to prudency, SKM considered the project to be prudent with respect to demonstrated need based on the information provided. SKM noted that reports provided identified that construction of these assets will meet the desired standards of service for potable water supply to the predicted growth in the Tooraneedin, Jacobs Well and Steiglitz areas.

With regards to efficiency, SKM considered that the project costs appear to be reasonable. SKM noted that the potable water network in these developed areas appears to be of the right order of magnitude for the lengths, diameters and additional infrastructure to be provided in this project. SKM stated that based on a comparison of the average unit rates used with a range of unit rates from similar water utilities, the rates are within 30% and are considered to be reasonable.

SKM concluded that the capital expenditure for this program of works for the three years commencing 2010/11 is considered to be prudent and efficient.

However, SKM noted that there is insufficient information to make a judgement on the deliverability and timing of this project.

The Authority accepted SKM findings that the capital expenditure is prudent and efficient.

(v) Logan North – External Sewer Upgrade for 2011 for Park Ridge MDA

The Park Ridge MDA is an infill development that is being developed and which requires connection to the Logan North Sewer Area.

The capital expenditure is proposed to be $17 million over 2010/11-2011/12 (see Table 27).

Table 27: Logan North – External Sewer Upgrade Expenditure Profile ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
Logan North	8.1	8.7	-	16.8

Source Allconnex (2010)

With regards to prudency, Cardno noted that the growth assumptions used to commence the works have not been verified against actual flow data, scenarios of lower water use and possible changes to demand in Park Ridge following the change of focus to the growth points at Yarrabilba and Greater Glagstone.

Cardno stated that it could not conclude that the expenditure is prudent given that the population profile on which it is based may be overstated.

The Authority accepted Cardno's findings regarding prudency as such no further review of the efficiency of the capital expenditure was undertaken and the capital expenditure removed from Allconnex's forecasts.

(vi) Point Lookout WWTP

The Point Lookout Sewerage development creates the need for upgrades to the Point Lookout WWTP to service the emerging growth of the township. The capacity of the plant is to be upgraded from approximately 860EP to around 6,000EP.

The capital expenditure is proposed to be $12 million 2010/11-2012/13 (see Table 28).

Table 28: Point Lookout WWTP Expenditure Profile ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
Point Lookout	5.6	6.3	0.2	12.2

Source SKM (2010)

With regards to prudency, SKM stated that this project to prudent with respect to demonstrated need based on the information provided. SKM noted that this project is supported by robust documentation, including:

(a) planning report – options assessment, justification, recommendation and further development;

(b) cost estimates – Capital expenditure and Operational expenditure budgets;

(c) board report, draft business; and

(d) works program.

With regards to efficiency, SKM considered that the project costs to be reasonable. SKM noted that an Independent Estimator (Project Support) and an Alliance Financial Auditor (KPMG) provided external scrutiny of the process and reviewed costing information. Further, SKM stated that compared to previous projects, the build-up of costs appeared to be robust.

SKM recommended that capital expenditure for this program of works is prudent and efficient.

The Authority accepted SKM's findings that the capital expenditure is prudent and efficient.

(vii) Springwood Master Plan

This project is derived from the planning report for Springwood and relates to general water infrastructure in the Springwood area.

The capital expenditure is proposed to be $11 million 2010/11-2012/13 (see Table 29).

Table 29: Springwood Master Plan Expenditure Profile ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
Springwood master Plan	-	5.5	5.7	11.3

Source Allconnex (2010)

With regards to prudency, Cardno noted that no conclusion could be made regarding prudency given the absence of detailed planning and the uncertainty over timing. Cardno stated that the expenditure had been translated from a high level planning document and there is no evidence of any further work being completed to confirm this timing.

The Authority accepted Cardno's findings regarding prudency as such no further review of the efficiency of the capital expenditure was undertaken and the capital expenditure removed from Allconnex's forecasts.

(viii) Lower Logan Effluent Reuse

The expenditure for this project is for pre-planning and land acquisitions relating to providing wastewater treatment and effluent reuse to the Lower Logan area which includes the Yarrabilba and Greater Flagstone development areas.

The capital expenditure is proposed to be $11 million over 2011/12-2012/13 (see Table 30).

Table 30: Lower Logan Effluent Resuse Expenditure Profile ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
Lower Logan Effluent Reuse	-	5.5	5.8	11.3

Source Allconnex (2010)

With regards to prudency, Cardno noted that there was a clear need for infrastructure to handle wastewater from population growth in the Lower Logan area and this need had been exacerbated by the fast tracking of the Yarrabilba and Greater Flagstone schemes. However, Cardno stated that there was not sufficient evidence to justify the proposed timing of the

expenditure, or that the effluent reuse strategy is still valid given the changed timing of the development. Cardno was therefore unable to conclude that this project is prudent.

The Authority accepted Cardno's findings regarding prudency as such no further review of the efficiency of the capital expenditure was undertaken and the capital expenditure removed from Allconnex's forecasts.

(ix) Provision for AC Reticulation Main Replacement

The AC reticulation main replacement project is to replace existing water supply reticulation in the Logan District. The 2010/11 scope of the project includes:

(a) supply and installation of about 8.3 kilometres of new pipelines, including valves and hydrants over 25 different locations;

(b) reconnection of existing water service connection to the new main; and

(c) decommissioning of existing section of pipeline to be replaced.

The capital expenditure is proposed to be $8 million over 2010/11-2012/13 (see Table 31).

Table 31: AC Reticulation Main Replacement Expenditure Profile ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
AC Reticulation Main Replacement	1.7	3.2	3.2	8.1

Source SKM (2010)

With regards to prudency, SKM considered this project to be prudent with respect to demonstrated need based on the information provided. SKM noted that business benefits of this project include:

(a) reduced number of water main breaks and associated duration of water supply interruptions in Logan District;

(b) minimise system losses;

(c) reduce customer complaints; and

(d) maintain customer service standards.

SKM also noted that the report 'Review of Prudence of Capital Expenditure' September 2010 by Cardno found this project to be prudent.

With regards to efficiency, SKM noted that this project not only proposes to replace mains that currently do not meet the Desired Standards of Service, but also those that have had a number of failures in the past few years. Further, SKM considered that the project costs appear to be not unreasonable for the 2010/11 financial year based on the scope provided. SKM stated that these costs appear on the lower side of what might be expected (less than 30% of some unit rates). However, SKM considered that information of the scope for the subsequent financial years is not available and hence no assessment can be made regarding its reasonableness.

Based on the above, SKM recommended that the capital expenditure for 2010/11 is prudent and efficient. However, SKM stated that, due to lack of information no assessment can be made

regarding the prudency and efficiency of capital expenditure in 2011/12 and 2012/13. SKM recommended that expenditure for 2011/12 and 2012/13 should be further reviewed before approval.

The Authority accepted SKM's recommendation that the project is prudent and efficient in 2010/11 and took into account for price monitoring purposes. The Authority also accepted SKM's recommendation that while the costs of future years should be further reviewed, the capital expenditure profile not be adjusted at this stage.

(x) Reticulation – Backlog fire flow augmentation

This project involves replacing large amounts of pipe infrastructure to meet the fire flow demands. SKM noted that in undertaking detailed network modelling for the Pressure & Leakage Management Project, it was discovered that significant areas of the water supply network are unable to provide fire flows in accordance with the current Planning Guidelines for Water Supply & Sewerage.

The capital expenditure is proposed to be approximately $7 million over 2010/11-2012/13 (see Table 32).

Table 32: Reticulation – Backlog fire flow augmentation Expenditure Profile ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
Reticulation fire flow augmentation	2.5	4.6	-	7.1

Source SKM (2010)

With regards to prudency, SKM considered this project to be prudent with respect to demonstrated need based on the information provided. SKM noted that improvement of the water supply network's ability to provide fire flows in accordance with the Planning Guidelines for Water Supply & Sewerage.

With regards to efficiency, SKM stated that based on a comparison of the average unit rates, with a range of unit rates from similar water utilities, the rates are within 30% and are considered to be reasonable.

Based on the information provided, SKM recommended that the capital expenditure is prudent and efficient.

The Authority accepted SKM finding that this project is prudent and efficient.

(xi) Park Ridge MPA – Two Elevated Reservoirs

These reservoirs are designated to supply the Park Ridge growth area.

The capital expenditure is proposed to be $6.7 million over 2011/12-2012/13 (see Table 33).

Table 33: Park Ridge MPA Expenditure Profile ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
Park Ridge		3.3	3.4	6.7

Source Allconnex (2010)

With regards to prudency, Cardno stated that Logan advised that this project has been brought forward from 2021 due to uncertainty around the bulk water supply connection point to be provided by LinkWater. Cardno noted that the planning report for this project which stated the need for this was work in 2021 was completed in April 2010. However, Cardno stated that there had been no formal document that outlined why this project needed to be bought forward by 10 years.

Cardno considered that while the delay to the LinkWater connection required planning to be reconsidered, an options analysis should be completed and documented before this expenditure can be considered prudent.

The Authority accepted Cardno's findings regarding prudency as such no further review of the efficiency of the capital expenditure was undertaken and the capital expenditure removed from Allconnex's forecasts

(xii) Cleveland WWTP

The Cleveland WWTP is an upgrade of the existing treatment plant including the renewal of the access road, new filters for recycled water, repair of inlet screens, upgrade of odour control, and by 2016 provision of a balancing tank and chlorine contact tank.

The capital expenditure is proposed to be $4.8 million over 2011/12-2012/13 (see Table 34).

Table 34: Cleveland WWTP Expenditure Profile ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
Cleveland WWTP	-	0.2	4.6	4.8

Source SKM (2010)

With regards to prudency, SKM considered that this project appears to be generally prudent with respect to demonstrated need based on the information provided. SKM stated that there appeared to be significant growth experienced in the catchment, and this was expected to continue. SKM noted that population growth projections in the Cleveland catchment from current population estimates (33,000 EP in 2009) until 2025 (47,000EP) are significant at 45%.

With regards to efficiency, SKM considered that the project costs appear to be not unreasonable. SKM stated that while the estimates generated to date appeared to demonstrate cost efficiency, there were some concerns about different unit rates for work at the same site. However, SKM noted that the overall the approach adopted appeared to be efficient.

The Authority accepted SKM finding that this project is prudent.

(xiii) Guineas CK Rd Gravity and Rising Main Augmentation

The Guineas CK Rd Gravity & Rising Main Augmentation project involves the construction of a new water main, condition assessment of existing mains and construction and upgrade of wet wells and pumps.

The capital expenditure is proposed to be $1 million in 2010/11 (see Table 35).

Table 35: Guineas CK Rd Gravity and Rising Main Augmentation Profile ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
Guineas CK	1.0	-	-	1.0

Source SKM (2010)

With regards to prudency, SKM considered that this project appears to be prudent with respect to demonstrated need based on the information provided. SKM noted that the augmentation of this infrastructure was required due to increased population growth in the catchment area and the current infrastructure not meeting the flow requirements.

With regards to efficiency, SKM considered that the project costs appear to be not unreasonable and the estimates are within a reasonable range of benchmarks identified by SKM.

SKM stated that based on the information provided, the capital expenditure for this program of works is considered to be prudent and efficient.

The Authority accepted SKM's finding that this project is prudent and efficient and be taken into account for price monitoring purposes.

(xiv) Treatment Plant Future Misc Capital items

This project involves miscellaneous items to be included in the capital expenditure budget for Allconnex. It includes the renewal of both the roof and inlet building façade of the Logan Water Pollution Control Centre (LWPCC), as it has been identified as a serious workplace health and safety issue.

The capital expenditure is proposed to be $0.6 million over 2010/11-2012/13 (see Table 36).

Table 36: Treatment Plant Future Misc Capital Items Expenditure Profile ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
Misc Items	0.1	0.2	0.3	0.6

Source SKM (2010)

With regards to prudency, SKM considered that this project appears to be prudent with respect to demonstrated need based on the information provided. SKM stated that it is necessary to renew the LWPCC Inlet Building Façade and Roof Repairs as it has been identified as a serious workplace health and safety issue. SKM noted that this is evidenced by the photos enclosed with the supporting document, which showed loose bricks at the top part of the façade and a vertical crack over the southern wall. As a temporary solution the southern wall has been cordoned off, however this is now impinging operation of the plant as some equipment cannot be maintained.

With regards to efficiency, SKM noted the planning report provided information on the roof and façade, but only the costing information for the roof was provided. SKM considered that insufficient information was provided to confirm what proportion of miscellaneous capital expenditure is these two items.

Based on the above, SKM considered the project to be prudent. However, SKM noted that further information (e.g. detailed report, delivery method, board report, works program) was required in order to confirm this.

Based on the above, SKM considered the project to be efficient. However, SKM recommended that clarification be provided on the difference between the cost indicated within the Allconnex capital expenditure list ($600k to 2012/13) and the capital expenditure for the façade building and roof repairs ($150k).

The Authority accepted SKM's findings with regards to this project.

(xv) Pump Station No. 61

Pump station No. 61 has been identified as not currently meeting the performance requirements and it has therefore been proposed to upgrade this pump station with new pumps.

The capital expenditure is proposed to be $0.25 million over 2010/11-2012/13 (see Table 37).

Table 37: Pump Station No. 61 Expenditure Profile ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
Pump Station No. 61	0.05	0.17	-	0.2

Source SKM (2010)

While SKM considered the project to be prudent, SKM noted that there was insufficient information on the following aspects:

(a) planning report – evidence on upgrade works required for PS No. 61, or options assessment, justification, recommendation and further development of the upgrade works required for PS No. 61;

(b) cost estimates – capital expenditure and operational expenditure budgets; and

(c) delivery method considered within the planning report (2005) – but further supporting information is recommended to provide confirmation on the selected delivery method (to-date).

SKM also noted that a planning report provided was for the overall sewerage system rather than specifically on Pump Station 61. SKM recommended that Allconnex develop and apply a more rigorous assessment and documentation processes for this type of project.

With regards to efficiency, SKM noted that the project costs for 2010/11 appears to be not unreasonable. However, as design investigation is yet to be completed, SKM noted that it was difficult to confirm the efficiency for 2011/12.

The Authority accepted SKM's findings that the capital expenditure for 2010/11 is prudent and efficient and that the capital expenditure for 2011/12 should be further reviewed. It is not proposed to remove the 2011/12 expenditure from the RAB at this stage. The Authority notes that such projects are likely to be reviewed as part of 2011/12 price monitoring review. At this

time it is expected that the entities would have more substantial information available to determine prudency and efficiency.

Summary

Draft Report

The Authority noted that after an internal review of the efficiency and prudency of capital expenditure, Allconnex subsequently identified savings in the first five years of its operation in the order of $500 million to the program originally proposed by councils and included in its submission to the Authority. For 2010/11, around $168 million in capital expenditure has been either removed or deferred.

The Authority therefore added these savings to those identified by SKM. The Authority had prorated the $500 million over five years to result in savings of $300 million over the three year interim period. With a saving of $168 million in 2010/11, this resulted in savings of $66 million per annum over 2011/12 and 2012/13.

Based on its own analysis of sampled projects, the Authority noted that of the 16 projects reviewed for Allconnex, the majority were found to be prudent and efficient for 2010/11. Some were subject to ongoing internal review by Allconnex. For 2010/11, an adjustment related to Logan North – External Sewer Upgrade ($8.1 million) which was found not to be prudent based on Cardno's assessment. Further for 2010/11 there were adjustments made to Stapylton WWTP (resulting in an increase of $2.6 million in expenditure in 2010/11) and Slacks Creek (an increase of $3.1 million) based on more recent information from Allconnex. The net effect is a reduction of $2.4 million in the sampled capital expenditure for 2010/11.

For much of the expenditure in 2011/12 and 2012/13, insufficient data (and the early stage of planning) meant that the consultants were unable to come to a conclusion on prudency and efficiency. Other projects were found to require some adjustment. These included Merrimac West Stage 2, Slacks Creek, Logan North, Springwood Master Plan, Lower Logan Effluent reuse, AC Reticulation Main Replacement, Park Ridge MPA, Treatment Plant Future Misc Items and Pump Station Number 61. Again, some of these adjustments arose from more recent information provided by Allconnex in response to the Authority's investigation and review.

The Authority proposed to subject these projects and programs to ongoing review as part of its 2011/12 price monitoring review. If as part of future reviews, the information to justify the projects is not available (despite the stage of planning), the Authority proposed to remove these costs from the capital expenditure forecasts. The Authority expected that entities would be developing their process and systems to ensure that the prudency and efficiency of all projects can be optimally demonstrated over time. The Authority noted that its 2011/12 price monitoring review would involve a review of actual capital expenditure in 2010/11, and the reasons for variations with original forecasts would be explored.

Based on SKM's findings, the Authority considered that the level of information provided for this review is broadly in line with the context of the newly formed entity, whereby Allconnex is undertaking a process of aligning the policies and procedures across three geographic areas.

The Authority supported Allconnex's initiative of commissioning an independent review of the prudency of capital expenditure projects in the Logan area.

The Authority considered that:

(a) Allconnex should only include capital expenditure in the data template when the asset (or relevant portion of the asset) has been commissioned;

(b) a standardised approach to cost estimating be developed, including a standardised approach to estimates for items such as contingency, preliminary and general items, design fees and contractor margins, so that there is uniformity of cost estimating across all proposed major projects;

(c) a summary document be prepared for identified major projects so as to develop standardised reporting;

(d) an implementation strategy be developed for each major project that includes recommendations on delivery methodology, program and a risk review process; and

(e) a 'toll gate' or 'gateway' review process is implemented so that appropriate reviews are undertaken at milestone stages for selected projects.

In addition, the Authority considered that Allconnex should develop a process for considering prudency and efficiency from a regional perspective. The Authority expected further efficiencies in capital expenditure may be found by Allconnex over the interim period.

Table 38: Comparison between Allconnex and Authority's capital expenditure

	2010/11	***2011/12***	***2012/2013***	***Total***
Allconnex	485.4	527.5	318.3	1331.2
Efficiency gains	-168.0	-66.0	-66.0	-300.0
QCA adjustments	-2.5	-33.3	-9.1	-44.8
Revised Total	**314.9**	**428.2**	**243.2**	**986.3**

Note Efficiency gains derived from subsequent information from Allconnex have been apportioned over the interim period. Source Allconnex (2010) and QCA calculations

Stakeholder Submissions on the Draft Report

Allconnex noted that its initial submission included participating councils' capital expenditure forecasts. Following the submission to the Authority, it undertook a comprehensive review of the capital program based on the regulatory principles of prudency and efficiency and subsequently deferred or removed approximately $168 million in capital expenditure for 2010/11.

Allconnex noted that a further review is required in relation to the timing of future capital projects, however it has already significantly reduced the original council forecasts by approximately $500 million over three years.

Allconnex noted that it has formalised internal business case requirements to demonstrate 'prudency and efficiency' for all future capital expenditure budget submissions. Allconnex also notes that it intends to implement a 'gateway review' process.

Allconnex supported the Authority's draft finding to take a regional perspective when developing future capital works programs, noting that it no longer develops its capital planning budgets based on local government boundaries. Allconnex submitted that the development of netserv plans will facilitate the consolidation of services standards across the region.

Allconnex agreed with the Authority's requirement to provide capital expenditure as commissioned, and has begun to capture the required information.

Subsequent to its submission, Allconnex confirmed that the Stapylton Wastewater Treatment Plant project was replaced by upgrades to the Loganholme and Beenleigh facilities and network upgrades. Allconnex stated that this option delivered the same service outcomes but at a lower cost. Allconex noted that these savings were included in the $168 million efficiency saving noted in the Authority's Draft Report.

Authority's Analysis

The Authority supports Allconnex's internal application of prudency and efficiency criteria and other management initiatives taken in response to the Authority's draft findings.

The subsequent removal of Stapylton Water Treatment Plant from Allconnex's capital expenditure forecasts requires no adjustment to the Authority's revised total expenditure, as it was already included in the efficiency savings identified in the Draft Report.

The Authority proposes no change to its draft findings on capital expenditure.

In respect of data adequacy, the Authority notes that Allconnex should provide capital expenditure on a commissioned basis in future. Further, Allconnex only provided disaggregated costs for three of the seven service categories, as such it is not possible to develop a MAR at a more disaggregated service level than water and wastewater.

The Authority notes that currently Allconnex has a number of varying standards of service for customers and asset design as is expected of a newly formed entity. Work should be progressed to consolidate standards across the region.

The Authority considers that Allconnex should develop processes which take into account a regional perspective when developing future capital works programs.

The Authority notes that of the proposed $1.3 billion capital expenditure, Allconnex has identified significant savings over the interim period, following internal review. The Authority supports this process and has included these savings in its revised estimates as well as its own adjustments arising from prudency and efficiency review.

For 2011/12 onwards, a number of projects were found to require adjustment or further information and these will be subject to ongoing review by the Authority.

Contributed, Donated and Gifted Assets

As noted above, the Ministerial Direction requires the Authority to accept as prudent and efficient contributed, donated and gifted assets (contributed assets) and capital expenditure funded through cash contributions and subsidies (capital contributions) for water and wastewater for the period 1 July 2008 to 30 June 2010.

The Direction also requires the Authority to accept that, in setting prices from 1 July 2008, the councils applied a revenue offset approach to account for contributed assets and capital contributions received and that this approach is to remain in effect until such time that the entity nominates, through their price monitoring information returns, to adopt the asset offset method. Where a change in methodology is adopted, the RAB is not to be adjusted retrospectively.

Under the price monitoring framework accepted by the Government, the Authority recommended that the Government align the review processes for infrastructure charges and

ongoing prices, and that the entities be made responsible for infrastructure charges. The Authority noted that, if this was not possible, the Authority would assess whether the method adopted by the entities to forecast contributed assets and capital contributions was reasonable in the circumstances.

Draft Report

In its initial submission, the Department of Infrastructure and Planning questioned the benefits of permitting an entity to earn a return on contributed assets.

Allconnex indicated in its initial submission that it expects to receive $90.1 million in contributed, donated and gifted assets over the interim period and $169.2 million in capital (cash) contributions (see Table 39). The majority of these cash contribution occur in the form of Infrastructure Charge Schedules.

Allconnex also submitted that it intends to apply the asset offset approach to the treatment of contributed, donated and gifted assets and capital contribution from 2010/11 onwards. As such, deductions were made to capital expenditure for these receipts from 2010/11.

Allconnex stated that when forecasting future capital contributions, developer contribution rates were obtained from either Gold Coast District PIP or planning scheme policies (PSPs) for Logan and Redland districts which were then indexed in line with these documents.

Historical revenue was then reviewed to provide an indication of actual growth compared to planned growth. The adjusted growth was then multiplied by the average infrastructure charge rate to arrive at the forecast value of contributions. Allconnex noted that in the case of the Gold Coast district the global financial crisis had a significant impact on infrastructure charges receipts in 2009/10.

Table 39: Contributed, Donated and Gifted Assets & Capital Contributions ($m)

	2008/09	*2009/10*	*2010/11*	*2011/12*	*2012/2013*	*Total 2011-103*
Contributed Assets	33.47	61.25	28.48	30.04	31.58	90.10
Capital Contributions	39.52	44.60	61.73	52.91	54.53	169.17
Total	**72.99**	**105.86**	**90.21**	**82.95**	**86.11**	**259.27**

Source Allconnex (2010), SKM (2010), QCA

In the Draft Report, the Authority noted that it proposed to accept as prudent and efficient and include in the RAB via capital expenditure all contributed assets and capital contributions received between 1 July 2008 and 30 June 2010.

Under the approved price monitoring framework, the entities should not earn a return on, or of, contributed assets and capital contributions. This is in accordance with principle six of the National Water Initiative Pricing Principles (NRMMC, 2010). The Ministerial Direction allows the entities to choose an asset or revenue offset approach to the treatment of these assets from 1 July 2010. Both approaches ensure that a return on, and of, these assets cannot be charged to users.

The Authority noted the values of contributed assets and capital contributions for 2008/09 and 2009/10 were not yet able to be verified as supporting information based on council financial records had not yet been provided for 2008/09 and for 2009/10 are not were available.

From 1 July 2010, the water and wastewater components of the infrastructure charging regimes of Allconnex's three council areas (council PSPs and ICSs) transitioned to become Allconnex's SEQ Infrastructure Charges Schedule (ICS). In essence, Allconnex has inherited these upfront charges from councils. Under relevant legislation, Allconnex cannot significantly alter these charges unless they are approved by the Minister for Infrastructure and Planning.

The Authority also noted that the Government has convened an infrastructure charges taskforce to investigate the current infrastructure charging regime and opportunities to simplify charges and provide greater certainty. The taskforce had recently released an interim consultation report which includes maximum standard infrastructure charges, for comment. The Authority noted that, should these maximum charges be adopted by Government, they would be likely to affect forecasts of contributed assets and cash contributions.

Given all of the above, the Authority considered it to be reasonable for Allconnex's forecasts of contributed assets and capital contributions from 1 July 2010 to be based on available council forecasts. For Allconnex, these forecasts were generally based on council growth and indexation factors. The Authority supported Allconnex's proposal to further investigate an appropriate method of forecasting contributed assets and capital contributions across all districts.

The Authority noted that Allconnex has applied the asset offset approach to the treatment of contributed assets and capital contributions from 1 July 2010. In line with this decision the Authority reduced Allconnex's total capital expenditure on water by $34.8 million and wastewater by $55.4 million in 2010/11. This ensured customers are not paying twice for relevant assets.

Stakeholder Submissions on the Draft Report

Allconnex noted that the infrastructure charges taskforce's current recommendations would have significant impact on forecasts of future contributions and that any impacts of these recommendations will need to be incorporated in future regulatory processes.

Authority Analysis

The Authority notes that the infrastructure taskforce has now provided its final report to Government. The Authority will reflect any Government decisions in its price monitoring reports as appropriate.

The Authority proposes no change to its draft findings on contributed, donated and gifted assets.

The Authority finds that Allconnex's method for the forecasting of contributed assets and capital contributions is reasonable.

2.7 Rolling Forward the RAB

In accordance with the Ministerial Direction and normal regulatory practice, the initial regulatory asset base is rolled forward to account for capital expenditure, inflationary gain, depreciation (return of capital) and disposals.

The Authority generally applies a straight line approach to depreciation. Under the Direction, the Authority must also take into account, for the period 1 July 2008 to 30 June 2010, evidence that depreciation has been calculated using the Minister's advised RABs allocated to council assets and existing useful lives.

Under the roll-forward, indexation and depreciation are calculated on the assumption that forecast capital expenditure and disposal occur evenly throughout the year.

For indexation, the Authority is required under the Direction to take into account the latest available ABS CPI (all groups, Brisbane), however for 2009/10 the Queensland State Budget inflation forecast may be used.

As noted above, actual capital expenditure from 1 July 2008 to 30 June 2010 is included in the RAB, while from 1 July 2010 only prudent and efficient capital expenditure is rolled forward. Further, where the entity chooses to apply the asset base offset approach, capital contributions are deducted from the assets to be paid for by users.

Draft Report

In its initial submission, Allconnex adopted a straight line approach to depreciation based on existing asset lives as contained in the councils fixed asset registers. In relation to indexation, Allconnex has applied the ABS CPI (all groups, Brisbane) of 2.0% for 2008/09 and 3.20% for 2009/10. A forecast inflation rate of 2.5% is applied for subsequent years. Disposals were based on written down asset values, adjusted to reflect their RAB value.

The initial RAB at 1 July 2008 for Allconnex is $1.46 billion for water and $2.10 billion for wastewater. To this was added actual capital expenditure to 30 June 2010 and the Authority's view of prudent and efficient capital expenditure in 2010/11.

For the Draft Report, the Authority engaged SKM to review the asset lives provided by Allconnex against those in their fixed asset registers. SKM found that the asset lives for existing assets provided in the templates align with supporting information.

SKM compared some specific Allconnex asset lives to benchmarks sourced from water industry codes of practice and found them to be reasonable.

As a result, for the Draft Report, the Authority accepted the asset lives as provided by Allconnex. It would be expected that a comprehensive review of individual asset lives would form part of any deterministic regulation regime.

Under the approved framework, the Authority recommended that forecast inflation from 1 July 2010 be estimated using forecasts of CPI as determined by the difference between the RBA return on the market rate for five year bonds and five year capital indexed bonds.

The Authority adopted the ABS CPI for Brisbane for use in indexing the asset values in the RAB. For 2008/9 this was 2.02% and for 2009/10 it was 3.20%. In relation to forecast CPI from 1 July 2010, the Authority adopted an estimate of 2.48% which is the difference between the RBA return on the market rate for five year bonds and five year capital indexed bonds, as proposed in the Authority's framework report.

The Authority accepted Allconnex's approach to estimating disposals as this is consistent with council's financial records and their RAB values.

The Authority rolled forward the initial RAB using the resulting values for capital expenditure, indexation and disposals (see Tables 38 and 39).

In the Draft Report, the Authority's estimate of the regulatory opening asset base for price monitoring purposes in 2010/11 did not differ materially from that of Allconnex ($4,087.39 million compared to Allconnex's $4,079.95 million.). Allconnex did not disaggregate the opening RAB by water and wastewater activities in its submission.

The Authority's estimate of the closing asset value as at 30 June 2011 is $1,640.59 million for water and $2,622.77 million for wastewater. Allconnex did not provide a closing asset value.

Stakeholder Submissions on the Draft Report

Allconnex noted that its estimates of both depreciation and indexation are broadly consistent with those developed by the Authority.

Authority Analysis

Due to the finalisation of the establishment costs and the inclusion of the previously unidentified drought asset, the opening RAB for 2009/10 and the roll forward have been updated since the Draft Report. Table 40 and 41 refer.

The opening RAB as at 1 July 2010 for water is slightly higher than the Draft Report due to the increase in capital expenditure. The opening RAB as at 1 July 2010 for wastewater is slightly lower than in the Draft Report, due to lower capital expenditure and the changes to depreciation.

The Authority's estimate of the regulatory opening asset base for price monitoring purposes in 2010/11 ($4,111.85 million) does not differ materially from that of Allconnex ($4,079.95 million).

Further, the Authority's estimate of the closing asset value as at 30 June 2011 is $1,671.36 million for water and $2,645.42 million for wastewater both of which have decreased from the Draft Report. Allconnex did not disaggregate the opening RAB by water and wastewater activities in its submission.

Table 40: Asset Base Roll Forward – Water ($m)

	2008/09	***2009/10***	***2010/11***
Opening RAB	1,456.95	1,527.27	1,644.53
+ Capital expenditure	80.81	108.97	68.66
+ Inflationary gain	30.21	51.61	42.09
- Depreciation	-36.74	-39.92	-45.32
- Disposals	-3.95	-3.39	-3.76
- Capital Contributions[1]	-	-	-34.85
Closing RAB	1,527.27	1,644.53	1,671.36

[1] Only relevant for asset base offset approach to the treatment of capital contributions. The Ministerial Direction mandates the revenue offset approach prior to 2010/11
Source Allconnex (2010), SKM (2010), QCA

Table 41: Asset Base Roll Forward – Wastewater ($m)

	2008/09	*2009/10*	*2010/11*
Opening RAB	2,100.33	2,268.92	2,467.31
+ Capital expenditure	186.49	190.25	246.75
+ Inflationary gain	44.25	78.16	65.68
- Depreciation	-56.60	-62.87	-72.44
- Disposals	-5.56	-7.15	-6.52
- Capital Contributions [a]			-55.36
Closing RAB	2,268.92	2,467.31	2,645.42

[a] *Only relevant for asset base offset approach to the treatment of capital contributions.*
Source Allconnex (2010), SKM (2010), QCA

The Authority's estimate of the regulatory opening asset base for price monitoring purposes in 2010/11 does not differ materially from that of Allconnex ($4,111.85 million compared to Allconnex's $4,079.95 million.)

The Authority's estimate of the closing asset value as at 30 June 2011 is $1,671.36 million for water and $2,645.42 million for wastewater.

2.8 Return on Capital

Under the Ministerial Direction, the Authority must advise the entities by 1 March 2011 and 1 March 2012 of the WACC benchmark for 2011/12 and 2012/13 respectively.

The return on capital compensates investors for the opportunity cost of their investment. The Authority uses a nominal post-tax WACC to determine the appropriate return on capital on the regulatory asset base, specifically Officer's 'vanilla' WACC3.

For this price monitoring review, the Authority has adopted its standard approach to estimate the WACC. To this end, the Authority engaged Dr Martin Lally to provide specialist advice in relation to appropriate WACC parameter values.

Whether the current approach should be applied in future is an issue to be explored over the interim period along with the form of regulation to be applied.

Draft Report

Allconnex, in conjunction with Unitywater and QUU, engaged Competition Economists Group (CEG) to provide advice on WACC parameters.

In its initial submission, based on CEG advice, Allconnex (and Unitywater) proposed a WACC of 9.88% for price monitoring. Allconnex noted it adopted a WACC of 9.12% in setting prices for 2010/11. QUU adopted many of CEG's recommended parameter values in its submission but adjusted others to reflect the Authority's most recent approach.

The entities' and CEG's reasoning is outlined in **Appendix B**.

In the Draft Report, the Authority proposed a WACC of 9.35%. Detailed analysis of entity submissions, expert advice and key parameters was in Appendix B.

Stakeholder Submissions on the Draft Report

In response to the Draft Report, the entities again engaged CEG to provide advice. Allconnex referred to the CEG advice and that of Professor Bruce Grundy in its submission. Allconnex's, CEG's and Grundy's arguments are outlined in more detail in Appendix B.

Allconnex (and Unitywater) submitted a WACC of 10.81% should be adopted, on the basis of CEG's (more recent) advice. QUU submitted that in its view a WACC of 10.25% remained appropriate for price monitoring.

Authority's Analysis

Many of the WACC issues raised in the Allconnex submission are similar to those raised by the other entities.

Therefore, for clarity and to avoid repetition, the Authority has set out its detailed assessment of Allconnex's (and the other entities') comments in Appendix B. The analysis in this appendix is relevant to all entities.

The main methodological difference between Allconnex's and the Authority's WACCs remains that under the Authority's standard approach it matches the term of the risk-free rate and debt margin to the term of the regulatory period. The Authority's standard approach has been explained in detail and applied by the Authority in its June 2010 Draft Decision on QR Network's 2010 Draft Access Undertaking (DAU) - Tariffs and Schedule F (which forms part of the undertaking approved in October 2010) and in its June 2010 Final Report on the Gladstone Area Water Board.

After taking into account all the comments made in response to the Draft Report, the Authority retains its view that the most appropriate estimate of the WACC for the interim price monitoring period is 9.35% (Appendix B), subject to variation for 2012/13 if considered appropriate following the Authority's proposed Authority-wide WACC review. This is lower than Allconnex's proposed 10.81% for price monitoring but higher than the 9.12% WACC Allconnex actually used in setting prices.

To calculate the return on capital, the Authority applied the WACC of 9.35% to the entity's opening regulatory asset base and half the capital expenditure during the relevant year.

While the Authority has undertaken a comparison of the Authority's proposed return on capital for 2010/11 against that claimed by Allconnex, the Authority also sought to compare the Allconnex and Authority estimates for 2010/11 with those of councils for 2009/10.

As noted in the Draft Report, estimates of council's 2009/10 return on capital are based upon available records of dividends, actual cost of debt, retained earnings and capital gain (see Table 42). These do not necessarily reflect the cash benefit to councils over the costs of providing services as they do not necessarily reflect other benefits accruing to councils such as franchise fees. Further, capital gain is based on the Ministerial advised RAB.

Any such comparison should therefore be treated with caution. A review of past arrangements is not considered to be consistent with the terms of reference of this review which relates to Allconnex's forecasts of revenues and costs for 2010/11.

The return on capital for water and wastewater is lower than in the Draft Report, reflecting a net decrease in the respective asset bases.

The Authority's final estimate of the return on capital resulting from the 9.35% WACC and the (updated) asset base is set out in Table 42 below.

Table 42: Return on Capital ($m)

	Costs 2009/10	*Costs 2010/11*	*Water Costs 2010/11*	*Wastewater Costs 2010/11*
Return on Capital (Allconnex)[23]	288.56	422.28	162.40	259.88
QCA Draft Report	-	390.87	152.29	240.03
Difference (Allconnex to QCA)	-	27.67	7.19	20.48

Source Allconnex data template and subsequent information – return on and of capital for 2009/10 are sourced from Allconnex's estimates of councils' statement of financial position. Return on capital in 2009/10 is the sum of interest, dividends, retained earnings and capital gain.

The Authority proposes to use a WACC of 9.35% for interim price monitoring, subject to the findings of an Authority-wide WACC review due to commence soon, which may impact on the proposed WACC in 2012/13.

2.9 Operating Expenditure

Operating costs include the cost of purchasing bulk water, as well as both retail and distribution costs such as materials and services (including chemical and electricity costs), employee, corporate and customer service costs.

The Ministerial Direction requires the Authority recognise the Government's policy that the prices charged by the SEQ Water Grid Manager for bulk water storage, treatment and delivery are to be passed through to customers in full. The Ministerial Direction also requires the Authority to accept the operational constraints imposed by the SEQ Urban Water Arrangements Reform Workforce Framework 2010. These constraints include that there are to be no forced redundancies during the interim period.

The Authority notes that these constraints do not apply to new employees engaged temporarily to perform work on the establishment of the entities or independent contractors or employees engaged by labour hire that provide services to either the entity or participant council.

The Authority has been directed to provide a commentary on changes in operating costs and their reasonableness over time.

The Authority engaged SKM to review the reasonableness of Allconnex's forecasts of operation expenditure for its water and wastewater activities from 1 July 2010.

[23] At the time of price setting, Allconnex estimated a $391.74 million required return on capital for 2010/11, using a WACC of 9.12% applied to a higher asset base estimated at that time. The costs submitted to the Authority reflect more recent information available to Allconnex at the time of making its submission.

Draft Report

In its initial submission, Allconnex proposed a total of $1.20 billion of operational expenditure over the interim period, comprised of $789 million of expenditure for water and $408 million for wastewater.

Allconnex allocated these operational expenditures to five cost categories – bulk water costs, employee costs, contractor cost, materials and services and corporate costs. Allconnex allocated operational costs to the drinking water, wastewater by sewer and trade waste services.

Bulk water costs accounted for 47% of Allconnex's total operating costs over the interim period, while materials and services accounted for a further 27% of total operating costs.

Operational Budget Development

Allconnex noted in its initial submission that it adopted a structured approach to the preparation and validation of operating expenditure which included: development, justification, evaluation and analysis, procurement, prioritisation; and delivery.

Allconnex also noted that operating costs forecasts were developed taking into consideration labour and labour growth requirements, business establishment costs, known electricity increases, increases in the volume of water and wastewater, sludge disposal, chemicals and programs that requires investigations to guide network improvements, asset/data knowledge, regulatory requirements and non infrastructure solutions.

Allconnex forecasts of future operational expenditure budgets have been developed by applying a range of cost escalation indexes and growth factors. These indices and growth factors used by Allconnex to develop its budgets are outlined in Table 43.

Table 43: Operating Cost Indexes and Growth Factors

Cost Type	*2010/11*	*2011/12*	*2012/13*
Wage Growth	4.0%	4.0%	4.0%
Employee Growth	% Population growth in each district plus 23 additional corporate positions		
CPI Growth	3.0%	3.0%	3.0%
Electricity Prices Growth	10.0%	10.0%	10.0%
Service Level Agreements Price [a]	3.0%	3.0%	3.0%

[a] *Allconnex have forecast the total value of SLAs to reduce to zero by 2014-15*
Source SKM (2010)

Operational Expenditure forecasts

Allconnex's forecast total operational expenditure over the period 2010/11 to 2012/13 is set out in Tables 44 and 45 respectively.

Table 44: Allconnex's Forecast Operating Costs Water 2010-2013 ($m)

	2010/11	***2011/12***	***2012/13***
Bulk Water Costs	154.66	187.76	222.55
Retail Operating Costs			
Customer service and billing	na	na	na
Regulated demand management costs	na	na	na
Community service obligation costs	na	na	na
Distribution Operating Costs			
Employee expenses	23.83	25.48	27.67
Contractor expenses	1.65	0.94	0.12
GSL payments	na	na	na
Materials and services)	35.36	34.75	36.24
Licence or regulatory fees	na	na	na
Natural resources management costs	na	na	na
Corporate costs	12.57	13.06	13.21
Total Operating Costs	**228.08**	**261.99**	**299.78**

na indicates that costs were not disaggregated to these categories in a manner consistent with the Authority's data template.
Source SKM (2010)

Table 45: Allconnex's Forecast Operating Costs Wastewater 2010-2013 ($m)

	2010/11	*2011/12*	*2012/13*
Retail Operating Costs			
Customer service and billing	na	na	na
Regulated demand management costs	na	na	na
Community service obligation costs	na	na	na
Distribution Operating Costs			
Employee expenses	36.94	38.96	41.72
Contractor expenses	1.68	0.97	0.16
GSL payments	na	na	na
Materials and services	69.63	71.02	76.25
Licence or regulatory fees	na	na	na
Natural resources management costs	na	na	na
Corporate costs	23.10	23.99	24.27
Total Operating Costs	**131.34**	**134.93**	**142.40**

na indicates that costs were not disaggregated to these categories in a manner consistent with the Authority's data template.
Source SKM (2010)

Allconnex forecast that its total operational expenditure will increase from $359.42 million in 2010/11 to $396.92 in 2011/12 and then to $442.2 million in 2012/13; an average annual increase of 10.9%.[24]

Allconnex's operating costs for water and wastewater were forecast to increase over the interim period by 31% and 8% respectively. Allconnex stated in its submission that bulk water costs are both the largest single operating cost component and the fastest growing over the forecasting period. Allconnex also identified that customer and volume growth and increased electricity prices lead to cost increases over the forecasting period.

For the Draft Report, the Authority engaged SKM to review the reasonableness of Allconnex's operational expenditure. The assessment of the reasonableness of operational expenditure was intended to take into account the relevant service standards, Frontier's revised demand forecasts, possible substitution between capital and operating expenditure and the potential for efficiency gains and economies of scale.

Adequacy of Operational Expenditure Data Information Provision

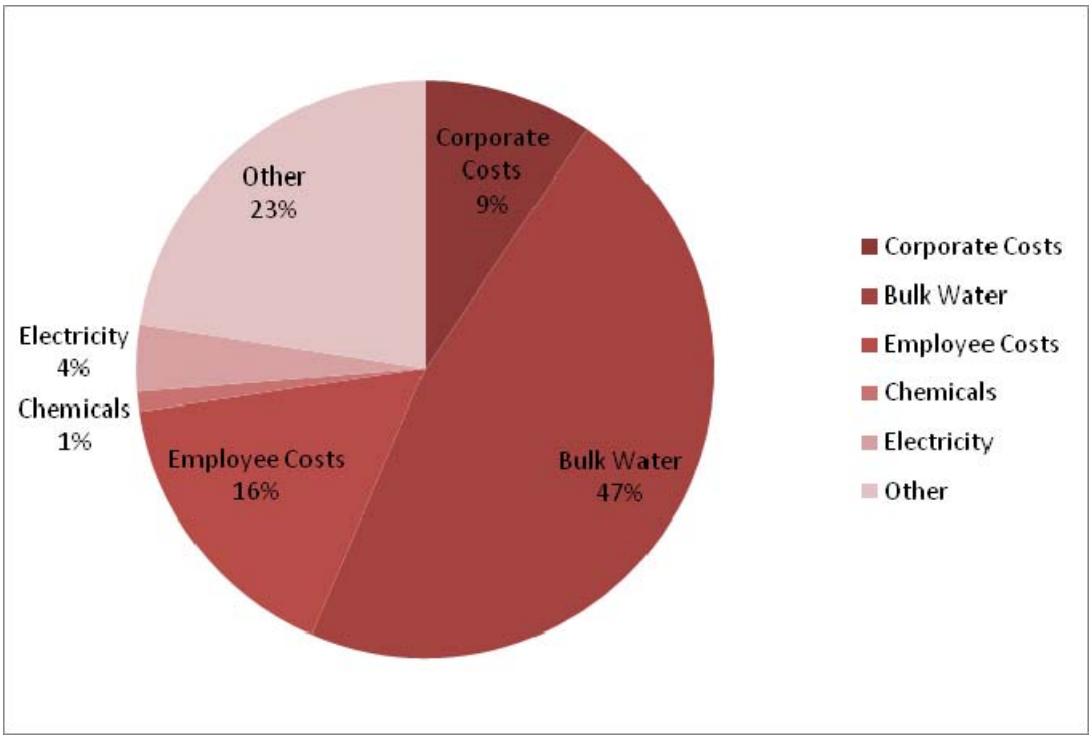
Prior to assessing the reasonableness of proposed operational expenditure, SKM reviewed Allconnex's submission to ensure that it provided a comprehensive and accurate information.

[24] At the time of price setting, Allconnex estimated $359.36 million in operating expenditure for 2010/11. The costs submitted to the Authority reflect more recent information.

Allconnex's submission did not assign operating costs against all of the cost categories listed in the Authority's Information Requirements for 2010/11, with some cost categories aggregated into other categories.

In response to a request for information from SKM, Allconnex provided operational expenditure on a more disaggregated basis which separately identified electricity and chemical costs (Chart 4).

Chart 4: Allconnex Operating Costs 2010/11 to 2012/13



Source SKM (2010)

Operational Budgeting

SKM reviewed the policies and procedures followed by Allconnex to ensure that they represent good industry practice. SKM reviewed the budget guidelines used in the preparation of the 2010/11 operational budget and found that the guidelines provide a comprehensive guide to a range of aspects associated with the budget development and approval process including:

- outline of the budget process;
- who has approved the process;
- responsibilities;
- budget approval and development;
- protocols for changes and inter-council communications;
- parameters to be applied (e.g. CPI);
- review and approval programme; and

- schedules to be produced.

SKM noted that the operational budgets are underpinned by Allconnex's Enterprise Financial Model (EFM). The chemical and electricity components in particular, use historical analysis of resource usage and growth factors to forecast chemical and electricity usage in subsequent years. SKM noted that integration of the three council water businesses, including the streamlining of systems and standards has been identified by Allconnex as a key undertaking going forward.

In regards to the budget process adopted by Allconnex, SKM found that the operational expenditure budget process represents good industry practice.

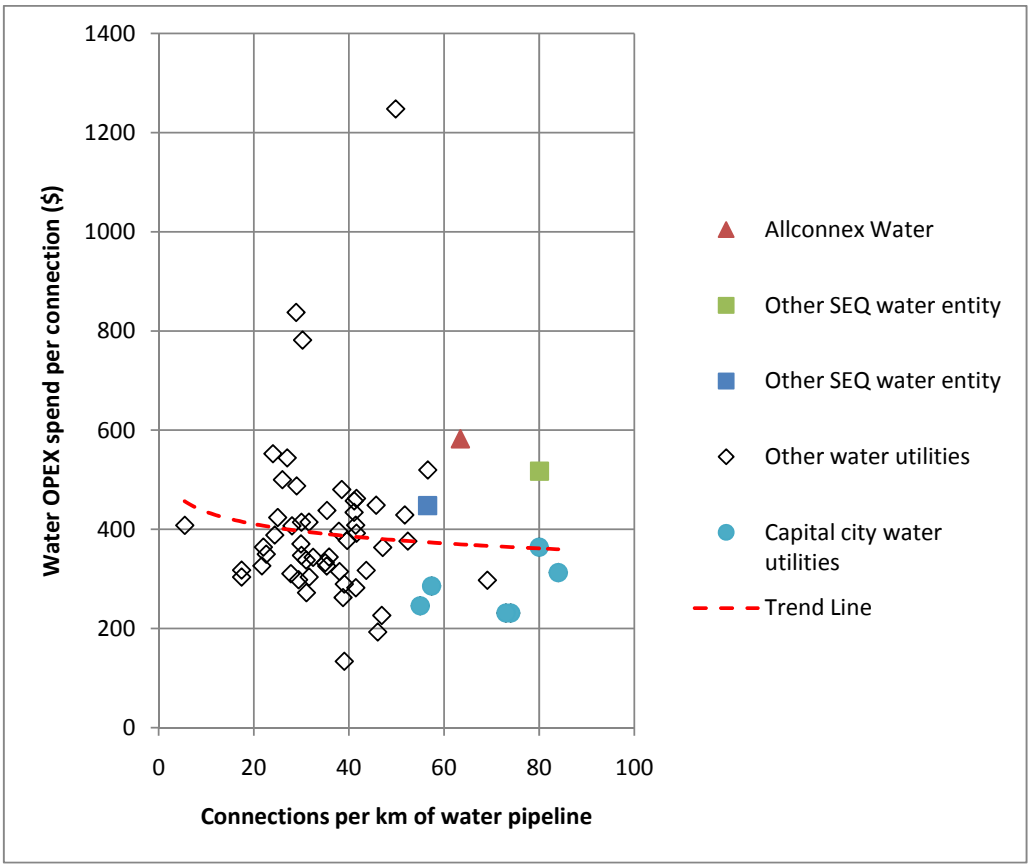
Reasonableness

SKM benchmarked Allconnex's 2010/11 aggregate operational expenditure for water and wastewater against a range of other Australian utilities using two key benchmarks. For water Allconnex's relative performance was measured using both opex spend per connection and the number of connections per kilometre (Chart 5).

SKM found that Allconnex's Water operational expenditure for water in 2010/11 was generally higher than those of similar sized water utilities in other jurisdictions. SKM noted that this was due in part to higher SEQ bulk water costs. However, when bulk water costs were removed from this analysis SKM found that on a per connection basis, Allconnex's controllable operating expenditure for 2010/11($188/connection) remained higher than its interstate peers (Sydney $139/connection and Melbourne $97-$168/connection).

The Authority noted that SKM's benchmarks for operating costs for other water utilities (barring those in SEQ) assume other entities' costs per connection have remained constant in real terms since 2008/09. There would therefore appear to be some further opportunity for efficiency gains to achieve best practice.

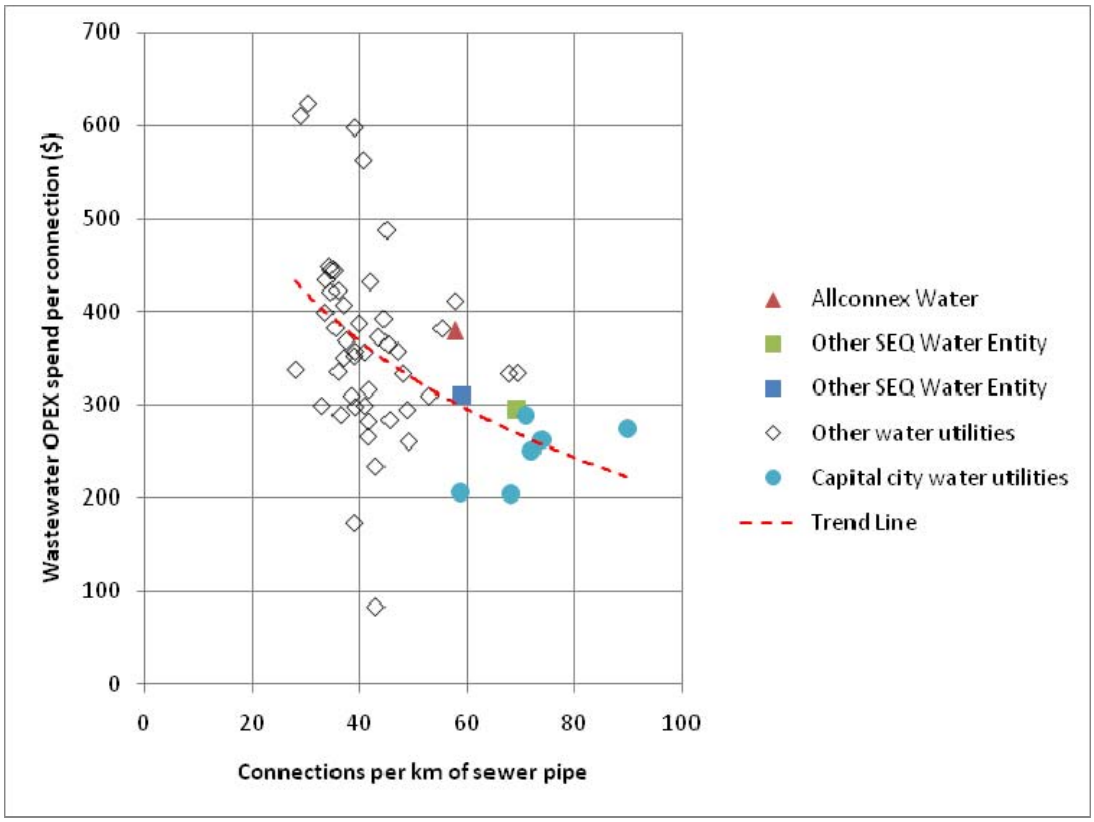
Chart 5: Water Operational Expenditure



Source SKM (2010) National Water Commission (2010).

Using the same method for Allconnex's wastewater operational expenditure (Chart 6), SKM concluded that Allconnex wastewater operational expenditure appears above trend. SKM noted that the Pimpama Coomera recycled water scheme operated by Allconnex contributes to increased operational costs.

Chart 6: Wastewater Operational Expenditure



Note CPI has been applied to other utilities data to inflate the costs contained in the 2008/9 NWC Performance Report to 2010/11
Source SKM (2010) National Water Commission (2010)

The Authority noted that this high-level analysis showed Allconnex's operating costs for 2010/11 fall within a range of values bounded by other water utilities, and indicated the extent of operating efficiencies that could potentially be achieved.

The Authority noted that economic regulators in other jurisdictions have applied efficiency gains to water retail businesses' proposed operating expenditures of up to 3.5% (NWI Steering Group on Water Charges 2007).

Taking into account the above, the Authority considered it is reasonable to assume Allconnex should be able to achieve efficiency gains in its non-bulk operating costs in 2010/11. The Authority therefore sought to impose a high level efficiency target for Allconnex in 2010/11 of 2% of total non-bulk operating costs. This resulted in a reduction of total operational expenditure of $4.1 million.

The Authority noted that another SEQ entity has identified non-bulk operational savings of up to 16.7%. Given that this has not been fully investigated at this stage, the Authority was not currently minded to apply this saving to Allconnex in this review. However, the Authority will be seeking further information on this matter and will be pursuing efficiency gains from amalgamation over the interim price monitoring period and beyond. Efficiency targets for 2011/12 and 2012/13 are discussed further below.

SKM then sought to review key components of Allconnex's operating expenditure.

Reasonableness of Sampled Costs

SKM selected a sample of expenditure for detailed review. The sample included the top 10% of operational expenditure by value in each activity and geographic area, over the forecast period. SKM has reviewed bulk water costs, employee costs, corporate costs, electricity and chemical costs. This sample captures 77% of the total operational expenditure (see Table 46) over the forecast period.

Table 46: Allconnex Operating Costs ($m)

Cost Centre	*2010/11*	*2011/12*	*2012/13*
Bulk water	154.66	187.76	222.55
Corporate Cost[a]	36.45	37.86	38.31
Employee costs	64.15	68.05	73.24
Electricity	13.44	14.93	16.73
Chemicals	4.14	4.31	4.53
Total Sample	**272.84**	**312.91**	**355.36**
Total Expenditure	**359.42**	**396.92**	**442.18**

Source Allconnex (2010), SKM (2010)

(a) Bulk Water Cost

SKM examined Allconnex's tariffs and confirmed that the bulk water tariffs charged to customers are consistent with those charged by the SEQ Water Grid Manager. SKM found that Allconnex's operating budget demonstrates that prices charged by the SEQ Water Grid Manager for bulk water storage, treatment and delivery are passed through to customers in full.

The review of Allconnex's demand forecasts for bulk water by Frontier Economics recommended adjustments to the volume of water sales forecast by Allconnex (see section 2.4) and made corresponding changes to bulk water purchases. SKM has accepted Frontier Economics' recommendations and has adjusted Allconnex's operating costs associated with the purchase of bulk water for 2010/11 (see Table 47). Bulk water costs for water increase slightly as a result of these adjustments.

Table 47: 2010/11 Revised Bulk Water Costs

Geographic Area	*Allconnex Submitted Bulk Water Cost ($millions)*	*Allconnex Submitted Demand (ML)*	*Frontier Revised Demand (ML)*	*Unit Price ($/kL)*	*SKM Revised Bulk Water Cost ($million)*
Gold Coast	$100.30	59,547.3	60,322.7	1.685	$101.64
Logan	$42.05	22,709.0	22,755.4	1.843	$41.93
Redland	$12.32	13,147.0	13,229.8	0.932	$12.30
Total	**$154.67**	**95,403.3**	**96,308**	**n/a**	**$155.90**

Source Allconnex (2010), Frontier Economics (2010), Queensland Water Commission (2010)

On 5 December 2010, the Treasurer and the (then) Minister for Natural Resources, Mines and Energy and Minister for Trade announced a series of reforms to the SEQ water industry. Included in these reforms was a revision to the long term bulk water price path from 2011/12. Bulk water prices for 2010/11 were unchanged. The Authority revised the Allconnex bulk water expenditure in 2011/12 and 2012/13 to reflect these revised prices. These changes reduced the Allconnex bulk water expense by $7.78 million over the interim period.

(b) Corporate Costs

Corporate costs include such items as CEO office, personnel cost in the corporate division and support staff, finance, marketing, information technology, legal and governance, training, human resources and payroll. SKM found that the proportion of Allconnex's total operational expenditure spent on corporate cost is expected to decline over the period from 10% in 2010/11 to 8.5% in 2012/13.

Allconnex has not applied a growth factor to corporate costs as it has with other costs categories' as corporate costs are not driven by growth in customers or demand. Instead, Allconnex applied only an annual cost escalation of 3.0%.

SKM found that the use of an estimate 3.0% reasonable for the escalation of corporate costs.

SKM noted that included in the corporate costs for Allconnex were several service level agreements (SLA). These services are generally a continuation of pre-existing systems and services to enable an orderly transition to Allconnex. They include: financial accounting; payroll services; development and management charges; call centre; inventory services and depot sites and head office accommodation. SKM noted that the costs associated with these SLAs are forecast to reduce as Allconnex develops its own systems and capabilities and becomes less reliant on legacy systems and services from councils.

SKM considered amalgamation of the three council water businesses into Allconnex should ultimately achieve efficiency gains in service delivery, economics of scale and reduced corporate costs.

(c) Employee Costs

Under the Ministerial Direction, the Authority must accept the operational constraints imposed by the SEQ Urban Water Arrangements Reform Workforce Framework 2010 (SEQ Framework). SKM noted the most significant constraint is that there are to be no forced redundancies or overall loss of employment directly as a result of the water reforms, during the reform period. Also, there are to be no forced relocations within 12 months from the date of transfer.

SKM noted that the operational constraints imposed by the SEQ framework limit the ability of Allconnex to achieve full labour efficiency

The increase in Allconnex employee costs (Table 46) were attributed to both an increase in employee numbers and labour cost increases.

Allconnex in their submission nominated a growth in employee numbers of 2.1% in 2011/12 and 3.6% in 2012/13, based upon the population growth in each district and an increase in corporate staff. The cost escalation rates for labour costs were set at 4.0% for both 2011/12 and 2012/13.

In subsequent information provided to the Authority, Allconnex noted that to the end of November 2010 17 staff had left but Allconnex had hired 50 new employees.

SKM benchmarked Allconnex labour cost escalation index against both the historic ABS Labour Price Index for the hourly rates for public servants in the Electricity, Gas, Water and Waste Services and the AERs forecasts of wage price increases in utilities sector (see Table 48).

Table 48: Comparison of Labour Cost Escalation Indices

Year	*2008/09*	*2009/10*	*2010/11*	*2011/12*	*2012/13*
Allconnex	-	-	-	4.00%	4.00%
Australian Energy Regulator	4.90%	3.60%	3.80%	4.20%	3.90%
ABS, Labour Price Index	4.38%	4.40%			

Source Australian Energy Regulator (2010), Australian Bureau of Statistics (2010)

SKM concluded that Allconnex's labour cost indices are in line with both the Australian Energy Regulator (AER) forecast indices and the historic trends as derived from the Labour Price Index. The labour cost indices are therefore considered reasonable. SKM also found that the growth factors used by Allconnex to determine employee costs are reasonable to build required capability and service growth that is increasing at a higher rate.

The Authority noted that natural attrition should be a source of potential efficiencies even within the constraints of the SEQ framework, however the natural attrition of required skills will require replacement through training, relocation or replacement.

However, in the absence of a readily available benchmark, the Authority did not seek to attribute quantifiable efficiency gains specifically to labour costs in this review. However, the Authority noted that it intends to pursue this issue further over the interim period, and an overall target for efficiency gains should be pursued.

(d) Electricity Costs

SKM reviewed the model used by Allconnex to develop forecasts of electricity costs. SKM found that the model provides for the calculation of electricity costs taking into account forecast water and wastewater flows as well as applying a 10% cost escalation rate for each year of the interim period.

SKM found that it is reasonable to assume that electricity consumption will reflect the increase or decrease in the volume of water and wastewater being pumped or processed.

Allconnex was unable to provide detailed information as to the proportion of its electricity needs met via contestable market contracts and that sourced from regulated tariffs.

SKM benchmarked Allconnex's electricity cost escalation factors against the Queensland Benchmark Retail Cost Index (BRCI) and the Australian Bureau of Statistics Consumer Price Index for electricity (see Table 49). SKM found that Allconnex' price escalation for regulated tariffs in 2010/11 (10%) to be (broadly) consistent with both the BRCI (13.29%) and CPI for electricity (15.5%).

Table 49: Electricity Cost Escalation Benchmarks

Year	*2008/09*	*2009/10*	*2010/11*	*2011/12*	*2012/13*
Allconnex	-	-	10.00%	10.00%	10.00%
BRCI	5.38%	11.82%	13.29%	5.83%[a]	
ABS CPI for electricity in Brisbane	11.60%	8.30%	15.50%		

Note [a] *QCA BRCI Draft Decision (2010)*
Source QCA(2010), Australian Bureau of Statistics (2010), Allconnex (2010)

SKM noted that the type of electricity purchase arrangement will have significant impact on Allconnex's electricity costs. The Authority supported this view and noted that Allconnex should seek out the most efficient option within its regulatory and contractual obligations.

The Authority noted that SKM's benchmarking does not take account of non-regulated price changes. As Allconnex could not provide the share of its electricity purchases from regulated and contestable sources, the Authority used available information from other sources to estimate a 25% share of total costs from electricity supplied under regulated tariffs and 75% from contestable market contracts.

The Authority examined a number of Allconnex's contestable market contracts and found that the price increases implied in these contracts is 8.18%[25] for 2010/11. Regulated tariffs increased by 13.29% (the 2010/11 BRCI).

Based on the above the Authority estimates that Allconnex's weighted average electricity price growth for 2010/11 under its contractual obligations may be around 9.5%[26]. The Authority therefore found that Allconnex's proposed price escalation factor of 10% for 2010/11 is reasonable.

In estimating the potential price growth in contestable contracts for 2011/12, the Authority noted that network and distribution charges will increase by 6.8% per annum. Assuming that energy charges do not increase over this period and the share of network costs also remains constant, contestable electricity prices will grow by 3.20%. Regulated tariffs are forecast to increase by 5.83% in 2011/12.

Based on the above, the Authority calculated a weighted average electricity price increase of 3.85% for 2011/12. [27] (Prior to the release of the Authority's Draft Decision on the 2011/12 BRCI, SKM estimated a 10% increase as reasonable – this view is now superseded by subsequent events).

The Authority applied the same price increase for 2012/13 as for 2011/12.[28] The Authority also revised Allconnex's growth forecasts to align with the percentage change in bulk water volumes arising from Frontier Economics' revised demand forecasts (see Table 50).

[25] 8.18% = 17.4% x 0.47. This assumes energy prices remain constant, and a 17.4% increase in network and distribution costs that comprise 47% of total costs as per the 2010/11 BRCI.
[26] 9.5% = (0.75 x 8.18) + (0.25 x 13.29).
[27] 3.85% = (0.75 x 3.20) + (0.25 x 5.83).
[28] This does not indicate any view of the BRCI for 2012/13, on which the Authority has not yet formed a view.

Table 50: Revised Allconnex Electricity Costs ($m)

Year	*2010/11*	*2011/12*	*2012/13*
Water	1.86	1.97	2.10
Wastewater	11.80	12.34	13.13
Revised Total	**13.66**	**14.31**	**15.23**
Allconnex Proposed	**13.44**	**14.93**	**16.73**
Variance	**1.7%**	**-4.2%**	**-9.0%**

Source SKM (2010), Allconnex (2010), QCA (2010),

(e) Chemical costs

Chemicals are used to treat drinking water before delivery to customers, and for wastewater prior to discharge. The need for chemical use is dictated by drinking water standards and compliance with operational licenses for wastewater discharge.

Allconnex's expenditure on chemicals is forecast to increase from $4.1 million in 2010/11 to $4.5 million in 2012/13. In determining these forecasts, Allconnex have used a general price escalation index of 3.0%.

SKM noted that transport costs are recognised as a significant cost component for chemicals (the cost of transporting chemicals to depots and throughout the distribution network).

The amalgamation of the three former council water businesses increases the purchasing power of Allconnex with potential efficiency gains or reduction in cost through economies of scale through the consolidation of supplier contracts and purchasing power.

SKM noted that the Allconnex's Financial Model includes identified cost saving through synergies that are forecast to occur beyond 2012/13. SKM considered that these opportunities exist in 2011/12 and 2012/13 and should be allowed for in the forecast budgets.

SKM concluded that Allconnex's proposed cost escalation indices for chemical costs are not reasonable and have revised this to 2.5% for 2011/12 and 2012/13. SKM noted that this cost escalation allows for unit prices to increase in line with the upper CPI bound formed by the RBA target band, and 0.5% gain through efficiencies and economies of scale (see Table 51).

The Authority further adjusted Allconnex's chemical costs to reflect the revised estimates of demand provided by Frontier Economics.

Table 51: Revised Allconnex Chemical Costs ($m)

Year	*2010/11*	*2011/12*	*2012/13*
Water	0.08	0.08	0.09
Wastewater	4.13	4.25	4.46
Revised Total	**4.21**	**4.34**	**4.55**
Allconnex Proposed	**4.14**	**4.31**	**4.53**
Variance	**1.7%**	**0.6%**	**0.5%**

Source SKM (2010), Allconnex (2010), QCA

Efficiency Gains and Other Amendments

As noted above, Allconnex's submitted operating costs for 2010/11 did not include any savings from efficiency gains therefore the Authority has sought to impose an efficiency target of 2% in non-bulk operating costs.

In the Draft Report, the Authority noted that even with these gains for 2010/11, SKM's analysis indicated there remains scope for ongoing efficiency gains to bring Allconnex to the forefront of operating efficiency. The Authority expected that further operating efficiencies in non-bulk operating costs should be achievable over the interim period, of at least 2% per annum. The Authority therefore revised its estimates of operating expenditure for these years.

The Authority noted that Allconnex did not include the Authority's regulatory fees in its operational expenditure forecasts. The Authority included these regulatory fees in the revised operating costs, allocated on the basis of 2010/11 revenues. In addition to the Authority's fee, the Authority also amended Allconnex regulatory and licence fees to include the newly established Queensland Water and Electricity ombudsman fees (see Table 52).

Table 52: Revised Allconnex Regulatory and Licence Fees ($m)

Year	*2010/11*	*2011/12*	*2012/13*
Water	0.43	0.51	0.54
Wastewater	0.36	0.43	0.45
Revised Total	**0.79**	**0.94**	**0.99**

Source QCA

Draft Report Summary

In the Draft Report, the Authority's revised operational expenditure for Allconnex for the interim period for water and wastewater was as outlined in Tables 55 and 56 respectively.

For water, the Authority increased Allconnex's operating expenditure ($228.08 million) by 0.10% in 2010/11, mainly due to the increased bulk water and other costs arising from Frontier Economics' revised bulk water demand forecasts which were partially offset by efficiency gains. For wastewater, the Authority decreased Allconnex's operating expenditure ($134.34 million) by 1.53% mainly due to the implementation of efficiency targets.

The Authority adjusted for revised demand forecasts, bulk water prices, regulatory fees and electricity costs, but noted these will be subject to ongoing review in 2011/12 and 2012/13. The Authority expected that Allconnex may realise further operational efficiencies in the future as it achieves economies of scale. The Authority also noted that there may be opportunities even within the constraints imposed by the SEQ workforce framework.

Stakeholder Submissions on the Draft Report

In its submission on the Draft Report, Allconnex noted that:

(a) it accepts a reasonable efficiency target, however the Authority's current target of 2% may not be achieved across all non-bulk cost categories in the short- to medium-term due to certain costs being relatively fixed in this period.

Allconnex stated that labour costs are relatively inflexible since the *SEQ Urban Water Arrangements Reform Workforce Framework 2010* requires no forced redundancies or overall loss of employment, and Enterprise Bargaining Agreements include prescriptive wage escalation rates. Allconnex noted that SKM found that these factors may limit Allconnex's ability to achieve full labour efficiency and that Allconnex's labour escalation rate (4%) was reasonable, as it was in line with both the Australian Energy Regulator forecast indices and the historic trends as derived from the Labour Price Index.

Allconnex submitted that it considers electricity costs to be relatively uncontrollable in the short-term. Allconnex stated that it is bound by State Procurement Policy and to meet the requirements of this policy, price negotiations with electricity suppliers are unlikely to be concluded in time for cost savings to accrue in the current financial year. Allconnex noted that efficiency gains in electricity costs will only occur in the medium to long run;

(b) the Authority should not apply a general 2% efficiency adjustment to costs subjected to detailed review. Allconnex stated that in addition to the general 2% efficiency adjustment, the Authority also adjusted the escalation rate for electricity costs. Allconnex considered that this is a duplicate reduction, and that the generalised efficiency adjustment should therefore not apply to electricity costs.

Allconnex further noted that the Authority's estimate of chemical costs includes a specific adjustment of 0.5% for potential efficiency gains and economies of scale. Allconnex submitted this is duplicated by the general efficiency adjustment for all non-bulk costs.

Allconnex noted that to achieve the same quantum of operating cost adjustment to non-bulk costs – excluding labour, electricity and chemicals – would require a 3.3% reduction in wastewater operating costs and a 3.1% reduction in water operating costs – a total average reduction of 3.2%.

Allconnex stated that the integration of the three former participating Council businesses, and the adoption of various legacy participating Council arrangements, means it may be difficult to achieve the additional cost reductions proposed by the Authority in the short-term. Allconnex noted however that its own financial modelling incorporated an efficiency adjustment after the initial integration period.

In his submission on the Draft Report, Mr McDonald noted that in Chart 6 of Part A of the Draft Report, bulk water charges are 16.9% of total costs and operational costs are 22.4% of total costs. Mr McDonald suggested that operational costs should be prudently managed and increased by CPI or close to it. He submitted that after allowing for a 10% increase because of

set up costs the increase in total costs should be no more than 3%. Mr McDonald recommended that there should be no other increases above CPI permitted.

Authority's Analysis

As noted in the Draft Report, benchmarking conducted by SKM found that are while Allconnex costs are bounded by those of other Australian water entities there remains scope for further efficiencies to be achieved. It is common regulatory practice within the Australian water industry for regulators to set general (non-specific) operating efficiency targets of up to 3.5% per annum.

The Authority considers that the establishment of Allconnex from the three former council water businesses provides it with significant scope for cost saving as many functions were duplicated in each business. As such, the Authority's efficiency target of 2% per annum on non-controllable costs reflects these potential business-wide efficiency gains. These efficiency gains are in addition to the specific cost savings identified by the Authority and its consultants in regards to electricity and chemical costs in the Draft Report.

In respect to labour costs, the Authority notes that while the *SEQ Urban Water Arrangements Reform Workforce Framework 2010* does impose some limitations, it allows for efficiencies to be achieved through natural attrition. The Authority has therefore not excluded labour costs from its efficiency targets. Similarly, the Authority considers the specific cost savings for electricity are achievable and the state procurement policy should not form an impediment to the pursuit of value for money.

However, the Authority has made some minor adjustments to its estimate of efficiency gains targets excluding regulatory and licence fees from the calculation of efficiency gains as these costs externally imposed and are not controllable by the regulated entity (Table 53).

In response to Mr McDonald's suggestion that there should be no increases of more that CPI, the Authority notes that it reviewed costs for various cost categories. This review found that in some cases operating cost increases above CPI are reasonable when compared to appropriate benchmarks for a number of categories such as labour costs and electricity.

The Authority's operating expenditure for Allconnex over the price monitoring period for water and wastewater are outlined in Tables 54, 55 and 56.

Table 53: Further Efficiency Gains ($m)

	2011/12	***2012/13***
QCA efficiency target - water	-2.96	-4.61
QCA efficiency target - wastewater	-5.36	-8.41
Total Efficiency Gains	-8.32	-13.02

Source QCA

Table 54: SKM Assessment Reasonable Operating Costs Water 2010-2013 ($m)

	2010/11 Draft	*2001/11 Final*	*2011/12 Draft*	*2011/12 Final*	*2012/13 Draft*	*2012/13 Final*
Bulk Water Costs	155.91	155.91	184.26	184.26	215.81	215.81
Retail Operating Costs						
Customer service and billing	na	na	na	na	na	na
Regulated demand management costs	na	na	na	na	na	na
Community service obligation costs	na	na	na	na	na	na
Distribution Operating Costs						
Employee expenses	23.83	23.83	25.48	25.48	27.67	27.67
Contractor expenses	1.65	1.65	0.94	0.94	0.12	0.12
GSL payments	na	na	na	na	na	na
Materials and services	35.39	35.39	34.58	34.58	35.85	35.85
Licence or regulatory fees	0.43	0.43	0.51	0.51	0.54	0.54
Natural resources management costs	na	na	na	na	na	na
Corporate costs	12.57	12.57	13.06	13.06	13.21	13.21
Total Operating Costs	**229.78**	**229.78**	**258.83**	**258.83**	**293.20**	**293.20**
QCA Efficiency gains	**-1.48**	**-1.47**	**-2.98**	**-2.96**	**-4.64**	**-4.61**
Total Operating Costs	**228.30**	**228.31**	**255.84**	**255.86**	**288.55**	**288.58**
Allconnex Proposed Total	**228.08**	**228.08**	**261.99**	**261.99**	**299.78**	**299.78**
Variance	**0.10%**	**0.10%**	**-2.35%**	**-2.34%**	**-3.75%**	**-3.73%**

Source QCA

Table 55: SKM Assessment of Reasonable Operating Costs Wastewater 2010-2013 ($m)

	2010/11 Draft	*2010/11 Final*	*2011/12 Draft*	*2011/12 Final*	*2012/13 Draft*	*2012/13 Final*
Retail Operating Costs						
Customer service and billing	na	na	na	na	na	na
Regulated demand management costs	na	na	na	na	na	na
Community service obligation costs	na	na	na	na	na	na
Distribution Operating Costs						
Employee expenses	36.94	36.94	38.96	38.96	41.72	41.72
Contractor expenses	1.68	1.68	0.97	0.97	0.16	0.16
GSL payments	na	na	na	na	na	na
Materials and services	69.89	69.89	70.02	70.02	73.96	73.96
Licence or regulatory fees	0.36	0.36	0.43	0.43	0.45	0.45
Natural resources management costs	na	na	na	na	na	na
Corporate costs	23.10	23.10	23.99	23.99	24.27	24.27
SKM Operating Costs	**131.96**	**131.96**	**134.36**	**134.36**	**140.56**	**140.56**
QCA Efficiency gains	**-2.64**	**-2.63**	**-5.37**	**-5.36**	**-8.43**	**-8.41**
Total Operating Costs	**129.33**	**129.33**	**128.99**	**129.00**	**132.13**	**132.15**
Allconnex Proposed Total	**131.34**	**131.34**	**134.93**	**134.93**	**142.40**	**142.40**
Variance	**-1.53%**	**-1.53%**	**-4.40%**	**-4.39%**	**-7.21%**	**-7.20%**

Source QCA

Table 56: Comparison between Allconnex and QCA Operational Expenditure ($m)

	2010/11	*2011/12*	*2012/2013*	*Total*
Allconnex forecast	$359.42	$396.92	$442.18	$1,198.52
QCA forecast	$357.64	$384.86	$420.73	$1,163.23
Difference	**-0.50%**	**-3.04%**	**-4.85%**	**-$35.29**

Source Allconnex 2010 and QCA calculations

Allconnex's forecast operational expenses for 2010/11 are broadly reasonable, although the Authority has adjusted for revised demand forecasts, bulk water prices, chemical costs and regulatory costs.

The Authority expects that Allconnex should be able to realise operational efficiencies in each year of the interim price monitoring period as it achieves economies of scale. At least 2% efficiency gains per annum in non-bulk operating costs should also be pursued in 2011/12 and 2012/13.

2.10 Costs

The Ministerial Direction requires the Authority to compare the entities' revenues with the Authority's MAR, which is based on the total costs of carrying on the activity.

Total costs identified earlier have not been adjusted for any revenue offsets required to calculate the MAR and include:

(a) operating and maintenance costs, including tax;

(b) return on capital, including any capital gain;

(c) return of capital, allowing for depreciation of assets over time.

The Direction also requires the Authority to take into account any revenue glide path submitted by the entity for the purpose of avoiding price shocks over the interim period. In its information request to the entities, the Authority required full details of the method used for smoothing and underlying data to be provided.

The impact of recent floods in SEQ has not been taken into account.

Draft Report

Allconnex's initial submission did not include an estimate of total costs for 2009/10. However, the Allconnex data template provided information on bulk water costs and distribution and retail operating and maintenance costs, and the data to calculate tax, return on capital and return of capital for each activity from 1 July 2008. The Authority used Allconnex's data template to estimate Allconnex's 2009/10 total costs, for broad comparative purposes. Allconnex provided its forecast of total costs for 2010/11 (see Table 57).

Allconnex indicated that its estimate of tax is based on using regulatory depreciation as a proxy for tax depreciation, a notional interest expense, and adjustments for the (expected) non-assessable treatment of developer gifted assets.

The relevance of these costs to Allconnex's pricing policies for 2010/11 is discussed further in section 2.13.

On the basis of the Authority's analysis of the regulatory asset base, asset lives, cost of capital, and operating and maintenance costs, the Authority calculated the total costs of carrying on Allconnex's water and wastewater activities for 2010/11.

In doing so, the Authority calculated single year or 'unsmoothed' cost estimates, to allow for comparison with Allconnex's revenues and costs, which were predominantly set on this basis.

For both water and wastewater, the Authority's estimate of total costs was below Allconnex's estimate. For water, the Authority's estimate of total costs of $427.71 million was 3.05% below that of Allconnex. For wastewater, the Authority's estimate of total costs of $444.61 million was 6.15% below that of Allconnex.

Table 57: Allconnex Total Costs ($m)

	Costs 2009/10	***%***	***Allconnex Costs 2010/11***	***%***	***Allconnex Water Costs 2010/11***	***%***	***Allconnex Waste-water Costs 2010/11***	***%***
Bulk Water Costs	120.20	17.3%	154.66	16.9%	154.66	35.1%		
Distribution and Retail Costs								
Other operating costs	165.38	23.9%	204.76	22.4%	73.42	16.6%	131.34	27.7%
+ Tax	15.00	2.2%	15.44	1.7%	5.94	1.3%	9.50	2.0%
+ Return on Capital	288.56	41.6%	422.28	46.2%	162.40	36.8%	259.88	54.9%
+ Return of Capital	103.81	15.0%	117.80	12.9%	44.75	10.1%	73.05	15.4%
Total Costs	692.95	100.0%	914.94	100.0%	441.17	100.0%	473.77	100.0%

Source Allconnex data template and subsequent information – return on and of capital for 2009/10 are sourced from Allconnex's estimates of councils' financial position (pp16-17 of their submission). Return on capital in 2009/10 is the sum of interest, profit after tax (p.17), and inflationary capital gain (p.16).

Key differences between Allconnex's submitted costs and the Authority's arose from:

(a) bulk water costs – the Authority had slightly higher bulk water cost estimates due to the Authority's revised demand volumes for 2010/11;

(b) other operating costs – the Authority had slightly lower estimates of other distribution and retail operating costs due to the inclusion of its efficiency target;

(c) tax – the Authority had a lower tax allowance for 2010/11 due to differences in the cost of capital and the level of deductions for depreciation.

The Authority's approach to tax was consistent with that set out in the relevant tax manual for the entities, whereby the value of a contributed asset or the amount of the contribution towards an asset will not be assessable and no deductions of any kind will be allowed in respect of the value of the contributed asset or in respect of the amount of the contribution towards an asset (LGTER 2010); and

(d) the return on capital – the Authority had lower cost estimates than those submitted by Allconnex, as a WACC of 9.88% was used by Allconnex compared with 9.35% for the Authority (Appendix B) and this was applied by the Authority to a lower capital base arising from efficiencies in capital expenditure;

(e) the return of capital – the Authority had lower estimates arising from minor differences in the indexation of the underlying assets and this was applied to a lower capital base.[29]

Stakeholder Submissions on the Draft Report

Allconnex submitted that its 2010/11 submitted tax cost was relatively conservative given the likely variance between the RAB value and LGTER tax cost base, despite the Authority's adjustments for the treatment of contributed and donated assets. Allconnex requested the Authority provide a copy of the advice referred to in the Draft Report to the entities to enable the entities to internally validate the tax treatment of contributed and donated assets.

Allconnex noted that the Draft Report focuses on a comparative analysis of costs and revenues at the water and wastewater level. Allconnex noted there is little information on costs at a district level, despite the Authority requiring the entities to report cost and other data at a very granular level by service and by district.

Allconnex noted that the Authority has stated it should seek to apply a more 'regional' perspective to its capital planning. Allconnex submitted that in this context, a participating council boundary determined approach to cost capture is not appropriate. Allconnex no longer develops capital and operating budgets based on local government boundaries. The business captures costs at a whole of business level and focuses on the prudent and efficient delivery of operating and capital expenditure across the entire service delivery area.

Allconnex noted that it was unable to provide cost and revenue data at the level required by the Authority for 2010/11. It stated this is likely to be a continuing issue for 2011/12 given the difficulties associated with disaggregating some cost categories, notwithstanding the ongoing efforts to improve data capture across the business.

As a result, Allconnex proposed not to allocate costs at a participating Council boundary level in future submissions.

Mr McDonald in his submission noted that it is not made clear in the Draft Report what percentage of the total costs, and how much in dollar terms, represents council dividends. He recommended that dividends should be excluded from any permitted increase because it is not cost recovery. He submitted that cost increases should be reduced or constrained to CPI.

Authority's Analysis

In response to the comments made by Allconnex relating to the tax asset base, the Authority has reviewed its tax calculations and has provided a copy of the advice from the tax assessor to the entities.

A minor adjustment to the calculation of tax depreciation has been made as, in the Draft Report, tax depreciation was applied to capital expenditure for a full year whereas the expenditure would have been incurred throughout the year. This reduces tax depreciation and increases tax payable.

As previously noted, the Authority has also adjusted its calculation of depreciation to ensure that depreciation at the entity level matches the sum of the depreciation by council area. This increases depreciation for both water and wastewater. The impact is less for water as asset lives are less diverse across councils.

[29] Allconnex had lower depreciation ($111.38m), lower tax (11.36m), lower return on capital ($391.74m) and a deduction for other capital revenue (of 10.68m) at the time of price setting. Estimates in their submission reflect more recent information.

In relation to the disaggregation of costs, the Authority notes that the price monitoring framework has been established such that the level of detailed analysis is intended to evolve over the interim period. In future years this evolution may involve an investigation of costs and revenues on a geographic or service basis.

While the Authority acknowledges there may be difficulties in providing data by service and geographic area, it also notes that Allconnex continues to price on this basis and bulk water prices also differ by area. The Authority is continuing to work with the entities in evolving and refining the collection of data though its information requirements and data templates.

In relation to Mr McDonald's comments in regards to the dividends paid to Councils, the Authority in developing its estimate of Allconnex's return on capital takes into account the required return on equity. While the benchmark return on capital does include a return to equity holders the Authority does not investigate dividends paid to individual councils as this is a matter for the Allconnex and its shareholders.

Allconnex's and the Authority's costs for 2010/11 are compared below (Table 58). Changes in the Authority's costs from that in the Draft Report reflect:

(a) approved establishment costs;

(b) revised capital expenditure for 2008/09 and 2009/10;

(c) adjustments to depreciation to ensure that entity level calculations align with the sum of those done by council area and reflect appropriate timing;

(d) removal of regulatory fees which are non-controllable from the operating expenditure efficiency calculation.

As a result of these changes, the Authority's overall estimate of total costs has increased (slightly) since the Draft Report for both water and wastewater (see Table 58 and 62).

Table 58: Comparison of Allconnex and QCA Costs for 2010/11 ($m)

	Water Allconnex Costs	***Water QCA Costs***	***QCA % of total***	**Wastewater Allconnex Costs**	***Wastewater QCA Costs***	***QCA % of total***
Bulk Water Costs	154.66	155.91	36%			
Distribution and Retail Costs						
Other operating costs	73.42	72.40	17%	131.34	129.33	29%
+ Tax	5.94	3.44	1%	9.50	4.93	1%
+ Return on Capital	162.40	155.21	36%	259.88	239.40	54%
+ Return of Capital	44.75	45.32	10%	73.05	72.44	16%
Total Costs	441.17	432.28	100%	473.77	446.10	100%

Source Allconnex subsequent information and QCA calculations.
Note This table is updated from the Draft report

2.11 Revenues for 2010/11

For price monitoring purposes, Allconnex's revenues as forecast at the time of price setting form the relevant forecast revenues. These revenue forecasts for 2010/11 are consistent with 2010/11 prices.

Allconnex's submission

Allconnex identified its revenue forecasts for water and wastewater at the time of price setting as per Table 59.

Table 59: Allconnex 2010/11 Revenue Forecasts for water and wastewater ($m)

	Allconnex Revenues
Water	320.66
Wastewater	270.98
Total revenue	**591.63**

Source Allconnex subsequent information

2.12 Comparing Revenues with MARs

Under the Ministerial Direction, the Authority must compare the entities' revenues with the MAR.

The MAR is the Authority's estimate of total costs of carrying on a water and wastewater activity. The MAR is calculated using the Authority's estimate of total costs less relevant deductions to ensure no double counting of inflationary gain and capital contributions, where a revenue offset approach has been adopted. Under the Direction the entities have the choice of adopting a revenue offset or asset offset approach to capital contributions.

Draft Report

Allconnex's estimate of its total costs of carrying on its water and wastewater activities in 2010/11 is presented in Table 60 below (these costs were first identified in section 2.9). Allconnex has chosen an asset offset approach to the treatment of capital contributions.

A comparison of Allconnex's total costs and Allconnex's revenue forecast (at the time of price setting) is also provided in the table below. This comparison shows under-recovery in both water and wastewater activities, with a total under-recovery of $213.88 million or 26.55%.

Allconnex noted that increasing prices in 2010/11 to achieve full cost recovery (MAR) would result in undue customer impacts and is inconsistent with the State's request to the business to avoid price shocks. Therefore, it has adopted a transitional approach to pricing which, for 2010/11, incorporates price increases which are significantly less than required to achieve MAR.

Allconnex submitted that its pricing arrangements for 2010/11 for core water and wastewater services have been set such that a consistent percentage increase is applied to all charges within a particular council area and service. The level of the percentage increase reflects the percentage required to achieve MAR up to a maximum of 20%. (Practically, this results in a lower percentage increase for Redland customers, with higher increases for Logan and Gold Coast customers, since Redland's charges for 2009/10 were already near its MAR.)

Table 60: Allconnex 2010/11 Total Costs and Total Revenues ($m)

	Water Allconnex 2010/11	*Wastewater Allconnex 2010/11*	*Total*
Total Costs (Allconnex)	441.17	473.77	914.94
- Indexation (Allconnex)	-42.08	-67.34	-109.42
- Capital contributions (Allconnex)	n/a	n/a	n/a
Total Costs (Allconnex)[30]	**399.09**	**406.43**	**805.52**
Total Revenues (Allconnex)	320.66	270.98	591.64
Total Revenues - Costs (Allconnex)	**-78.43**	**-135.45**	**-213.88**
Per cent of Total Costs (Allconnex)	**-24.46%**	**-19.71%**	**-26.55%**

Source Allconnex subsequent information

A comparison of Allconnex's forecast revenues of its water and wastewater activities with the MAR based on the Authority's estimate of the total costs of carrying on Allconnex's water and wastewater activities, was provided in Table 58.

The Authority's MAR is unsmoothed and based on 2010/11 total costs, and the asset offset approach to the treatment of capital contributions is adopted, as per Allconnex's approach.

The Authority's analysis in the Draft Report indicated that, as a whole, Allconnex's revenues lie significantly below the Authority's MAR of $765.23 million by around $173.59 million (or 22.68%).

Water revenues fell below the MAR ($386.47 million) by around $65.81 million, or 17.03%. Wastewater revenues fell below the MAR ($378.76 million) by around $107.78 million or 28.46%.

Stakeholder Submissions on the Draft Report

In its submission, Allconnex reiterated that prices for 2010/11 were set with reference to cost recovery over a longer-term glide path noting that was the only entity to propose a glide path.

Allconnex noted that the Draft Report did not provide comment on whether a glide path longer than the three-year interim price monitoring period will be recognised as part of any future deterministic pricing regime. Allconnex requested further guidance in relation to the Authority's proposed treatment of its longer-term glide path, to assist it in determining prices for 2011/12 and 2012/13.

Allconnex stated in its submission that the difference in cost recovery across entities may be attributable to methodological differences in the calculation of MAR for 2010/11. In particular, Allconnex adopted an asset-offset approach to calculate the RAB and MAR whereas the other two entities applied a revenue-offset approach.

[30] Total costs estimated by Allconnex at the time of price setting were $753.61m.

Authority's Analysis

The Authority continues to support the use, where possible, of a NPV neutral price path to avoid unnecessary price shocks. However, the Authority is not in a position to provide guidance on any individual price path without first thoroughly examining the detailed data, modelling and assumptions underpinning it. Allconnex should provide detailed information for all years of its proposed glide path to the Authority as part of its next price monitoring information return.

The Authority notes that the choice of the treatment of capital contributions can have a significant impact in any particular year. Under the Direction, the entities have the ability to choose the treatment of capital contributions and their choice must be recognised by the Authority. The Authority will therefore continue to only report each entity's MAR based on their choice of approach.

The Authority has calculated the MAR based on updated information since the Draft Report, using allowable establishment costs and updated capital expenditure and tax estimates.

The Authority's updated analysis indicates that, as a whole, Allconnex's revenues fall below the Authority's MAR of $770.61 million by around $178.97 million (or 23.22%).

Water revenues fall below the MAR ($390.19 million) by around $69.53 million, or 17.82%. Wastewater revenues fall below the MAR ($380.42 million) by around $109.44 million, or 28.77%.

Table 61: Comparison of Allconnex Revenues and the QCA MAR ($m)

	Water 2010/11	***Wastewater 2010/11***	***Total***
Total Costs (QCA)	432.28	446.10	878.38
- Indexation (QCA)	-42.09	-65.68	-107.77
- Capital contributions (QCA)	n/a	n/a	n/a
Total Costs (QCA MAR)	**390.19**	**380.42**	**770.61**
Total Revenues (Allconnex)	320.66	270.98	591.64
Total Revenues – Costs (QCA)	**69.53**	**109.44**	**178.97**
Per cent of Total Costs (QCA)	**-17.82%**	**-28.77%**	**-23.22%**

Source QCA calculations and Allconnex subsequent information.

A comparison of the Authority's Draft and Final MARs is provided in Table 62. Differences arise from the approved establishment costs and changes to capital expenditure and depreciation, as previously noted.

Table 62: Reconciliation between QCA Draft Report MAR and QCA Final Report MAR

	Water			***Wastewater***		
	Draft Report	Final Report	Difference	Draft Report	Final Report	Difference
Opex	228.3	228.31	0.01	129.33	129.33	0.00
Tax	3.13	3.44	0.31	4.13	4.93	0.80
Return on Assets	152.29	155.21	2.92	240.03	239.40	-0.63
Return of Assets	43.99	45.32	1.33	71.12	72.44	1.32
Total Costs	427.71	432.28	4.57	444.61	446.10	1.49
Indexation	-41.24	-42.09	-0.85	-65.85	-65.68	0.17
Capital Contributions	n/a	n/a	n/a	n/a	n/a	n/a
MAR	386.47	390.19	3.72	378.76	380.42	1.66

Source QCA calculations.

2.13 Costs, Revenues and Prices

The reconciliation of costs, revenues and average prices is outlined in Table 63 below.

Table 63: Costs, Revenues and Prices

	Council 2009/10	*Allconnex Water 2010/11*	*Allconnex Wastewater 2010/11*	*QCA Water 2010/11*	*QCA Wastewater 2010/11*
Bulk Water Costs ($m)	120.20	154.66		155.91	
Distribution and Retail Costs ($m)					
Other operating costs	165.38	73.42	131.34	72.40	129.33
+ Tax	15.00	5.94	9.50	3.44	4.93
+ Return on Capital	288.56	162.40	259.88	155.21	239.40
+ Return of Capital	103.81	44.75	73.05	45.32	72.44
Total Costs ($m)	**692.95[a]**	**441.17**	**473.77**	432.28	446.10
- Indexation	-	-42.08	-67.34	-42.09	-65.68
- Capital contributions	-	n/a	n/a	n/a	n/a
Total Costs (MAR)	**-**	**399.09[b]**	**406.43[b]**	**390.19**	**380.42**
Total Revenues	**489.42**	**320.66[c]**	**270.98[c]**		
Over / (Under) recovery	-	**-78.43**	**-135.45**	**n/a**	**n/a**

	2009/10 Water	*2009/10 Wastewater*	*Allconnex Water 2010/11*	*Allconnex Wastewater 2010/11*	*QCA Water 2010/11*	*QCA Wastewater 2010/11*
Total Revenues ($m)	264.82	224.60	320.66	270.98	390.19	380.42
Volume (ML or connections)	81,624	345,711	85,855	350,848	86,759	355,306
Price ($/kL or $/connection)	**$3.24/kL**	**$649.68**	**$3.73/kL**	**$772.35**	**$4.49/kL**	**$1,070.69**

Notes [a] The Authority has not calculated a MAR for 2009/10 as per its Framework Report (April 2010). [b] Allconnex costs as per their submission to the Authority and subsequent information. [c] Allconnex revenues at the time of price-setting Source QCA calculations and Allconnex subsequent information.

2.14 Findings

For Allconnex:

(a) average retail water and wastewater prices in 2010/11 increased by 15.1% and 18.9% respectively;

(b) residential bills for households using 200kl of water per year increased by differing amounts depending upon council area, up to a maximum of 20%;

(c) bulk water costs account for 35.1% of Allconnex's proposed total water costs in 2010/11. Retail and distribution operating costs account for 16.6%, return on capital accounts for 36.8%, tax for 1.3% and return of capital 10.1%;

(d) for wastewater, retail and distribution operating costs account for 27.7% of Allconnex's proposed total costs, return on capital accounts for 54.9%, tax for 2.0% and return of capital 15.4%;

(e) the most significant increases in proposed costs in 2010/11[31] relate to a 28.7% increase in bulk water costs, and a 23.8% increase in other operating costs. There is a fall in the return on capital of 27.8% (based on a comparison of councils' interest, dividend payments and retained earnings to the entity's proposed return on capital after taking into account the forecast under-recovery in 2010/11 of total costs).

The Authority's estimate of the costs of supply in 2010/11 is lower than Allconnex's. The Authority has a lower return on and of capital (due to a lower WACC and capital savings) and a lower tax allowance. In this regard:

(a) Allconnex's forecast water revenues of $320.7 million fall well below the MAR of $390.19 million calculated by the Authority;

(b) Allconnex's forecast wastewater revenues of $271.0 million fall well below the MAR of $380.42 million calculated by the Authority; and

(c) as a whole, Allconnex's revenues of $591.6 million fall well below the MAR of $770.61 million calculated by the Authority.

[31] As previously noted, the Authority has not reviewed costs for 2009/10.

3. UNITYWATER

3.1 Ministerial Direction

Under the Ministerial Direction, the Authority must inform customers of the costs and other factors underlying the annual increase in water and wastewater prices, and distinguish the bulk and distribution/retail components to the extent that it is possible given the availability and reliability of relevant information (**Appendix A**).

The Authority must also monitor the revenues of Unitywater's water and wastewater activities against the MAR determined by the Authority based on prudent and efficient capital and reasonable operating costs. Further, the Authority must advise the entities by 1 March 2011 and 1 March 2012 of the WACC benchmark it will consider in 2011/12 and 2012/13 respectively.

3.2 Background

Unitywater provides water and wastewater services to commercial customers and an estimated residential population of over 700,000 in the Moreton Bay and Sunshine Coast.

Key characteristics of Unitywater's service and asset base appear in Table 1 below.

Table 1: Unitywater Service and Asset Base

	Moreton Bay	***Sunshine Coast***	***Total***
Population	376,949	339,663	716,612
Residential Water Connections	118,852	119,161	238,013
Non-Residential Water Connections	25,744	24,567	50,311
Water reservoirs	35	71	106
Water supply network (km)	2,901	2,273	5,174
Wastewater network (km)	2,643	2,302	4,945
Wastewater treatment plants	8	10	18

Source Unitywater (2010)

A map showing the area serviced by Unitywater is shown in Figure 1 below.

Figure 1 Unitywater Service Area

Source Unitywater (2010)

3.3 Prices

There is a range of prices set by Unitywater relating to the range of services provided to each of the previous council areas and customer groups.

As noted previously, the Authority has not sought to review prices (or tariff structures) in detail in this first review but, for broad comparative purposes, notes the changes in average prices and residential bills. Average prices provide, at best, a broad overview of price changes.

As such, while the Authority notes the submissions from the Moreton Bay Regional Council and Mr Schultz calling for a consolidated price across Unitywater's service area, the Authority has no comment on this matter at this time. The Authority will have a deterministic role from 2013.

Average Prices

Unitywater's average water and wastewater prices increased across all customer groups in 2010/11. For reasons identified further below, the average price charged by Unitywater differs from that implied by the Authority's analysis. Charts 1 and 2, and Table 2 refer.

Only a minor adjustment has been necessary to the estimates outlined in the Draft Report, with the Authority's estimate of the average water price increasing from $3.98 to $3.99 per kl and the average wastewater price falling from $672.85 to $672.64 per connection. These variations reflect advice from the (then) Minister for Natural Resources, Mines and Energy and Minister for Trade regarding allowable establishment costs for 2009/10 (section 1.6) and other changes to capital expenditure and the estimation of depreciation.

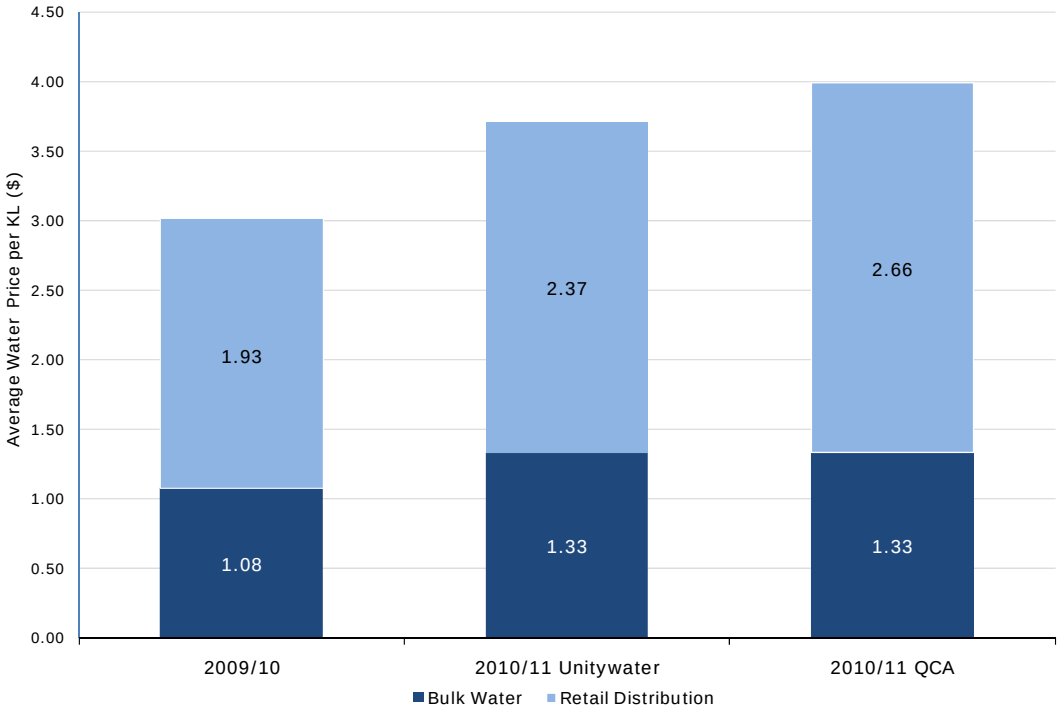
As noted previously, prices are not necessarily set by the entities on the basis of costs alone. Indeed, the Authority's previous monitoring of councils' prices indicated that councils did not always base prices on costs in previous years.

Also indicated are the share of average prices accounted for by bulk water charges (it is assumed that, based on the Government's policy, bulk water prices are passed through to customers in full). There is no bulk component of wastewater prices.

Average prices were calculated by dividing total revenues by volumes – per kl (for water) and per connection (for wastewater).[32] Unitywater's average price reflects its decision to not fully recover its costs in 2010/11. Unitywater has indicated that it will recover costs in future years (a time period is yet to be determined).

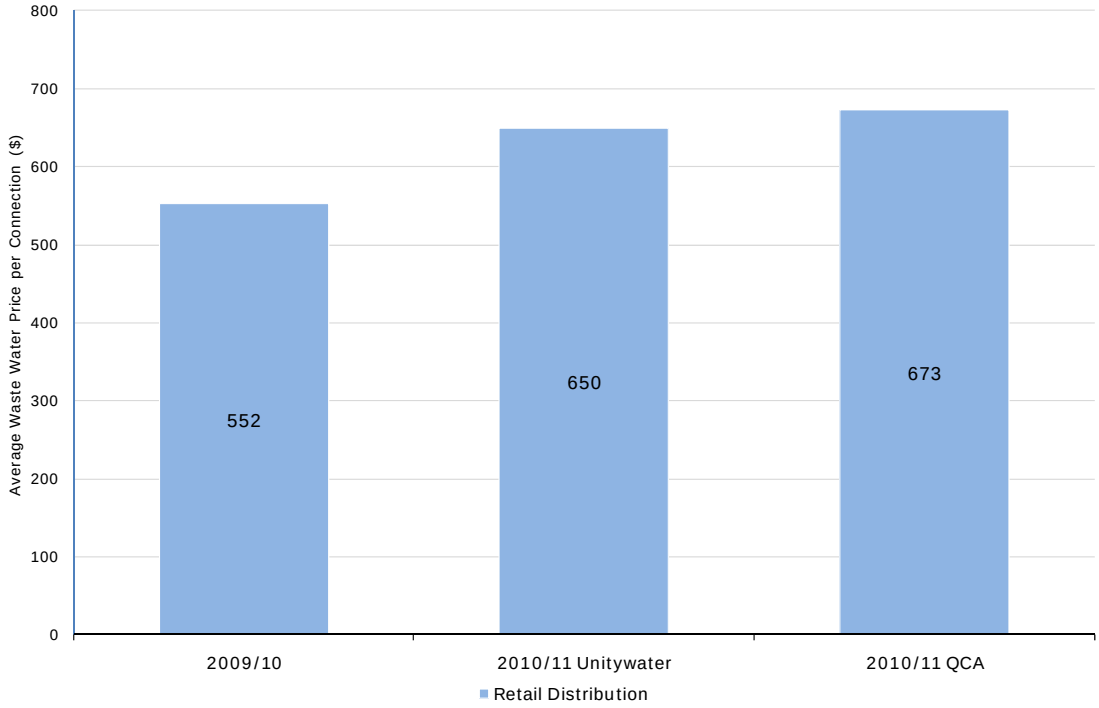
[32] The ABS adopts a similar approach to calculate an average water price in national water accounts – the ABS average price is derived by dividing a state's total residential water revenue ($) by residential water consumption (kL) (ABS, 2010).

Chart 1: Average Water Prices



Source Unitywater (2010), QCA (see section 3.13)

Chart 2: Average Wastewater Prices



Source Unitywater (2010), QCA (see section 3.13)

Table 2: Average Prices[ab]

	2009/10	*Unitywater 2010/11*	*QCA 2010/11*
Water ($/kL)	3.01	3.70	3.99
% increase compared to 2009/10		22.92%	32.54%
Wastewater ($/connection)	552.40	649.89	672.64
% increase compared to 2009/10		17.65%	21.77%

[a] Average water price = Annual water revenue ($) / total kl sold . [b]Average wastewater price = Annual wastewater revenue ($) / total connections. Average QCA price = QCA MAR / QCA kL (water) or connections (wastewater). Note 2009/10 and Unitywater 2010/11 average prices are the same as in the Authority's Draft Report. The QCA 2010/11 figures have been updated since the Draft Report.

The Authority's analysis suggests a slightly higher average annual water price of $3.99/kL could be justified on the basis of costs alone for water. For wastewater, average prices also appear moderately lower than implied by the Authority's assessment of costs, which indicated an average price of $672.64 per connection.

The Authority's average price is based on 2010/11 costs alone (the Authority's MAR). That is, the Authority's average price for 2010/11 reflects full costs estimated on an annual basis. Ideally, prices should be set, and smoothed, over a longer period to avoid large annual variations.

In his submission on the Draft Report, Dr Koerner stated that the Authority's benchmarking of Unitywater prices did not provide an assurance that 2010/11 revenues are unlikely to exceed a MAR established from NWI Regulatory Pricing Principles. Dr Koerner stated that prices for 2010/11 were determined after accepting the RAB determined by the Queensland Government.

Dr Koerner suggested that the Authority's analysis of average prices be removed or significantly qualified as:

(a) no analysis is provided by Unitywater (or warrant by the Authority) to assure stakeholders that the RAB accords with the NWI Regulatory Pricing Principles;

(b) the apportionment of assets between water and wastewater by Unitywater has used written down values counter to information provided by the Queensland Treasurer. Dr Koerner cited correspondence from the Treasurer's Office stating 'from 1 July 2010, the written down value of assets will no longer be used as the basis for setting or measuring returns for water and wastewater prices'; and

(c) bulk water prices developed by the QWC for pass through by retail entities have not been referred to the Authority for independent scrutiny.

In response to the comments by Dr Koerner, the Authority notes that:

(a) the Ministerial Direction requires the Authority to adopt the RAB as advised by the (then) Minister for Natural Resources, Mines and Energy and Minister for Trade. Under the QCA Act the Authority must comply with a direction;

(b) the apportionment of the advised RAB values to water and wastewater assets using their written down values complies with the price monitoring framework approved by the Premier and Treasurer under the Direction (item (i)) – see section 3.5; and

(c) the Direction prescribes that bulk water prices be passed through to customers in full (item (c)) and these prices have not been reviewed by the Authority. The bulk water component of average retail prices remains clearly identified in the Authority's analysis.

Residential Bills

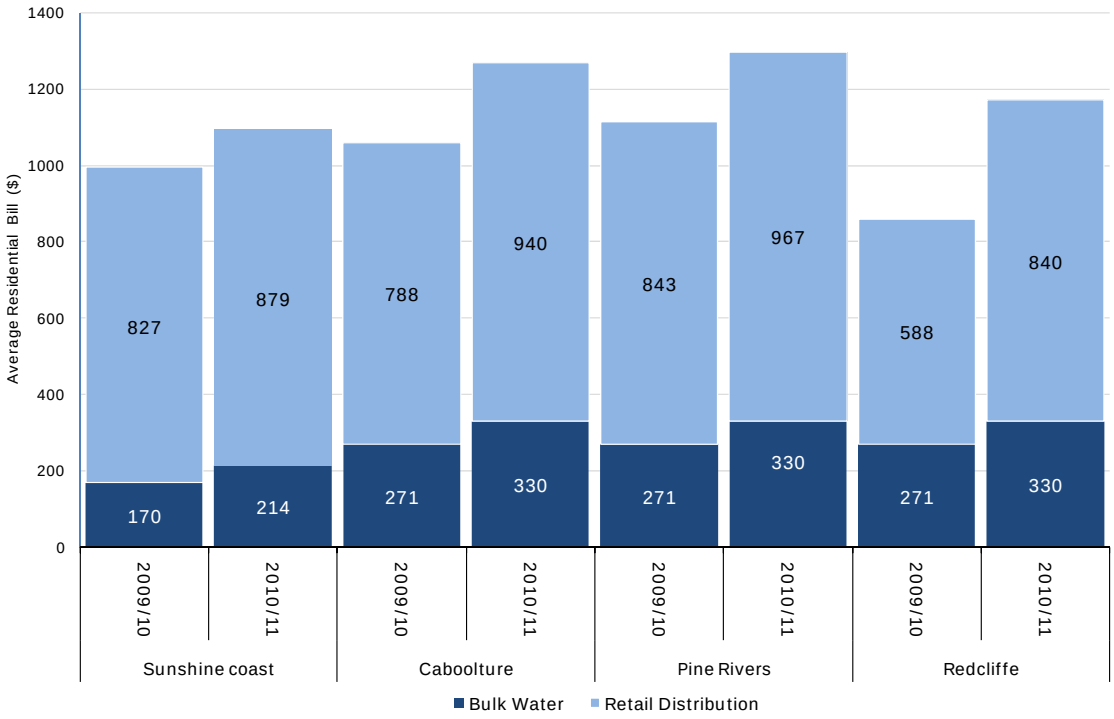
Total residential bills for household water and wastewater services increased in all council areas within Unitywater's jurisdiction between 2009/10 and 2010/11 (Chart 3). Bill increases ranged from $96 in the Sunshine Coast to $311 in Redcliffe (after taking into account the subsidy provided by the Moreton Bay Regional Council).

The residential bills used in the Authority's analysis were estimated on the basis of usage of 200kl of water per year, as this is the basis adopted for national performance reporting (NWC 2010). As there is no national standard for wastewater, the analysis has been based on the approach adopted in each council area.

Bulk water accounts for a smaller proportion of residential bills than for average water prices as the residential bill includes water and wastewater, and wastewater has no bulk water component.

The Authority did not calculate a residential bill consistent with Authority estimates of efficient costs in 2010/11, as the Authority's assessment of costs in this review period has only been able to be undertaken on an aggregate basis, rather than by customer group as there is no alignment of costs with individual tariffs.

Chart 3: Total Residential Bills



Notes Based on metered usage of 200kL per annum and one pedestal. The retail/distribution component includes water and wastewater. The analysis did not take into account pensioner rebates.

3.4 Demand

The cost of providing water and wastewater services is affected by the quality and the quantity of the services provided.

For the purposes of the current review, the Authority has accepted the current standards of service. Details of those standards are addressed further below.

Estimates of demand for water and wastewater have a direct impact on the prudency and efficiency of operating and capital expenditure.

Draft Report

In its initial submission, Unitywater cited considerable information constraints which affected demand forecasts from 2010 through to 2014. Unitywater noted that the original budget was made prior to taking possession of council assets with only limited historic information upon which to base projections. Unitywater stated that demand forecasts represented Unitywater's best estimates at the time of budget preparation.

Unitywater also stated that there was uncertainty with these forecasts because of climate conditions and more significantly, from shifting community attitudes towards water. Unitywater noted that forecasting over the next one to three years will be difficult as the Moreton community exit a regime of severe restrictions to milder, permanent conservation measures, whilst the Sunshine Coast faces the introduction of permanent water conservation measures.

Unitywater stated that it would revise and improve its demand forecasts over the price monitoring period, as the business gains more operational experience and information and as demand becomes clearer under revised restriction and permanent conservation arrangements.

For the Draft Report, the Authority engaged Frontier to review the appropriateness of Unitywater's demand forecasts for water and wastewater activities from 1 July 2010. Frontier was required to determine whether the demand forecasts have been developed using appropriate forecasting methodologies and reflect reasonable data assumptions.

General Approach

Frontier reviewed the key drivers of demand which included population growth, dwelling demographics, dwelling growth, temperature, rainfall, prices and pricing structures.

Frontier considered that the relevance of each driver should be determined using a progressive selection process that takes into account the statistical significance of each variable.

Data Adequacy

The Authority noted in the Draft Report that it had requested data on past and forecast demand by deemed category in its information requirement for 2010/11. In particular, the Authority requested that a demand forecast for each tariff or tariff component be provided.

In undertaking its review, Frontier noted that SEQ water has recently undergone significant structural reform and, while such reform is expected to ultimately benefit water users, relevant historical data is not always available or has not been transferred from councils to the entities, making forecasting difficult.

Frontier noted that Unitywater was unable to provide any historical data or forecasts of demand for each tariff component as it was unable to obtain this historical data from the councils.

In the Draft Report, the Authority considered that it would be prudent for Unitywater to collect data on the demand corresponding to each component of prices, as this data is generated at any rate for billing purposes and would form a useful basis for future forecasts – and particularly when tariff structures are to be reviewed. This data will be expected in future years.

Further to this, Frontier noted that an independent review of demand for regulatory purposes typically requires a written description of the forecasting method, including the key issues addressed and assumptions adopted. Consistency between the demand estimates used for forecasting revenue and for capital planning should be documented, with any differences between the two approaches and values explained and made transparent.

Frontier stated that Unitywater's long term forecasting for planning is influenced by a number of factors including security, quality of supply and pressure. Frontier further noted that Unitywater adopts a number of different assumptions between short-term demand forecasting and long-term demand forecasting, the most important being that it assumes a higher per person per day consumption level for long-term forecasting than it does for short-term forecasting. Frontier noted that long term volume forecasts for residential water demand are based on the infrastructure planning assumption of 230 L/p/day in the SEQ Water Strategy.

The Authority found that Unitywater should document the method and approach undertaken in preparing its demand forecasts. Any differences between the forecasting approaches used for pricing and capital planning should be clearly identified and explained.

Residential Connections

Given the majority of Unitywater's revenue derives from residential usage, Frontier first assessed residential connections and growth, and then corresponding volumes.

Frontier used the growth in private dwellings from the PIFU's May 2010 forecasts to review residential connections. Frontier noted that PIFU lies within the Queensland Government's Office of Economic and Statistical Research (OESR) and that this unit provides transparent and rigorous analysis of population dynamics and forecasts based on statistical analysis to clients at all levels of government and in the private sector. PIFU provides the Government's official population forecasts.

Frontier noted that alternative (or complementary) forecasts could include those based on:

(a) historical data from the QWC (2008-2010). However, Frontier noted that this data is not consistent over time due to significant local council restructuring that occurred in 2008. In addition, the data is unaudited billing data and, as a result, may contain errors relating to billing and meter reading. As a result, while Frontier considered this historical data a relevant point of comparison with Unitywater's forecasts, Frontier preferred PIFU's forward-looking forecasts;

(b) the SEQ Regional Plan 2009-2031 (the Plan) which provides dwelling projections from 2006 to 2031. However, the Plan's projections are a policy target rather than an actual forecast, and are more aggregated than PIFU's. Therefore, Frontier preferred PIFU estimates; and

(c) the Water Grid Manager. The South East Queensland Market Rules require the Water Grid Manager to issue grid instructions to bulk suppliers that specify the volume of water to be made available at each bulk supply point. Under the system operating plan made under the *Water Act 2000*, grid instructions must be based on an approved operating strategy, which must detail how the WGM intends to supply water to meet the forecast

demands of each of its customers. The operating strategy was not available at the time of the Authority's assessment.

The Authority found that PIFU growth rates are the most reliable independent estimates of connections growth currently available.

Residential Connections – Unitywater Estimates

Table 3 outlines the estimate of residential water connections provided by Unitywater.

Table 3: Unitywater Water Connections – residential

	2010/2011	*2011/2012*	*2012/2013*
Moreton Bay	118,852	121,705	124,626
Sunshine Coast	119,161	121,544	123,975
Unitywater	**238,013**	**243,249**	**248,601**

Source Unitywater (2010) data template

Frontier compared Unitywater's growth in residential connections with PIFU 2010 dwellings growth and historical trends based on council data from the QWC. Table 4 refers. Frontier considered that Unitywater had forecast relatively low growth in connections over 2011-13 compared to estimates by PIFU.

Table 4: Unitywater annual residential growth rates (%)[33]

	QWC 2008-10 Connections	*Unitywater 2011-13 Connections*	*PIFU 2006-16 Dwellings*
Moreton Bay	2.3	2.4	2.8
Sunshine Coast	10.7	2.0	2.7

Source QWC historical data, Unitywater (2010) data template, PIFU (2010)

In the absence of historical data provided by Unitywater, Frontier recommended that growth rates based on PIFU forecasts of household connections are adopted (Table 5). Frontier noted that while these forecasts differ from the QWC historical trend data, Frontier was mindful that the historical trend was based on a relatively short time period of two years and may be less reliable given structural changes in local government areas.

In response to Frontier, Unitywater stated that it was somewhat preliminary to discount its existing methodology in preference for the PIFU growth rates and that further research should first be undertaken. However, as Unitywater was unable to provide any information about its existing method in deriving growth figures, Frontier was unable to assess Unitywater's approach.

In the Draft Report, the Authority accepted Frontier's approach and estimates in its review of capital and operating expenditure. As there was no historical data for 2010/11, Frontier could only review 2011/12 and 2012/13 forecasts (see Table 5).

[33] Growth rates are the annual average compound rates.

Table 5: Unitywater Water Connections (Amended) - residential

	2010/11	*2011/12*	*2012/13*
Moreton Bay	118,852	122,235	125,714
Sunshine Coast	119,162	122,371	125,669
Unitywater (Frontier)	238,013	244,607	251,383
Unitywater (Unitywater)	238,013	243,249	248,601
Difference	**0**	**1,358**	**2,782**

Source Frontier 2010

The Authority found that residential connections for water should be based on PIFU forecasts.

Water Volumes

Frontier noted that Unitywater had proposed the same growth rates for volumes across customer groups, but not across the two billing areas (see Table 6). Forecast total residential water demand is derived from average residential water usage per person per day, residential occupancy rates and connections (see Table 7).

Table 6: Unitywater assumptions regarding per person per day consumption (Litres)

	2008/2009	*2009/2010*	*2010/11*	*2011/12*	*2012/13*
Moreton Bay	-	-	166	166	176
Sunshine Coast	-	-	211	208	204

Source Unitywater (2010), Frontier (2010). Note No historical data provided by Unitywater.

Table 7: Unitywater Residential Water Demand (ML/year)

	2008/2009	*2009/2010*	*2010/11*	*2011/12*	*2012/13*
Moreton Bay	-	-	18,077	18,246	19,807
Sunshine Coast	-	-	19,432	19,660	19,767
Unitywater	-	-	**37,509**	**37,906**	**39,574**

Note Residential water demand (ML/year) = litres per person per day x residential occupancy rate x number of connections x 365 / 1,000,000.
Source Unitywater (2010)

In the Draft Report, the Authority noted that the assumptions regarding daily residential usage differ from the Target 200 (L/p/day) and the infrastructure planning assumption of 230 L/p/day in the SEQ Water Strategy.

The QWC advised that the SEQ Water Strategy assumptions are macro level regional forecasts designed to inform long term planning decisions and are not relevant to pricing decisions made by individual distributor-retailers. The QWC advised that it is questionable whether there is any correlation between these macro demand forecasts and hydrological assessments and localised

demand forecasts developed by retailers. QWC further advised that localised demand forecasts would be more relevant in assessing the impact of demand on the water distribution and sewerage networks.

Frontier noted that average SEQ water consumption in 2010 has been below 200 L/p/day. Frontier was unable to comment on the appropriateness of the assumed average use per person per day in 2010/11 given the lack of historical data provided by councils to the entities.

In the Draft Report, the Authority noted that the QWC subsequently provided 2009/10 data showing average residential use of 185 L/p/day across Unitywater's service area. The Authority noted that this figure is broadly consistent with Unitywater's assumptions as presented in Table 6 as it lies within the range of 166 L/p/day to 211 L/p/day.

Frontier noted that the rate at which customers respond to permanent water restrictions given the structural efficiencies now in place will be a key factor in water demand over the period.

Frontier expected to see a 'bounceback' for Moreton Bay as the region was previously subject to water restrictions. However, Frontier expected to see a decline for the Sunshine Coast because the region had not previously been subjected to water restrictions, but, as of December 2009, has had to abide by permanent water conservation measures. In further discussions with Frontier, Unitywater indicated that the consumption profile for Moreton Bay was based on the assumption that the drought would break in 2013 and there would be a 'bounceback' in consumption.

To more accurately reflect the timing of the 'bounceback', Frontier recommended revising Moreton Bay's residential L/p/day assumptions upwards in 2011/12 to reflect that SEQ is no longer in drought.

Frontier also noted that Unitywater had not applied price elasticity of demand estimates to volume forecasts. Frontier considered that elasticity estimates were relevant to Unitywater, as discretionary use will increase as restrictions remain relatively relaxed. As a result, customers will be more responsive to price increases, although the absolute price elasticity will remain quite low. Based on a number of studies of urban water use, Frontier noted a range of potential elasticity estimates from 0.05 to 0.51.[34]

However, Frontier noted that Unitywater's prices in 2011/12 and 2012/13 do not represent actual price paths and it is methodologically unsound to apply price elasticity estimates in the absence of actual proposed prices. The Authority notes the wide range of estimates for elasticity, and considers that an estimate relevant to SEQ should be developed by entities for projections of demand.

In response to Frontier, Unitywater noted that the prevalence of tourism in coastal areas made comparisons across regions problematic and that price elasticity is dampened by tourism as tourists are inelastic to water price signals. Unitywater also noted that price elasticity is only applicable to discretionary residential usage not base flow usage per capita.

In view of the above considerations, Frontier recommended Unitywater's forecast residential volumes only be amended to reflect the amended growth rates for connections and revised assumptions reflecting that the drought ended prior to that initially forecast. The amendments are shown in Table 8 below.

[34] A price elasticity of 0.05 means that for every 1% increase in price, demand falls by 0.05%.

Table 8: Unitywater Residential Water Demand (Amended) (ML/year)

	2008/2009	*2009/2010*	*2010/11*	*2011/12*	*2012/13*
Moreton Bay	-	-	18,077	19,430	19,980
Sunshine Coast	-	-	19,432	19,794	20,037
Unitywater (Frontier)	-	-	37,509	39,224	40,017
Unitywater (Unitywater)	-	-	37,509	37,906	39,574
Difference	-	-	**Nil**	**1318**	**443**

Source Frontier (2010)

The Authority accepted Frontier's residential water demand estimates for 2010/11. The Authority also considers that the tariff structure will be a significant determinant of demand. No changes in tariff structure were made in 2010/11 pending the development of approved pricing principles.

The Authority noted that Unitywater's estimates of residential water volumes are broadly confirmed by Frontier's analysis, with Frontier increasing volumes by 3.5% in 2011/12 and only 1.1% in 2012/13. The Authority considered that Frontier's approach represents the best available estimate of demand and therefore accepted Frontier's estimates in its review of capital and operating expenditure.

The Authority accepted Frontier's residential water demand estimates.

Wastewater

Unitywater's estimates of residential wastewater connections are shown in Table 9 below.

Table 9: Unitywater Wastewater Connections – residential

	2010/11	*2011/12*	*2012/13*
Moreton Bay	118,387	121,228	124,137
Sunshine Coast	124,629	127,121	129,664
Unitywater	**243,016**	**248,349**	**253,801**

Source Unitywater (2010)

In line with the approach used in its analysis of residential water usage, Frontier adjusted residential wastewater connection forecasts in 2010/11 to reflect the PIFU growth forecasts used with water connections (Table 10).

Frontier noted that residential and commercial wastewater volumes were not provided as the associated charges are not volumetrically based.

Frontier's adjustments resulted in an increase in wastewater connections of 0.6% for 2011/12 and 1.1% in 2012/13. Frontier recommended that 2010/11 connection numbers remain unchanged.

Table 10: Unitywater wastewater connections Amended – residential

	2010/11	*2011/12*	*2012/13*
Moreton Bay	118,387	121,756	125,222
Sunshine Coast	124,629	127,987	131,435
Unitywater (Frontier)	243,016	249,743	256,657
Unitywater (Unitywater)	243,016	248,349	253,801
Difference	**-**	**1,394**	**2,856**

Source Frontier (2010)

The Authority accepted Frontier's residential wastewater demand estimates.

Non-residential and Trade Waste

Frontier noted that Unitywater applied residential growth rates to both non-residential water and wastewater customers. In the absence of more robust information, Frontier adopted the same approach as Unitywater, as Frontier had no basis upon which to make an amendment.

Frontier noted that Unitywater did not provide trade waste data. Frontier recommended that Unitywater collect volumetric trade waste data.

Recycled Water

Frontier noted that Unitywater did not provide data on recycled water volumes.

In the absence of historical data or alternative sources of data, Frontier was unable to provide alternative forecasts to those proposed by Unitywater.

The Authority accepted Unitywater's forecasts but requires Unitywater to develop more specific short-term forecasts for trade waste customers and recycled water for future years.

Draft Summary

Demand estimates are an essential component of economic regulation. The more reliable the demand estimates, the more informed will be the choices businesses can make about expenditure and prices. It is therefore important that demand forecasts represent the best possible assessment of future consumption given the available information.

The Authority acknowledged that the structural change in the SEQ water sector has led to a number of legacy issues, particularly regarding the transfer of data from councils. This was evident as Unitywater were not able to provide historic demand data for councils.

The Authority adjusted Unitywater's residential connections for water and wastewater and residential volumes to reflect PIFU forecasts. Nonetheless, the Authority noted that these (revised) estimates broadly confirm Unitywater's estimates for 2010/11.

The Authority considered that, prior to the next price monitoring period, Unitywater should document its approach to forecasting demand for all purposes, and establish procedures and protocols for the collection and collation of data, including:

(a) connections for residential and non residential water users;

(b) connections for wastewater customers (residential, non-residential, recycled water customers and trade waste customers); and

(c) volumetric consumption for residential and non-residential customers for potable water, recycled water and trade waste.

The Authority also considered that Unitywater should also take into account the response of consumers to increasing prices (that is, estimate the elasticity of demand) when estimating future consumption.

Stakeholder Submissions on the Draft Report

Dr Koerner submitted that the PIFU forecasts are not independent as they are developed by local governments in conjunction with the Queensland Government's OESR. Dr Koerner stated that the PIFU forecasts are too simplistic as they fail to take account of factors such as immigration policy, natural disasters, climate change, household and national debt levels and monetary policy.

In general, Unitywater agreed with the Authority on the key drivers of demand and accepted the use of PIFU forecasts and the Authority's water volume per person per day forecasts. However, Unitywater reserved its right to review its demand forecasts in the light of revisions to its demand forecasting methodology and take account of new information.

Unitywater advised that it is giving consideration to the Authority's suggestions to develop more specific short-term connection and consumption forecasts for potable water, recycled water and trade waste – but noted that metering trade waste is probably some years away.

Unitywater submitted that determining price elasticity of demand estimates is difficult in Unitywater's case as one region is encountering lighter water restrictions but having a subsidy removed, whereas the other region is entering water restrictions for the first time during a period of increasing bulk water costs.

Unitywater noted that its forecast capital and operating expenditure projects and programs were built to a lower demand forecast than accepted by the Authority in the Draft Report. Unitywater noted that the Authority had not scaled up the projects or programs to reflect its higher demand forecasts.

Authority's Analysis

In regard to PIFU's forecasts, the Authority notes that it engaged Frontier to conduct an independent review of the entities' demand forecasts for the Authority. Frontier recommended that PIFU estimates be adopted as it provided the most reliable, independent estimate of connections growth currently available. Frontier noted that there are publicly available detailed methodology papers explaining the development of the PIFU forecasts. These documents are available on the PIFU website.

Notwithstanding the above, the Authority notes that demand forecasting for water is being progressed by the entities, QWC, the Water Grid Manager and the Authority.

The Authority notes Unitywater's comments in relation to price elasticity, and considers that restrictions will need to be taken into account when determining the response of consumers to increasing prices when estimating future consumption.

In response to Unitywater's comment that the Authority did not scale up projects or programs to reflect its higher demand forecasts, the Authority notes that in assessing the prudency of the sampled capital projects, the consultant assessed each project individually against planning documents. In other words, the consultant accepted the demand forecasts used by Unitywater. The Authority considers that this is not unreasonable on this occasion.

However, as noted in the Draft Report, the Authority considers that Unitywater should document the method and approach undertaken in preparing its demand forecasts. Any differences between the forecasting approaches used for pricing, capital planning and operating expenditures should be clearly identified and explained. Once provided, the Authority would be able to suggest any adjustments in relation to ensuring consistency between short term demand forecasts for pricing and operating costs and those for capital planning.

Further, the Authority has used its revised demand forecasts to adjust certain operating expenditures with a clear correlation with demand (bulk water, electricity and chemicals). For other operating categories (e.g. labour and corporate costs) the Authority did not adjust for demand as these costs can be independent of demand to some extent. This cost information was not provided in a manner that would allow for such an adjustment.

In essence, the Authority supports Unitywater's view that forecast expenditure should be consistent with forecast demand. For 2011/12, Unitywater is invited to demonstrate to the Authority that this is the case, and to provide this information in a manner that would allow expenditure forecasts to be appropriately adjusted for any changes to demand.

The Authority proposes no changes to its draft findings on demand.

3.5 The Initial Regulatory Asset Base (RAB)

In March 2010, the Minister for Natural Resources, Mines and Energy and the Minister for Trade advised the Authority of the initial RAB as at 1 July 2008 for interim price monitoring. The Minister advised the RABs for each entity as well as the RABs for each participating council, and other adjustments.

For the Draft Report, the Authority engaged SKM to review the method used by the entities to apportion the advised RAB to each deemed category and its implementation.

Draft Report

In its initial submission, Unitywater noted that it had allocated the advised RAB of $2.03 billion to each asset on the basis of their written down values (see Table 11).

Table 11: Unitywater RAB as at 1 July 2008 ($m)

	Water	***Wastewater***	***RAB***
Moreton Bay Regional Council	481.07	628.43	1,109.50
Sunshine Coast Regional Council	368.24	551.46	919.70
Unitywater	**849.31**	**1, 179.89**	**2,029.20**

Dr Koerner made a number of initial submissions to the Authority. In summary, Dr. Koerner contended that there were deficiencies in the methodology used to determine the written down replacement values of Maroochy Water Services' non-current distribution assets. In particular, Dr Koerner argues that asset values were excessively inflated following roll-forward between 2006/07 and 2007/08.

Dr Koerner argued that these values have then been carried forward into the written down replacement values of Sunshine Coast Water, in turn, influencing KPMG's recommendation for Unitywater's RAB which was calculated using a discounted cash flow methodology. Public submissions along similar lines were received from Ms A West, Mr B Raison and Ms S Adams. Ms West, Mr Raison and Ms Adams argued that the methodology used to value non-current assets was not subject to effective prices oversight and is inconsistent with National Water Initiative Pricing Principles for the recovery of capital expenditure.

In the Draft Report, the Authority noted (following SKM advice) that the total RAB value in Unitywater's submission reconciled with the Ministerially advised RAB.

In the Draft Report, both Unitywater and SKM identified a number of asset-related and other information gaps in Unitywater's submission. In particular, not all audited financial statements were available at the time of SKM's review. These information gaps reflect data shortcomings arising from the transition from the councils. SKM stated, therefore, that the accuracy of the apportionment of Unitywater's initial RAB to existing assets cannot be verified.

In response to the other public submissions, the Authority noted that these issues relate to the establishment of the initial regulated asset base as determined by the Minister. The Authority's Ministerial direction stipulates that "council distribution/retail asset valuations, establishing the initial regulated asset base at 1 July 2008, are as advised by the (then) Minister for Natural Resources, Mines and Energy and Minister for Trade". The Authority must accept the initial regulated asset base as determined by the Minister.

In the Draft Report, the Authority considered that due to information gaps, the accuracy of apportionment of Unitywater's initial RAB could not be verified.

Stakeholder Submissions on the Draft Report

Unitywater confirmed the Authority's and SKM's view that information gaps remain in relation to the allocation of the initial RAB. Unitywater noted that the process (to finalise the allocation of the initial RAB) may not be complete in time for the 2011/12 interim price monitoring submission.

Unitywater advised that (as part of a separate process under the participation agreement with its shareholding councils) it has submitted the independently reviewed RAB assessments to the participating councils. Unitywater advised that the RAB assessment will be provided to the Minister for Energy and Water Utilities for final determination of the RAB once the participating councils have had an opportunity to comment on the independent assessment.

Dr Koerner stated that in the Draft Report, the Authority made assertions attributed to his initial submissions that were incomplete. Dr Koerner submitted that Maroochy Water Services asset values were inappropriately revalued in 2002/03, 2005/06 and 2006/07, in addition to the period just prior to its amalgamation into Sunshine Coast Water.

Dr Koerner requested that the Authority reconsider its decision to accept the Queensland Government's mandated initial RAB. In support of his request Dr Koerner submitted two 2002 benchmarking reports which compare the bulk water and water treatment (wholesale water), and

the distribution (retail water) business elements of Maroochy Water Services with like elements of Noosa, Caloundra and Caboolture Councils using 2000/01 financial and operating data.

Dr Koerner also submitted correspondence from the Queensland Ombudsman dated 16 November 2009. The Ombudsman noted that the Ministers for the Authority previously decided not to refer a price investigation to the Authority on the grounds that the Maroochy Water Services retail operations and charging would be reformed and monitored as part of institutional reforms to water supply in South East Queensland. The Ombudsman's preliminary view was that there was no value in council performing an optimisation study at that time.

Ms West noted that the Draft Report did not adequately address her concerns (in her initial submission) regarding the establishment of the initial RAB and whether the methodology complies with NWI Regulatory Pricing Principles.

Ms West noted that transparency with regards to the derivation of the initial RAB is essential to satisfy the terms of reference of the Draft Report to provide transparent information to customers about the costs and other factors underlying the annual increases in water and wastewater prices. Dr Koerner also commented that transparency with respect to the derivation of the initial RAB was required; noting also that the KPMG discounted cash flow approach is not publicly available.

Authority's Analysis

The Authority notes that due to information gaps, Unitywater's initial RAB is still interim. The Authority will take account of further information as and when it is provided.

In relation to Dr Koerner and Ms West's submissions relating to the initial RAB, and as previously noted in relation to average prices, the Authority's Ministerial Direction requires that the Authority accept the RAB valuation as at 1 July 2008 as advised by the (then) Minister for Natural Resources, Mines and Energy and Minister for Trade. Under the QCA Act, the Authority must comply with a direction.

As to transparency, the Authority notes that it has published the advised RAB values and its roll-forward calculations are clearly identified. As to the derivation of the initial RAB value, a KPMG report *Valuation of SEQ Councils' Bulk Water Assets Approach and Process* (December 2007) is available from the Queensland Treasury website.

The Authority proposes no change to its Draft Report finding on the initial RAB.

The Authority considers that due to information gaps, the accuracy of apportionment of Unitywater's initial RAB cannot be verified at this stage.

3.6 Capital Expenditure

Capital Expenditure from 1 July 2008 to 30 June 2010

The Ministerial Direction requires the Authority to accept as prudent and efficient, actual capital expenditure (excluding establishment costs) as included in council's financial accounts from 1 July 2008 to 30 June 2010; allowable establishment costs as advised by the (then) Minister for Natural Resources, Mines and Energy and the Minister for Trade; and contributed, donated and gifted assets and capital expenditure funded through cash contributions from 1 July 2008 to 30 June 2010.

Draft Report

In its initial submission, Unitywater stated that capital expenditure for 2008/09 was $81 million and $261 million in 2009/10.

Unitywater stated that capital expenditure for 2008/09 was based on actual capital expenditure. In this case the data had been audited. Audited actual capital expenditure figures were unavailable for 2009/2010 at the time Unitywater were preparing its submission. As a result, Unitywater forecast capital expenditure for financial year 2010 based on third quarter budget estimates. The Authority noted that these information gaps reflect data shortcomings arising from the transition from the councils.

Unitywater noted that the costs associated with the establishment of the distributor-retailer authorities under the water reform models are to be carried forward as part of the RAB provided they meet eligible purpose criteria and verification requirements. Unitywater did not include establishment costs in its initial submission to the Authority as these were not finalised at the time. Unitywater noted that establishment costs will be integrated into the final RAB for 1 July 2010.

Unitywater also identified data problems which made it difficult to correctly classify historical capital expenditure into an asset type and cost driver category (e.g. growth, compliance, renewals etc). Unitywater advised that it expects that this issue will be rectified when audited actual data is received.

For the Draft Report, the Authority engaged SKM to verify Unitywater's capital expenditure from 1 July 2008 to 30 June 2010. SKM were asked to compare actual capital costs for 2008/09 and 2009/10 to council's financial accounts provided by Unitywater.

After taking into account this advice, the Authority noted that 2009/10 capital expenditure cannot be verified against councils' financial accounts as supporting information based on audited accounts is yet to be provided by the entities. Further, allowable establishment costs had not been advised by the (then) Minister for Natural Resources, Mines and Energy and Minister for Trade.

The Authority adjusted Unitywater's information return to include contributed, donated and gifted assets (contributed assets) in total capital expenditure figures for 2008/09 and 2009/10.

In the Draft Report, the Authority noted that it would review Unitywater's past capital expenditure once audited information is available and establishment costs have been approved by the Minister. As a result of these information gaps, the initial RAB as at 1 July 2010 should be viewed as an interim RAB.

Stakeholder Submissions on the Draft Report

Unitywater submitted that the Authority's analysis in its Draft Report had not reflected its submission, which included contributed, donated and gifted assets in capital expenditure for 2008/09 and 2009/10.

Authority's Analysis

The Authority recognises that Unitywater's written submission (Table 22) included contributed, donated and gifted assets in capital expenditure. The Authority has adjusted the capital expenditure data (in the information template) to also include these assets.

Subsequently, on 17 February 2011, the (then) Minister for Natural Resources, Mines and Energy and Minister for Trade advised the Authority of Unitywater's approved establishment

costs. These costs totalled $13.13 million up to 30 June 2010. This was comprised of $7.23 million in directly incurred costs and $5.90 million in CoMSEQ costs.

The Ministerial Direction requires allowable establishment costs to be accepted as prudent and efficient and to be rolled into the RAB at 1 July 2010 and recovered over an appropriate period.

The Authority subsequently sought and received clarification from the QWC and Unitywater that the approved costs were not already included in councils' financial accounts for capital expenditure for 2008/09 and 2009/10, to ensure there was no double counting of these costs.

Unitywater has proposed an asset life for establishment costs of 45.5 years to reflect the weighted average remaining life of its assets as at 30 June 2010.

The Authority notes that this is a longer asset life than the 5-8 year period nominated by the Queensland Government to avoid unnecessary price shocks to consumers. The Authority has not reviewed the appropriateness of this approach. However, the Authority notes that a longer period will spread the recovery over a longer period and will therefore further mitigate any price shocks. Therefore, for the purposes of price monitoring, the Authority has accepted Unitywater's asset life for establishment costs in calculating Unitywater's MAR, but will review this further and other asset lives for deterministic regulation.

The Authority has therefore adjusted Unitywater's estimate of 2009/10 capital expenditure to include establishment costs (Tables 12 and 13 refer).

Table 12: Unitywater Establishment Costs ($m)

	2009/10
Unitywater proposed establishment costs	0
Minister's approved establishment costs	13.13
Difference	13.13

Table 13: Capital expenditure 2008/09 and 2009/10 ($m)

	2008/09	***2009/10***
Capital expenditure (Unitywater)	81.4	273.6
Capital expenditure (including contributed assets* and establishment costs)	129.9	305.5
Difference	**48.5**	**31.9**

*Note No adjustments have been made to 2008/09 capital expenditure since the Draft Report.. *Includes contributed, donated and gifted assets.*

The Authority has revised Unitywater's capital expenditure to reflect the establishment costs approved by the Minister. The Authority will further review past capital expenditure claimed by Unitywater once audited information is available.

Capital Expenditure from 1 July 2010

The Ministerial Direction requires the Authority to review the prudency and efficiency of capital expenditure for inclusion in the RAB from 1 July 2010. Only expenditure found to be both prudent and efficient can be included in the RAB.

The Authority requires capital expenditure from 1 July 2010 to be included in the RAB only when it is commissioned, and contributes productivity capacity to the system.

Draft Report

In its initial submission, Unitywater proposed a capital works program (excluding contributed assets) of approximately $698 million over 3 years of which water accounted for approximately $130 million and wastewater accounted for approximately $568 million.[35]

Unitywater presented its forecast capital expenditure figures on an estimated commissioned basis. Unitywater assumed that capital expenditure incurred during a financial year will represent 65% completion of each asset project by year end. The assumption is based on historic trends of the two councils.

On this basis, Unitywater's forecast of $257 million of capital expenditure to be commissioned in 2010/11 is derived from $396 million of capital expenditure to be incurred in 2010/11.

(a) Proposed Capital Expenditure

In its initial submission, Unitywater assigned the increase in capital works to the following cost drivers: growth, renewal, improvement and compliance (Table 14).

Table 14: Forecast Capital Expenditure Water and Wastewater ($m)

	2010/11	*2011/12*	*2012/13*	*Total*
Growth	148.1	164.7	159.5	472.3
Renewal	24.2	29.7	23.7	77.6
Improvement	75.0	23.8	9.9	108.7
Compliance	9.8	18.8	10.7	39.3
Total	**257.1**	**237.0**	**203.9**	**698.0**
Comprising				
Water	**38.3**	**52.0**	**39.6**	**129.9**
Wastewater	**218.8**	**185.0**	**164.4**	**568.1**

Note Capital expenditure is presented here on an as commissioned' basis. Commissioned assets are able to contribute productive capacity to the system. Unitywater assumed that 65% of planned capital expenditure will be

[35] All figures in this section are in nominal terms unless otherwise stated.

commissioned in the reporting year. 35% is therefore carried over to the following year. Source Unitywater (2010) data template.

The water and wastewater costs relate to each of Unitywater's two geographic areas as detailed in Tables 15 and 16.

Table 15: Capital Expenditure for Water by Geographic Area ($m)

	2010/11	*2011/12*	*2012/13*	*Total*
Moreton Bay	19.3	20.8	13.9	54.0
Sunshine Coast	19.0	31.2	25.7	75.9
Total	**38.3**	**52.0**	**39.6**	**129.9**

Source Unitywater (2010) data template

Table 16: Capital Expenditure for Wastewater by Geographic Area ($m)

	2010/11	*2011/12*	*2012/13*	*Total*
Moreton Bay	179.3	88.5	36.6	304.3
Sunshine Coast	39.5	96.5	127.8	263.8
Total	**218.8**	**185.0**	**164.4**	**568.1**

Source Unitywater (2010) data template

In its submission, Unitywater noted that the majority of the works across the region will be in wastewater transport and treatment assets.

(b) Service Standards

In its submission, Unitywater indicated that it continues to operate under the service standards developed by the Sunshine Coast and Moreton Bay Regional councils prior to amalgamation.

Unitywater has commenced developing common service standards across its operating area and expects that these service standards will commence from 1 July 2011.

(c) Capital Planning

Unitywater has developed separate capital planning processes for capital expenditure related to each of growth, renewals and compliance. More detail on the capital planning process employed by Unitywater can be found in Unitywater's submission.

Unitywater has also developed a prioritisation model to assess and rank prospective capital projects and programs across the region. Under the model, projects are assessed against the following weighted criteria:

(a) public health;

(b) workplace health and safety;

(c) environmental impacts;

(d) financial considerations;

(e) asset condition;

(f) legislative/legal/corporate requirements; and

(g) social considerations.

Unitywater has also taken measures to improve its governance arrangements for reviewing and delivering its capital expenditure program by establishing a sub-committee of the Board to monitor and review Unitywater's capital expenditure program.

In subsequent information provided to the Authority, Unitywater advised that it expects to defer approximately $50 million in expenditure in 2010/11. While some of this expenditure may be the result of projects not being required, Unitywater submitted that the majority of this expenditure will be a prudent deferral of expenditure based on Unitywater having more detailed information or understanding of the project circumstances arising from their investigations.

For the Draft Report, the Authority engaged SKM to review the adequacy of data provided by Unitywater and the prudency and efficiency of Unitywater's proposed capital expenditure, within the framework outlined in the Authority's *Final Report: SEQ Interim Price Monitoring Framework*. In accordance with this framework, SKM reviewed the cost drivers of the capital expenditure in detail and the need for, scope and standard of the works when assessing the prudency and efficiency of the proposed capital works.

(a) Adequacy of Capital Expenditure Data

As noted previously, Unitywater excluded contributed, donated and gifted assets from its forecast capital expenditure. The Authority noted that total capital expenditure should include contributed, donated and gifted assets and those funded by cash contributions (see Table 17). Therefore, contributed, donated and gifted assets have been added back in to Unitywater's estimates in the information template.

Table 17: Revised Capital Expenditure Profile including contributed assets* ($m)

	2010/2011	*2011/2012*	*2012/13*	*Total*
Capex (Unitywater)	257.1	237.0	203.9	698.0
Capex (Unitywater + contributed assets*)	287.9	262.8	230.0	780.6
Difference	**30.8**	**25.8**	**26.0**	**82.6**

*Source Unitywater (2010) and QCA calculations. * includes contributed, donated and gifted assets.*

In the Draft Report, the Authority noted SKM's finding that Unitywater's use of CPI to index capital expenditure is a conservative index and acknowledged that there are options for the indexing of asset values ranging from a broad-based inflation index such as CPI to a specific industry input index or combination of input indices.

The Authority noted that industry input indices should provide a more accurate estimate of replacement cost-based asset values and could provide a reasonable substitute for a full revaluation. However, such indices may be subject to significant step changes over short periods, and would be expected to rise and fall in line with market conditions. This could lead to significant price variations within and between regulatory periods.

Until a more appropriate index could be established which is particularly relevant to the entities, the Authority considered that Unitywater's use of CPI to index capital expenditure was reasonable and notes that any variations subsequently found between the forecast amount and the actual amount can be taken into account at the next price monitoring review.

The Authority noted that a project list had been provided for future capital projects. The Authority noted that this is a highly useful and comprehensive tool which links each project to the activity (e.g. water, wastewater), geographical area, project drivers, asset class and timing of expenditure. This single spreadsheet allows for a robust disaggregation of project costs into the Authority's selected categories. The use of Unitywater's spreadsheets allows for a highly disaggregated system of cost recording. SKM recommend the continued use of this model (or similar versions of this model).

(b) Service Standards

The Authority did not review service standards as part of this price monitoring review. The Authority accepted the service standards provided by the entities so long as they had been approved by other relevant agencies.

As noted above, Unitywater continues to operate under the pre-existing service standards that Moreton Bay and Sunshine Coast councils' operated under. These service standards had previously gained approval from the Department of Environment and Resource Management.

There is variation in customer service standards across Unitywater's operational area. SKM noted that this is expected to continue until the release of a water and wastewater customer code which will provide minimum guaranteed service standards for the customers of the three distributor-retailers, under the *South East Queensland Water (Distribution and Retail Restructuring) Act 2009*.

Unitywater has commenced development of common service standards across its service area. Unitywater expects that the common service standard will apply from 1 July 2011 and will be reflected in Unitywater's Netserv Plan.

(c) Capital Planning

SKM undertook a high level review of Unitywater's general policies and procedures for scoping and approving capital expenditure. In particular, SKM compared Unitywater's processes against good industry practice.

SKM concluded that Unitywater's processes and procedures accord with good industry practice. SKM does however, recommend that Unitywater continues to develop its governance structures to better underpin its processes for approving capital expenditure.

(d) Prudency and Efficiency

For capital expenditure to be included in the RAB, expenditure is required to be prudent (there is a demonstrated need for the expenditure) and efficient (it is cost-effective in its scope and standard, using market benchmarks).

The Authority noted that Unitywater expect to prudently defer approximately $50 million in capital expenditure in 2010/11.

The Authority noted in the Draft Report that it supports ongoing review by Unitywater of its capital expenditure program and has included the identified deferrals in its review of capital expenditure.

In assessing the cost efficiency of the sampled projects, SKM used published unit rates from Rawlinsons, available unit rates from SEQ water entities and other water utilities, previous experience on similar projects and quotes from various suppliers. Some of these unit rates are confidential and are therefore not published in this report. Unit rates identified or calculated from the supporting data provided by Unitywater were compared to a range of rates from the above sources. If the rate was within 30% of the benchmark identified for a similar type, length and diameter or pipe, or similar type of project, SKM considered the expenditure to be cost efficient.

SKM noted that there are a number of factors that can significantly affect project costs including the project location (e.g. highly urbanised areas are significantly more expensive than greenfield sites), material types (e.g. different pipeline materials such as PVC and MICL pipe), the fittings and fixtures required (e.g. many connections and valves versus only a few), and geotechnical conditions (e.g. rock versus sandy soils).

Having regard to the above sources of variation, and the time available for this review, SKM considered that variation above 30% required further detailed evaluation. The Authority notes that contingency allowances can vary from 5 to 40% depending on the stage of a project's planning (Evans and Peck, 2009).

The Authority accepted SKM's approach for this first review but notes that it will be seeking to refine this range over the interim period wherever possible. The Authority also noted that in previous reviews of infrastructure charges, 25% was recommended to the Authority by another consultant.

A sample of 13 projects was selected for the detailed review of prudency and efficiency. Ten of these projects were selected as they are the highest cost water and wastewater projects for each geographic area. In addition a median value project was selected for each geographic area to allow greater representation of the lower value projects, which are less likely to have been reviewed in detail in the past. An additional program, the 'Heavy Vehicle Fleet Replacement program' was also selected due to the magnitude of the proposed costs.

The sample captured in excess of 10% of capital expenditure by value in each activity and geographic area over the forecast period and includes two lower value projects. The sample also captures 33% of total capital expenditure over the three year interim period, however only 11% of total capital expenditure in 2010/11 was captured. SKM considered that the sample size chosen was reasonably representative of Unitywater's capital works program.

The list of capital expenditure programs reviewed in detail is shown in Table 18.

Table 18: Capital expenditure programs reviewed ($m)

Project	*Activity*	*2010/11*	*Total 2010/11-2012/13*
Nambour STP	Wastewater Treatment	0	52.7
South Caboolture Wastewater Treatment Plant Upgrade and Augmentation (Stage 2)	Wastewater Treatment	38.1	42.5
Noosa STP	Wastewater Treatment	13.7	37.1
Kawana STP	Wastewater Treatment	0	31.5
Burpengary Wastewater Treatment Plant Stage 2 Augmentation	Wastewater Treatment	22.4	22.4
Moreton Bay Water/Sunshine Coast Water - Heavy Vehicle Fleet Replacement	Other	6.2	9.5
600mm water main - P001	Water Transport	0.2	7.6
Water Meter Replacement- 20mm Meters	Water Metering	1.6	5.1
Water Supply Service Reservoir, Boundary Road Reservoir No 3 (24ML)	Water Storage	0.5	5.0
Water Supply Facilities - Switchboard Replacement Program	Water Project	0.7	4.7
Water Main WM-NLC (500mm x 2800m) Off take and supply main from Northern Interconnected Pipeline.	Water Transport	2.0	4.3
WPS Pump Replacement	Water	0.08	0.2
Water Main Hakae Ct / Areca Ct, Narangba (150mm x 114m)	Water	0	0.1

Source Unitywater supporting information.

SKM found that most, but not all, of Unitywater's forecast capital expenditure in 2010/11 was prudent and efficient. For much of the expenditure in 2011/12 and 2012/13, insufficient data (and the early stage of planning) meant that the consultants were unable to come to a conclusion on prudency and efficiency. The consultant's conclusions and the Authority's response with respect to the prudency and efficiency of the proposed capital expenditure programs are detailed below on a project by project basis.

Unitywater's comments on particular projects following the release of the Draft Report have also been addressed where relevant.

(i) Nambour Sewage Treatment Plant

Unitywater proposed capital expenditure of approximately $53 million over the interim period to upgrade the Nambour STP (Table 19).

Table 19: Nambour Sewage Treatment Plant ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
Nambour Sewage Treatment Plant	0	19.5	33.2	52.7

Source SKM (2010)

Unitywater claimed that the Nambour STP is operating at or close to capacity and occasionally operating in breach of its current licence with respect to discharge standards. SKM confirmed that the proposed upgrade is required to service growth and improve compliance with discharge standards. SKM found that overall, the project appears to be efficient and that the costs for the works appear to be consistent with prevailing market conditions.

SKM were of the view that the project could be delivered in the timeframe specified by Unitywater.

SKM found the proposed capital expenditure to be prudent and efficient.

The Authority accepted SKM's findings that the capital expenditure proposed for this project is prudent and efficient.

(ii) South Caboolture Sewage Treatment Plant Upgrade and Augmentation (Stage 2)

Unitywater proposed capital expenditure of approximately $42.5 million over the interim period to upgrade and augment the South Caboolture STP.

Unitywater claimed that the project is required to meet population growth and expected future increases in demand. Once finalised, the works are expected to approximately double the design capacity of the plant. The project expenditure profile is outlined in Table 20 below.

Table 20: South Caboolture STP Upgrade and Augmentation ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
South Caboolture WWTP Upgrade	38.1	3.9	0.4	42.5

Source SKM (2010)

SKM confirmed that the existing plant is approaching its maximum capacity and there is a demonstrated need for the facility to be upgraded to meet expected population growth and load increases. SKM confirmed that the project is efficient, finding that the project costs are reasonable.

SKM found that the project is well advanced and indications are that it would be practicable to construct the plant in 2010-11.

In undertaking its review, SKM noted that Unitywater did not provide supporting documentation in relation to standards for technical, design and construction requirements and the proposed program of works. SKM recommend that Unitywater make this information available and that this information be given further consideration.

SKM found the proposed capital expenditure to be prudent and efficient.

In the Draft Report, the Authority accepted SKM's finding that the $42.5 million in capital expenditure proposed by Unitywater to upgrade and augment the South Caboolture STP is prudent and efficient.

In its submission to the Authority's Draft Report, Unitywater provided technical, design and construction requirement documentation and the proposed program of work for the South Caboolture STP upgrade project.

The Authority re-engaged SKM to review the technical, design and construction requirement documentation and the proposed program of work for the South Caboolture STP upgrade project. SKM recommended that the project be retained as prudent and efficient and it be included in the RAB when commissioned in 2011/12. SKM therefore recommended amending the expenditure profile to reflect project commissioning.

The Authority has accepted SKM's recommendation and amended the capital expenditure forecasts as outlined in Table 21 below.

Table 21: Revised expenditure profile – South Caboolture STP upgrade ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
South Caboolture STP upgrade	0	45.6	0.4	46.0

Note 2010/11 expenditure has been rolled forward at the WACC to form the as commissioned estimate for 2011/12.

(iii) Noosa Sewage Treatment Plant Stage 2 Augmentation

Unitywater proposed capital expenditure of approximately $37 million over the interim period to augment Noosa's STP. Unitywater submitted that the project is being undertaken to service growth within the catchment as well as to improve water quality in Burgess Creek and to comply with EPA regulations.

The project expenditure profile as proposed by Unitywater in its initial submission is outlined in Table 22 below.

Table 22: Proposed expenditure profile - Noosa Sewage Treatment Plant ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
Noosa Sewage Treatment Plant	13.7	23.4	0	37.1

Source SKM (2010)

SKM found the proposed capital expenditure to be prudent and efficient for the 2010/11 financial year only as there was insufficient information to determine whether the project is prudent and efficient beyond 2010/11. For example, the works program and delivery method for this project had not been finalised at the time of SKM's review.

While noting that the availability of information is consistent with the stage of the project, SKM recommended that the project budget for 2011/12 be removed for price monitoring purposes pending a review of additional information such as the works program and delivery method once it becomes available.

SKM confirmed that based on available information, there was a demonstrated need for the project. SKM advised that the proposed project costs appear to be reasonable but there was insufficient information to determine whether the project is efficient in accordance with the Authority's Monitoring Framework.

In the Draft Report, the Authority accepted SKM's findings that the expenditure proposed for 2010/11 remain in the budget. The Authority advised that it will review the budget for 2011/12 and beyond further before making a decision on the prudency and efficiency of these costs (see Table 23).

Table 23: Revised Expenditure Profile - Noosa Sewage Treatment Plant ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
Noosa Sewage Treatment Plant	13.7	Requires further review	0	13.7

Source SKM (2010)

(iv) Kawana Sewage Treatment Plant Upgrade

Unitywater proposed capital expenditure of approximately $32 million over the interim period to upgrade the Kawana STP. Unitywater advised that the project was in its preliminary stages with the final planning report expected to be finalised late in 2010.

The project expenditure profile as proposed by Unitywater in its initial submission is outlined in Table 24 below.

Table 24: Proposed Expenditure Profile - Kawana Sewage Treatment Plant ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
Kawana Sewage Treatment Plant	0	11.6	19.9	31.5

Source SKM (2010)

SKM advised that it was too early to assess the efficiency of the capital expenditure as the project was still in the pre-planning stage at the time of SKM's review. While noting that the availability of information is consistent with the stage of the project, SKM recommended that the project budget for 2011/12 and 2012/13 be removed for price monitoring purposes pending a review of additional project information once it becomes available.

SKM confirmed that the project is required to service growth in the catchment and to ensure compliance with EPA discharge regulations.

In the Draft Report, the Authority accepted SKM's findings that the expenditure proposed for 2010/11 remains in the budget. The Authority noted that it will review the budget for 2011/12 and beyond further before making a decision on the prudency and efficiency of these costs (see Table 25).

Table 25: Revised Expenditure Profile - Kawana Sewage Treatment Plant ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
Kawana Sewage Treatment Plant	0	Requires further review	Requires further review	0

(v) Burpengary Sewage Treatment Plant Stage 2 Augmentation

Unitywater proposed capital expenditure of approximately $22.4 million over the interim period to augment the Burpengary STP.

The project is designed to increase the capacity of the plant in order to service expected future growth. Project plans also include provision for an effluent storage reservoir to manage effluent discharge and to ensure compliance with discharge regulations.

The project is largely complete with approximately $37 million in work already completed. The indicated budget is to finalise construction of the asset. The project expenditure profile as proposed by Unitywater in its initial submission is outlined in Table 26 below.

Table 26: Burpengary STP Stage 2 Augmentation ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
Burpengary STP Stage 2 augmentation	22.4	nil	nil	22.4

Source SKM (2010)

SKM found the proposed capital expenditure to be generally prudent and efficient. SKM confirmed that there is a need to upgrade the plant to increase capacity in order to meet future growth and to ensure compliance with discharge regulations.

With regards to efficiency, SKM deemed the project to be mostly efficient. Noting that the project is nearly complete, SKM's view is that it would appear to be reasonable to complete the remaining value of works in 2010/11. SKM noted that the cost and construction timeframe have exceeded those that were originally planned and recommended that the design process be reviewed with lessons learnt incorporated into future projects.

In the Draft Report, the Authority accepted SKM's findings that the capital expenditure proposed for this project is prudent and efficient. The Authority noted that it will review this project further in the 2011/12 price monitoring review.

SKM noted that a detailed project business case was not provided and, given that the project was almost complete, SKM's view was that this information should have been available.

(vi) Heavy Vehicle Fleet Replacement Program

Unitywater proposed $10 million in capital expenditure over the interim period to renew its heavy vehicle fleet. The program will renew older vehicles or those vehicles that have had a high level of utilisation relative to the age of the asset. Unitywater is currently gathering information on the condition and performance of its fleet and plant.

The program expenditure profile as proposed by Unitywater in its initial submission is outlined in Table 27 below.

Table 27: Proposed Expenditure Profile - Heavy Vehicle Replacement Program ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
Unitywater heavy vehicle replacement program	6.2	1.8	1.5	9.5

Source SKM (2010)

SKM found a demonstrated need for the project and noted that a logical procedure for determining the budget had been implemented. SKM advised also, that the project costs appeared reasonable.

At the time of SKM's review, Unitywater was reviewing its plant and fleet practices. In the Draft Report, the Authority noted that this review will consider asset ownership, condition and utilisation factors as well as Unitywater's operational requirements. Unitywater advised that this review will then underpin development of a fleet and procurement strategy.

SKM's review found the proposed capital expenditure to be prudent and efficient for the 2010/11 financial year only. There was insufficient information to determine whether the project is prudent and efficient beyond 2010/11. Due to a lack of information, SKM recommended that expenditure beyond 2010-11 be reviewed further once more information becomes available.

The Authority accepted SKM's findings and agreed that the expenditure proposed for 2010/11 remain in the budget. The Authority noted that it will review the budget for 2011/12 and beyond further once more information becomes available before making a decision on the prudency and efficiency of these costs (see Table 28).

Table 28: Revised Expenditure Profile - Heavy Vehicle Replacement Program ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
Unitywater heavy vehicle replacement program	6.2	Requires further review	Requires further review	6.2

Source SKM (2010)

(vii) 600mm water main

Unitywater proposed capital expenditure of approximately $7.6 million over the 2010/11-2012/13 period to augment a 600mm water main in the Image Flat area. The water main stretches 4,400m from Savilles Rd in the West to Nambour Leagues Club in the East.

The project expenditure profile as proposed by Unitywater in its submission is outlined in Table 29 below.

Table 29: 600mm Water Main ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
600mm Water main – P001	0.2	0.5	7.0	7.6

Source SKM (2010)

SKM confirmed that the water main is required to service population growth. SKM also confirmed that existing mains located in the vicinity of the proposed augmentation are not capable of meeting the increased demand in this high growth service area. SKM advised that the project is efficient and the costs appear to be reasonable.

SKM found the proposed capital expenditure to be prudent and efficient.

The Authority accepted SKM's findings that the capital expenditure proposed for this project appears to be prudent and efficient.

(viii) Water Meter Replacement- 20mm Meters

Unitywater proposed capital expenditure of approximately $5.1 million over the interim period to replace 20mm water meters. In 2010/11, Unitywater proposed to replace 6,379 20mm water meters across its northern area.

The project expenditure profile as proposed by Unitywater in its initial submission is outlined in Table 30 below.

Table 30: Water Meter Replacement Program ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
Water Meter Replacement Program	1.6	1.7	1.8	5.1

Source SKM (2010)

SKM confirmed that the meter renewal program will improve metering accuracy which is important for billing, revenue and asset management functions. SKM advised that based on available information, there was a demonstrated need for the project. SKM advised that the project costs appear to be reasonable when compared to actual meter replacement costs incurred in 2008-09.

Noting that Unitywater has put a system in place to track average costs per meter replacement on a monthly basis in 2010/11, SKM recommended that the proposed expenditure for 2011/12 and 2012/13 be reviewed against these costs.

SKM found the proposed capital expenditure to be prudent and efficient for the 2010/11 financial year only at this stage.

SKM recommended further reviewing proposed capital expenditure in 2011/12 and 2012/13 when further supporting information becomes available.

The Authority accepted SKM's findings that the expenditure proposed for 2010/11 remain in the budget. The Authority noted that it will review the budget for 2011/12 and beyond further before making a decision on the prudency and efficiency of these costs. The revised expenditure profile is presented in Table 31 below.

Table 31: Revised Water Meter Replacement Expenditure Profile ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
Water Meter Replacement Program	1.6	Further review required	Further review required	1.6

Source SKM (2010)

(ix) Water Supply Service Reservoir, Boundary Road Reservoir No 3 (24ML)

Unitywater proposed capital expenditure of approximately $5 million over the interim period to construct a 24 ML capacity reservoir to meet additional demand from the northern growth corridor. The project expenditure profile as proposed in Unitywater's initial submission is outlined in Table 32 below.

Table 32: Proposed Expenditure profile - Boundary Road Water Supply Reservoir ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
Boundary Road Water Supply Reservoir	0.5	4.3	0.2	5.0

Source SKM (2010)

Unitywater has advised that there is a high probability that the project will not proceed within the next five years. Unitywater has therefore confirmed its intention to remove the project from the budget.

The Authority noted Unitywater's request to remove the project from the budget and removed the project for price monitoring purposes.

(x) Water Supply Facilities - Switchboard Replacement Program

In its submission, Unitywater proposed capital expenditure of approximately $4.7 million over the interim period to replace electrical switchboards and instrumentation to ensure service continuity and compliance with electrical and instrumentation legislation and standards. The proposed project expenditure profile is outlined in Table 33 below.

Table 33: Proposed Expenditure Profile - Switchboard Replacement Program

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
Switchboard Replacement Program	0.7	2.3	1.7	4.7

Source SKM (2010)

At the time of SKM's initial review, there was insufficient information to undertake a detailed assessment of the prudency and efficiency of this project. In its Draft Report, the Authority recommended that the project be removed from the budget pending further review.

In its submission to the Authority's Draft Report, Unitywater provided further information for the switchboard replacement program.

The Authority engaged SKM to review this information. On the basis of the information provided, SKM found the project to be prudent and efficient and recommended that the project be reinstated into Unitywater's budget as originally proposed (Table 33 refers).

(xi) Water Main Off-take and supply main from Northern Interconnector Pipeline.

In its initial submission, Unitywater proposed capital expenditure of $4.3 million over the 2010/11-2012/13 period to construct a new water main linking the Boundary Reservoir Complex with the Northern Pipeline Interconnector. The proposed project expenditure profile is outlined in Table 34 below.

Table 34: Proposed Expenditure Profile - Water Main Off-take - Northern Interconnector Pipeline ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
Water Main Off-take	2.0	2.1	0.09	4.2

Source SKM (2010)

At the time of SKM's initial review, there was insufficient information to undertake a detailed assessment of the prudency and efficiency of the project. In its Draft Report, the Authority recommended that the project be removed from the budget pending further review.

In its submission to the Authority's Draft Report, Unitywater advised that the interconnector project was linked to the Water Supply Service Reservoir, Boundary Road Reservoir No 3 (24 ML) and both projects should be removed from the budget due to a revised instruction from the Water Grid Manager that supply would be arranged through an alternative project, saving significant costs.

The Authority has accepted Unitywater's advice and notes that the project is no longer required. This confirms the Authority's draft decision to remove this project from the capital expenditure forecasts.

(xii) WPS Pump Replacement

In its submission, Unitywater proposed $0.2 million in capital expenditure over the interim period to upgrade Little Mountain pump station. The project will replace the pump bases on the pump station and the switchboard.

The program expenditure profile as proposed by Unitywater in its submission is outlined in Table 35 below.

Table 35: Proposed Expenditure Profile - WPS Replacement ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
WPS Pump Replacement	0.08	0.06	0.07	0.21

Source SKM (2010)

With respect to prudency, SKM advised that there is a demonstrated need for the project. The pump bases were severely rusted and required replacement to avoid failure and subsequent interruptions to Unitywater's services. SKM advise that the old switchboard was beyond its useful life. SKM find the project to be efficient from a standard and scope of work point of

view. SKM noted that it was difficult to assess the efficiency of the project expenditure due to limited information being available on cost estimates.

SKM found the proposed capital expenditure to be prudent and efficient for the 2010/11 financial year only at this stage as there is insufficient information to determine whether the project is prudent and efficient beyond 2010/11. SKM noted that the availability of information is consistent with the stage of the project but recommend that the project budget for 2011/12 be removed for price monitoring purposes pending a review of additional information such as the works program once it becomes available.

The Authority accepted SKM's findings that the expenditure proposed for 2010/11 remain in the budget. The Authority will review the budget for 2011/12 and beyond further before making a decision on the prudency and efficiency of these costs (see Table 36).

Table 36: Revised Expenditure Profile – WPS Replacement ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
WPS Pump Replacement	0.08	Requires further review	Requires further review	0.08

Source SKM (2010)

(xiii) Water Main Installation - Hakae Court-Areca Court, Narangba

Unitywater proposed capital expenditure of $0.076 million over the interim period to install a water main in the area between Hakae Court and Areca Court, Narangba. The project was developed in response to a network analysis report which identified a fire flow deficiency in the area.

This project is designed to address this deficiency by installing 114 metres of 150mm water main. The project will ensure that flow requirements comply with guidelines issued by the Department of Environment and Resource Management

The project expenditure profile as proposed by Unitywater in its submission is outlined in Table 37 below.

Table 37: Hakae Court/Areca Court Water Main Project ($m)

Project	*2010-11*	*2011-12*	*2012-13*	*Total*
Hakae Ct/Areca Ct Water Main Project	0	0.08	0	0.08

Source SKM (2010)

SKM noted that based on the information provided, there is a demonstrated need for the project and therefore the project appears to be prudent. SKM found the project to be efficient in terms of the scope of the works undertaken and the standard of the works. SKM advised that the project costs are reasonable and within +/- 30% of typical rates.

SKM found the proposed capital expenditure to be prudent and efficient.

The Authority accepted SKM's findings that the capital expenditure proposed for this project is prudent and efficient.

Draft Report Summary

In its Draft Report, the Authority noted that Unitywater expects to defer approximately $50 million in capital expenditure in 2010/11. Unitywater submitted this as a prudent deferral of capital expenditure resulting from additional information becoming available since Unitywater made its submission, combined with an improved understanding of Unitywater's projects.

The Authority added these savings to those identified by SKM. The Authority applied Unitywater's 65% commissioning ratio to this $50 million in savings – this resulted in savings in 'commissioned' projects of $32.5 million in 2010/11 and the remaining $17.5 million achieved in 2011/12.

The Authority noted that Unitywater assumed (based on historic capitalisation) that 65% of the proposed annual capital expenditure will be capitalised in any one year. The Authority noted that Unitywater has not provided supporting evidence to demonstrate that 65% is an accurate reflection of historic capitalisation rates. In any event, the Authority noted that capital expenditure should be included in the RAB only when it is commissioned, and contributes productivity capacity to the system.

Based on the analysis outlined earlier, the Authority noted that of the 13 projects reviewed for Unitywater, the majority were found to be prudent and efficient for 2010/11. For 2010/11, adjustments of $3.2 million were made in the Draft Report. These adjustments were due to two projects where there was insufficient information for SKM to review the projects and an adjustment of $0.5 million for the Boundary Road Reservoir project which was the only project found not to be prudent. Unitywater has confirmed that this project is no longer required.

For much of the expenditure in 2011/12 and 2012/13, insufficient data (and the early stage of planning) meant that the consultants were unable to come to a conclusion on prudency or efficiency. In particular, two projects (Northern Connector Water Main Off-take and the switchboard replacement program) were unable to be assessed as SKM were provided with no supporting information.

The Authority noted that the formation of Unitywater may present opportunities to review projects and programs. Amalgamation of the previous council businesses presents opportunities to revise how projects and/or programs are delivered. SKM did not have sufficient time to fully take these matters into consideration. The Authority noted that it supports ongoing reviews of these projects by Unitywater to ensure efficient project delivery.

The Authority proposed to subject projects and programs to ongoing review as part of its 2011/12 price monitoring review. If as part of future reviews, the information to justify the projects is not available (despite the stage of planning), the Authority will remove these costs from the capital expenditure forecasts. The Authority expected that entities would be developing their processes and systems to ensure that the prudency and efficiency of all projects can be optimally demonstrated over time. The Authority noted that its 2011/12 price monitoring review would involve a review of actual capital expenditure in 2010/11, and the reasons for variations with original forecasts would be explored.

Based on SKM's findings, the Authority considered that the level of information provided for this review is broadly in line with the context of the newly formed entity, whereby Unitywater is undertaking a process of aligning the policies and procedures across two geographic areas.

Stakeholder Submissions on the Draft Report

Dr Koerner submitted information dating back to 2002 of the inefficiency of Maroochy Water Services compared with other Sunshine Coast water entities. Given this, Mr Koerner submitted

that it was surprising that Unitywater's estimates of future capital requirements in the Draft Report were endorsed without comprehensive optimisation studies.

Unitywater provided further information in relation to particular projects, which has been included above where relevant. Unitywater also clarified that capital expenditure was escalated by a cost escalation of 5% (and not CPI as noted in the Draft Report).

Unitywater noted that it welcomes the opportunity to work with the Authority to review future proposed capital expenditure to address growth, compliance, replacement and improvements of the water network and sewage treatment plants. Unitywater noted that meeting population and connection growth has a major impact on reconfiguring sewage treatment plants to meet revised discharge licence conditions. Unitywater advised that its Asset Steering Committee and Board level Capital Works Committee ensures all projects receive a thorough assessment and consideration of alternatives or opportunities for prudent deferral.

Unitywater noted that its $50 million prudent deferral of capital expenditure should be fully reflected in 2010/11 and does not carry over to the next period. Unitywater noted that the January 2011 floods will explain some differences in forecast and expenditure for 2010/11. Unitywater advised that some planned capital expenditure was delayed due to the floods due to accessibility and safety concerns for Unitywater crews.

Unitywater advised that it intends on providing additional information in its 2011/12 price monitoring submission for those projects where there was insufficient information for SKM to assess beyond 2010/11.

Authority's Analysis

In response to Dr Koerner, the Authority notes that it engaged an independent expert, SKM, to independently review the prudency and efficiency of Unitywater's proposed capital and operating expenditure program in accordance with the approved framework.

As part of the review of prudency and efficiency, the consultant was required to identify whether the capital expenditure forecasts encompass any efficiency gains or economies of scale, and identify a prudent and efficient level of these gains with reference to appropriate benchmarks. As noted in the Draft Report, this review identified potential savings which were accepted by the Authority. The Authority will continue to review proposed capital expenditure to identify further efficiency gains in 2011/12 and beyond.

The Authority's response to the additional information provided by Unitywater on particular projects is noted in the relevant projects above (and summarised further below).

Unitywater's proposed indexation rate of 5% per annum is reasonable for the first price monitoring review. This view is consistent with that adopted in relation to Allconnex Water's proposed index of 5%. Nonetheless, a consistent indexation rate across SEQ will be investigated over the interim price monitoring period, taking into account further research and actual outcomes. Any variations between Unitywater's forecast and actual capital expenditure will be taken into account at the next price monitoring review.

The Authority supports Unitywater's initiatives to ensure capital expenditure is prudent and efficient.

Since the Draft Report, the Authority has adjusted Unitywater's 2010/11 expenditure by:

(a) fully reflecting Unitywater's $50 million prudent deferral in 2010/11, instead of $32.5 million in 2010/11 and $17.5 million in 2011/12 as previously[36];

(b) reinstating $0.7 million in capital expenditure for the Switchboard Replacement Program in 2010/11, which SKM found to be prudent and efficient after reviewing additional information provided by Unitywater; and

(c) removing $38.1 million for the South Caboolture STP in 2010/11. After reviewing additional information provided by Unitywater, SKM advised that this project will not be commissioned until 2011/12 and its recognition for pricing should occur at that time.

The effect of these adjustments has been to reduce the Authority's estimate of prudent and efficient capital expenditure in 2010/11.

Overall, the Authority's adjustments to capital expenditure relative to Unitywater's initial submission have been to:

(a) remove the Boundary Road Reservoir, $0.5 million of which was proposed for 2010/11;

(b) remove the water main off-take northern connector pipeline, $2.0 million of which was proposed for 2010/11;

(c) remove $50 million in capital expenditure in 2010/11 as a result of Unitywater's prudent deferral of projects; and

(d) remove $38.1 million for the South Caboolture STP in 2010/11, which is rolled forward into commissioned expenditure in 2011/12 as noted above.

The net effect of all these adjustments has been to reduce Unitywater's initial estimate of capital expenditure in 2010/11 by $90.5 million, with a reduction of $10.78 million for water and $79.76 million for wastewater.

The Authority notes Unitywater's intention to provide additional information for the projects where insufficient information was available to assess the projects beyond 2010/11. The Authority is likely to subject these projects to further scrutiny.

A comparison of Unitywater's proposed capital expenditure and that now considered to be prudent and efficient is in Table 38.

[36] In the Draft Report, the Authority applied Unitywater's 65% commissioning ratio to the $50 million to identify savings in 'commissioned' projects of $32.5 million in 2010/11. Unitywater subsequently advised that the $50 million deferral should be fully reflected in 2010/11.

Table 38: Comparison between Unitywater's and Authority's capital expenditure ($m)

	2010/11	*2011/12*	*2012/2013*	*Total*
Capex (Unitywater)	257.1	237.0	203.9	698.0
+ Donated assets	30.8	25.8	26.0	82.6
- Efficiency gains	(50.0)			(50.0)
- QCA adjustments	(40.5)	35.0	(0.2)	(5.8)
Total adjustments	-59.7	60.8	25.8	26.8

Source Unitywater (2010) and QCA calculations.

In respect of data adequacy, the Authority notes that Unitywater assumed 65% of forecast capital works will be commissioned in any reporting year. The Authority considers Unitywater should develop more precise information systems to include capital expenditure in the RAB only when it is commissioned, and contributes productivity capacity to the system.

The Authority notes that currently Unitywater has a number of varying standards of service for customers and asset design as is expected of a newly formed entity. The Authority understands that work is underway to consolidate standards across the region.

The Authority notes that Unitywater expects to defer approximately $50 million in capital expenditure that was forecast to be incurred in 2010/11. The Authority supports prudent deferral and has included these savings in its revised estimates for 2010/11.

The Authority notes that of the proposed $698 million in capital expenditure to be commissioned over the interim period, the majority of sampled projects for 2010/11 were found to be prudent and efficient, although adjustments were made for commissioning and expenditure deferred and no longer required. For 2011/12 onwards, there was insufficient information to review the prudency and efficiency of a number of projects. These projects will be subject to ongoing review by the Authority.

Contributed, Donated and Gifted Assets

As noted above, the Direction requires the Authority to accept as prudent and efficient contributed, donated and gifted assets (contributed assets) and capital expenditure funded through cash contributions and subsidies (capital contributions), for water and wastewater for the period 1 July 2008 to 30 June 2010.

The Direction also requires the Authority to accept that, in setting prices from 1 July 2008, the councils applied a revenue offset approach to account for capital contributions received. This approach is to remain in effect until such time that the entity nominates, through their price monitoring information returns, to adopt the asset offset method. Where a change in methodology is adopted; the RAB is not to be adjusted retrospectively.

Under the price monitoring framework accepted by the Government, the Authority recommended that the Government align the review processes for infrastructure charges and ongoing prices, and that the entities be made responsible for infrastructure charges. The Authority noted that, if this was not possible, the Authority would assess whether the method

adopted by the entities to forecast contributed assets and capital contributions was reasonable in the circumstances.

Draft Report

In its initial submission, the Department of Infrastructure and Planning questioned the benefits of permitting an entity to earn a return on contributed assets.

Unitywater indicated in its initial submission that it expected to receive approximately $83 million in contributed, donated and gifted assets over the interim period and approximately $139 million in capital (cash) contributions (see Table 39). The vast majority of cash contributions arise from Planning Scheme Policies (PSP's).

Table 39: Unitywater - Contributed, Donated and Gifted Assets & Cash Contributions ($m)

	2008/2009	*2009/2010*	*2010/11*	*2011/12*	*2012/2013*	*Total 2011-13*
Contributed assets	48.5	32.0	30.8	25.8	26.0	82.6
Capital Contributions [a]	78.3	63.4	45.0	46.4	47.9	139.3
Total	**126.8**	**95.4**	**75.8**	**72.2**	**73.9**	**221.9**

[a] *includes grants and subsidies*
Source Unitywater (2010)

Unitywater was unable to obtain complete and final information about contributed assets from councils for the 2009 and 2010 financial years.

For 2009/10, the Authority understands that the information gap is due to the audited financial accounts not being finalised in time for SKM's review. In this case, contributed assets for 2009/10 are forecasts based on council third quarter estimates.

Unitywater submitted that it received $126.8 million in contributed assets and capital contributions from councils in 2008/09 and $95.4 million in 2009/10.

For the interim period, developer provided assets are forecast from historic trends taking into account expected growth. Forecasts of Planning Scheme Charges are also based on historic trends.

In terms of contributed assets, Unitywater has retained the revenue offset approach, although it has advised that it will review this position annually throughout the interim price monitoring period.

In the Draft Report, the Authority noted that it proposed to accept as prudent and efficient and include in the RAB via capital expenditure all contributed assets and capital contributions received between 1 July 2008 and 30 June 2010.

Under the approved price monitoring framework, the entities should not earn a return on, or of, contributed assets and capital contributions. This is in accordance with principle six of the National Water Initiative Pricing Principles for the recovery of capital expenditure (Natural Resource Management Ministerial Council 2010). The Ministerial Direction allows the entities to choose an asset or revenue offset approach to the treatment of these assets from 1 July 2010.

Both approaches can be such as to ensure that a return on, and of, these assets cannot be charged to users.

The Authority noted that the value of Unitywater's contributed assets for 2008/09 and 2009/10 cannot yet be verified as audited council financial accounts have not yet been finalised and/or provided. The Authority will review these figures once audited financial accounts are provided.

From 1 July 2010, the water and wastewater components of the infrastructure charging regimes of Unitywater's two council areas (council PSPs) transitioned to become Unitywater's SEQ ICS. In essence, Unitywater inherited these upfront charges from councils. Under relevant legislation, Unitywater cannot significantly alter these charges unless they are approved by the Minister for Infrastructure and Planning.

The Authority also noted that the Government has convened an infrastructure charges taskforce to investigate the current infrastructure charging regime and opportunities to simplify charges and provide greater certainty. The taskforce had recently released for comment an interim consultation report which includes maximum standard infrastructure charges. Should these maximum charges be adopted by Government, and apply to Unitywater, they are likely to affect forecasts of contributed assets and cash contributions.

Given the above, the Authority considered it to be reasonable for Unitywater's forecasts of contributed, donated and gifted assets and cash contributions from 1 July 2010 to be based on available council forecasts.

The Authority noted that Unitywater has applied the revenue offset approach to the treatment of contributed assets and capital contributions for 2010/11 (while reserving its decision on this for years beyond 2010/11). In line with this decision, the Authority reduced its estimate of Unitywater's 2010/11 costs for water by $33.0 million and by $42.8 million for wastewater. The Authority noted that this ensures customers are not paying twice for relevant assets.

Authority's Analysis

The Authority notes that the infrastructure charges taskforce has now provided its final report to Government. The Authority will reflect any Government decisions in its price monitoring reports as appropriate.

The Authority proposes no changes to its draft findings on contributed, donated and gifted assets.

The Authority considers that Unitywater's reliance on councils' forecasts of contributed assets and capital contributions is reasonable.

3.7 Rolling Forward the RAB

In accordance with the Ministerial Direction and normal regulatory practice, the initial regulatory asset base is rolled forward to account for capital expenditure, inflationary gain, depreciation (return of capital) and disposals.

The Authority generally applies a straight line approach to depreciation. Under the Direction, the Authority must also take into account, for the period 1 July 2008 to 30 June 2010, evidence that depreciation has been calculated using the Minister's advised RABs allocated to council assets and existing useful lives.

Under the roll-forward, indexation and depreciation are calculated on the assumption that forecast capital expenditure and disposals occur evenly throughout the year.

For indexation, the Authority is required under the Direction to take into account the latest available ABS CPI (all groups, Brisbane) – however for 2009/10, the Queensland State Budget inflation forecast may be used.

As noted above, actual capital expenditure from 1 July 2008 to 30 June 2010 is included in the RAB, while from 1 July 2010 only prudent and efficient capital expenditure is to be rolled forward. Further, where the entity chooses to apply the asset base offset approach, contributed assets and capital contributions are deducted from the assets to be paid for by users.

Draft Report

Unitywater submitted that regulatory depreciation values as at 1 July 2008 have been calculated on the basis of the assets remaining useful lives. The asset value for each asset has been grossed up or down to align with the Ministerially advised asset values.

Depreciation for asset acquisitions (comprising capitalised assets and developer provided assets) during the period 1 July 2008 and 30 June 2010 has been calculated on the basis of the assets useful life as calculated by the participating councils and pro-rated in accordance with the acquisition date. Unitywater noted that this information was incomplete. Where information was incomplete, Unitywater assumed a useful asset life of 50 years. Unitywater noted its intention to revise these estimates once further information becomes available.

Depreciation for assets acquired post 1 July 2010 was calculated based on asset lives provided by engineering consultants engaged during the SEQ water reform phase 2 process. Unitywater noted that a new Non Current Asset Policy has been approved by Unitywater's Board. The policy will result in asset lives different to those used in its submission however, Unitywater estimates that the variation to depreciation values will not be material. In any event, Unitywater proposes to recalculate depreciation as part of the process to finalise the interim RAB.

For the purpose of calculating the RAB roll-forward, Unitywater included estimates of completed assets only. In formulating these estimates, Unitywater has assumed (based on historic capitalisation) that 65% of the proposed annual capital expenditure will be capitalised in any one year.

Unitywater adopted a straight line approach to depreciation for all assets.

Unitywater applied an indexation rate of 2.02% in 2008/09, 2.5% in 2009/10 and 2.48% in 2010/11 and beyond. Unitywater noted in its submission that for financial year 2010, it intend on revising their indexation assumption to align with the CPI for that period once the RAB for 1 July 2010 is finalised.

Unitywater's initial RAB as at 1 July 2008 is $849 million for water and $1.2 billion for wastewater. As discussed earlier, due to information shortcomings, SKM were unable to verify the allocation of Unitywater's initial RAB. The initial RAB, and the roll-forward, should therefore be viewed as interim only.

Actual capital expenditure to 30 June 2010 and the Authority's view of prudent and efficient capital expenditure in 2010/11 were added to the interim initial RAB.

For the Draft Report, the Authority engaged SKM to review the asset lives provided by Unitywater against those in their fixed asset registers. SKM found that the existing useful lives

recorded in the asset register as at 1 July 2008 correspond with the asset lives provided in Unitywater's RAB at that date.

SKM found the asset lives applied to new assets to be reasonable. However, SKM noted that where assets were grouped by asset class, a wide range of remaining asset lives was identified within each class. For example, the identified asset lives for meters ranged from 15 years to 100 years. Unitywater then calculated an average asset life for each asset class. SKM recommended that in future, Unitywater disaggregate asset classes further to reduce the range of asset lives that exist within each asset class. SKM also recommend a standard and unified approach to grouping assets by asset class in future. SKM also noted that the remaining useful lives of some assets did not seem appropriate given the asset acquisition date.

Notwithstanding, for price monitoring purposes in 2010/11, the Authority accepted the asset lives provided by Unitywater and supports Unitywater's decision to review them. The Authority expects that a comprehensive review of individual asset lives would form part of any deterministic regulatory regime.

Under the approved framework, the Authority recommended that forecast inflation be estimated using forecasts of CPI as determined by the difference between the RBA return on the market rate for five year bonds and five year capital indexed bonds.

The Authority adopted the ABS CPI for Brisbane for use in indexing the asset values in the RAB. For 2008/09, this was 2.02%. For 2009/10, the Authority has accepted Unitywater's 2.50% estimate as this is the Queensland State Budget inflation forecast for 2009/10. In relation to forecast CPI from 1 July 2010, the Authority adopted an estimate of 2.48% which is the difference between the RBA return on the market rate for five year bonds and five year capital indexed bonds, as proposed in the Authority's framework report.

The Authority rolled forward the initial, interim RAB for capital expenditure, indexation and disposals.

In the Draft Report, the Authority's estimate of the regulatory opening asset base for price monitoring purposes in 2010/11 did not differ materially from that of Unitywater ($2,446.99 million compared to Unitywater's $2,435.93 million).[37] For water, the Authority's estimate of $985.99 million was higher than Unitywater's estimate of $983.85 million. For wastewater, the Authority's estimate of $1,461.00 million was also higher than Unitywater's estimate of $1,452.08 million.

The Authority's estimate of the closing asset value as at 30 June 2011 was $1,031.98 million for water and $1,673.92 million for wastewater. Unitywater's estimate for water is $1,037.70 million and $1,695.76 million for wastewater.

Stakeholder Submissions on Draft Report

No stakeholder commented on this issue.

The Authority's Analysis

Due to the finalisation of establishment costs and the provision of further information on capital expenditure, the opening RAB for 2009/10 and the roll forward have been updated since the Draft Report. An adjustment has also been made to ensure that depreciation at the entity level matches the sum of the depreciation by council area. The resulting increase in depreciation for

[37] Unitywater's $2,435.93 million RAB reflects supporting information provided to the Authority and excludes non-regulated services. It therefore differs from the $2,443.27 million in their written submission.

water is less than wastewater, as water asset lives are less diverse across councils. Tables 40 and 41 refer.

As a result, the opening RAB as at 1 July 2010 is slightly higher than the Draft Report.

The Authority's estimate of the regulatory opening asset base for price monitoring purposes in 2010/11 did not differ materially from that of Unitywater ($990.61 million for water compared with Unitywater's $983.85 million and $1,466.06 million for wastewater compared with Unitywater's $1,452.08 million).[38]

Further, the Authority's estimate of the closing water asset value as at 30 June 2011 (at $1,033.26 million) is higher since the Draft Report. This arises as the addition of approved establishment costs outweighs the prudent deferral of water capital expenditure. The Authority's closing RAB value remains below Unitywater's estimate of $1,037.70 million.

For wastewater, the Authority's estimate of the closing asset value has fallen since the Draft Report to $1,625.50 million. Primarily this arises as the approved establishment costs are more than offset by the prudent deferral of wastewater capital expenditure and the recognition of South Caboolture STP at commissioning. The Authority's estimate of the closing RAB remains below Unitywater's original estimate of $1,695.76 million.

Table 40: Asset Base Roll Forward – Water ($m)

	2008/09	***2009/10***	***2010/11***
Opening RAB	849.31	905.72	990.61
+ Capital expenditure	58.99	81.60	38.94
+ Indexation	17.75	24.33	25.76
- Depreciation	19.86	21.05	22.05
- Disposals	0.45	-	-
- Capital Contributions[1]	-	-	-
Closing RAB (QCA)	**905.72**	**990.61**	**1,033.26**

[1] *Only relevant for asset base offset approach to the treatment of capital contributions. Unitywater has adopted a revenue offset approach. Source Unitywater (2010), SKM (2010), QCA*

[38] At the time of price setting, Unitywater estimated a $2,802.60 million allowable RAB, with indexation in 2010/11 of $72.89 million and depreciation of $74.95 million. The costs submitted to the Authority reflect more recent available to Unitywater at the time of making its submission.

Table 41: Asset Base Roll Forward – Wastewater ($m)

	2008/09	*2009/10*	*2010/11*
Opening RAB	1,179.88	1,242.44	1,466.06
+ Capital expenditure	70.96	223.97	158.40
+ Inflationary gain	24.54	34.64	39.18
- Depreciation	32.39	35.00	38.15
- Disposals	0.56	-	-
- Capital Contributions[1]	-	-	-
Closing RAB (QCA)	**1,242.44**	**1,466.06**	**1,625.50**

[1] *Only relevant for asset base offset approach to the treatment of capital contributions. Unitywater has adopted a revenue offset approach. Source Unitywater (2010), SKM (2010), QCA*

The Authority's estimate of the regulatory opening asset base for price monitoring purposes in 2010/11 does not differ materially from that of Unitywater ($2,456.67 million compared to Unitywater's $2,435.93 million).

The Authority's estimate of the closing asset value as at 30 June 2011 is $1,033.26 million for water and $1,625.50 million for wastewater. Unitywater's estimate for water was $1,037.70 million and $1,695.76 million for wastewater.

3.8 Return on Capital

Under the Ministerial Direction the Authority must advise the entities by 1 March 2011 and 1 March 2012 of the WACC benchmark for 2011/12 and 2012/13 respectively.

The return on capital compensates investors for the opportunity cost of their investment. The Authority uses a nominal post-tax WACC to determine the appropriate return on capital on the regulatory asset base, specifically Officer's 'vanilla' WACC3.

For this price monitoring review, the Authority has adopted its standard approach to estimate the WACC. To this end, the Authority engaged Dr Martin Lally to provide specialist advice in relation to appropriate WACC parameter values.

Whether the current approach should be applied in the SEQ water sector in the future is an issue to be explored over the interim period along with the form of regulation to be applied.

Draft Report

Unitywater, in conjunction with QUU and Allconnex Water, engaged Competition Economists Group (CEG) to provide advice on WACC parameters.

In its initial submission and based on CEG advice, Unitywater (and Allconnex) proposed a WACC of 9.88% (post-tax nominal) for price monitoring. Unitywater advised it adopted a WACC of 8.44% in setting prices for 2010/11. QUU adopted many of CEG's recommended parameter values in its submission but adjusted others to reflect the Authority's most recent approach, and proposed a WACC of 10.25%.

The entities' and CEG's original reasoning was outlined in Appendix B to the Draft Report.

In the Draft Report, the Authority proposed a WACC of 9.35% for interim price monitoring. Detailed analysis of entity submissions, expert advice and key parameters was set out in Appendix B.

Stakeholder Submissions on the Draft Report

In response to the Draft Report, the entities again engaged CEG to provide advice. Unitywater referred to the CEG advice and that of Professor Bruce Grundy in its submission. Unitywater's, CEG's and Grundy's arguments are outlined in more detail in Appendix B.

Unitywater (and Allconnex) submitted a WACC of 10.81% should be adopted, on the basis of this advice. QUU submitted that in its view a WACC of 10.25% remained appropriate for price monitoring.

Authority's Analysis

Many of the issues raised in Unitywater's submission are similar to those raised by the other entities.

Therefore, for clarity and to avoid repetition, the Authority has set out its detailed assessment of Unitywater's (and the other entities') comments in Appendix B. The analysis in this appendix is relevant to all entities.

The main methodological difference between Unitywater's and the Authority's WACC remains that under the Authority's current approach, it matches the term of the risk-free rate and debt margin to the term of the regulatory period. The Authority's current approach has been explained in detail and applied by the Authority in its June 2010 Draft Decision on QR Network's 2010 DAU - Tariffs and Schedule F (which forms part of the undertaking approved in October 2010) and in its June 2010 Final Report on the Gladstone Area Water Board.

After taking into account all the comments made in response to the Draft Report, the Authority retains its view that the most appropriate estimate of the WACC for the interim price monitoring period is 9.35% (Appendix B), subject to variation for 2012/13 if considered appropriate following the Authority's proposed Authority-wide WACC review. This is lower than Unitywater's proposed 10.81% for price monitoring but higher than the 8.44% WACC Unitywater actually used in setting prices for 2010/11.

To calculate the return on capital, the Authority applied the WACC of 9.35% to the entity's opening regulatory asset base and half the capital expenditure during the relevant year.

While the Authority has undertaken a comparison of the Authority's proposed return on capital for 2010/11 against that claimed by Unitywater, the Authority also sought to compare Unitywater's and the Authority's return on capital estimates for 2010/11 with those of councils for 2009/10.

As noted in the Draft Report, estimates of council's 2009/10 return on capital are based upon available records of dividends, actual cost of debt, retained earnings and capital gain (see Table 42). These do not necessarily reflect the total benefits accrued to councils over the costs of providing services as they do not necessarily reflect other benefits accruing to councils such as franchise fees. Further, capital gain is based on the Ministers advised RAB.

Any such comparison should therefore be treated with caution. A review of past arrangements is not considered to be consistent with the terms of reference of this review which relates to Unitywater's forecasts of revenues and costs for 2010/11.

The return on capital for water is higher than in the Draft Report (reflecting a net increase in the asset base). The return on capital for wastewater has fallen since the Draft Report (reflecting a net fall in the asset base).

The Authority's final estimate of the return on capital resulting from the 9.35% WACC and the (updated) asset base is set out in Table 42 below.

Table 42: Return on Capital ($m)

	Costs 2009/10	*Costs 2010/11*	*Water Costs 2010/11*	*Wastewater Costs 2010/11*
Unitywater Submission[39]	185.23	254.89	99.16	155.23
QCA Draft Return on Capital	-	240.65	94.18	146.47
QCA Final Return on Capital	-	238.99	94.47	144.52
Difference (QCA to Unitywater)	-	15.90	4.69	10.71

Source Unitywater data template and subsequent information – return on and of capital for 2009/10 reflect financial data provided by councils. Return on capital in 2009/10 is the sum of interest, dividends, retained earnings and capital gain. Return on capital for 2010/11 onwards is based on economic regulatory approaches.

The Authority proposes to use a WACC of 9.35% for interim price monitoring, subject to the findings of an Authority-wide WACC review due to commence soon, which may impact on the proposed WACC for 2012/13.

3.9 Operating Expenditure

Operating costs include the cost of purchasing bulk water, as well as both retail and distribution costs such as materials and services (including chemical and electricity costs), employee, corporate and customer service costs.

The Ministerial Direction requires the Authority recognise the Government's policy that the prices charged by the SEQ Water Grid Manager for bulk water storage, treatment and delivery are to be passed through to customers in full. The Ministerial Direction also requires the Authority to accept the operational constraints imposed by the SEQ Urban Water Arrangements Reform Workforce Framework 2010. These constraints include that there are to be no forced redundancies during the interim period.

The Authority notes that these constraints do not apply to new employees engaged temporarily to perform work on the establishment of the entities or independent contractors or employees engaged by labour hire that provide services to either the entity or participant council.

The Authority has been directed to monitor changes in operating costs and their reasonableness over time.

The Authority engaged SKM to review the reasonableness of Unitywater's forecasts of operational expenditure for its water and wastewater activities from 1 July 2010.

[39] At the time of price setting, Unitywater estimated a $236.54 million required return on capital for 2010/11, using a WACC of 8.44%. The costs submitted to the Authority reflect more recent information available to Unitywater at the time of making its submission.

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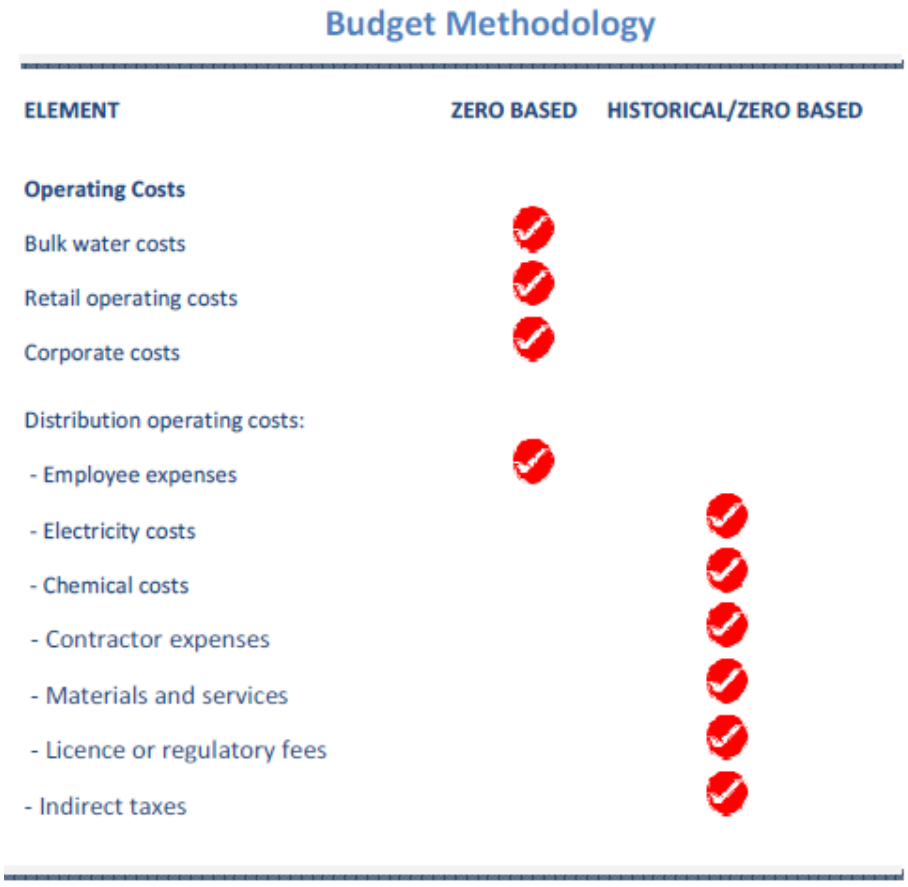
In its initial submission, Unitywater proposed a total of $756 million of operational expenditure over the interim period, comprised of $465 million of expenditure for water and $292 million for wastewater.

Unitywater allocated these operational expenditures to all appropriate costs categories. Unitywater allocated operational costs to all services excluding the other core wastewater services and aggregate non-core wastewater services. Bulk water costs accounted for 37% of Unitywater's total operating costs over the interim period. The materials and services category accounted for a further 18% of total operating costs.

Operational Budget Development

Unitywater noted in its initial submission that it constructed its initial budget based on a combined methodology of zero based costs and historic values escalated for growth and price factors (Chart 4).

Chart 4: Unitywater Budget Methodology



Source Unitywater(2010)

In its submission, Unitywater outlined the budget rules that were applied in generating its operating budget:

(a) all expenses and revenues were budgeted in FY2010 dollars;

(b) indexation for price and growth factors were applied universally on budget consolidation;

(c) operational projects were assumed to have internal labour and material costs included in the total project cost estimates;

(d) the labour budget was based on the respective labour establishments of Moreton Bay Water and Sunshine Coast Water (including vacancies). Labour budgets reflected various working arrangements of employees and included on-costs, overtime and annualised allowances;

(e) for retail and corporate business functions, labour establishments were created including staff costs for employees transferred from the two regional councils. Unitywater envisaged that further refinement of staff establishments will be required during Unitywater's quarterly budget review process. Changes will occur primarily due to the fluidity of services provided in-house compared to services provided under service level agreements with the respective councils. Additional functional realignments will mean that functional reporting will change. No material impact on service allocations are expected to result from functional realignments.

In forecasting operating costs beyond 2010/11, Unitywater applied both generic cost indices and geographic specific growth factors to the 2010/11 budget. The high level indices and growth factors used by Unitywater to develop the 2011/12 and 2012/13 budgets are detailed in Table 43.

Table 43: Operating Cost Indexes and Growth Factors

Cost Group	***Cost Index***		***Annual Growth Factors***	
	2011/12	2012/13	Sunshine Coast	Moreton bay
Population growth			2.35%	2.29%
Direct Labour	4.0%	4.0%		
Bulk Water	Estimate bulk volumes at Water Grid Manager forecast prices indexed at 2.5% pa			
-Sunshine Coast	28%	22%		
-Moreton Bay	18%	15%		
Electricity	7.9%	7.9%	Aligned to percentage change in bulk water volumes	
Chemicals	3.5%	3.5%	Aligned to percentage change in bulk water volumes	
Sludge Handling				
Other Costs	2.9%	2.9%		

Source Unitywater (2010)

Operational Expenditure forecasts

Unitywater's forecast total operational expenditure over the interim period is set out in Tables 44 and 45 respectively.

Table 44: Unitywater's Forecast Operating Costs Water 2010-2013 ($m)

	2010/11	***2011/12***	***2012/13***
Bulk Water Costs	75.33	93.04	114.18
Retail Operating Costs			
Customer service and billing	2.64	2.74	2.84
Regulated demand management costs	na	na	na
Community service obligation costs	na	na	na
Other Costs	3.07	$5.71	$5.88
Distribution Operating Costs			
Employee expenses	16.57	17.27	17.95
Contractor expenses	6.29	6.45	6.63
GSL payments	na	na	na
Materials and services (including electricity and chemicals)	6.49	6.79	7.10
Licence or regulatory fees	0.04	0.04	0.05
Natural resources management costs	na	na	na
Corporate costs	22.98	21.59	21.87
Indirect Taxes	0.39	0.42	0.42
Total Operating Costs	**133.81**	**154.03**	**176.90**

Note na indicates that costs were not disaggregated to these categories in a manner consistent with the Authority's data template or are not applicable.

Source Unitywater (2010,) SKM (2010), QCA

Table 45: Unitywater's Forecast Operating Costs Wastewater 2010-2013 ($m)

	2010/11	*2011/12*	*2012/13*
Retail Operating Costs			
Customer service and billing	2.83	2.94	3.04
Regulated demand management costs	na	na	-
Community service obligation costs	na	na	-
Other Costs	3.27	6.07	6.25
Distribution Operating Costs			-
Employee expenses	26.09	27.20	28.28
Contractor expenses	18.20	18.71	19.25
GSL payments	na	na	-
Materials and services (including electricity and chemicals)	16.77	18.05	19.17
Licence or regulatory fees	0.49	0.50	0.52
Natural resources management costs	na	na	-
Corporate costs	25.14	23.84	24.21
Indirect Taxes	0.40	0.43	0.43
Total Operating Costs	**93.18**	**97.73**	**101.13**

Note na indicates that costs were not disaggregated to these categories in a manner consistent with the Authority's data template.

Source Unitywater (2010), SKM (2010), QCA

Unitywater has forecast that its total operational expenditure will increase from $160.87 million in 2008/09 to $226.99 million in 2010/11 to $278.03 million in 2012/13 – an average annual increase of 14.7%.[40]

Unitywater's operating costs for water and wastewater are forecast to increase over the interim period by 32% and 9% respectively.

Unitywater stated in its submission that the primary drivers for increases in operating costs are bulk water costs, population growth, compliance with environmental standards, new corporate functionality and new retail functionality.

For the Draft Report, the Authority engaged SKM to review the reasonableness of Unitywater's operational expenditure. The assessment of the reasonableness of operational expenditure was intended to take into account the relevant service standards, Frontier's revised demand forecasts, possible substitution between capital and operating expenditure and the potential for efficiency gains and economies of scale.

[40] At the time of price setting, Unitywater estimated $208.97 million in operating expenditure for 2010/11. The costs submitted to the Authority reflect more recent information.

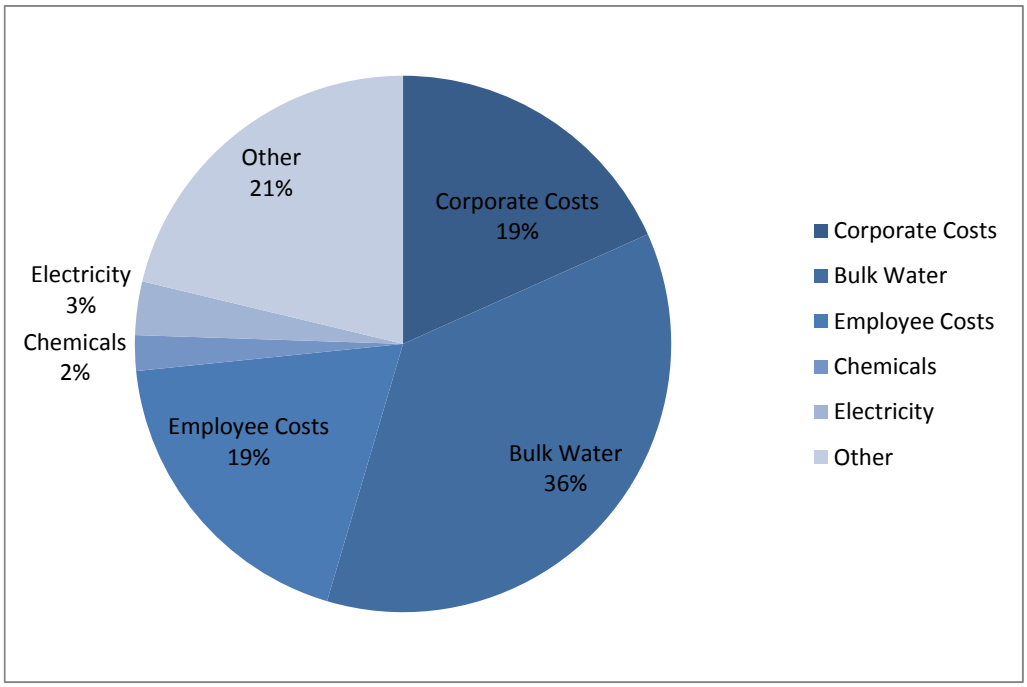
Adequacy of Operational Expenditure Data Information Provision

Prior to assessing the reasonableness of proposed operational expenditure, SKM reviewed Unitywater's submission to ensure that Unitywater provided a comprehensive and accurate information return.

SKM found that operating costs were allocated against most of the categories identified in the Authority's information requirements for 2010/11. Therefore, sufficient information was available for SKM to review the reasonableness of Unitywater's operating expenditure.

In response to a request for information from SKM, Unitywater provided operational expenditure on a more disaggregated basis which separately identified electricity and chemical costs (Chart 5).

Chart 5: Unitywater's Operating Costs 2010-2013



Source SKM (2010)

Operational Budgeting

SKM reviewed the policies and procedures followed by Unitywater to ensure that they represented good industry practice. SKM reviewed the budget guidelines used in the preparation of the 2010/11 operational budget and found that the guidelines provide a comprehensive guide to a range of aspects associated with the budget development and approval process including:

(a) outline of the budget process;

(b) who has approved the process;

(c) responsibilities;

(d) budget approval and development;

(e) protocols for changes and inter-council communications;

(f) parameters to be applied (e.g. CPI);

(g) review and approval programme; and

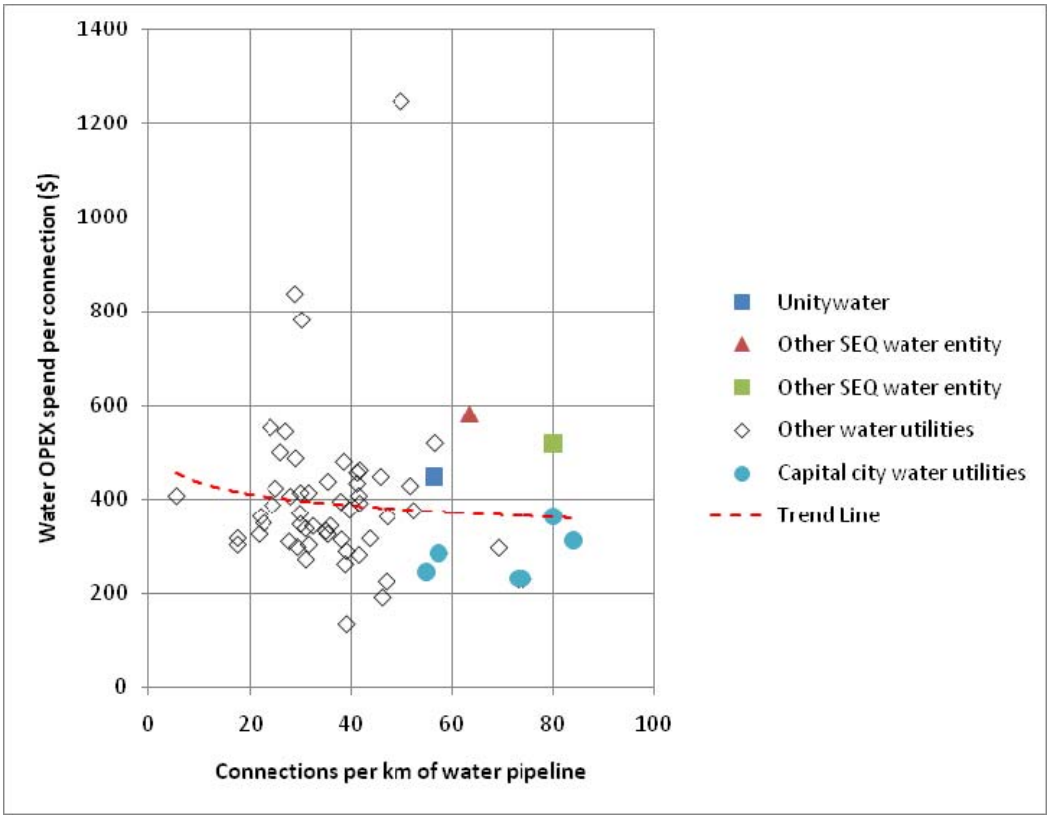
(h) schedules to be produced.

SKM found that the operational expenditure budget process accorded with good industry practice.

Reasonableness

SKM benchmarked Unitywater's 2010/11 aggregate operational expenditure for water and wastewater against a range of other Australian utilities using two key benchmarks. For water, Unitywater's relative performance was measured using both opex spend per connection and the number of connections per kilometre (Chart 6).

Chart 6: Water Operational Expenditure



Note CPI has been applied to other utilities data to inflate the costs contained in the 2008/9 NWC Performance Report to 2010/11
Source SKM (2010)

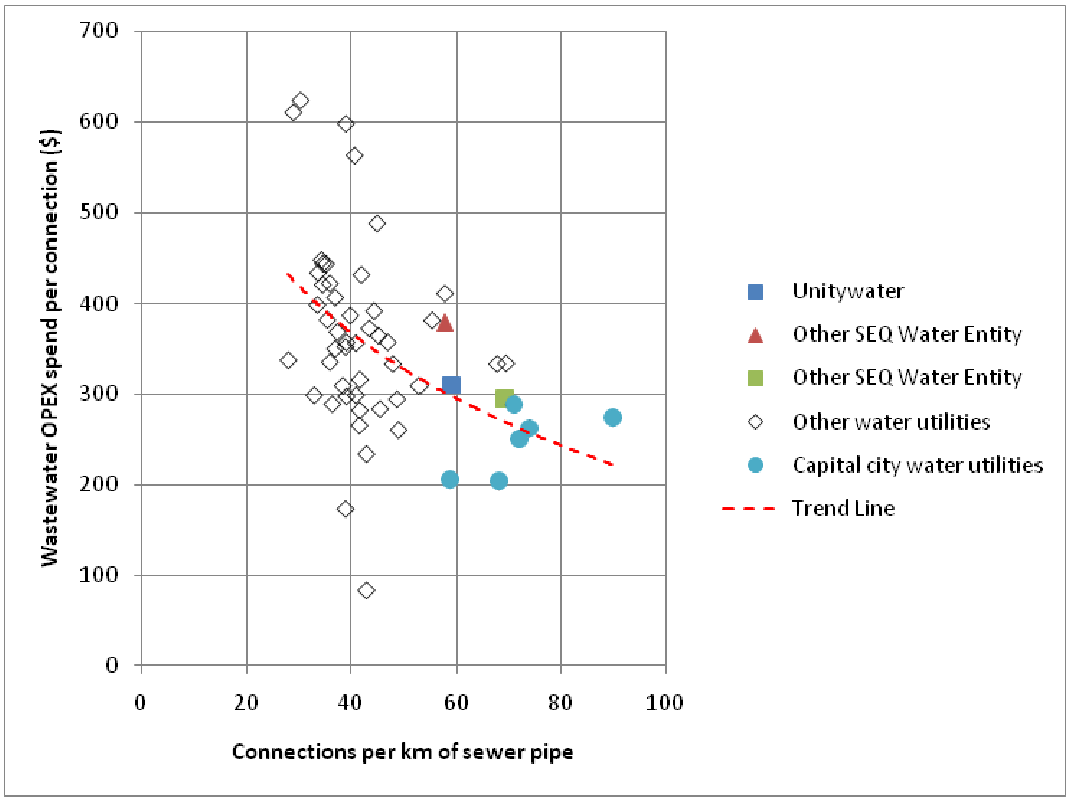
SKM found that Unitywater's operational expenditure for water in 2010/11 was generally higher than that of similar sized water utilities in other jurisdictions. SKM noted that this was due in part to higher SEQ bulk water costs. When bulk water costs were removed from this analysis, SKM found that, on a per connections basis, Unitywater's operating expenditure for

2010/11 ($173/connection) was above some of its interstate peers (Sydney $139/connection and Melbourne $97-$168/connection).

In the Draft Report, the Authority noted that SKM's benchmarks for operating costs for other water utilities (barring those in SEQ) assume other entities' costs per connection have remained constant in real terms since 2008/09. There would therefore appear to be some further opportunity for efficiency gains to achieve best practice.

Using the same method for Unitywater's wastewater operational expenditure (Chart 7), SKM found that Unitywater's proposed 2010/11 wastewater operating expenditure is in line with that of other Australian water utilities.

Chart 7: Wastewater Operational Expenditure



Note CPI has been applied to other utilities data to inflate the costs contained in the 2008/9 NWC Performance Report to 2010/11
Source SKM (2010)

The Authority noted that this high level analysis showed where Unitywater's operating costs for 2010/11 fall within a range of values bounded by other water utilities, and indicated the extent of operating efficiencies that could potentially be achieved.

The Authority noted that economic regulators in other jurisdictions have applied efficiency gains to water retail businesses' proposed operating expenditures of up to 3.5% (NWI Steering Group on Water Charges 2007).

Taking into account the above, the Authority considered that it is reasonable to assume that Unitywater should be able to achieve efficiency gains in its non-bulk operating costs in 2010/11. In the Draft Report, the Authority imposed a high level efficiency target for Unitywater in

2010/11 of 2% of total non-bulk operating costs. This resulted in a reduction of total operational expenditure of $3.05 million.

In the Draft Report, the Authority noted that another SEQ entity has identified non-bulk operational savings of up to 16.7%. Given that this has not been fully investigated, the Authority noted that it was not currently minded to apply this saving to Unitywater in this review. However, the Authority noted that it will be seeking further information on this matter and will be pursuing efficiency gains from amalgamation over the interim price monitoring period and beyond. Efficiency targets for 2011/12 and 2012/13 are discussed further below.

SKM then sought to review key components of Unitywater's submitted operating expenditure.

Reasonableness of Sampled Costs

SKM selected a sample of expenditure for detailed review. The sample included the top 10% of operational expenditure by value in each activity and geographic area, over the forecast period. SKM reviewed bulk water costs, employee costs, corporate costs, electricity and chemical costs. The sample captured 80% of the total operational expenditure (see Table 46) over the forecast period.

Table 46: Unitywater Operating Costs ($m)

Cost Centre	*2010/11*	*2011/12*	*2012/13*
Bulk water	75.33	93.04	114.18
Corporate Costs [a]	49.20	46.35	47.00
Employee costs	46.15	48.90	50.80
Electricity	7.55	8.33	9.21
Chemicals	5.20	5.44	5.70
Total Sample	**183.43**	**202.06**	**226.89**
Total Expenditure	**234.16**	**259.12**	**285.60**

Note includes costs related to non-regulated services
Source SKM (2010), Unitywater (2010)

(a) Bulk Water Cost

SKM examined Unitywater's tariffs and confirmed that the bulk water tariffs charged to customers are consistent with those charged by the SEQ Water Grid Manager. SKM found that Unitywater's operating budget demonstrates that prices charged by the SEQ Water Grid Manager for bulk water storage, treatment and delivery are passed through to customers in full.

The review of Unitywater's demand forecasts for bulk water by Frontier Economics recommended adjustments to the volume of water sales forecast by Unitywater (see section 3.4) and made corresponding changes to bulk water purchases. SKM accepted Frontier's recommendations and has subsequently adjusted Unitywater's operating costs associated with the purchase of bulk water for 2010/11 (see Table 47). These adjustments did not affect Unitywater's bulk water costs for 2010/11.

Table 47: Revised Bulk Water Costs ($m)

Geographic Area	*2010/11*	*2011/12*	*2012/13*
Moreton	42.15	52.13	61.71
Sunshine Coast	33.18	42.24	51.28
Total	75.33	94.37	112.99
Unitywater Proposed Total	75.33	93.04	114.18
Variance	0.00%	1.43%	-1.04%

Source Frontier Economics (2010), Unitywater (2010), Queensland Water Commission (2010)

On 5 December 2010, the Treasurer and the (then) Minister for Natural Resources, Mines and Energy and Minister for Trade announced a series of reforms to the SEQ water industry. Included in these reforms was a revision to the long term bulk water price path from 2011/12. Bulk water prices for 2010/11 were unchanged.

The Authority revised Unitywater's bulk water expenditure in 2011/12 and 2012/13 to reflect these revised prices. These changes reduced Unitywater's bulk water expense by $4.7 million over the price monitoring period. However, the reductions in bulk water prices endorsed by the Minister were, in Unitywater's case, offset by increases in bulk water costs arising from adjustments to demand.

For example, in 2011/12, the Authority adjusted the bulk water costs upwards to reflect adjustments in demand which have more than offset reductions in the bulk water costs as advised by the Minister. The adjusted totals, taking account of adjustments to demand and reductions in bulk water costs are reflected in Table 47.

(b) Corporate Costs

SKM noted that corporate costs account for 21.0% of Unitywater's overall operating costs in 2010/11 before reducing to 16.5% in 2012/13.

SKM referred to guidelines put out by the Council on the Cost and Quality of Government (CCQG), now known as the Performance Improvement Branch, Department of the Premier and Cabinet, New South Wales government. The CCQG guidelines indicate that for agencies of greater than 350 full time equivalent employees, the benchmark level for corporate overheads is between 10% and 12% of overall operating costs.

In response to SKM, Unitywater submitted there may not be a strict correlation between corporate costs with growth in customers and demand. Secondly, there can be step change increments associated with growth in the business, for example Information and Communication Technology systems that have a capacity constraint.

Unitywater submitted that key contributing factors to its high level of corporate cost expenditure included salary and wage expenditure and some once-off project costs including those incurred to develop master plans, network modelling, asset management plans and to develop and review standards and specifications.

SKM concluded that in their opinion that corporate costs that account for 20% or more of overall operating costs is at the upper bound of what could be considered reasonable.

Unitywater did not apply a growth factor to its forecast of corporate cost. It has however applied a cost escalation factor. For this cost escalation Unitywater has adopted a general cost escalation factors of 2.9%. SKM has found this to be reasonable as it is in line with the RBA's target band for CPI.

The exception to the application of this escalation factor was the Service Level Agreements (SLA) with shareholding councils. Unitywater has a policy of moving to self sustainability as soon as possible. SKM noted that costs for SLA are budgeted to reduce from $8.0m in 2010/11 to $6.6M in 2012/13.

These services are generally a continuation of pre-existing systems and services to enable an orderly transition to Unitywater. They include: financial accounting, payroll services, development and management charges, call centre, inventory services and depot sites and head office accommodation.

It is envisaged the amalgamation of the two council water businesses into Unitywater would ultimately achieve efficiency gains in service delivery, economies of scale and reduced corporate costs.

(c) Employee Costs

Under the Ministerial Direction, the Authority must accept the operational constraints imposed by the SEQ Urban Water Arrangements Reform Workforce Framework 2010 (SEQ Framework). SKM noted the most significant constraint is that there are to be no forced redundancies or overall loss of employment directly as a result of the water reforms, during the reform period. Also, there are to be no forced relocations within 12 months from the date of transfer.

SKM noted that the operational constraints imposed by the SEQ framework limit the ability of Unitywater to achieve full labour efficiency.

The increase in Unitywater's employee costs (Table 46) has been attributed to labour cost increases. Unitywater has not identified any growth in employee numbers, but has indicated that vacancies have been included when calculating the employee costs. It is noted that the employee costs provided by Unitywater indicates an increase in 2011/12 of 4.3%. Unitywater has nominated a labour cost escalation rate of 4.0% for 2011/12 and 2012/13.

SKM benchmarked Unitywater's labour cost escalation index against both the historic ABS Labour Price Index for the hourly rates for public servants in the Electricity, Gas, Water and Waste Services and the AERs forecasts of wage price increases in utilities sector (Table 48).

SKM concluded that Unitywater's labour cost indices are in line with both the AER forecast indices and the historic trends as derived from the Labour Price Index. The labour cost indices are therefore considered reasonable.

The Authority noted that natural attrition should be a source of potential efficiencies even within the constraints of the SEQ Framework, however the natural attrition of required skills will require replacement.

However, in the absence of a readily available benchmark, the Authority did not seek to attribute quantifiable efficiency gains specifically to labour costs in this review. However, the Authority noted it intends to pursue this issue further over the interim period, and an overall target for efficiency gains is discussed further below.

Table 48: Comparison of Labour Cost Escalation Indices

	2008/09	*2009/10*	*2010/11*	*2011/12*	*2012/13*
Unitywater	-	-	-	4.00%	4.00%
Australian Energy Regulator	4.90%	3.60%	3.80%	4.20%	3.90%
ABS, Labour Price Index	4.38%	4.40%			

Source Australian Energy Regulator (2010), Australian Bureau of Statistics (2010)

(d) Electricity Costs

SKM found that Unitywater's electricity purchases for the major sites (e.g. sewage treatment plants) involve contracts novated from both Moreton Bay and Sunshine Coast councils. Unitywater advised SKM that these were entered into by an open tender process that was jointly conducted by the councils.

Unitywater noted that a new contract for the purchase of electricity for minor sites negotiated as an open tender is expected to realise savings from the previous council arrangement over the three years of the contract.

SKM benchmarked Unitywater's electricity cost escalation factors against the Queensland BRCI and the Australian Bureau of Statistics Consumer Price Index for electricity (see Table 49). SKM found that Unitywater's price escalation for regulated tariffs in 2010/11 (7.9%) to be (broadly) consistent with both the BRCI (13.29%) and CPI for electricity (15.5%).

Table 49: Electricity Cost Escalation Benchmarks

	2008/09	*2009/10*	*2010/11*	*2011/12*	*2012/13*
Unitywater	-	-	7.90%	7.90%	7.90%
BRCI	5.38%	11.82%	13.29%		
ABS CPI for electricity in Brisbane	11.60%	8.30%	15.50%		

Source QCA (2010), Australian Bureau of Statistics (2010)

SKM noted that the type of electricity purchase arrangement will have significant impact on Unitywater's electricity costs. The Authority supported this view and noted that Unitywater should seek out the most efficient option within its regulatory and contractual obligations.

The Authority noted that SKM's benchmarking did not take account of non-regulated price changes. As Unitywater could not provide the share of its electricity purchases from regulated and contestable sources, the Authority used available information from other sources to estimate a 25% share of total costs from electricity supplied under regulated tariffs and 75% from contestable market contracts.

Assuming no change in the energy price component of contestable market contracts, the Authority estimated the total price increase in these contracts would be 8.18%[41] for 2010/11. Regulated tariffs increased by 13.29% (the 2010/11 BRCI).

Based on the above the Authority estimated that Unitywater's weighted average electricity price growth for 2010/11 may be around 9.5%. The Authority therefore found that Unitywater's proposed price escalation factor of 7.9% for 2010/11 was reasonable.

In estimating the potential price growth in contestable contracts for 2011/12, the Authority noted that network and distribution charges will increase by 6.8% per annum. Assuming that energy charges do not increase over this period and the share of network costs also remains constant, contestable electricity prices will grow by 3.20%. Regulated tariffs are forecast to increase by 5.83% in 2011/12.

Based on the above, the Authority has calculated a weighted average electricity price increase of 3.85% for 2011/12. [42] (Prior to the release of the Authority's Draft Decision on the 2011/12 BRCI, SKM estimated a 7.9% increase as reasonable – this view was superseded by subsequent events).

The Authority applied the same price increase for 2012/13 as for 2011/12. [43] The Authority also revised Unitywater's growth forecasts to align with the percentage change in bulk water volumes arising from Frontier Economics' revised demand forecasts. The revised forecast for electricity costs are presented in Table 50.

Table 50: Revised Unitywater Electricity Costs ($m)

	2010/11	***2011/12***	***2012/13***
Water	1.09	1.20	1.29
Wastewater	6.46	6.96	7.40
Total	**7.55**	**8.17**	**8.69**
Unitywater Proposed Total	**7.55**	**8.34**	**9.21**
Variance	**0.0%**	**-2.1%**	**-5.6%**

Source Unitywater (2010), QCA (2010)

(e) Chemical costs

Chemicals are used to treat drinking water before delivery to customers, and for wastewater prior to discharge. The need for chemical use is dictated by drinking water standards and compliance with operational licenses for wastewater discharge.

Unitywater's expenditure on chemicals is forecast to increase from $5.2 million in 2010/11 to $5.7 million in 2012/13. In determining theses forecasts Unitywater have used a general price escalation index of 3.5% based upon historical account information.

[41] 8.18% = 17.4% x 0.47. This assumes energy prices remain constant, and a 17.4% increase in network and distribution costs that comprise 47% of total costs as per the 2010/11 BRCI.
[42] 3.85% = (0.75 x 3.20) + (0.25 x 5.83).
[43] This does not indicate any view of the BRCI for 2012/13, on which the Authority has not yet formed a view.

SKM noted that transport costs are recognised as a significant cost component for chemicals (the cost of transporting chemicals to depots and throughout the distribution network). This is particularly relevant to Unitywater who are located further from the Brisbane logistics and industrial centres.

The amalgamation of the two former council water businesses increased Unitywater's purchasing power. There is potential for Unitywater to achieve efficiency gains or reduce its costs through economies of scale, consolidation of supplier contracts and taking advantage of this increase in purchasing power.

In its review of chemical costs, SKM found that there was insufficient evidence to support the assumption that Unitywater's chemical costs will increase above CPI. SKM therefore found that 3.5% is not a reasonable cost escalation factor, particularly as no efficiency gains or economies of scale have been factored in.

SKM revised the escalation factor for Unitywater's chemical costs down to 2.5% which allows costs to increase in line with the upper end of the CPI bound, offset by a 0.5% gain through efficiencies and economies of scale.

The Authority has also adjusted Unitywater's chemical costs for Frontier's revised demand forecasts (see Table 51).

Table 51: Revised Chemical Costs ($m)

	2010/11	***2011/12***	***2012/13***
Water	1.21	1.30	1.37
Wastewater	3.99	4.27	4.49
SKM Chemical Costs	5.20	5.57	5.86
Unitywater Submitted Costs	5.20	5.44	5.70
Variance	0.0%	2.28%	2.85%

Source Unitywater (2010), QCA (2010)

Efficiency Gains and Other Amendments

Unitywater's submitted operating costs for 2010/11 did not include any savings from efficiency gains therefore the Authority has sought to impose an efficiency target of 2% in non-bulk operating costs.

The Authority noted that even with these gains for 2010/11, SKM's analysis indicates there remains scope for ongoing efficiency gains to bring Unitywater to the forefront of operating efficiency. The Authority expects that further operating efficiencies in non-bulk operating costs should be achievable over the interim period, of at least 2% per annum.

The Authority therefore revised its estimates of operating expenditure for these years (these are reproduced in Table 53 with revised estimates).

The Authority noted that Unitywater did not include the Authority's regulatory fees in its operational expenditure forecasts. The Authority has included these regulatory fees in the revised operating costs, allocated on the basis of 2010/11 revenues. In addition to the

Authority's fee, the Authority has also amended Unitywater's regulatory and licence fees to include the newly established Queensland Water and Electricity Ombudsman fees. Unitywater's revised licence and regulatory fees are presented in Table 52 below.

Table 52: Revised Unitywater Licence and Regulatory fees ($m)

	2010/11	*2011/12*	*2012/13*
Water	0.42	0.49	0.52
Wastewater	0.88	0.99	1.02
Revised Total	1.30	1.48	1.54
Unitywater Proposed	0.53	0.55	0.57

Draft Report Summary

In the Draft Report, the Authority decreased Unitywater's operating expenditure ($133.81 million) for water by 0.61% in 2010/11, mainly due to the implementation of efficiency targets.

For wastewater, the Authority decreased Unitywater's operating expenditure ($93.17 million) by 1.58% mainly due to the inclusion of efficiency targets.

The Authority adjusted for revised demand forecasts, bulk water prices, regulatory fees, expected efficiency gains, chemical costs and electricity costs, but noted these will be subject to ongoing review in 2011/12 and 2012/13. The Authority expected that Unitywater may realise additional operational efficiencies in the future as it achieves economies of scale. The Authority also noted that there may be opportunities even within the constraints imposed by the SEQ Workforce Framework.

Stakeholder Submissions on Draft Report

In is submission on the Draft Report, Unitywater made a number of comments in relation to operating costs, including:

(a) that the benchmarking analysis for water and wastewater operating expenditure presented by SKM was simplistic and made no allowances for differences in cost allocation methods, capital versus operating expenditure capitalisation policies, or mature versus establishing businesses. Unitywater noted that they would welcome the opportunity to assist the Authority identify an appropriate benchmark for cost comparison purposes.

Unitywater further submitted that the CCQG guidelines for corporate costs may not be an appropriate benchmark for Unitywater as:

(i) CCQG definitions of corporate overhead differ from the Authority's, particularly in the treatment of network operations overhead, retail costs and overhead expenditure of a non-recurrent nature. Unitywater is not aware of any adjustments made by SKM to align definitional differences prior to comparing Unitywater to the CCQG benchmark;

(ii) the CCQG guidelines include agencies such as libraries, health services and transport with 350 FTE's or more and may be too broad to generate meaningful

comparisons for an infrastructure intensive industry characterised by long life assets;

(iii) best practice benchmarking would account for industry type, size, demographics, geological and geographical differences as well as maturity of the business by differentiating between developing and maturing businesses;

(b) that the SEQ arrangements effectively grandfather roles, pay scales, locations of work and duties by applying a no disadvantage test. There is also the burden of paying for work relocation in cash and time. Unitywater submits that the SEQ arrangements operates such that the only way to vary roles, position descriptions, locations of work or alike is through bilateral and in some cases multilateral agreement between Unitywater, the applicable employee or class of employee and the respective union or unions. Unitywater submitted this is a significant constraint and cost driver.

Unitywater noted that the Authority has not taken into account that no on-costs for labour in particular or provisions for accrual accounting were included in the third quarter budget forecasts;

(c) the Authority's 2% efficiency target on non-bulk operating costs does not take into consideration its start up and developing capability or the work required to amalgamate systems and processes from the six regional water businesses. Unitywater suggested that efficiency targets commence from 1 July 2013 once establishment and consolidation activities are complete;

(d) that a single view on efficiency targets be formed at either at the micro individual cost level or at the macro project, program or MAR level, but not both. Unitywater stated doing both compounds unrealistic efficiency targets on businesses with emerging capability. In particular, Unitywater submitted that the Authority's application of efficiency gains to regulatory fees was inconsistent with its separate advice of an increase in regulatory fees for 2011/12.

Unitywater noted a number of factors that impact on Unitywater's capacity to achieve the Authority's operating expenditure efficiency target, including:

(i) being a start-up business, Unitywater has new capabilities to establish, embed and retain. Unitywater noted difficulties in securing relevant skills, particularly in the retail, regulatory and corporate areas which were serviced through the council's corporate offices or shared services prior to the structural reforms which formed Unitywater. Unitywater noted that they are rapidly progressing towards, but have not yet attained stand-alone capability; and

(ii) the SEQ Framework, which places considerable constraint on Unitywater's flexibility and capacity to reorganise labour which in-turn, influences employee costs;

(e) as for capital expenditure, Unitywater noted that the January 2011 floods will explain some differences between forecast and actual expenditure for 2010/11. Unitywater advised that some planned operating expenditure was delayed due to the floods due to accessibility and safety concerns for Unitywater crews.

Authority's Analysis

In response to Unitywater's comments:

(a) the Authority recognises that comparing different businesses using benchmarking is not without its difficulties particularly as there are business and location specific factors that will vary across different businesses. SKM used the benchmarking analysis as part of its broader analysis to determine the reasonableness of Unitywater's proposed operating expenditure. In coming to its conclusions, SKM did not rely solely on the benchmarking aspect of the analysis.

Nonetheless, this analysis demonstrated that Unitywater does not sit at the forefront of operating efficiency, which is not disputed. The Authority supports the use of benchmarking as one of a suite of analytical tools to assess the reasonableness of proposed operating expenditure. Unitywater may wish to submit an alternative benchmark in future reviews;

(b) the Authority has noted the constraints that the SEQ Framework imposes on Unitywater in terms of employee costs. The Authority considers the general 2% efficiency target remains achievable. Natural attrition will assist as well as other management initiatives;

(c) in relation to this 2% efficiency target, the Authority notes that it is common regulatory practice to set general (non-specific) operating efficiency targets of up to 3.5% per annum that are not necessarily linked to identifiable cost efficiencies. The Authority considers that the establishment of Unitywater from the three former council water businesses provides it with significant scope for cost saving as many functions were duplicated in each business. The Authority notes that the establishment costs involved in the setup of Unitywater have now been capitalised into the asset base and therefore setup costs should not delay any operating efficiencies;

(d) the entity-wide 2% efficiency gains over the interim period are in addition to the specific adjustments to chemical and electricity costs in 2011/12 and 2012/13. These specific adjustments were made as the growth in prices assumed by Unitywater was considered to be too high for the merged entity.[44] Operational efficiencies from the creation of Unitywater are likely to present themselves over time to assist in achieving operating efficiencies and best practice. The Authority considers the business wide efficiency target is achievable in addition to any specific cost savings.

The Authority has now adjusted Unitywater's efficiency targets, excluding regulation and licence fees from the calculation of efficiency gains, as these costs are externally imposed and are not controllable by the regulated entity (Table 53); and

(e) the Authority notes Unitywater's comments in relation to the impact of the floods on forecast capital and operating expenditure. The Authority will compare actual expenditure versus forecast expenditure in its reviews as this information is provided and will be mindful of the impact of the flood in its analysis.

[44] Electricity and chemical costs were not adjusted in 2010/11. Electricity costs were decreased in 2011/12 and 2012/13 as the downward price adjustments outweighed an increase in demand. Chemical costs were increased in 2011/12 and 2012/13 as increases in demand outweighed the downward price adjustment.

Table 53: Further Efficiency Gains ($m)

	2010/11 Final	*2011/12 Draft*	*2011/12 Final*	*2012/13 Draft*	*2012/13 Final*
QCA efficiency target - water	-1.17	-2.46	-2.44	-3.79	-3.76
QCA efficiency target - wastewater	-1.85	-3.93	-3.89	-6.08	-6.02
Total Efficiency Gains	**-3.02**	**-6.39**	**-6.33**	**-9.87**	**-9.78**

Source QCA (2010)

In summary, the Authority has adjusted Unitywater's proposed operational expenditure for revised demand forecasts, bulk water prices, efficiency gains, chemical costs, regulatory fees and electricity costs. The Authority's operating expenditure for Unitywater over the price monitoring period for water and wastewater are outlined in Tables 54, 55 and 56 respectively.

Table 54: Reasonable Operating Costs - Water 2010-2013 ($m)

	2010/11 Draft	*2010/11 Final*	*2011/12 Draft*	*2011/12 Final*	*2012/13 Draft*	*2012/13 Final*
Bulk Water Costs	75.32	75.32	94.37	94.37	113.00	113.00
Retail Operating Costs						
Customer service and billing	2.64	2.64	2.74	2.74	2.84	2.84
Regulated demand management costs	na	na	na	na	na	na
Community service obligation costs	na	na	na	na	na	na
Other Costs	3.07	3.07	5.71	5.71	5.88	5.88
Distribution Operating Costs						
Employee expenses	16.57	16.57	17.27	17.27	17.95	17.95
Contractor expenses	6.29	6.29	6.45	6.45	6.63	6.63
GSL payments	na	na	na	na	na	na
Materials and services (including electricity and chemicals)	6.49	6.49	6.81	6.81	7.10	7.10
Licence or regulatory fees	0.42	0.42	0.49	0.49	0.52	0.52
Natural resources management costs	na	na	na	na	na	na
Corporate costs	22.98	22.98	21.59	21.59	21.87	21.87
Indirect Taxes	0.39	0.39	0.42	0.42	0.42	0.42
SKM Total Operating Costs	**134.17**	**134.17**	**155.85**	**155.85**	**176.21**	**176.21**
Efficiency gains	**-1.18**	**-1.17**	**-2.46**	**-2.44**	**-3.79**	**-3.76**
Total Operating Costs	**132.99**	**133.00**	**153.39**	**153.41**	**172.42**	**172.45**
Unitywater Proposed Total	**133.81**	**133.81**	**154.03**	**154.03**	**176.90**	**176.90**
Variance	**-0.61%**	**0.60%**	**-0.42%**	**-0.40%**	**-2.53%**	**-2.52%**

Source Unitywater (2010), QCA (2010)

Table 55: Reasonable Operating Costs - Wastewater 2010-2013 ($m)

	2010/11 Draft	*2010/12 Final*	*2011/12 Draft*	*2011/12 Final*	*2012/13 Draft*	*2012/12 Final*
Retail Operating Costs						
Customer service and billing	2.83	2.83	2.94	2.94	3.04	3.04
Regulated demand management costs	na	na	na	na	na	na
Community service obligation costs	na	na	na	na	na	na
Other Costs	3.27	3.27	6.07	6.07	6.25	6.25
Distribution Operating Costs						
Employee expenses	26.09	26.09	27.2	27.2	28.28	28.28
Contractor expenses	18.2	18.2	18.71	18.71	19.25	19.25
GSL payments	na	na	na	na	na	na
Materials and services (including electricity and chemicals)	16.77	16.77	17.97	17.97	18.82	18.82
Licence or regulatory fees	0.88	0.88	0.99	0.99	1.02	1.02
Natural resources management costs	na	na	na	na	na	na
Corporate costs	25.14	25.14	23.84	23.84	24.21	24.21
Indirect Taxes	0.40	0.40	0.43	0.43	0.43	0.43
SKM Total Operating Costs	**93.58**	**93.58**	**98.15**	**98.15**	**101.3**	**101.3**
Efficiency gains	**-1.87**	**-1.85**	**-3.93**	**-3.89**	**-6.08**	**-6.02**
Total Operating Costs	**91.71**	**91.73**	**94.22**	**94.26**	**95.22**	**95.28**
Unitywater Proposed Total	**93.17**	**93.17**	**97.72**	**97.72**	**101.12**	**101.12**
Variance	**-1.57%**	**-1.55%**	**-3.58%**	**-3.54%**	**-5.83%**	**-5.77%**

Source Unitywater (2010), QCA (2010)

A comparison between Unitywater's proposed and the Authority's revised operating expenditure for water and wastewater is in Table 56.

Table 56: Comparison of Unitywater's and Authority's operational expenditure ($m)

	2010/11	*2011/12*	*2012/2013*	*Total*
Unitywater forecast	226.98	251.75	278.02	756.75
QCA forecast	224.73	247.67	267.73	740.14
Difference	-0.99%	-1.62%	-3.70%	-$16.61

Source Unitywater (2010) and QCA calculations

Unitywater's forecast operational expenses for 2010/11 are generally reasonable, although the Authority has adjusted for revised demand forecasts, bulk water prices, efficiency gains, chemical costs, regulatory fees and electricity costs.

The Authority expects that Unitywater may realise operational efficiencies in each year of the interim period as it achieves economies of scale. At least 2% efficiency gains per annum in non-bulk operating costs should also be pursued in 2011/12 and 2012/13.

3.10 Costs

The Ministerial Direction requires the Authority to compare the entities' revenues with the Authority's MAR, which is based on the total costs of carrying on the activity.

Total costs identified earlier have not been adjusted for any revenue offsets required to calculate the MAR and include:

(a) operating and maintenance costs, including tax;

(b) return on capital; and

(c) return of capital, allowing for depreciation of assets over time.

The Direction also requires the Authority to take into account any revenue glide path submitted by the entity for the purpose of avoiding price shocks over the interim period. In its information request to the entities, the Authority required full details of the method used for smoothing and underlying data to be provided.

The impact of recent floods in SEQ has not been taken into account.

Draft Report

Unitywater's initial submission did not include an estimate of total costs for 2009/10 and 2010/11. However, Unitywater's data template provided information on bulk water costs and distribution and retail operating and maintenance costs, and the data to calculate tax, return on capital and return of capital for each activity from 1 July 2008. The Authority used Unitywater's data template to estimate Unitywater's 2009/10 total costs, for broad comparative purposes. Unitywater provided its forecast of total costs for 2010/11.

Unitywater submitted to the Authority that in comparing other operating costs between 2009/10 and 2010/11, the Authority should acknowledge that there are caveats to comparing projected historic costs for 2009/10 with forecast costs for 2010/11. The Authority notes that Unitywater's 2009/10 costs are estimates based on councils' third quarter budget forecasts.

For example, the councils' water and sewerage businesses used systems and resources housed in the corporate areas of the councils with the costs allocated to council corporate overheads as opposed to the water and sewerage business units. Unitywater now has to perform these functions as a stand-alone entity and apportion them accordingly, within the business.

Total costs for 2009/10 and 2010/11 are presented in Table 57 below.

Table 57: Unitywater Total Costs ($m)

	Costs 2009/10	***%***	***Unitywater Costs 2010/11***	***%***	***Unitywater Water Costs 2010/11***	***%***	***Unitywater Wastewater Costs 2010/11***	***%***
Bulk Water Costs [a]	62.01	13.7%	75.33	13.6%	75.33	29.1%		0%
Distribution and Retail Costs								
Other operating costs [a]	112.68	24.9%	151.65	27.4%	58.48	22.6%	93.17	31.7%
+ Tax [b]	17.63	3.9%	9.46	1.7%	3.50	1.3%	5.96	2.0%
+ Return on Capital [b]	185.23	41.0%	254.89	46.1%	99.66	38.4%	155.23	52.8%
+ Return of Capital [b]	74.44	16.5%	62.14	11.2%	22.32	8.6%	39.82	13.5%
Total Costs	**451.99**	**100.0%**	**553.47**	**100%**	**259.29**	**100%**	**294.18**	**100%**

Notes [a] Data sourced from Unitywater's information template. [b]Data sourced from Unitywater's supporting information. Return on capital in 2009/10 is the sum of interest, dividend payments retained earnings and capital gain..

On the basis of the Authority's analysis of the regulatory asset base, asset lives, cost of capital, and operating and maintenance costs, the Authority calculated the total costs of carrying on Unitywater's water and wastewater activities for 2010/11.

In doing so, the Authority calculated single year or 'unsmoothed' cost estimates, to allow for comparison with Unitywater's revenues and costs, which were predominantly set on this basis.

In the Draft Report, the Authority's estimate of total costs for water of $252.39 million was 2.66% lower than Unitywater's proposed costs. For wastewater, the Authority's estimate of total costs of $281.02 million was 4.47% lower than Unitywater's proposed costs.

Key differences between Unitywater's total costs and the Authority's arose from:

(a) other operating costs – the Authority had lower estimates of other distribution and retail operating costs due to efficiency gains and reductions to chemical costs;

(b) tax – the Authority's approach to tax was consistent with that set out in the relevant tax manual for the entities, whereby the value of a contributed asset or the amount of the contribution towards an asset will not be assessable and no deductions of any kind will be allowed in respect of the value of the contributed asset or in respect of the amount of the contribution towards an asset (LGTER 2010);

(c) return on capital – the Authority had a lower WACC of 9.35% compared to the 9.88% proposed by Unitywater. The Authority has a lower cost estimate than Unitywater for water and wastewater.

(d) return of capital – again the Authority had a lower cost estimate than Unitywater for water and wastewater.[45]

Stakeholder Submissions on Draft Report

Unitywater noted that the Authority amended its estimates of depreciation and indexation in its Draft Report. Unitywater noted that it is unable to reconcile the nature of the adjustments and request further details of these adjustments prior to the final decision.

Authority Analysis

The Authority notes that it has held discussions with Unitywater following its submission, which have resolved the nature of its amendments to deprecation and indexation.

As previously noted, the Authority has also adjusted its calculation of depreciation to ensure that depreciation at the entity level matches the sum of the depreciation by council area. This increases depreciation for both water and wastewater. The impact is less for water as asset lives are less diverse across councils.

A minor adjustment to the calculation of tax depreciation has been made as, in the Draft Report, tax depreciation was applied to capital expenditure for a full year whereas the expenditure would have been incurred throughout the year. This reduces tax depreciation and increases tax payable.

Unitywater's and the Authority's costs for 2010/11 are compared below (Table 58). Changes in the Authority's analysis from that in the Draft Report reflect:

(a) approved establishment costs of $13.13 million;

(b) a revised capital expenditure profile for the South Caboolture STP;

(c) the deferral of $50 million in capital expenditure being fully reflected in 2010/11;

(d) reinstatement of the Switchboard Replacement Program ($0.7 million in 2010/11);

(e) adjustments to depreciation to ensure that entity level calculations align with the sum of those done by council area and reflect appropriate timing; and

(f) removal of regulatory fees which are non-controllable from the operating expenditure efficiency calculation.

As a result of these changes, the Authority's estimate of total costs has increased (slightly) since the Draft Report for water, and fallen (slightly) for wastewater (see Tables 58 and 62).

[45] Unitywater had higher depreciation ($74.95m), higher tax ($11.86m) and a lower return on capital ($236.54m) at the time of price-setting. Estimates in their submission reflect more recent information.

Table 58: Comparison of Unitywater and QCA Costs for 2010/11 ($m)

	Water Unitywater Costs	***Water QCA Costs***	***QCA % of total***	**Wastewater Unitywater Costs**	***Wastewater QCA Costs***	***QCA % of total***
Bulk Water Costs	75.33	75.32	29.75%	0	0	0%
Distribution and Retail Costs						
Other operating costs	58.48	57.68	22.79%	93.17	91.73	32.71%
+ Tax	3.5	3.63	1.44%	5.96	6.05	2.16%
+ Return on Capital	99.66	94.47	37.32%	155.23	144.52	51.53%
+ Return of Capital	22.32	22.05	8.71%	39.82	38.15	13.60%
Total Costs	**259.29**	**253.15**	**100.00%**	**294.18**	**280.44**	**100.00%**

Source Unitywater data template, supporting information and QCA calculations. Note This table is updated from the Draft Report

3.11 Revenues for 2010/11

For price monitoring purposes, Unitywater's revenues as forecast at the time of price setting form the relevant forecast revenues. These revenue forecasts for 2010/11 are consistent with 2010/11 prices.

Unitywater submission

Unitywater identified its revenue forecasts for water and wastewater at the time of price setting (see Table 59).

Table 59: Unitywater's 2010/11 Revenue Forecasts for water and wastewater ($m)

	Unitywater Revenues
Water	180.50
Wastewater	191.78
Total revenue	**372.28**

Source Unitywater subsequent information

3.12 Comparing Revenues with MARs

Under the Ministerial Direction, the Authority must compare the entities' revenues with the MAR calculated by the Authority.

The MAR is based on the Authority's estimate of total costs of carrying on a water and wastewater activity. The MAR is calculated using the Authority's estimate of total costs less relevant deductions to ensure no double counting of inflationary gain and capital contributions.

Under the Direction, the entities have the choice of adopting a revenue offset or asset offset approach to capital contributions.

Draft Report

Unitywater's estimate of its total costs of carrying on its water and wastewater activities in 2010/11 is presented in Table 60 below (these costs were first identified in section 3.9). Unitywater had chosen a revenue offset approach to the treatment of capital contributions.

A comparison of Unitywater's total costs and Unitywater's revenue forecast (at the time of price setting) is also provided in the table below. This comparison showed under-recovery in both water and wastewater activities, with total under-recovery of $48 million or 11.42%.

Unitywater submitted that its pricing arrangements for 2010/11 were to implement a pricing policy to achieve full cost recovery at or near its best estimate of MAR. However, MAR for FY2011 and subsequent years is subject to the finalisation of some key assumptions, including the opening RAB.

Unitywater acknowledged that for FY2011, the current estimate of MAR is above that anticipated when setting prices. Unitywater's policy in this instance has been to retain the original prices, as announced, and to smooth prices in subsequent years (from FY2012 onwards) so that MAR is achieved over a defined period, on a NPV neutral basis.

Table 60: Unitywater's 2010/11 Total Costs and Total Revenues ($m)

	Water Unitywater 2010/11	***Wastewater Unitywater 2010/11***	***Total***
Total Costs (Unitywater)	259.29	294.18	553.47
- Indexation (Unitywater)	-23.78	-33.64	-57.42
- Capital contributions (Unitywater)	-33.01	-42.76	-75.77
Total Costs (Unitywater)[46]	**202.50**	**217.78**	**420.28**
Total Revenues (Unitywater)	180.50	191.78	**372.28**
Total Revenues - Costs (Unitywater)	**- 22.00**	**- 26.00**	**-48.00**
Per cent of Total Costs (Unitywater)	-10.86%	-11.94%	-11.42%

Source Unitywater subsequent information

A comparison of Unitywater's forecast revenues of its water and wastewater activities with the maximum allowable revenue, based on the Authority's estimate of the total costs of carrying on Unitywater's water and wastewater activities, is provided in Table 61.

The Authority's MAR is unsmoothed and based on 2010/11 total costs, and the revenue offset approach to the treatment of capital contributions is adopted, as per Unitywater's approach.

The Authority's analysis in the Draft Report indicated that, as a whole, Unitywater's revenues were below the Authority's maximum allowable revenue of $392.25 million by approximately

[46] Total costs estimated by Unitywater at the time of price setting were $382.71 million.

$19.97 million (or 5.09%). Water revenues fell below the MAR ($193.69 million) by around $13.19 million, or 6.81%. Wastewater revenues fell below the MAR ($198.56 million) by around $6.78 million or 3.41%.

Stakeholder Submissions on Draft Report

Unitywater requested that the Authority publish its views on whether under recoveries of MAR during price monitoring are recoverable during future periods. Unitywater suggested that the Authority consider options such as:

(a) capitalising under recoveries during the price monitoring period into the RAB for recovery over a time period to be determined, but return over recoveries as soon as practicable on an NPV neutral basis; or

(b) applying a standard unders and overs mechanism on a NPV neutral basis.

Unitywater stated that it would provide a proposal to this effect in its next price monitoring submission.

Authority's Analysis

The Authority notes that in calculating the benchmark MARs for the purposes of price monitoring, the Authority would take account of any smoothing adopted by entities to avoid price shocks. If an entity smoothes prices or revenues over a period in order to avoid price shocks, full details of the method used should be provided to the Authority. In calculating the MARs to recover efficient and prudent costs, the Authority would smooth on an NPV neutral basis, wherever possible.

The Authority will be able to provide a view on Unitywater's proposed approach once the details and supporting modelling is provided as part of its next price monitoring submission.

The Authority has calculated the MAR based on the updated information made available to it since the Draft Report.

The Authority's updated analysis indicates that, as a whole, Unitywater's revenues lie below the Authority's maximum allowable revenue of $392.87 million by approximately $20.59 million (or 5.24%).

Water revenues fell below the MAR ($194.37 million) by around $13.87 million, or 7.14%. Wastewater revenues fell below the MAR ($198.50 million) by around $6.72 million or 3.38%.

Table 61: Comparison of Unitywater's Revenues and the QCA MAR ($m)

	Water Unitywater 2010/11	*Wastewater Unitywater 2010/11*	*Total*
Total Costs (QCA)	253.15	280.44	533.59
- Indexation (QCA)	-25.76	-39.18	-64.95
- Capital contributions (QCA)	-33.01	-42.76	-75.77
Total Costs (QCA MAR)	**194.37**	**198.50**	**392.87**
Total Revenues (Unitywater)	180.50	191.78	372.28
Total Revenues – Costs (QCA)	-13.87	-6.72	-20.59
Per cent of Total Costs (QCA)	-7.14%	-3.38%	-5.24%

Source QCA calculations and Unitywater subsequent information.

A comparison of the Authority's MARs in the Draft and Final Reports are in Table 62. As noted previously, the final MAR is slightly higher for water and slightly lower for wastewater, arising in the main from the net effect of approved establishment costs, changes to capital expenditure resulting from further information provided by Unitywater and changes to the calculation of depreciation.

Table 62: QCA Draft and Final MARs for 2010/11 ($'000)

	Water			*Wastewater*		
	Draft	*Final*	*Difference*	*Draft*	*Final*	*Difference*
Operating Costs	132,998	133,006	8	91,702	91,720	18
Tax	3,559	3,633	74	5,879	6,047	168
Return on Assets	94,176	94,466	290	146,467	144,519	-1,948
Return of Assets	21,664	22,048	384	36,971	38,146	1,175
Total Costs	**252,397**	**253,154**	**757**	**281,019**	**280,432**	**-587**
- Indexation	25,687	25,764	94	39,700	39,184	-448
- Capital Contributions	33,011	33,011	-	42,762	42,762	-
MAR	**193,669**	**194,378**	**851**	**198,557**	**198,487**	**-70**

3.13 Costs, Revenues and Prices

The reconciliation of costs, revenues and average prices is outlined in Table 63 below.

Table 63: Costs, Revenues and Prices

	Council 2009/10	*Unitywater Water 2010/11*	*Unitywater Wastewater 2010/11*	*QCA Water 2010/11*	*QCA Wastewater 2010/11*
Bulk Water Costs ($m)	62.01	75.33		75.32	
Distribution and Retail Costs ($m)					
Other operating costs	112.68	58.48	93.17	57.68	91.73
+ Tax	17.63	3.50	5.96	3.63	6.05
+ Return on Capital	185.23	99.66	155.23	94.47	144.52
+ Return of Capital	74.44	22.32	39.82	22.05	38.15
Total Costs ($m)	**451.99** [a]	**259.29**	**294.18**	**253.15**	**280.44**
- Indexation		-23.78	-33.64	-25.76	-39.18
- Capital contributions		-33.01	-42.76	-33.01	-42.76
Total Costs (MAR)		202.50 [b]	217.78 [b]	194.37	198.50
Total Revenues	**301.42**	180.50 [c]	191.78 [c]		
Over / (Under) recovery		-22.00	- 26.00	n/a	n/a

	2009/10 Water	*2009/10 Wastewater*	*Unitywater Water 2010/11*	*Unitywater Wastewater 2010/11*	*QCA Water 2010/11*	*QCA Wastewater 2010/11*
Total Revenues/MAR ($m)	142.00	159.43	180.50	191.78	194.37	198.50
Volume (ML or connections)	47,146	288,607	48,722	295,098	48,722	295,098
Price ($/kL or $/connection)	**$3.01/kL**	**$552.40**	**$3.70/kL**	**$649.89**	**$3.99/kL**	**$672.64**

Notes [a] *The Authority has not calculated a MAR for 2009/10 as per its Framework Report (April 2010).* [b] *Unitywater costs as per data template and supporting information.* [c] *Unitywater revenues at the time of price-setting. Source QCA calculations and Unitywater subsequent information.*

3.14 Findings

For Unitywater:

(a) average retail water and wastewater prices in 2010/11 increased by 23.0% and 17.7% respectively. These increases fall below those that would achieve full cost recovery in 2010/11 (32.0% and 21.8%);

(b) residential bills for households using 200kl of water per year and one pedestal, increased by differing amounts depending upon council area, with increases of between 9.6% to 36.2%;

(c) bulk water costs account for 29.1% of Unitywater's proposed total water costs in 2010/11. Other retail and distribution operating costs account for 22.6%, return on capital accounts for 38.4%, tax for 1.4% and return of capital 8.6%;

(d) for wastewater, retail and distribution operating costs account for 31.7% of Unitywater's proposed total costs, return on capital accounts for 52.8%, tax for 2.0% and return of capital 13.5%;

(e) the most significant increases in proposed costs in 2010/11[47] relate to a 34.6% increase in retail and distribution operating costs, and a 21.5% increase in bulk water costs. There is an 11.7% increase in the return on capital (based on a comparison of councils' interest, dividend payments and retained earnings to the entity's proposed return on capital after taking into account the forecast under-recovery in 2010/11 of total costs).

The Authority's estimate of the costs of supply in 2010/11 is lower than Unitywater's. In this regard:

(a) Unitywater's forecast water revenues ($180.50 million) for 2010/11 fall below the MAR ($194.37 million);

(b) Unitywater's forecast wastewater revenues ($191.78 million) for 2010/11 fall below the MAR ($198.50 million).

(c) as a whole, Unitywater's revenue of $372.28 million falls below the MAR of $392.87 million calculated by the Authority.

[47] As previously noted, the Authority has not reviewed costs for 2009/10.

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APPENDIX A: MINISTERIAL DIRECTION

QUEENSLAND COMPETITION AUTHORITY ACT 1997
Section 23A
MINISTERS' DIRECTION NOTICE

Direction

As the Premier and the Treasurer of Queensland, pursuant to section 23A of the *Queensland Competition Authority Act 1997* (the QCA Act), we refer the monopoly distribution and retail water and wastewater activities (the activities) of the following Distributor-Retailer Authorities (the entities):

- Southern SEQ Distributor-Retailer Authority (Allconnex Water);
- Central SEQ Distributor-Retailer Authority (Queensland Urban Utilities); and
- Northern SEQ Distributor-Retailer (Unitywater);

to the Queensland Competition Authority (the QCA) for a price monitoring investigation covering the period from 1 July 2010 to 30 June 2013 (the interim regulatory period).

Conduct of the QCA pursuant to this Direction

In referring this investigation, the Ministers direct the QCA under section 24 of the Act as follows. For each entity, the QCA shall:

(a) provide timely and transparent information to customers about the costs and other factors underlying the annual increase in water and wastewater prices, including distinguishing the bulk and distribution/retail components to the extent that it is possible given the availability and reliability of relevant information;

(b) provide guidance to entities on the application of the information requirements referred to in (j) below;

(c) recognise the Government's policy that the prices charged by the SEQ Water Grid Manager for bulk water storage, treatment and delivery are to be passed through to customers in full;

(d) consider the availability of information from the entity, their emerging capability to provide information and the transitional work required to integrate and establish the entities;

(e) accept the operational constraints imposed by the SEQ Urban Water Arrangements Reform Workforce Framework 2010;

(f) monitor the revenues of each activity having regard to the maximum allowable revenue over the interim regulatory period, based on the total costs of carrying on the activity including each of the following:

  (i) the operational costs incurred in carrying on the activity;

  (ii) depreciation; and

  (iii) return on capital employed.

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(g) consider a weighted average cost of capital (WACC) within a reasonable range of values for 2010-11. The QCA is to advise the entity by 1 March 2011 and 1 March 2012 of the WACC benchmark that it will consider in 2011-12 and 2012-13 respectively;

(h) roll forward the regulated asset base (RAB) using the following principles:

(i) council distribution/retail asset valuations, establishing the initial regulated asset base as at 1 July 2008, are as advised by the Minister for Natural Resources, Mines and Energy and Minister for Trade;

(ii) the opening RAB for each subsequent year to be rolled forward annually in accordance with the following formula:

$RAB_t = (RAB_{t-1} + \text{Capital Expenditure}_t - \text{Regulatory Depreciation}_t - \text{Disposal}_t + \text{Indexation}_t)$
where t = the year under consideration;

(iii) to assess Capital Expenditure in (ii) above, the QCA is to assess capital expenditure (including information technology systems) for prudency and efficiency. The QCA must accept as prudent and efficient, and include in the RAB:

- actual capital expenditure, excluding establishment costs, for water and waste water as included in Council financial accounts for the period 1 July 2008 to 30 June 2010;
- allowable establishment costs as advised by the Minister for Natural Resources, Mines and Energy and Minister for Trade; and
- contributed, donated and gifted assets and capital expenditure funded through cash contributions and subsidies (capital contributions), for water and waste water for the period 1 July 2008 to 30 June 2010.

(iv) the QCA is to accept that, in setting prices from 1 July 2008, the councils applied a revenue offset approach to account for capital contributions received. This approach is to remain in effect until such time that the entity nominates, through their price monitoring information returns, to adopt the asset offset method. Where a change in methodology is adopted, the RAB is not to be adjusted retrospectively;

(v) to assess Regulatory Depreciation in (ii) above, the QCA must take into account for the period 1 July 2008 to 30 June 2010 the apportionment of Council distribution/retail valuations in (i) above to individual assets and evidence that regulatory depreciation on the physical assets has been calculated using existing useful lives attaching to the individual assets;

(vi) to assess the Indexation in (ii) above, the QCA must take into account the latest available Australian Bureau of Statistics Consumer Price Index (all groups, Brisbane), however, for the period 1 July 2009 to 30 June 2010, the 2009-10 Queensland State Budget inflation forecast may be used;

(i) take into account any revenue glide path submitted by the entity for the purpose of avoiding price shocks over the interim period; and

(j) monitor according to the QCA Final Report on the SEQ Interim Price Monitoring Framework (April 2010) and Information Requirements for 2010-11 (December 2009), except as amended by this referral, and excluding the process for triggering consideration of price setting regulation.

Consultation

The QCA must undertake an open consultation process with all relevant parties and consider submissions within the timetable for the review and reports. Consistent with section 34 of the QCA Act, all reports and submissions must be published on the QCA website.

Timing

For 2010-11, the entities must provide their price monitoring information returns to the QCA by 31 August 2010. For each subsequent year, the entities must provide their price monitoring information returns to the QCA by 1 July.

The QCA must provide a Final Report to the Ministers and the Minister for Natural Resources, Mines and Energy and Minister for Trade as follows:

a) for 2010-11, by 31 March 2011; and

b) for 2011-12 and 2012-13, by 31 December respectively.

[redacted]

ANNA BLIGH
Premier
Minister for the Arts

[redacted]

ANDREW FRASER
Treasurer
Minister for Employment
and Economic Development

APPENDIX B: WEIGHTED AVERAGE COST OF CAPITAL

1.1 Introduction

Under the Ministerial Direction, the Authority must consider a WACC within a reasonable range of values for 2010/11 and must advise the entities by 1 March 2011 and 1 March 2012 of the WACC it will consider in 2011/12 and 2012/13 respectively.

In their initial submissions, two entities (Allconnex and Unitywater) proposed a WACC of 9.88% (nominal post-tax) – the mid-point of the range recommended by the Competition Economists Group (CEG). QUU proposed a WACC of 10.25% – adopting many of the same parameter values as CEG and varying others to align with recent Authority decisions.

In actually setting prices (revenues) for 2010/11, Allconnex used a WACC of 9.12%, Unitywater used 8.44% and QUU used 9.2%. However, this appendix focuses on the parameters and values proposed by the entities for the Authority to use in calculating its MAR for price monitoring.

In its Draft Report, the Authority proposed a WACC of 9.35% for all three years of the price monitoring period (2010/11 to 2012/13).

In response to the Draft Report, the entities submitted commissioned papers by CEG and Professor Grundy, a Professor of Finance at the University of Melbourne, recommending a WACC of 10.81%.

QUU subsequently advised that, while it supported the approach adopted by CEG, it retained its original view of a WACC of 10.25%. Allconnex Water and Unitywater proposed a WACC of 10.81% on the basis of CEG advice.

As the entities jointly engaged CEG for WACC advice, for clarity and to avoid repetition, the Authority has set out in this one appendix its detailed analysis of the WACC parameters and value proposed by each of the entities and their consultants.

In undertaking this analysis, the Authority engaged Dr Martin Lally to provide specialist advice to the Authority and to apply the Authority's standard approach. Dr Lally's detailed papers are available on the Authority's website.

1.2 General Approach

The Authority's general approach is to estimate a nominal post-tax WACC using the Officer (1994) WACC3 model. This approach defines cash flows in nominal, post-tax terms and modifies the cash flows, as opposed to the discount rate, for the debt interest shield and tax, where the latter reflects the effects of dividend imputation.

Given these cash flow adjustments, the WACC3 is:

$$WACC = k_e(1-L) + k_d L$$

where L is the firm's leverage (i.e. debt to total value), k_e is the cost of equity and k_d is the cost of debt. The cost of equity is estimated using the Officer (1994) version of the Capital Asset Pricing Model (CAPM) where returns are defined to include dividend imputation credits to the extent that they are usable. The cost of debt is defined as the promised yield and is estimated as the sum of the risk-free rate and an appropriate debt margin.

The Authority also uses the Conine beta levering formula, which incorporates the imputation-adjusted corporate tax rate and an estimate of the debt beta, to convert the equity betas of comparable firms into an asset beta, and, in turn, to convert the asset beta to an equity beta for the firm in question.

Draft Report

In their initial submissions, all three entities estimated a nominal post-tax WACC using CAPM. QUU used the Conine beta levering formula. Allconnex and Unitywater relied on CEG analysis which referred to the Conine formula.

In the Draft Report, the Authority accepted the approach proposed by the entities. At the same time, the Authority noted that whether this approach should apply to price determinations to apply from 1 July 2013 will be investigated in the interim period.

Stakeholder Submissions on the Draft Report

Professor Grundy submitted that the Black CAPM, which adjusts for a perceived downward (upward) bias in the cost of equity for firms with betas less than (greater than) one, is superior to the Sharpe CAPM.

CEG also proposed that greater weight be given to the Black CAPM on the basis of empirical evidence of the Black CAPM's predictive power. CEG referred to the use of the Blume adjustment in this context, but noted that Professor Grundy proposed an alternative adjustment.

Authority Analysis

The Authority has previously reviewed the version of CAPM to be applied and decided upon the Officer version of Sharpe CAPM as part of its standard approach. At that time, there was overwhelming support from all stakeholders for its use.

Furthermore, the Authority notes that, in a recent report for the AER, Professor Davis (2011), also a Professor of Finance at the University of Melbourne, concluded (in response to a similar paper by Professor Grundy) that:

(a) the theoretical assumptions of the Sharpe CAPM do not necessarily lead to a downward bias estimate of the required rate of return for low beta firms, and the empirical evidence does not clearly demonstrate such a bias;

(b) the Black CAPM does not resolve the problems of the Sharpe CAPM and the Black CAPM is not better supported than the Sharpe CAPM by available empirical evidence; and

(c) implementation of the Black CAPM is problematic because of problems in reliably estimating the zero beta return.

The Authority does not currently support the application of Blume adjustments for cost of capital purposes as the adjustment is applied uniformly without regard to relevant information such as the industry to which the firm belongs.

The Authority has therefore retained the Officer CAPM for SEQ price monitoring.

1.3 Risk-free Rate

The risk-free rate represents the rate of return on an asset with zero default risk.

Under the Authority's current approach, the risk-free rate is based on a 20-day average yield of nominal Commonwealth Government (CGS) bonds whose maturity is matched to the term of the regulatory period. The Authority proposed this approach in its December 2009 Draft Decision on QR Network's December 2009 DAU, and subsequently refined and finalised it based on technical advice from Dr Lally in its June 2010 Draft Decision on QR Network's June 2010 DAU - Tariffs and Schedule F, which forms part of the 2010 undertaking approved in October 2010. The Authority again applied this approach in its June 2010 Final Report on the Gladstone Area Water Board.

The basic rationale for matching the term of the bond to the term of the regulatory cycle is that it satisfies the fundamental principle of regulation that the net present value of expected future cash flows should equal the initial investment (Lally 2004). This principle is equivalent to the statement that the maximum allowable revenue should cover the firm's efficient costs, including the cost of capital.

Draft Report

While in its initial submission QUU agreed that the risk-free rate should be based on a 20-day averaging period, it argued that the term of the Commonwealth bond rate should be 10, rather than five, years. In QUU's view, a 10-year rate better reflects the long-run rate of return expected by shareholders, is consistent with a 6% market risk premium, and represents commonly accepted regulatory practice. For these reasons, QUU submitted a 10-year risk-free rate of 5.43%, based on an averaging period from 7 May 2010 to 3 June 2010.

QUU also provided advice from PricewaterhouseCoopers (PwC) on the WACC and underlying parameter values. PwC agreed with QUU's use of a 10-year term for the risk-free rate, for similar reasons. PwC also argued that the majority of commercial valuers use a 10-year term for the risk-free rate when applying the CAPM in discounted cash flow (DCF) valuation.

PwC also critiqued the Authority's recent decision to match the term of the risk-free rate to the term of the regulatory period on the basis that:

(a) Dr Lally's result relies on the assumption that the term structure of interest rates is *fully* explained by the pure expectations hypothesis; that is, an upward sloping yield curve implies an expectation of higher future interest rates and not a term premium. As the Reserve Bank of Australia has stated that the pure expectations hypothesis is not suffic*ient* to explain the term structure of interest rates, PwC argued that the Authority does not have a basis for excluding it from the risk-free rate;

(b) Dr Lally's result requires that investors in regulated firms are able to sell their shares at the end of the regulatory period for an amount equivalent to the equity component of the RAB and such a result is not guaranteed, as estimates of future costs and volumes might be in error; and

(c) while invoking a 5-year risk-free rate would lower the cost of equity by 30 basis points, this would possibly be offset by an increase in the market risk premium (MRP) to 6.3%.

In their initial submissions, Allconnex and Unitywater relied on CEG's analysis of the risk-free rate and its recommended rate of 5.65%. This rate was estimated on the basis of a 5-year averaging period, rather than 20 day average, and on the basis of 10-year Commonwealth bond yields.

CEG argued that a long term average is required as the prevailing risk-free rate is unusually low, as during periods of economic crisis, the ensuing rush to the safety of government bonds depresses yields on those bonds. CEG stated that use of the prevailing risk-free rate (in

conjunction with a historical MRP) will therefore underestimate the current cost of equity. CEG further argued that estimating the risk-free rate using a historical average is consistent with estimating the MRP using a historical average. CEG acknowledged its recommended approach was a departure from Australian regulatory practice.

In the Draft Report, the Authority noted there are two main aspects to the entities' submissions: the term of the benchmark bond; and the duration (including the end date) of the averaging period.

The Term of the Benchmark Bond

As explained in its previous reports, in the past the Authority has estimated the risk-free rate with reference to the yield on 10-year Commonwealth bonds. However, in doing so the Authority questioned the appropriate term of the benchmark bond on the basis that it will tend to under or over-compensate the regulated business depending on the term structure of bond yields.

In this regard, it has been argued that the risk-free rate should be set with reference to the length of the regulatory period. This satisfies the principle that the net present value of expected future cash flows should equal the initial investment (i.e. the 'NPV=0' rule). That is, the maximum allowable revenue over the regulatory period should allow for efficient costs to be recovered. While the Authority had in the past recognised the conceptual soundness of this argument, the Authority accepted the use of a 10-year rate as the 5-year and 10-year differential was not material.

However, with differences between these bonds now being material, the Authority reviewed its past practice and considered that it should adopt the more appropriate term of the benchmark bond. This approach was proposed by the Authority in the QR Network December 2009 Draft Decision and subsequently refined in its QR Network June 2010 Draft Decision. The finalised approach has also been implemented in the context of the Authority's recent GAWB decision.

The essential point is that the term of the risk-free rate should be set equal to the term of the regulatory cycle in estimating both the cost of equity and cost of debt in order to satisfy the NPV=0 rule. However, in the presence of material and significant refinancing risk (i.e. the benchmark average term of debt exceeds the term of the regulatory cycle), the regulated firm will require compensation in order to implement swap contracts to match the interest and credit elements of the benchmark cost of debt to the regulatory cycle. Importantly, and regardless of the presence (or not) of refinancing risk, the term of the risk-free rate in both the cost of equity and the cost of debt should be set equal to the regulatory cycle. (The risk-free rate in the MRP is dealt with separately below.)

Dr Lally rejected PWC's arguments on the basis that:

(a) setting the term of the risk-free rate equal to the term of the regulatory cycle does not depend on the pure expectations hypothesis fully characterising the term structure of interest rates. Rather, his references to this hypothesis only give intuition for the results and do not underpin the fundamental conclusion;

(b) even if the market value of the firm diverges from the RAB due to estimation errors in costs and volumes, such estimation errors cannot be mitigated by an alternative choice for the term of the risk-free rate and importantly, any alternative term is likely to aggravate any divergence from the NPV=0 requirement and therefore should be rejected; and

(c) no adjustment to the estimate for the market risk premium is warranted because of the estimation difficulties in doing so and the lack of clear evidence in support of the need to make such an adjustment.

The Authority had already undertaken a comprehensive review of this issue in its June 2010 QR Decision and concluded that the term of the risk-free rate should be set to the term of the regulatory period. In considering stakeholder arguments and Dr Lally's responses in the context of this review, in the Draft Report the Authority indicated that it did not find stakeholders' arguments to move away from the Authority's current approach in setting the term of the risk-free rate to be compelling.

Interim price monitoring is for a three year period, from 1 July 2010 to 30 June 2013. While Dr Lally recommended that the term of the regulatory period should match annual price setting by the entities, the Authority preferred a three year term, after taking into account the need to minimise regulatory and compliance costs under light-handed price monitoring.

Therefore, the application of the Authority's approach to interim price monitoring required the risk-free rate to be estimated with reference to the yields on three-year Commonwealth bonds. This approach allowed the WACC for interim price monitoring to 1 July 2013 to be determined.

Duration of the Averaging Period

Dr Lally noted that CEG's approach involves estimating the risk-free rate using an averaging period of five years, rather than the standard practice of using a short period immediately before the regulatory period (i.e. 5-40 business days).

Dr Lally advised that standard practice should be adopted because it avoids ad-hoc judgements about when to depart from it and which historical period to use when doing so, and it avoids an upward bias to WACC from acting in this way when it favours the regulated firm. Furthermore, Dr Lally stated that there was no clear evidence that the current risk-free rate is unusually low.

The Authority noted its, along with other regulators', long-held view that the most recent observations of the risk-free rate provide the most relevant information for a forward-looking estimate. However, the Authority also noted that this consideration should be balanced against the possibility of the occurrence of an abnormal event. As a result, the Authority considered that a 20 trading day averaging period remains appropriate as it balances these two considerations.

For interim price monitoring for 2010/11, the latest possible end date for this averaging period is 30 June 2010, which is Dr Lally's preferred end date as it provides the most up to date information for determining prices from 1 July 2010. However, the Authority notes that the entities have referred to an end date of 3 June 2010 on the basis of CEG's advice.

In the Draft Report, The Authority noted that to implement prices from 1 July 2010 the entities would need to decide on future prices in advance, in order to inform stakeholders and to implement this decision in their billing systems. To decide on future prices in advance of their application necessarily requires a WACC to be determined before prices are applied. Consistent with light-handed price monitoring, and the realities of administering price changes, the Authority has adopted the entities' proposed end date of 3 June 2010. Nonetheless, results using the alternative date were also presented for comparison purposes.

Draft Report Summary

The Authority considered that the risk-free rate should be based on the yield on three-year Commonwealth bonds averaged over 20 trading days.

The rate as at 3 June 2010 (4.91%) was considered to be reasonable as the entities must determine the WACC prior to 2010/11 prices being applied from 1 July 2010. For information, the rate as at 30 June 2010 (4.76%) was provided, as it used the latest available information prior to the start of the regulatory period on 1 July 2010.

Stakeholder Submissions on the Draft Report

Based on further advice from CEG, Allconnex and Unitywater submitted that a nominal risk-free rate of 5.45% should be adopted. CEG used a 10-year benchmark and an averaging period of 15 trading days to 22 June 2010.

CEG argued that there is no conceptually correct approach for estimating the term of the risk-free rate to be included in the CAPM, as it is a one period investor model. Therefore, other grounds must be chosen and CEG identified: consistency with the MRP; limiting volatility; not underestimating the cost of equity; using a long term perspective; and consistency with the term of debt.

CEG also commented on the appropriateness of the NPV=0 rule. Professor Grundy claimed to have identified errors in Lally's analysis of the NPV=0 principle and presented an example in support of his claim.

Unitywater contended that there appeared to be an inconsistency in the approach adopted by the Authority in its assessment of infrastructure charges and this review. In this regard, Unitywater noted that the Authority, as part of the first State interest review of a draft Priority Infrastructure Plan (PIP), had indicated that the WACC should adopt a risk free rate based on 10-year CGS yields.

Authority Analysis

The Authority notes that, while CEG has raised additional arguments in support of its preferred term for the risk free rate in its response to the Draft Report, CEG has not shown that any of the arguments it raised satisfies the NPV=0 test.

The Authority addressed many of the issues raised by CEG in its Draft Report and these arguments are provided above and below (in relation to consistency with the MRP). The Authority engaged Dr Lally to assist in responding to further issues raised by CEG and Grundy. Dr Lally (2011) has specifically addressed many of the issues raised by CEG and Professor Grundy and in particular those relating to the NPV=0 rule.

In relation to volatility, Dr Lally (2011) noted that, if this is a concern, then the solution to this is to lengthen the regulatory cycle. The three year price monitoring period has been set by Government.

Dr Lally also noted CEG's argument that the 10 year risk-free rate is preferable to the three year rate because it is less likely to underestimate the cost of equity. However, Lally stated that this argument presumes that there is some uncertainty about the correct term and there is none; the correct choice is the three year rate if the regulatory cycle is three years.

With respect to CEG's argument that the 10 year risk-free rate is preferred over the three year rate because it better reflects the risks faced by investors in regulatory assets, Dr Lally stated that investors in long term bonds face significant interest rate risk because the payoffs on the bonds are fixed whilst equity investors in long-term assets subject to regulation are subject to less interest rate risk by the periodic resetting of the firm's output price (in accordance with prevailing interest rates). Thus, if a regulator uses a risk free rate that matches the regulatory cycle, the interest rate risk on these bonds matches that for equity holders of the regulated assets.

The Authority has recognised that relevant comparators have a ten-year average term of debt (section 1.8). Dr Lally previously advised (April 2010) that it would be efficient debt policy for a firm in this situation (i.e. with a benchmark average term of debt exceeding the term of the

regulatory cycle) to undertake swaps to convert the firm's schedule of debt to one that aligns with the regulatory cycle.

In relation to Unitywater's comment in relation to PIP reviews, the Authority notes that the assessment framework for the review of Priority Infrastructure Plans required the Authority to ensure that, in assessing any DCF methodology 'the discount rate falls within the range of rates set by DLGSR for local government financial reporting and full cost pricing purposes (unless otherwise justified)'. These rates allowed for a risk-free rate based on 10-year CGS yields.

Furthermore, in its *SEQ Interim Price Monitoring Framework Final Report (April 2010)*, the Authority specifically noted that the assessment framework for infrastructure charges was inconsistent with the recommended interim price monitoring framework. The Authority recommended that the Government align these review processes.

The Authority notes that CEG has now adopted a different averaging period (15 days to 22 June) to that originally submitted by CEG (5 years to 3 June) and that originally submitted by QUU (20 days to 3 June). The Authority considers that an averaging period of 20 days to 3 June 2010 remains appropriate for the reasons outlined in its Draft Report.

Therefore, the Authority proposes no change to its recommended risk-free rate of 4.91%.

1.4 Market Risk Premium

The MRP represents the premium that investors require to accept covariance risk associated with investments relative to the return provided by a risk-free asset. The Authority has typically adopted a MRP of 6% based on considering a range of methodologies.

Draft Report

In its initial submission, QUU proposed an MRP of 6%, based on standard regulatory precedent. QUU stated a 6% MRP is based on the use of 10-year bonds to estimate the risk-free rate. QUU provided advice from PwC that a MRP of 6% is consistent with most regulatory precedents in Australia, is appropriate at this time, and is the value applied by PwC valuation practitioners.

QUU noted that the use of a MRP of 6.5% by the AER was the result of a specific set of circumstances.

In their initial submissions, Allconnex and Unitywater relied on CEG's analysis of the MRP. CEG recommended a conservative estimate of the MRP is the AER's (2009) estimate of 6.5%, as a forward looking MRP should be higher due to the global financial crisis and in this context estimated a forward-looking value of 12% as at January 2009.

In the Draft Report, the Authority acknowledged that estimating the MRP is difficult (QCA 2010a, b), as all methods suffer from limitations. As a result, the Authority draws on a range of valid methods in determining an estimate.

Historical averaging methods (using a 10-year risk-free rate) produce MRP estimates ranging between 5.27% and 6.99% while forward looking measures and surveys range between 3.66% and 6%. The median of the estimates was 5.84% and the average was 5.63%.

In response to QUU's initial comment that a 6% MRP is based on the use of 10-year bonds to estimate the risk-free rate, the Authority noted that it has also estimated the MRP using 5-year bonds. The effect is to increase the Authority's median estimate of the MRP from 5.84% to 5.94%. Adopting a 5-year risk-free rate would not change the Authority's estimate from 6%.

Given the three year term of the interim price monitoring period, the Authority compared its previous estimates with those resulting from the use of 3-year bonds. The effect increases the Authority's average estimate from 5.63% (using 10-year bonds) to 6.00% (using 3-year bonds) and the median from 5.84% to 6.33%. Given the upward bias of the estimation techniques (e.g. Ibbotsen historical averaging), and the standard error of the estimates, the Authority considered that adopting a three-year rate would not change the estimate from 6%.

Further, the Authority notes that Dr Lally has advised that the term of the risk-free rate in the first term of the capital asset pricing model (CAPM) and implicit in the market risk premium (MRP) do not need to match (Lally 2010a, 2010c). Dr Lally has advised that the risk-free rate in the first term of the CAPM should reflect the term of the regulatory period whilst that used in estimating the MRP should reflect the across-investor average period between successive portfolio reassessments. Plausible estimates for the latter range from 1-10 years.

In response to CEG's proposed MRP of 6.5%, Dr Lally argued that in order to justify a higher estimate of the market risk premium, the across-investor average period between successive portfolio reassessments would have to be judged to be significantly below five years (e.g. 1 year). However, Dr Lally did not favour such adjustments to the MRP because they are arbitrary due to estimation difficulties and will impart an upward bias to WACC estimates because these adjustments are limited to periods in which they would raise WACC.

Drawing on all the above, the Authority did not support the CEG estimate of 6.5%, which refers to the AER (2009) decision. The AER made this change given its concerns at that time of the effect of market instability resulting from the global financial crisis.

The Authority did not propose to adopt the AER's decision on the basis that:

(a) the Authority's analysis indicates that 6% is reasonable using 10-year, 5-year and 3-year terms for the risk-free rate;

(b) any adjustments made to the MRP to accommodate short term market fluctuations are inherently subjective both in the scale of the adjustment and the period over which the would need to be subsequently reversed; and

(c) increasing the premium now would be inconsistent with past practice that sets the MRP at a level to encourage investment over the medium term and not in response to short term fluctuations.

The Authority considered that the WACC for SEQ price monitoring should be based on a MRP of 6%.

Stakeholder Submissions on the Draft Report

CEG proposed an MRP of 6.5% based on a 10-year risk-free rate, noting that its alternate calculation using a dividend growth model indicated an even higher estimate. CEG proposed a 7.04% estimate of the MRP if a three year risk-free rate is adopted.

CEG noted that, while the Authority's rationale for a 6% MRP is similar to that provided in the QR decision, there were apparent numerical inconsistencies – in the QR Draft Decision, the Authority stated that the adjustments when moving from a ten to a five year risk-free rate is 20bp whereas, in the SEQ Draft Report, the Authority claimed the effect is only 10bp. CEG stated that, when describing the effect of moving from a ten to a three year risk-free rate, the Authority appears to suggest that the impact on its mean estimate (37bp) is materially lower than the impact on its median estimate (49bp). CEG stated that the Authority did not provide a basis for these calculations.

Authority Analysis

The Authority addressed the issue of consistency between the term of the risk free rate and the MRP in its Draft Report.

In relation to the estimates of the MRP flowing from CEG's dividend growth model, the Authority notes that the resulting MRP lies well above CEG's recommended estimate. As CEG implicitly rejects the results from this approach, it has little persuasive value. Further, in his recent paper for the AER on this same issue, Professor Davis concluded that the dividend growth model is not superior to the Sharpe CAPM for estimating the cost of equity for an individual firm on theoretical grounds or available evidence, and that the wide range of estimates obtained by CEG (in that instance) illustrate the dangers of using this approach. Professor Davis stated that this method is unlikely to give reliable results.

In the Draft Report, the Authority demonstrated that its estimate of the MRP would not change even if a three-year risk-free rate was adopted in its estimation. The basis of the Authority's calculations reflects the four principal methods described in Lally (2004). The Authority has applied these methodologies to current data and a three-year risk-free rate.

The Authority notes there is no numerical inconsistency , as suggested by CEG, as the QR Draft Decision refers to the number of estimates of the MRP and concludes that 'The effect is to increase the Authority's median estimate from 5.84% to 5.94%.' This is consistent with the SEQ Draft Report.

The 20bp referred to by CEG is in a footnote to the QR Draft Report and refers to the difference in average risk-free rates. This does not directly translate to a difference in the median MRP estimate which is based on a number of methods.

The median is the numeric value that separates the lower from the higher part of a sample. The Authority's 5-year MRP set of estimates is [5.29%, 5.87%, 6.00%, 7.14%]. The 5.87% estimate is the Cornell forward estimate, which increased by 20 bp given the decrease in the risk-free rate. However, the 6.00% estimate is the survey estimate, which is unchanged by the change to a 5-year risk-free rate. Therefore, the effect on the median is half, or 10 bp.

The Authority further notes that, in its February 2011 draft decision on Envestra's access arrangements for its SA gas network, the AER has reverted back to a 6.0% MRP. In doing so, the AER essentially argued that the uncertainty regarding the impact of the global financial crisis is no longer a characteristic of prevailing market conditions. In this context, the AER re-examined the various forms of evidence and adopted an estimate of 6%.

A more detailed response to the issues raised by CEG can be found in Lally (2011).

After taking into account all the issues made in submissions, the Authority proposes no change to its recommended MRP of 6.0%.

1.5 Capital Structure and Credit Rating

Capital structure and credit rating are two related inputs into the assessment of WACC.

The Authority adopts a benchmark capital structure which refers to the relative weights of debt and equity that finance the regulated entity's asset base. In doing so, the Authority seeks to ensure the capital structure is efficient but allows the business to vary its actual capital structure if the firm believes there are resulting advantages.

The Authority's assessment of the credit rating is based on the benchmark capital structure. Although the rating itself is not a direct input into the WACC calculation, it is used to assess an appropriate debt margin.

Draft Report

In their initial submissions, all three entities proposed a capital structure of 60% debt and 40% equity and proposed a BBB+ credit rating, as recommended by CEG. CEG noted that, notwithstanding the Authority's assumption of 50% gearing for the Gladstone Area Water Board (GAWB), standard regulatory practice is to assume 60% debt and a credit rating of BBB+.

QUU provided advice from PwC which stated that QUU gearing of 60% and a BBB+ credit rating is consistent with market evidence for regulated energy businesses in Australia and regulatory precedent for energy and water businesses. PwC stated that the Authority's decision for GAWB's gearing arises from materially different business circumstances, namely concentrated and potentially unstable industrial demand. The Authority notes that these factors do not apply to a typical urban water business.

In the Draft Report, the Authority noted there are two main aspects to the entities' submissions: the capital structure and the credit rating of the relevant comparators of the SEQ entities.

Capital Structure

Dr Lally noted that relevant comparators for the capital structure of the SEQ entities are stand-alone efficient private sector firms in the water business or other monopoly providers of essential services, who must also be listed in order to obtain market value leverages. Dr Lally noted that the relevance of foreign listed water businesses should be considered with caution due to cross-country differences in the factors affecting firms' leverage decisions, including country differences in the treatment of bankruptcy.

Dr Lally also considered that the SEQ businesses can be differentiated from GAWB. Specifically, Dr Lally noted that PwC (2009) favoured a lower leverage of 50% for GAWB than the regulatory norm of 60%, due to GAWB's greater exposure to demand and weather-related risks than metropolitan water businesses. However, as the SEQ water businesses are metropolitan water businesses, this concern therefore does not arise.

Dr Lally concluded that the best available comparators could be drawn from the AER (2009) decision, where average market leverage amongst Australian gas and electricity network businesses over the period 2002-2007 was examined. The average leverage for 2007 was 59% and the average over the 6-year period was 62% (AER 2009, Table 5.3).

Dr Lally updated the leverage data for these firms and found their current market leverages ranged from 57% to 79%, with an average of 67%. Mindful that firms experience short term fluctuations around their optimal leverage, Dr Lally considered that the available data pointed to an optimal leverage of about 60%.

In the Draft Report the Authority considered that gearing of 60% debt is appropriate.

Credit Rating

In the Draft Report, the Authority noted that for any given business, credit ratings principally depend on leverage. The appropriate credit rating for the SEQ entities is that of a stand-alone efficient private sector firm in the water business or other monopoly providers of essential services, given a market leverage of 60%.

Dr Lally noted that the best groups of available comparators to determine benchmark credit ratings are the Australian gas and electricity network businesses referred to above. Credit ratings were available for three firms with ratings of A- (at 65% leverage), BBB- (73%) and BBB- (79%). Dr Lally considered that this data suggested that the average credit rating for these privately-owned firms with market value leverage of 60% would likely be BBB.

The Authority noted that one entity has provided it with a copy of some of its actual debt obligations, some of which correlate with a BBB+ rating. However, the Authority noted that it benchmarks against relevant efficient comparators and does not consider actual debt obligations or the actual credit ratings of regulated entities.

Given these considerations, in the Draft Report the Authority considered that a credit rating of BBB is appropriate.

Stakeholder Submissions on the Draft Report

All three entities accepted a capital structure of 60% debt and 40% equity. They proposed a BBB+ credit rating, as recommended by CEG.

In the context of calculating tax interest expense, QUU stated that the tax asset base for the calculation of tax interest expense should exclude contributed, donated and gifted assets and reflect historical cost (ie no indexation).

Brisbane City Council (BCC) submitted that, if the term of the risk-free rate is three years rather than 10 years, then the debt/equity mix should be adjusted accordingly, as higher risks related to refinancing and reinvestment risk usually requires a higher percentage of equity. BCC submitted that the capital structure (gearing ratio of 60%) adopted by the Authority may not be optimal under the three-year regulatory period.

Authority Analysis

The entities' submissions with regard to capital structure and credit rating have not changed, and the Authority's position remains as in the Draft Report.

The Authority notes that, for regulatory purposes, the benchmark debt should be consistent between the return on capital and tax calculations. The Authority has confirmed with the tax assessor that the tax asset base is used only for tax depreciation and not interest expense. For tax purposes, interest expense is based on actual interest. The Authority's (regulatory) calculation of tax depreciation uses the tax asset base (no indexation and no donated assets).

The Authority does not currently use actual interest for its regulatory estimate of the tax interest expense as, to ensure consistency between the WACC and the tax calculations, the Authority adopts a benchmark capital structure and cost of debt in both cases.

In relation to the issue raised by BCC, the Authority notes that refinancing risk is specifically addressed through the Authority's approach in which it is recognised that firms may adopt a longer term of debt due to refinancing risk.

The Authority proposes no change to capital structure (60% gearing) and credit rating (BBB).

1.6 Debt Beta

The debt beta is a measure of the covariance risk between the firm's debt returns and the market portfolio. However, in contrast to equity returns, debt returns are less amenable to estimation, as corporate debt is not frequently traded (although these problems can be overcome). As a result,

the Authority has previously estimated the debt beta by taking the the midpoint of its lower (i.e. zero) and upper bounds (i.e. the ratio of the debt margin to the MRP).

This approach was considered to be a reasonable compromise, as previous empirical evidence indicated that the debt beta was greater than zero but materially less than the upper bound, as the latter impounds non-covariance elements, such as compensation for expected default losses and for the inferior liquidity of corporate bonds to government bonds.

In the wake of the global financial crisis (GFC), debt margins ballooned to historically high levels that, under the Authority's 'midpoint approach' resulted in unreasonably high estimates of the debt beta. For example, a debt margin of 420 bp and a MRP of 6% yield an upper bound of 0.70 and, therefore, a midpoint of 0.35 for the debt beta. Given that the increases in debt margins witnessed during the GFC are likely to have involved increases in the non-covariant components of debt (e.g. higher expected default losses), the Authority maintained its estimates of the debt beta for QR Network and GAWB at their previous levels.

In any event, and importantly, the Authority has noted that, as long as the same value of the debt beta is applied consistently in the de-levering and re-levering process, the effect on the target equity beta should not be material, as long as the difference between the leverage of the comparators is not substantially different from the leverage of the target firm.

Draft Report

In its initial submission, QUU submitted a debt beta of 0.11 should be applied, consistent with that previously recommended by the Authority for GAWB. QUU noted that the GAWB report identified that abnormally high debt betas resulted when the current high debt margins were applied in the standard formula.

QUU provided advice from PwC which stated that it is not appropriate to apply a debt beta that is currently implied by the high debt risk premium using the formulaic estimation approach, in combination with previously estimated asset betas. Further, PWC argued that there is no credible empirical evidence for a significant positive debt beta, and that commercial valuation specialists ignore it.

In their initial submissions, Allconnex and Unitywater did not explicitly identify a debt beta, but have, in general, relied on CEG's analysis, which invokes a debt beta of 0.11.

In his advice to the Authority for the Draft Report, Dr Lally noted that the Authority's current approach of retaining its previous debt beta estimates implicitly assumes that the increase in debt margins since 2005 is attributable to non-beta factors.

Dr Lally considered an alternative approach would be to estimate debt betas by regressing corporate debt returns on market returns. He cited US studies that estimate debt betas for high grade and BBB bonds ranging from 0.02 to 0.04 (Cornell and Green 1991, and Schaefer and Strebulaev 2007). As a result, Dr Lally considered that these estimates suggest a debt beta of 0.11 is too high. However, at the same time, Dr Lally also agreed with the Authority that as long as the same value of the debt beta is applied consistently in the de-levering and re-levering process, the effect on the target equity beta should not be material. Therefore, on balance, Dr Lally recommended that the debt beta be set to zero.

In the Draft Report, the Authority acknowledged that estimating the debt beta using a formulaic approach (e.g. the midpoint approach) can generate artificially high estimates given abnormally high debt margins. It is for this reason that the Authority did not increase the debt beta in its recent reviews of QR Network and GAWB.

At the same time, the Authority has not previously accepted proposals for a zero debt beta on the basis that debt typically has a positive covariant component. In terms of a positive but lower value than 0.11, while Dr Lally has cited a range of 0.02-0.04 based on US data, the Authority considered it would be premature to adopt a value in this range without further study. A relevant consideration in this regard is that applying these studies to Australian data might not produce the same range.

Moreover, the Authority noted that the entities and CEG have all proposed a debt beta of 0.11, and have not offered alternative estimates.

Importantly, as noted above, as long as the same value of the debt beta is applied in the de-levering and re-levering process and the difference between the leverage of the comparators is not substantially different from the leverage of the target firm, the effect of the debt beta on the resulting equity beta is minimal. In this latter regard, the Authority noted that leverage differences are typically small between regulated firms and relevant comparators.

Therefore, in the Draft Report the Authority found that an appropriate value for the debt beta is 0.11 - pending further work in this area.

Stakeholder Submissions on the Draft Report

CEG submitted that the debt beta of 0.11 is not based on empirical estimates, but on an upper bound technique that would yield a nonsensical result – in the sense of being greater than the asset beta – if updated with current data.

Authority Analysis

As the Authority has noted, so long as the same value of the debt beta is applied consistently in the de-levering and re-levering process, the effect on the target equity beta should not be material, so long as the difference between the leverage of the comparators is not substantially different from the leverage of the target firm. In this regard, the leverage of the comparator firms is not sufficiently different to have a material impact.

The Authority has not previously accepted proposals for a zero debt beta on the basis that debt typically has a positive covariant component. CEG has not provided any compelling reason to change that view.

Therefore, the Authority proposes no change to its recommended debt beta of 0.11.

1.7 Asset and Equity Betas

The asset beta measures the business risk arising from the covariance, or sensitivity, of a firm's returns relative to the market's returns. However, asset betas are not directly observable and must be derived from observable equity betas. The equity beta reflects both the business risk associated with holding an investment and the financial risk borne by equity holders from the use of debt to finance that investment.

Draft Report

In its initial submission, QUU stated that there is no evidence that urban water has a systematic risk that is less than energy and in earlier electricity distribution decisions and in the recent QR decision asset betas of 0.45 have been applied. QUU proposed an asset beta of 0.43, which corresponds to an equity beta of 0.84, using the Conine formula and 60% gearing, 0.11 debt beta, and a gamma value of 0.5.

QUU provided advice from PwC which noted that, while QUU's equity beta of 0.84 (at 60% gearing) is slightly higher than the value PwC previously recommended for an urban water business, it is within the plausible range given the estimation error.

PwC stated that QUU's proposal is consistent with the proposition that water and energy businesses have similar levels of systematic risk (accepted by a number of regulators) and a belief that the AER's energy equity beta of 0.8 is correct (which is not consistent with the Authority's previous decisions to apply an equity beta of range of 0.9 to 1.10 for energy).

PwC also stated that while the Authority adopted an equity beta equivalent to 0.77 for GAWB (at 60% gearing) an equity beta of 0.84 is not significantly different, given the errors inherent in beta estimation.

In their initial submissions, Allconnex and Unitywater relied on CEG's analysis of the equity beta. CEG recommended that the equity beta should be between 0.8 and 1.0. The lower bound of 0.8 was taken from the AER (2009) which refers to analysis by Henry (2009). The upper bound was based on an examination of returns on six regulated firms relative to the market from January 2008 to March 2009 and beta estimates over the eight-month period from November 2008 to June 2009.

In their initial submissions, Allconnex and Unitywater adopted the mid-point of the CEG range: i.e. an equity beta of 0.9.

In his advice to the Authority for the Draft Report, Dr Lally noted that in choosing suitable comparator firms, the choice is limited to listed firms (by the need for market data to estimate equity betas) and should reflect consideration of the factors that underlie them. Lally stated that these factors comprise: the income elasticity of demand for the product, the nature of the customers, pricing structure, duration of contracts, nature of regulation, degree of market power, extent of real options, degree of operating leverage, and market weight.

Dr Lally stated that for metropolitan water business, other such water businesses as well as gas and electricity networks would be similar in terms of the relevant factors of the income elasticity of demand (low), the nature of the customers (local rather than foreign and individuals rather than businesses), the degree of market power (high), extent of real options (low), degree of operating leverage (high), and market weight (low). In relation to pricing structure, the Authority notes that SEQ water businesses obtain a large proportion of their revenues from fixed access charges (which apply to water and wastewater services), which would lessen their sensitivity to the business cycle.

However, Dr Lally noted that among such entities there are significant variations in terms of the form of regulation.

Revenue caps protect firms against output (demand) shocks because costs are largely invariant to output. Firms are largely protected against cost shocks because of the right to apply for regulatory reset in response to unforeseen events, and systematic cost shocks are by their nature unforeseeable. Dr Lally considered that these features suggest that firms would have very low exposure to systematic risks and therefore a very low asset beta. Revenue caps apply to electricity transmission and some electricity distributors. Ofwat has applied a revenue corrected price cap (with an unders and overs adjustment in the following pricing period) to regulated UK water firms and many customers are unmetered which essentially translates to a revenue cap arrangement.

As price caps expose firms to demand risks, Dr Lally stated that the betas of price capped firms should be larger than those of revenue capped firms. He then noted that under rate of return

regulation, prices are set consistent with actual costs, and prices are reset if the actual rate of return deviates from the prescribed rate. US water companies are subject to this regime.

Noting that the SEQ entities are subject to price monitoring, Dr Lally noted that commercial prudence would incline them to raise prices in response to upward cost shocks, while their monopoly power would permit them to do so. Fear of price control would incline them to reduce prices in response to downward cost shocks. Thus, the SEQ firms should have asset betas above revenue capped firms, less than price capped firms, and similar to rate of return regulated firms. Estimates from all these regimes are therefore useful.

Asset betas were calculated by Dr Lally for a range of firms, by de-levering raw equity betas using the firm's leverage coupled with a debt beta of 0.11 and relevant tax rates (Table 1). In doing so, Dr Lally translated estimates from previous studies by PwC (2009) and Henry (2009) into comparable data.

Table 1: Estimated Asset Betas

	No. of Companies	***Data Period***	***Asset Beta***
UK water companies	3	2004-2009	0.22
US water companies	9	2004-2009	0.38
Australian energy network companies	9	2002-2008	0.30
US electric utilities	11	1990-1998 and 2002-2008	0.37[a]
Mean			*0.32*[a]
Mean excluding UK water companies			***0.35***[a]

Source Lally 2010.[a] See Lally (2011).

In analysing these estimates, Lally noted that:

(a) Australian estimates should be favoured, as foreign estimates are estimated with reference to a foreign market index, which may differ in its leverage and industry composition from that of Australia, and these differences can affect beta values;

(b) estimates for longer periods are more reliable, and this favours the US estimates drawing on data from 1990 to 2008;

(c) estimates for larger numbers of firms are more reliable, and this favours all but the UK water company estimates; and

(d) estimates for firms subject to a regulatory regime most closely resembling the SEQ entities are preferred, and this favours all but the UK water company estimates.

Taking all these factors into account, Lally recommended the UK companies be given the lowest weight. If they are disregarded, the mean asset beta is 0.35. Dr Lally stated that this estimate warrants extrapolation to the SEQ entities.

In response to the remaining issues proposed by the regulated entities (and CEG), Dr Lally noted that:

(a) empirical evidence should prevail over references to previous regulatory decisions;

(b) the AER decision to lower the equity betas for regulated energy networks to 0.8[48] (forming CEG's lower bound) was above that suggested by the empirical evidence available to the AER, and the AER noted that its decision was taken in the interest of 'regulatory stability'; and

(c) CEG's upper bound for the equity beta of 1.0 is based on data over a period of eight months, and betas estimated over such a short period will have little statistical precision. In addition, CEG makes no adjustment for leverage differences, and the period appears to be chosen because it generates a high estimate. By contrast, Henry (2009) uses a period of 16 years to estimate betas for the US electric utilities, and the shortest period used in any of the relevant studies in Table 1 is five years.

Drawing on all the above, in the Draft Report the Authority considers that an asset beta of 0.35 is appropriate, which corresponds to an equity beta of 0.66 at 60% gearing.

Stakeholder Submissions on the Draft Report

CEG proposed an equity beta of 1.0, using more recent data and correcting a minor calculation error by Dr Lally. Further, CEG stated that the dataset that Lally relies upon to recommend an asset beta of 0.35 is too small. CEG also raised a number of issues relating to the methodology adopted by Dr Lally.

Authority Analysis

Dr Lally acknowledged the computational error but noted that, after correcting for this, the beta estimates remained unchanged (Lally 2011).

Further, Dr Lally examined the additional data provided by CEG and noted that it abandons the data span of 15 years (1990-1998 and 2002-2008) for US energy utilities that excludes a period of unusually low and a period of unusually high betas. In contrast, CEG's preferred sample for US energy utilities is only three years (2008-2011) and includes a period of unusually high betas but excludes the period of unusually low betas. CEG's sample period for UK and US water firms is from 2006-2011, whereas Lally used the period from 2004-2009.

As regulators have consistently excluded the unusually low beta period (1998-2002) in decisions to date, Lally considered it unreasonable for CEG to rely solely on the unusually high recent beta period.

The Authority notes that CEG's sample does not include data from Australian companies whereas these are included in Lally's sample and are considered to be more relevant comparators than US firms. Further, Dr Lally noted that he considered 32 firms in his analysis, which is not small in this context.

Again, the Authority notes that Dr Lally (2011) provides a more detailed response to the issues raised by CEG.

After taking into account all relevant issues, the Authority proposes no change to its asset beta of 0.35, which corresponds to an equity beta of 0.66 at 60% gearing.

1.8 Cost of Debt

The cost of debt is the promised yield on it. It is expressed as the sum of the risk-free rate and an appropriate debt margin.

[48] The AER equity beta of 0.8 at leverage of 60% implies an asset beta of 0.41

Draft Report

In its initial submission, QUU proposed a cost of debt of 10.11%, with a debt margin of 4.68%, comprising a debt margin of 455 basis points and an annual debt raising cost of 12.5 basis points. In estimating this margin, QUU adopted the seven-year BBB Bloomberg estimate and extended it to 10 years by extrapolation; that is, by adding the 10-year to seven-year AAA yield differential. The margin was estimated over the 20 days to 3 June 2010.

QUU also provided advice from PwC which stated that the cost of debt should be calculated using 10-year BBB+ fixed rate Australian debt. PwC noted it has found the CBA Spectrum curve tends to become less reliable, and is likely to underestimate actual bond yields at longer terms than the limit of the data, which is currently six years for a BBB+ rated bond. PwC noted that in September 2010 the Commonwealth Bank temporarily suspended the CBA Spectrum service following internal review. PwC concurred with the Authority's previously expressed view that the CBA Spectrum debt risk premium underestimates the premium expected between debt terms of five and 10 years.

PwC noted that it now applies the Bloomberg BBB debt risk premium at 6 years, as there are currently no BBB data points beyond six years, plus the rise in the Bloomberg AAA curve from six to 10 years. PwC noted that its approach results in a 4.52% debt margin (inclusive of 12.5 basis points for debt raising costs) that is not materially different from that proposed by QUU of 4.68%.

In their initial submissions, Allconnex and Unitywater relied on CEG's analysis of the cost of debt. CEG recommended a cost of debt of 8.79% (with a risk-free rate of 5.65% and therefore a debt margin of 3.14%), estimated using:

(a) 10-year debt – as long-lived infrastructure businesses near universally issue debt with a maturity of 10 years or greater;

(b) averaging over the CBA Spectrum and Bloomberg data service; and

(c) equally weighting the prevailing cost of debt and the average cost of debt over the last five years.

In assessing the efficient cost of debt in the Draft Report, the Authority acknowledged that firms subject to a fixed regulatory cycle might issue longer-term debt, due to refinancing risk. Refinancing risk is not a matter to be resolved through in-principle arguments but with reference to empirical evidence of relevant comparators.

In considering the relevant benchmark term of debt, the Authority sought market information regarding the average debt term of relevant comparators. In this regard, Dr Lally noted that in a recent report for the Authority, PwC (2010) concluded that a benchmark 10-year term was appropriate for GAWB, based on evidence provided by regulated businesses to the AER and debt market activities to May 2010. Consistent with this advice, Dr Lally considered that the 10-year benchmark term of debt is also relevant for the SEQ distribution and retail entities.

The Authority accepted this advice and noted it was consistent with CEG's position that infrastructure businesses issue 10-year debt.

Dr Lally previously advised (April 2010) that it would be efficient debt policy for a firm in this situation (i.e. with a benchmark average term of debt exceeding the term of the regulatory cycle) to undertake swaps to convert the firm's schedule of debt to one that aligns with the regulatory cycle. As such, the regulator should compensate the firm for these costs, just as it covers

insurance premia for efficiently managing other business risks. The Authority previously accepted this approach.

Specifically, in his previous advice, Dr Lally demonstrated that a regulator can still satisfy (or closely approximate) the NPV=0 principle even when the average term of debt exceeds the regulatory term provided that:

(a) the term of the risk-free rate in the cost of debt matches the term of the regulatory cycle;

(b) swap contracts can convert the firm's schedule of debt issues to one that aligns with the regulatory cycle. For a three-year regulatory period, it would be efficient for a regulated firm to purchase:

    (i) interest rate swaps to convert the risk-free rate element of the cost of debt into three-year debt; and

    (ii) credit default swaps to convert the debt premium element of the cost of debt into three-year debt.

Therefore, even in the presence of refinancing risk, the appropriate risk-free rate benchmark remains the Commonwealth Government 3-year bond. As noted above, the risk-free rate as at 3 June 2010 is 4.91% (at 30 June is 4.76%).

In the case of QUU, taking account of the size of the notional face value of debt and BBB credit rating, Evans and Peck estimated that the cost of interest rate swaps is 17.4 bp based on market data.[49]

At the same time, market research indicated that credit default swap contracts were not generally available for the volume of debt required by QUU based on the current structure of the Australian credit default swap market.

However, the Authority considered that a reasonable proxy for credit default swaps is the difference between the 10-year and the three-year debt margins for BBB-rated bonds.

Data Service

In estimating the debt margin in the Draft Report, the Authority noted that an issue is whether to rely on the Bloomberg or CBASpectrum service. As the two services involve different sets of inputs and apply different methodologies, there is scope for differences in the resulting bond yields.

The Authority previously noted its concerns about the CBASpectrum estimates that appear to generate AAA and BBB+ yield curves that are not markedly different after five years (QCA 2010). However, theory would predict that an unbiased estimate of a seven-year BBB+ yield should materially exceed a seven year AAA yield due to a higher probability of default associated with the former.

As a result, the Authority considered that Bloomberg is a more reliable predictor at the current time. However, in mid 2010, Bloomberg did not report BBB yields for terms greater than seven years due to a lack of observations.

While there are a range of options to extrapolate the Bloomberg seven-year BBB yield to obtain a 10-year yield, the Authority considered that the approach adopted by QUU, of adding the term

[49] Evans and Peck also advised the cost of interest rate swaps of 14.8bp for 10 year to one year swaps, as requested by the Authority.

premium for the Bloomberg AAA fair value curve (7-10 years) is reasonable. As Bloomberg seven year data is available the Authority is inclined to use this in preference to the six year data preferred by PwC.

Dr Lally noted that a further complication arises when estimating the WACC as at 30 June, as the seven and ten year AAA bond yields are not reported after 22 June 2010, whilst the seven year BBB yields are. Consequently, Dr Lally advised that the average of the term premium for the period 23 to 30 June 2010 is estimated from the average such value over 3 to 22 June.

Accordingly, the Authority adopted a debt margin in the Draft Report combining:

(a) the three-year debt margin, estimated by Bloomberg as 2.74% for the 20 trading days ending 3 June 2010 (2.80% to 30 June 2010);

(b) compensation for the cost of credit default swap contracts which are not able to be directly priced. A proxy premium of 1.74% is allowed (the difference between the 10-year debt margin and the three-year debt margin as at 3 June. The difference is 1.73% as at 30 June 2010);

(c) an allowance of 0.174% for interest rate swap costs; and

(d) an allowance of 0.125% for annual debt refinancing.

The Authority concluded that, as at 3 June 2010, these allowances provide a total debt margin of 4.78%, and a cost of debt of 9.69%.

Stakeholder Submissions on the Draft Report

CEG submitted a cost of debt of 10.06%. CEG noted that the cost of debt in the Authority's Draft Report lies above the cost of equity and claimed this was inconsistent with standard finance theory.

CEG proposed that the Authority's approach to hedging was not efficient or properly costed. CEG argued that the type of derivative contract implied in Lally (April 2010) would be non-standard and much more costly than the costs allowed by the Authority.

CEG submitted that the Authority's approach requires a swap contract which involves a contract based on paying and receiving bond rates rather than swap market rates (i.e. bank bill swap rates), the latter of which is standard. CEG argued that, as the Authority and Lally have accepted advice from Evans and Peck based on the cost of a standard swap contract which uses swap rates, when the bond rate diverges from the swap rate, the firm is exposed to risk that is not hedged and the costs associated with that risk.

Unitywater submitted JP Morgan's opinion on the interest rate and credit default swaps proposed for Telecom NZ in a regulatory context. JP Morgan opined that:

(a) the swap of the nature envisaged by Telecom NZ where it swaps its bond exposure for exposure to the NZ government 1-year rate is highly unusual though not inconceivable;

(b) undertaking a credit default swap – in addition to the interest rate swap to convert a five-year rate into one-year rate – is at the limits of feasibility, and the pricing which would arise would be profoundly unattractive to all parties. The legal and reputational issue is not a trivial matter and would be problematic with respect to JP Morgan's global risk policies.

Authority Analysis

The Authority accepts that the cost of debt should fall below the cost of equity when the cost of debt is defined as the expected rate of return. However, the debt premium and cost of debt commonly used in a WACC calculation relate to the contractual (promised) rate of return on debt – which will generally exceed the expected rate of return because of expected default losses and a premium for the illiquidity of corporate bonds relative to government bonds.

A similar point has also been made by Professor Davis (2011). Lally (2011) has noted that, following the global financial crisis and the substantial increase in promised yield debt margins, the promised rates are likely to exceed expected rates 'by a very significant level'.

Another reason that the cost of equity is below the cost of debt relates to the Authority's practice of including transactions costs (of swaps and debt refinancing) in the cost of debt. When these transactions are excluded, the cost of equity (8.85%) exceeds the cost of debt on a promised yield basis (7.65%), and more so on an expected rate basis.

In response to the efficiency of hedging, the Authority considered that it is appropriate for regulated firms to raise debt with a maturity greater than the regulatory cycle to protect against the refinancing risk, with hedges used to align the risks with the regulatory cycle.

While Dr Lally accepted that the use of standard swap market rates does not provide a perfect hedge to the bond rate, he noted that the divergence is approximately zero over the time period presented by CEG and, in any case, that such imperfections are typical of hedging contracts. Therefore, while the Authority's hedging strategy does not provide a perfect hedge, it is a very close approximation.

Importantly, it gives the firm an option to simultaneously meet its refinancing and interest rate risks - the firm can always choose not to exercise that option. If the firm borrows for 10 years and fails to hedge its debt, then it is speculating on interest rate movements and bears that risk. Similarly, if a firm borrows for only the regulatory cycle and there are significant refinancing risks, its exposes itself to them.

In terms of the costing of the swap contracts, Evans and Peck have provided estimates based on considering detailed market data for the relevant time periods. CEG has not presented empirical evidence to support its claim that the Authority's hedging strategy is not properly costed.

In relation to JP Morgan's advice to Telecom NZ, the Authority has recognised that there may not be the ability to practically enter into credit default swaps and, more significantly, there is no market data available on the costs for these contracts. Therefore, as this data is not available, the Authority has adopted a conservative approach whereby the difference between the 10-year and the three-year debt margins for BBB-rated bonds is considered to be a reasonable proxy for credit default swaps.

Drawing on all the above, the Authority considers that, as at 3 June 2010, the allowances it provided (a total debt margin of 4.78%, and a cost of debt of 9.69%) remain appropriate.

1.9 Gamma

Gamma reflects the benefit from dividend imputation credits and is the product of the utilisation rate of those credits and the distribution rate (imputation credits distributed as a proportion of company tax paid).

To date, the Authority has adopted a gamma value of 0.50.

Draft Report

Stakeholders did not comment on an appropriate value for the gamma parameter.

In the Draft Report, the Authority noted that on 13 October 2010 the Australian Competition Tribunal handed down its reasons for its decision regarding the AER's South Australia and Queensland distribution determinations. The Tribunal found errors by the AER in its treatment of the imputation credit distribution ratio and the utilisation rate. However, the Tribunal did not make a determination on the value of gamma to be applied for the South Australia and Queensland distribution determinations. The Tribunal sought a report from the AER in relation to various aspects of the determination of gamma.

The further work being prepared by the AER as part of the Tribunal proceedings was not available for the Authority's Draft Report. The Authority also noted that the AER's Victoria distribution determination on 29 October 2010 reflected a gamma of 0.5.

As no stakeholders made submissions on a value for gamma, the Authority retained its current value of 0.50.

Stakeholder Submissions on the Draft Report

CEG presented alternative values for gamma but adopted 0.50 in its recommendation to the SEQ entities.

Authority Analysis

The Authority notes that the further work sought as part of the Tribunal proceedings is still not available for this Final Report.

As no stakeholders have proposed a different value, the Authority has retained its value of 0.5 for gamma.

1.10 Conclusion on WACC

A comparison of the entities' proposed values along with Dr Lally's and the Authority's recommendations on the cost of capital for the three entities is set out in Table 2. In general, the entities have a higher risk-free rate and equity/asset beta than Dr Lally's and the Authority's estimates. However, both Dr Lally and the Authority have a higher (total) debt margin than the entities. The differences between Dr Lally's and the Authority's estimates have been outlined above.

The Authority's estimate of 9.35% lies between Dr Lally's estimate (9.02%) and that proposed by the entities in their various submissions (9.88%, 10.25% and 10.81%). The Authority's estimate also lies above the WACC used by QUU (9.2%), Allconnex (9.12%) and Unitywater (8.44%) at the time of price setting.

In their submissions on the Draft Report, the entities noted that the Authority had proposed a point estimate and the Direction refers to 'a WACC within a reasonable range of values for 2011/12'.

In response, the Authority notes that it is has considered each of the key factors which determine WACC and selected the most appropriate value for each. As such, the WACC is reasonable (and is within a reasonable range of values).

Consistent with the Ministerial Direction, the Authority's advice on the WACC benchmark it will adopt for price monitoring was provided to the entities in advance of this Final Report.

In this advice, the Authority noted that it intends to commence an Authority-wide review of its WACC methodology soon, which will involve stakeholder input. If available and appropriate, the results of this review would be taken to account in determining the WACC to be adopted for 2012/13 and beyond.

Therefore, after taking into account all the comments made in response to the Draft Report, the Authority retains its view that the most appropriate estimate of the WACC for the interim price monitoring period is 9.35%, subject to variation for 2012/13 if considered appropriate following the Authority's proposed WACC review.

Table 2: Cost of Capital Parameters

	Allconnex and Unitywater (Initial Submission)	***Allconnex and Unitywater (Submission on Draft Report)***	***QUU***	***Dr Lally***	***QCA***
Risk-free rate	5.65%	5.45%	5.43%	4.50%	4.91%
Market risk premium	6.5%	6.5%	6.0%	6.0%	6.0%
Capital structure (% debt)	60%	60%	60%	60%	60%
Debt beta	na	0.11	0.11	0.0	0.11
Asset beta	na	0.50	0.43	0.35	0.35
Equity beta	0.8 to 1.0 (midpoint of 0.9)	1.00	0.84	0.68	0.66
Cost of Equity	**10.85% to 12.15% (midpoint of 11.50%)**	**11.95%**	**10.46%**	**8.60%**	**8.85%**
Debt margin	3.14%	4.48%	4.55%	4.53%	2.74%
Credit default swap (proxy)	na	na	na	na	1.74%
Interest rate swap allowance	na	na	na	0.148%	0.174%
Annual debt refinancing allowance	na	na	0.125%	0.125%	0.125%
Debt margin (total)	3.14%	4.48%	4.68%	4.80%	4.78%
Cost of Debt	**8.79%**	**10.06%**	**10.11%**	**9.30%**	**9.69%**
WACC margin	**4.23%**	**5.36%**	**4.82%**	**4.52%**	**4.41%**
Officer WACC3	**9.88%**	**10.81%**	**10.25%**	**9.02%**	**9.35%**