[redacted]

From: Richard Koerner [rjkoerner@iinet.net.au]
Sent: Sunday, 17 July 2011 1:54 PM
To: Cath Barker
Subject: Fwd: Re: Class IC: MI-11-1508 Your concerns
Attachments: kpmg-valuation-of-seq-councils.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

This email contains an attachment that may be work related and must be filed into the DMS. If you need assistance with
the Executive Officer at xo@qca.org.au.

[redacted]

[redacted]

[redacted]

-------- Original Message --------
Subject: Re: Class IC: MI-11-1508 Your concerns
Date: Sun, 17 Jul 2011 13:50:00 +1000
From: Richard Koerner <rjkoerner@iinet.net.au>
To: Complaints <Complaints@cmc.qld.gov.au>

Attn. Mr. Dylan Jones

Dear Mr. Jones,

Thank you for the response dated 14 July.

In paragraph five reference is made to CMC correspondence dated 7 June
and 8 August 2008. I have a copy of correspondence dated 7 June 2006 but
nothing dated 7June 2008.
To assist me in providing additional forensic evidence underpinning the
QCA's concerns, I would appreciate obtaining copies of the CMC
correspondence that is cited in paragraph five.

Thank you for the list of correspondence provided with the QCA
submission. Was the copy of the e-mail to Ms. Cath Barker dated 6 July
accompanied by the attached report to the Queensland Government Dated
December 2007 so as to assist the CMC in its consideration of the matter
relating to the Queensland Government's commissioning of KPMG to provide
expert advice that is not in accordance with NWI Pricing Principles
agreement with the Federal Government under COAG? The correct
methodology to determine regulatory assets is spelled out in the QCA's
Statement of Regulatory Pricing Principles for the Water Sector
(December 2000 pps 32-35) and reaffirmed in the QWC's correspondence of
6 June 2011 in paragraph three. Assertions of the Acting CEO of QWC set
out in the second sentence of paragraph four of that correspondence
dated 6 June 2011(Ref: D/11/023121) are misleading.

Kind Regards,

Richard Koerner

On 15/07/2011 11:38 AM, Complaints wrote:
> Dear Mr Koerner,
>
> Please find attached the CMC's response to your concerns.
>
> Integrity Services
>
>
>
> **********
> This message (including attachments) is intended for the addressee named above.It may also be confidential, privileged and/or subject to copyright. If you wish to forward this message to others, you must first obtain the permission of the author.
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> **********
>
>

The attached PDF document may not be searchable by our Document Management System. Please contact Jason at jaso

KPMG

CORPORATE FINANCE

Queensland Treasury SEQ Water Transaction Unit

Valuation of SEQ Councils' Bulk Water Assets

Approach and Process

December 2007

AUDIT ▪ TAX ▪ ADVISORY

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1 Introduction

1.1 Background

In May 2007, the Queensland Water Commission (the Commission) released its final report, *Our Water: urban supply arrangement in South East Queensland*, which set out proposed reforms to the water industry in South East Queensland. This report recommended that the bulk water assets currently owned by the councils be acquired by the State Government. Further, the report recommended that separate, council-owned entities be established to undertake the distribution and retail activities.

On 4 September 2007 the Government announced its final decision in respect of the Commission's May 2007 final report. The Government's decision supported the recommendation that bulk water assets currently owned by councils be acquired the State Government.

KPMG has been engaged by Queensland Treasury to undertake the financial due diligence for the acquisition of the bulk water assets from the councils. As part of this task, KPMG will undertake a valuation of each council's water business and advise on the consideration to be paid for the bulk water assets.

A number of drafts of proposed approaches to undertaking the valuations and allocation of the value between bulk water, distribution and retail activities have been provided to Queensland Treasury. Queensland Treasury in turn has undertaken considerable consultation with the South East Queensland Council of Mayors and received submissions from the South East Queensland Council of Mayors and their advisors.

The views of all parties have been considered by Treasury in relation to the approach to valuation and allocation to be adopted.

1.2 Purpose of paper

The purpose of this paper is to provide an overview of the methodology used to value each council's water business and allocate the overall value of the council's water business to the specific business activities.

As previously proposed the consideration to be paid by the Queensland Government for the bulk water assets will be determined through a two-stage process, comprising:

- Stage 1 – valuation of each council's water business as a whole; and
- Stage 2 – allocation of the value to the specific business activities (i.e. bulk, distribution and retail).

1.3 Disclaimer

1.3.1 Inherent limitations

This paper has been prepared as outlined in Section 1.2 of this paper.

KPMG have indicated within this paper the sources of the information provided. We have not sought to independently verify those sources unless otherwise noted within the paper.

KPMG is under no obligation in any circumstance to update this paper, in either oral or written form, for events occurring after the paper has been issued in final form.

The findings in this paper have been formed on the above basis.

1.3.2 Third party reliance

This paper is solely for the purpose set out in Section 1.2 of this paper and for Queensland Treasury's information, and is not to be used for any other purpose or distributed to any other party without KPMG's prior written consent.

This paper has been prepared at the request of Queensland Treasury. Other than our responsibility to Queensland Treasury, neither KPMG nor any member or employee of KPMG undertakes responsibility arising in any way from reliance placed by a third party on this paper. Any reliance placed is that party's sole responsibility.

2 Valuation Methodology

2.1 Overall Approach

The first stage of the valuation process is to determine the market value of each council's water business as a whole, as it currently operates. The valuation will be undertaken using the Discounted Cashflow Methodology (DCF) as described in Section 2.2. The issue of compensation for taxation forgone and other impacts on Councils' operations of the acquisition are to be dealt with as a separate matter.

The second stage of the valuation process is to allocate this overall value between the bulk, distribution and retail business activities. The allocators used will be the relative value of each business activity under the proposed structure, using regulated pricing principles. It is assumed that each council water business will be separated into bulk, distribution and retail (to the extent that each council has activities in each of these sectors). This is referred to as the allocation value.

2.2 Market Value

2.2.1 Definition

A fair or market value of a business is usually defined as "the arm's length price at which the business would change hands between a willing buyer and a willing seller, neither being under any compulsion to buy or sell and both having reasonable knowledge of the relevant facts".

By definition, market value excludes "special value", which is the additional value (over and above fair value) that particular acquirers who can achieve synergistic or other benefits, may be prepared to pay for a business.

2.2.2 Valuation Methodologies

Market value is commonly derived by applying one (or more) of the following valuation methodologies:

- discounted cash flow;
- capitalised earnings; and
- asset based methods.

Each of which is briefly described below.

2.2.2.1 Discounted cash flows (DCF)

DCF is based on the premise that the value of a business is the net present value (NPV) of its future cash flows. It requires forecasting of cash flows over a suitable period of time, analysis of these future cash flows, the capital structure and cost of capital (discount rate), and an assessment of the residual value of the business remaining at the end of the forecast period.

This valuation method is generally appropriate for businesses that are able to forecast long term cash flows, businesses with a finite life or currently in a start up phase, and businesses that are forecasting significant growth and/or expect to experience lumpy or volatile cash flows.

In order to apply the DCF method, detailed future cash flow projections over a reasonable forecast period and an assessment of a terminal value are required.

2.2.2.2 Capitalisation of earnings

An earnings based approach estimates a sustainable level of future earnings for a business (maintainable earnings) and applies an appropriate multiple to those earnings, capitalising them into a value for the business.

This approach is appropriate where the earnings of a business are sufficient to justify a value exceeding the value of the underlying net assets, and where a relatively stable historic earnings pattern is demonstrated. Capitalisation of future maintainable earnings methodology is a proxy for DCF.

A valuation based on the capitalisation of future maintainable earnings requires the determination of three factors:

- a level of future maintainable earnings;
- an appropriate capitalisation rate or multiplier; and
- the value of surplus assets (being assets not integral to the business operations).

In considering the maintainable earnings of the business being valued, factors to be taken into account include whether the historical performance of the business reflects the expected level of future operating performance, particularly in cases of development, or when significant changes occur in the operating environment, or the underlying business is cyclical.

Multiples applied in an earnings based valuation are generally based on data from listed companies and recent transactions in a comparable sector, but with appropriate adjustment after consideration has been given to the specific characteristics of the business being valued. The multiples derived for comparable quoted companies are generally based on share prices reflective of the trades of small parcels of shares. As such, multiples are generally reflective of the prices at which portfolio interests change hands. That is, there is no premium for control incorporated within such pricing. They may also be impacted by illiquidity in trading of the particular stock. Accordingly, when valuing a business *en bloc* (100%) reference is made to the multiples achieved in recent mergers and acquisitions, where a control premium and breadth of purchaser interest are reflected.

A multiple can be applied to:

- earnings before interest, tax, depreciation and amortisation (EBITDA);
- earnings before interest and tax (EBIT); or
- net profit after tax (NPAT).

Multiples of EBITDA and EBIT are commonly used in valuing industrial companies and in valuing whole businesses for acquisition purposes where gearing is in the control of the acquirer. However, multiples of EBITDA are preferable for businesses where amortisation and/or depreciation may distort company earnings. Multiples of NPAT are relevant in valuing businesses where interest or investment income is a major part of the overall earnings of the group (e.g. financial services businesses and/or banks).

2.2.2.3 Asset based methods

Asset based methods are commonly used:

- when a business is operating at a loss or at a low return that is not consistent with the level of net assets employed;
- when liquidation is anticipated or the future prospects of the company are extremely doubtful;
- when the nature of a business is to hold capital growth assets;
- when the company has substantial surplus assets;
- when the company is inactive or dormant; or
- as an indication of the minimum value that a vendor might be willing to accept on the sale of the business.

There are three general assumptions under which a valuer can perform an asset based valuation:

- the business is a going concern;
- the business is undertaking an orderly realisation of assets; or
- the business is undertaking a "fire sale" of assets.

Typically, the lowest asset values are derived from a "fire sale" assumption while the highest asset values are derived from a "going concern" assumption.

Going concern basis

A valuation using the asset based method on a going concern basis requires the determination of the market value of net assets. The value is estimated by determining the market value of assets, and then deducting the market value of liabilities. In the absence of any information to the contrary (e.g. a property or plant and equipment valuation), the carrying or book value of assets is usually taken to be representative of market value.

The going concern assumption assumes that the business will continue to trade, albeit generating profits at a rate of return lower than required by investors in some cases, and that no realisation of assets will occur. Accordingly, no allowance for realisation costs is required.

Orderly realisation of assets

The value achievable in an orderly realisation of assets is estimated by determining the net realisable value of the assets or business segments on the basis of an assumed orderly realisation. The businesses liabilities and costs associated with the sale of the assets or business segments are deducted as part of the assessment.

The orderly realisation process assumes that assets are realised (either individually or as a group) in such a way as to maximise their proceeds.

Fire sale

A "fire sale" assumes a seller who is anxious to sell or liquidate assets and is prepared to accept a discount for a prompt sale. The shorter time frame in a "fire sale" compared to an orderly realisation of assets does not typically maximise the sale proceeds, resulting in a lower value being attributed to the business.

The method requires assessment of the realisation value of all assets and liabilities in an orderly disposal process then deducting the value of liabilities and costs of disposal from the value of the assets.

2.2.3 Appropriate Methodology

The suitability of each of the above valuation methodologies to valuing the councils' water businesses is canvassed in the following table:

Valuation method	Suitability	Reason
Discounted cash flows	●	The water businesses are long term utilities expecting growth from expanding populations and economic growth requiring lumpy capital expenditures and are changing pricing policies. The businesses are capable of developing detailed cash flow projections.
Earnings based	○	The water businesses' earnings growth is linked to the timing of expansion and changes to pricing policy. Capitalisation of earnings is therefore not appropriate as a primary valuation methodology for capturing the value of anticipated growth.
Asset based methods	○	Earnings based value would exceed the realisable value of net assets

Notes:

●◕◑◔○ *reflects degree of suitability, from more suitable* (●) *to less suitable* (○).

Source: KPMG

Consistent with the analysis in the table, the DCF methodology is the commonly used approach in valuing utility businesses and is considered appropriate for the water businesses.

2.2.4 Discount Rate

Approach

Determining a discount rate is primarily a matter of judgement as to the discount rates that would be used by acquirers of the assets being valued.

The Weighted Average Cost of Capital (WACC) is widely used as an appropriate discount rate. The use of WACC is underpinned by the Capital Asset Pricing Model (CAPM) is a body of theory that has wide acceptance as a means of determining a likely range of appropriate discount rates.

WACC concepts

Two main classes of capital - debt and equity, fund the assets of a firm. As such, from the perspective of the firm, it is possible to derive an overall cost of capital to a firm based on an appropriate WACC.

The WACC reflects the rate of return that is required to provide both debt and equity holders with a return that is commensurate with the level of risk inherent in an investment. Selection of an appropriate WACC therefore involves determination of appropriate costs of equity and debt and appropriate assumptions in relation to the debt-equity mix.

This concept is illustrated by the following formula (which calculates an after tax nominal rate):

$$\mathbf{WACC} = \mathbf{K_e*(1-t)/(1-t(1-\gamma))*E/(D+E)+ \quad K_d(1-t)*D/(D+E)}$$

where the key inputs are defined as follows:

K_e = the after-tax cost of equity, which is the rate of return required by the providers of equity capital

K_d = the pre-tax cost of debt, which is the rate of return required by the providers of debt finance

t = the applicable corporate tax rate

γ = the proportion of imputation credits that can be used by shareholders

D = the market value of debt

E = the market value of equity

D/(D+E) = the proportion of debt in the capital mix of the relevant business operation

E/(D+E) = the proportion of equity in the capital mix of the relevant business operation

Given that the capital of the firm is used to finance the assets of the firm, WACC can be viewed as the cost of capital for the assets of the firm. It is an opportunity cost of capital in the sense that it reflects the returns that would have been earned in the market with the relevant capital if it were employed in the next best investment of equivalent risk profile. It represents the minimum weighted-average rate of return, which is required or expected by the providers of capital as compensation for bearing the risks associated with the relevant investment.

Proposed WACC

It is proposed to use a post-tax nominal WACC as the discount rate and then apply the rate to post-tax, pre-debt cash flows.

Originally it was proposed to apply a nominal pre-tax WACC to pre-tax, pre-debt cash flows for the following reasons:

- A pre-tax framework enables a uniform approach to valuing the bulk assets across each of the Councils' water businesses without reference to the tax profile of each of the businesses by removing the necessity to consider the taxation depreciation schedules for each of the businesses in the valuation process.

- A pre-tax framework is considered to be less information intensive. Given the extremely tight timeframe imposed to complete the valuations and the acquisition transaction, and the considerable work load currently faced by Councils, a pre-tax framework will be less time consuming for Councils.

- With less complexity, the pre-tax framework will assist in facilitating a more transparent valuation process.

The decision to apply a post-tax nominal WACC to post-tax, pre-debt cash flows as opposed to a nominal pre-tax WACC applied to pre-tax, pre-debt cash flows is as a result of receiving information from councils in a form that allow an estimate of taxation to be made. In addition, the valuations are now to be completed in a timeframe which enables consideration of the issue.

Using a post tax framework is consistent with market practice.

Each of the components of the WACC formula is discussed further below.

Cost of Equity (Ke)

The WACC approach represents a merger of the CAPM with capital structure. In the WACC formula shown above, the CAPM provides the means for estimating the cost of equity.

The CAPM provides a theoretical basis for determining a discount rate that reflects the risk of a particular investment or business operation. In simple terms, the CAPM states that the returns expected by an equity investor reflect the risk of the underlying equity investment. The risk can be determined by the risk-free rate of return plus a risk premium which reflects the relative risk (as measured by the "beta" factor) required to be borne by the investor. Therefore, the required rate of return for equity securities is determined as set out below:

$K_e = R_f + ß*(MRP)$

where the key inputs are defined as follows:

R_f = risk free rate of return

ß = beta factor of the investment or business operation

MRP = equity market risk premium

Whilst the theoretical foundations for estimating the cost of equity are rigorous, the application of the theory is not straightforward. A large degree of subjectivity is involved in estimating the inputs to the formula. These limitations mean that any estimate of the cost of equity must necessarily be regarded as indicative rather than a firm and precise measure. Furthermore, because the cost of equity is a market-determined measure, changes in market conditions will affect its calculation.

Risk-free Rate (Rf)

The relevant risk free rate of return is the return on a risk free security, typically for a long-term period. In practice, long dated government bonds are an acceptable benchmark for the risk-free security.

For Australian discount rates, the yield to maturity on the ten year Commonwealth Government bond is generally accepted as a proxy for the risk-free rate.

For the purposes of calculating K_e***, the Risk-free rate (Rf) used will be the average yield for a 10 year Commonwealth Government Bond over the 20 business days prior to the valuation as published by Queensland Treasury Corporation on its GOC Cost of Capital Inputs page***

Market Risk Premium (MRP)

The MRP represents the additional return that investors expect from an investment in a well-diversified portfolio of assets (such as a market index). This is an "ex-ante" concept. It is the expected premium, and as expectations are not observable, a historical risk premium is typically used as a proxy.

Over a range of time periods, the historical data suggests that the arithmetic historical MRP in Australia exceeds 6%. However, recent studies adjusting the data for a range of factors indicate that these historical estimates may be high. Such factors may incorporate specific events or reflect the perceived quality of data beyond a certain point.

The market risk premium is not constant and changes over time. At various stages of the market cycle, investors perceive that equities are more risky than at other times and will increase or decrease their expected return.

A 2002 study by Gray[1] considered whether there was any evidence of a fall in the MRP. Based upon various timeframes he concluded that:

- There is no statistical evidence of a recent fall in the MRP.
- Statistical tests indicate no basis for concluding that the MRP in recent periods is less than 6%.

While there is no precise measure of the MRP, it is necessary to subjectively determine a point value for the purposes of determining a base cost of equity. There is limited evidence to suggest the MRP has declined over time, and accordingly an MRP of 6.0% is often used in practice.

For the purpose of calculating K_e***, the Market Risk Premium used will be 6.0%***

Beta Factor (ß)

The beta factor is a measure of the relative risk of an investment or business operation, relative to a well-diversified portfolio of investments. In theory, the only risks that are captured by beta are those risks that cannot be eliminated by the investor through diversification. Such risks are referred to as systematic, undiversifiable or uninsurable risk. The concept of beta is central to the CAPM given that systematic risk is the only risk that is priced into investors' required rates of return.

[1] Stephen Gray, "Issues in the Cost of Capital Estimation", University of Queensland, 20 March 2002.

The beta for equity securities can be statistically measured by regressing the returns on an equity market index, such as the S&P/ASX 200 Index, against the share price returns of the relevant stock. The market portfolio has an equity beta of 1.0 by definition. A beta greater than 1.0 implies that the average returns on a stock are more volatile and hence the stock is more risky than the market, whilst a beta of less than 1.0 implies the reverse.

The beta of a stock can be presented as either an adjusted beta or as an historical beta. The historical beta (also known as a raw beta) is obtained from the linear regression of a stock's historical data and is based on the observed relationship between the security's return and the returns on an index. Conversely, the adjusted beta is an estimate of a security's future beta. It is initially derived from the historical beta, but modified by the assumption that a security's true beta will move towards the market average of one, over time. Generally, an adjusted beta (which is based on Bayesian statistics) is used because of its greater predictive features.

Typically, the number of monthly observations used in calculating a beta is 48 as a minimum (4 years) and no more than 60 (5 years). According to academic literature, periods shorter than 4 years have insufficient observations to construct a business cycle (that is, the need to approximate one business cycle). Similarly, periods greater than 5 years contain too much information that is out of date.

In order to assess the risk inherent in entity being valued, comparable companies involved in the same or similar industry/business would be identified and their betas considered.

Betas derived from stock market observations represent equity betas, which reflect the degree of financial gearing of the company. Consequently, it is not possible to compare the equity betas of different companies without having regard to their gearing levels. In theory, "ungearing" or "unlevering" the equity beta, by applying the following formula, can obtain a more valid analysis of betas:

$$ß_a = ß_e/(1+(D/E*(1-t))$$

where "D/E" is the debt to equity ratio of the relevant equity security (based on market values) and "t" is the corporate tax rate. The adjustment involves stripping out the impact of financial gearing from the equity beta to obtain an asset beta (denoted by $ß_a$). The asset beta is subsequently "regeared" to an optimal level of gearing to determine the equivalent equity beta.

The foregoing discussion on the factors taken into account in assessing an appropriate asset beta highlights the difficulty and high degree of subjectivity involved in the assessment. In this regard, differences in asset betas of comparable companies are not easily reconcilable.

The following table sets out the betas of companies in the water sector across the world.

Water Company Asset Betas			
Region	**Arithmetic Average**	**Median**	**Weighted Average**
United States	**.40**	**.36**	**.43**
United Kingdom	**.22**	**.24**	**.23**
Europe	**.43**	**.28**	**.82**
China	**.77**	**.80**	**.77**
Other	**.52**	**.46**	**.59**
Total	**.46**	**.36**	**.55**

Source: Bloomberg and KPMG analysis

Additionally a review of asset betas used in calculating WACC in relevant water business related decisions by regulators in Australia has been completed and the outcome is shown in the following table.

Qld	TAS	ACT	WA	WA
QCA – GAWB	**Prices Oversight Commission**	**ICRC – ACTEW**	**ERA – Water Corp**	**ERA – AQWEST & Busselton Water**
Mar 2005	**2001**	**Mar 2004**	**Nov 2005**	**Nov 2005**
0.4	**0.3-0.55**	**0.4**	**0.43**	**0.44**

Source: KPMG analysis of regulators decisions

Based on the review of market and regulator determined asset betas the asset beta to be used for the calculation of WACC is in the range of 0.25-0.55 and the midpoint value of 0.4 has been selected.

Re-leveraging this asset beta assuming the optimal capital structure determined in the *Capital Structure or Gearing* section below, the equity beta to be used for the calculation of WACC is 0.68

For the purpose of calculating K_e, ***the equity beta (ß)used will be 0.68***

Cost of debt (Kd)

The cost of borrowing is the expected future borrowing cost of the relevant project and/or business. The conventional practice for estimating Kd is to add an appropriate debt margin or risk premium for debt based on prevailing yields on debt securities of comparable risk and maturity to the benchmark risk free rate.

The debt margin is normally estimated by assessing the credit rating of the business which reflects the business risk of the entity and the benchmark level of gearing. Then it is necessary to estimate the debt margin payable by corporate borrower with the relevant credit rating relative to the risk-free rate. A number of commercial services provide estimates of the spread between risk-free government bonds and corporate bonds of various ratings. Credit ratings are based, in varying degrees, on the following considerations:

- Likelihood of payment—capacity and willingness of the obligor to meet its financial commitment on an obligation in accordance with the terms of the obligation;
- Nature of and provisions of the obligation;
- Protection afforded by, and relative position of, the obligation in the event of bankruptcy, reorganisation, or other arrangement under the laws of bankruptcy and other laws affecting creditors' rights.

In assessing an appropriate credit rating of the council water businesses consideration has been given to the definitions of rating used by the major credit rating agencies to long term debt a rating of BBB has been ascribed to the council water businesses.

A BBB rating indicates that there are currently expectations of low credit risk. The capacity for payment of financial commitments is considered adequate but adverse changes in circumstances and economic conditions are more likely to impair this capacity. This is the lowest investment grade category. Such a rating is consistent with decisions of regulators in the Australian market.

For the purpose of calculating WACC, the cost of debt (Kd) will be calculated by adding a debt margin based on a BBB credit rating to the average yield for a 10 year Commonwealth Government Bond over the 20 business days prior to the valuation. Both the debt margin and bond rate will be as published by Queensland Treasury Corporation on its GOC Cost of Capital Inputs page

Capital Structure or Gearing

The selection of an appropriate capital structure is a subjective matter. Ultimately for each business there is a level of debt/equity mix that represents the optimal capital structure for that business.

Optimal (as opposed to actual) capital structures are not readily observable. In practice, the existing capital structures of comparable businesses can be used as a guide to the likely capital structure for a firm, taking into consideration the specific financial circumstances of that firm.

The gearing level of a company at a given point in time can reflect recent new issues of debt or equity.

The derivation of WACC then requires the determination of the optimal capital structure to set the weightings of debt and equity.

The conventional practice for estimating optimal capital structure is to identify comparable companies involved in the same or similar industry/business and analyse their capital structures.

The following table sets out the capital structure of companies in the water sector.

Water Company Gearing - D/(D+E)			
Region	**Arithmetic Average**	**Median**	**Weighted Average**
United States	**28%**	**29%**	**28%**
United Kingdom	**52%**	**49%**	**56%**
Europe	**15%**	**8%**	**38%**
China	**7%**	**8%**	**3%**
Other	**41%**	**39%**	**37%**
Total	**29%**	**31%**	**43%**

Source: Bloomberg and KPMG analysis

Additionally a review of capital structures used in calculating WACC in relevant water business related decisions by regulators in Australia has been completed and the gearing outcome is shown in the following table.

Water Company Gearing - D/(D+E)						
Qld	**Vic**	**NSW**	**NSW**	**ACT**	**WA**	**WA**
QCA – GAWB	**ESC Vic – Metro & regional water businesses**	**IPART – SWC, HWC & SCA**	**IPART – Wyong and Gosford Councils**	**ICRC – ACTEW**	**ERA – Water Corp**	**ERA – AQWEST & Busselton Water**
Mar 2005	**June 2005**	**Sept 2005**	**May 2006**	**Mar 2004**	**Nov 2005**	**Nov 2005**
50%	**60%**	**60%**	**60%**	**60%**	**60%**	**40%**

Source: KPMG analysis of regulators decisions

Gearing in water businesses have generally been quite low partly as a result of traditional public ownership and the approaches taken to valuing long term assets like dams.

As businesses have been privatised and moved to market pricing of water, gearing has increased to reflect the need to meet commercial returns on equity. Regulators have also applied capital structures with gearing more in line with commercial operations in their decisions reflecting the relative certainty of cashflow generated by water businesses.

Based on the review of market and regulator determined optimal capital structures the optimal capital structure to be used for the calculation of WACC is a gearing in the range of 40%-60% and the midpoint value of 50% has been selected.

For the purpose of calculating WACC, the capital structure to be used will be

- ***D/(D+E) = 50%***
- ***E/(D+E) = 50%***

Dividend Imputation

Under an imputation tax system, shareholders receive credits for the company tax implicitly levied on their dividend receipts. These credits can then be applied to any other tax liabilities of the shareholder.

The effect of dividend imputation needs to be taken into account in calculating WACC and is represented in the WACC formula by gamma (γ).

There is significant debate about the value of gamma with no clear consensus. However market practice in undertaking valuations is generally to ascribe a value of zero.

However, Treasury has had regard to the inclusion of gamma in regulatory decisions and given the decision to project cashflows using regulatory principles (refer Section 2.2.6) a gamma of 50% which is consistent with most regulatory decisions has been adopted for the market valuation.

Corporate tax

Theory requires the use of the long run effective tax rate. This recognises the existence of tax concessions which act to reduce the effective rate of tax paid by a company on pre-tax profits or the presence of non-deductible costs which may increase the effective rate.

One of the major tax concessions is accelerated depreciation. However, this represents a deferral of tax rather than an absolute concession.

In practice, the statutory tax rate is often applied due to the inherent difficulties in estimating the long run effective tax rate with any precision.

For the purpose of calculating WACC, a corporate tax rate of 30.0% has been applied.

2.2.5 Proposed WACC

2.2.5.1 WACC parameters

The parameters used in calculating the post-tax nominal WACC will be as follows:

R_f	will be the average yield for a 10 year Commonwealth Government Bond over the 20 business days prior to the valuation as published by Queensland Treasury Corporation on its GOC Cost of Capital Inputs page
ß	will be .68
MRP	will be 6.0%
Kd	will be calculated by adding a debt margin based on a BBB credit rating to the average yield for a 10 year Commonwealth Government Bond over the 20 business days prior to the valuation. Both the debt margin and bond rate will be as published by Queensland Treasury Corporation on its GOC Cost of Capital Inputs page
t	will be the corporate tax rate of 30%
γ	50%
D/(D+E) and E/(D+E)	50%

2.2.5.2 WACC Calculation as at 30 November 2007

Cost of equity (K_e)

The tables below sets out the current cost of equity estimate based on the assumptions and parameters discussed above:

Parameter	Definition	
R_f	Risk free rate of return	6.01%
$ß_a$	Asset beta	.40
$β_e$	Equity beta (regeared beta estimate)	.68
MRP	Equity market risk premium	6.0%
t	Corporate tax rate	30%
γ	Gamma	50%
K_e	**Post tax cost of equity**	**8.31%**

Cost of debt (K_d)

The current cost of debt has been estimated as shown in the table below:

	%
Risk Free Rate	6.01
BBB margin for 10 year debt	1.62
Pre-tax cost of debt	**7.63**

Calculation

Based on the forgoing analysis, the WACC calculation is summarised below:

Parameter	
Post-tax cost of equity	**8.31%**
Post-tax cost of debt	**5.34%**
Debt proportion	**50%**
Nominal post-tax WACC (rounded)	**6.82%**

2.2.6 Developing Cashflow Projections

2.2.6.1 Regulatory Principles to be Applied

In accordance with the agreement reached between the then Premier and the Lord Mayor of Brisbane City Council and subsequently endorsed by the South East Queensland Council of Mayors that

"It has been agreed in principle that compensation for the transfer of Council assets will be based on earnings forgone from those assets in accordance with current Council pricing and regulatory pricing principles(this will exclude any returns from contributed assets."

Treasury has determined that the cashflows for valuation purposes will be based on regulatory principles and therefore it is appropriate for the cashflows presented by Councils are to be tested to ensure revenues projected are consistent with such principles.

The principles to be applied are as follows:

General assumptions

Consistent with the assumptions for the market valuation process, the regulatory cashflows will be modelled over a 30-year period, on a nominal basis.

An inflation rate of 2.5% will be applied.

Determining required revenue – the 'building block' model

Using the building block approach, required revenue in a given period – usually in each year in which prices are regulated – is an amount equal to the total cost of providing services in that period. The building block model determines the amount of revenue which an efficiently operated water business requires to remain commercially viable.

The total cost of providing services is the sum of four components (or building blocks):

- return on assets; plus
- return of capital (i.e. depreciation); plus
- operating and maintenance expenses; plus
- tax payable (where the return on capital is based on post-tax returns).

The return on assets is an allowance for a return to the capital investor in the water business. It ensures that efficient investment in capital continues into the future for the maintenance and growth of the water infrastructure system. The return on assets is determined by applying the cost of capital to the asset base in each year of the analysis.

Determining the asset base in each year requires the opening asset based to be "rolled forward" each year, allowing for depreciation, capital expenditure and asset disposals. Thus, the key inputs into the building block model are:

- opening asset base;
- forecast capital expenditure (net of disposals);
- depreciation assumptions;
- cost of capital; and
- forecast operating and maintenance expenses.

Each of these inputs to the building block approach to determining the required revenue for the businesses are discussed briefly below. The assumptions set out below have been developed with reference to the Queensland Competition Authority's *Statement of Regulatory Pricing Principles for the Water Sector* (December 2000) and decisions of regulators in regard to water assets in Australian jurisdictions.

Regulatory asset base (RAB)

To establish the return on capital, it is necessary to establish the regulatory asset base to which the cost of capital is applied.

When considering the actual level at which the initial asset value should be set, economic principles provide only a range, being:

- at the upper end, the value at which customers would be better off if the asset was scrapped and an new asset installed – which is what DORC provides an estimate of; and

- at the lower end, the value that the assets would have in their next best use, which for sunk investments may be very low.

It is considered that assets used to provide water services do not have alternative uses and are effectively "sunk".

The initial regulatory asset base valuation methodology that is to apply is set at a value for past investments that would generate a level of cashflows consistent with the cashflow generated by applying current price projections for the next financial year to volumes projected to be achieved in non drought years.

The initial asset value will be 'reverse engineered' to determine the initial regulatory asset base that would create the cashflow forecast.

Future increases in operating expenditure and new capital projects will be passed through into prices and therefore revenue.

This approach essentially reflects the principle that it is only future costs that can influence behaviour (and hence need to be reflected in prices). Broadly it involves setting an initial RAB to deliver a specific outcome such as revenue, prices or returns.

The background to this determination of RAB is provided in Appendix "A"

Asset base roll forward

At the start of each year, the asset base will need to be rolled forward (from the previous year) to determine the return on assets building block for the coming year. The opening asset base at the start of each year will be determined as follows:

$$\begin{aligned} \text{Opening Asset Base}_t = \quad & \text{Opening Asset Base}_{t-1} \\ & - \text{Depreciation}_{t-1} \\ & - \text{Disposals}_{t-1} \\ & + \text{Indexation Adjustment}_{t-1} \\ & + \text{Capital Expenditure}_{t-1} \end{aligned}$$

The indexation adjustment is the opening asset base times the inflation for the preceding period. Inflation will be assumed at 2.5% as set out above.

The capital expenditure and disposals will be based on the capital expenditure programs provided by Councils and reviewed by Cardno, the engineering firm engaged by Queensland Treasury to undertake the engineering due diligence for this transaction.

Treatment of capital contributions, grants and subsidies

Capital contributions are assets (cash or in-kind) provided by water users, or on their behalf as is common for property developers. The value of capital contributions will be netted off the regulatory asset base. This is equivalent in net present value terms to including the value in the regulatory asset base and then offsetting the value of the return on assets and return of assets for the contributed assets against the required revenue. The latter is the approach preferred by the QCA:

> *"In general, the Authority prefers to include the assets in the asset base together with some form of offsetting mechanism to account for the contribution as:*
>
> - *once assets are passed to the business entity, that entity in effect assumes responsibility for their management and the risks and obligations associated with that responsibility; and,*
> - *such a practice is consistent with the financial reporting practices of the mainly local government businesses which deliver most urban water services."* [2]

The same principles will apply to grants and subsidies. That is the grants or subsidies will be netted off the asset base.

Return of assets (depreciation)

Recognising that capital infrastructure will "wear out" during the provision of services to customers, an allowance needs to be made for the decline in service potential of the asset. That is, an efficiently operating water business will allow for the cost of maintaining the financial capital base within current revenue requirements.

In the water sector, there are two commonly applied methods used to account for the decline in service potential:

- conventional cost-based depreciation, such as straight line depreciation, which estimates the decline in service potential as an annual charge equal to the cost of the asset divided by the useful life of the asset; and
- renewals annuity, which estimates an annuity required to maintain the service potential of the asset. The annuity is based on a long-term asset management plan.

In theory, the two approaches should broadly reconcile, as the expenditure required to maintain serviceability of the asset is included in the capital expenditure under the conventional depreciation approach (generally as lumpy, major maintenance capital expenditure). In the renewals annuity approach, this expenditure is "smoothed" over the analysis period.

Straight line depreciation will be applied to determine the return of assets building block.

[2] QCA, *Statement of Regulatory Pricing Principles for the Water Sector*, December 2000, p. 38.

Operating expenditure

The operating expenditure included in the building block model is that expenditure an efficiently operated water business would need to operate the business effectively, without comprising service quality.

Determining the efficient level of operating expenditure generally requires an examination of the business' activities and benchmarking its expenditure against other businesses. However, benchmarking for operating costs is often complicated by the lack of direct comparables. Therefore, the operating expenditure provided by councils and reviewed by Cardnos will be used as the basis for the operating expenditure.

Cost of capital

The cost of capital for regulated infrastructure assets is commonly determined using the weighted average cost of capital (WACC), which is the expected cost of the various classes of a firm's capital (e.g. debt, equity, etc) weighted by the proportion of each class of capital to the total capital of the firm.

The "building block" model commonly used by regulators to determine the required revenue for regulated businesses can be undertaken on a pre or post-tax basis. In line with the overall valuation approach, it is proposed to use a post-tax framework

In the post-tax form, the "Return on Assets" building block is determined as follows:

$$\text{ROA} = \text{Rate of Return} \times \text{Value of Asset Base}$$

The Rate of Return is the vanilla weighted average cost of capital (Vanilla WACC), determined as follows:

$$\text{WACC}_{\text{vanilla}} = k_e \times \frac{E}{V} + k_d \times \frac{D}{V}$$

The cost of equity (k_e) is determined on a post-tax basis, using the capital asset pricing model (CAPM) and the cost of debt (k_d) is determined on a pre-tax basis. The weighting is determined by the relative values of equity (E) and debt (D) that make up the total value of the capital invested (V).

Despite the fact that this is the "post-tax" framework, the cost of debt component is determined on a pre-tax basis. The reason for this is that the return to debt holders (i.e. interest) is not affected by the tax paid (i.e. it is paid out of pre-tax cash flows / returns).

The cost of capital above is that used specifically to determine the return on assets component in the building block formula. For the valuation, the form of the cost of capital will be matched to the cash flows to which it is applied. The underlying cost of capital input assumptions will be the same for both the building block model and the allocation valuation for each of the bulk water and distribution assets.

Using the parameters set out in sub-section 2.2.5.1 the Vanilla WACC to be applied is 8.86%

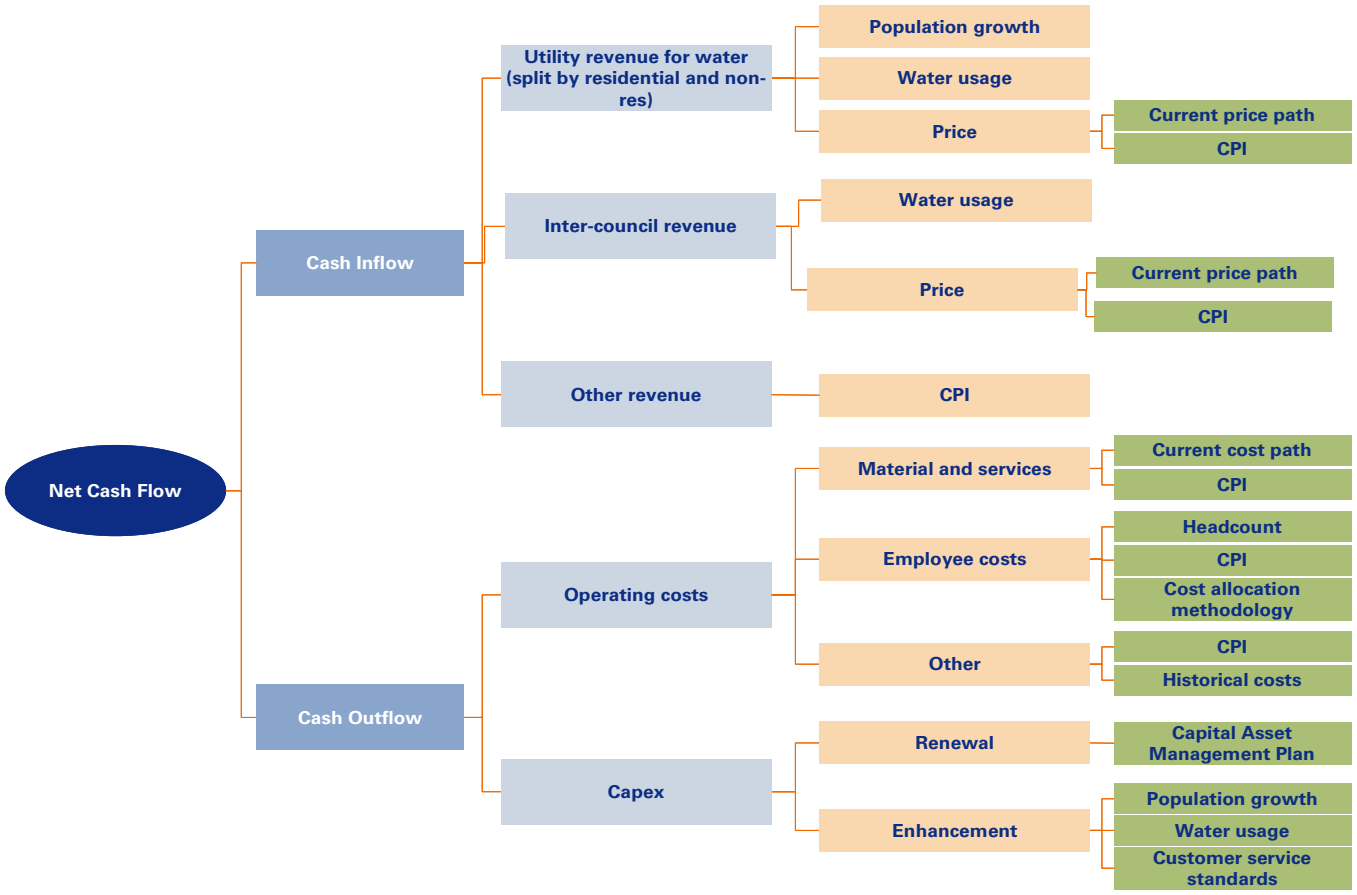
2.2.6.2 Operating Cash flows

It is important to ensure that the cash flows developed are appropriate to the proposed discount rate. Accordingly the cashflow projections for the valuation will be developed on a nominal post tax, before debt basis.

Councils have provided what they consider to be detailed "business as usual" cashflow projections for 30 years using clearly stated assumptions. A capital expenditure plan over the same period has also been provided. The cash flows are prepared in nominal terms.

The process for determining operating cash flows is shown in the following diagram

Cashflow Process



The cashflow forecasts provided will then be compared to those developed using regulatory principles. Where Council forecasts exceed those derived using regulatory principles as described in Section 2.2.6.1 an adjustment downwards will be made. Where council forecasts are below those derived using regulatory principles and it can be established that the council had adopted a pricing policy that would move pricing to a full cost recovery based on regulatory principles the cashflows will be adjusted upwards.

2.2.6.3 Terminal Value

Terminal value refers to the value of the business at the end of the forecast period. The usual way of estimating terminal value, in a DCF valuation, is to estimate a stable growth rate that can be sustained in perpetuity.

On this basis the terminal value becomes:

$TV_n = CF_{n+1}/(r-g)$
where:
TV_n = Terminal value in period n the last period of cashflow projection
CF_{n+1} = Projected cashflow in period n+1

r = WACC
g = Expected growth rate

Given the long term nature of the projections the growth rate is generally assumed to be the inflation rate.

However, in consideration of methodology Treasury has had regard to the decision to project cashflows using regulatory principles (refer Section 2.2.6) and has determined that the Regulatory Asset Base in the final year of the cashflow projections should be used as the terminal value for the valuation on the basis that the perpetuity cashflow stream should continue to reflect regulatory principles and therefore represents the value of those perpetuity cashflows.

2.2.6.4 Current Capital Expenditure

Following the Deputy Premier's letter to the Council of Mayors dated 29 May 2007, it is proposed that where councils are currently undertaking capital expenditure with respect to drought infrastructure or in the normal course of carrying on their water business, councils will be paid for these assets at cost.

These assets will then be treated as contributed assets for the purpose of the market valuation with the costs incurred as a result of ownership and use of these assets, but not a return on these assets, included in the cashflow projections.

2.2.7 Summary

KPMG's view is that the appropriate method for determining market value is to apply a nominal post tax WACC with a gamma of 0% to post-tax, pre-debt cash flows including a terminal value based on sustainable perpetuity cashflow. However, Treasury's proposed approach to apply a nominal post tax WACC with a gamma of 50% to post-tax, pre-debt cash flows including a terminal value set at the Regulated Asset Base in the last year of cashflow projections in accordance with regulatory practice, is reasonable given the regulatory principles applied in projecting revenues and will result a similar value.

2.3 Allocation Valuation

2.3.1 Approach

Originally it was proposed that in the second stage of the valuation process, the value of each business activity would be determined on a DCF basis using 30 year cashflow projections with the revenue used to be determined on the assumption that the bulk and distribution business activities are regulated entities. That is, the revenue required by the bulk and distribution business activities would be determined using the widely-accepted building block methodology.

Given that retail businesses are not regulated, the building block model would not be used for estimating the revenue for the retail businesses. Rather, the revenue for the retail business would

be estimated as the sum of the required revenue for the bulk and distribution activities (which are input costs for the retail business), retailer costs and an efficient retail margin.

Operating costs were to be allocated across the business activities and depreciation calculated on the assets allocated to each business activity with capital expenditure forecasts also to be allocated.
The cashflow projections were then discounted at the appropriate WACC for each business activity to enable a value for each business activity to be determined, and the sum of these will be the value of the water business as a whole:

$$\text{Total Value} = \$\text{bulk} + \$\text{distribution} + \$\text{retail}$$

And the relative values of each of the business activities:

$$\text{Bulk \%} = \frac{\$\text{bulk}}{\text{Total Value}}$$

$$\text{Distribution \%} = \frac{\$\text{distribution}}{\text{Total Value}}$$

$$\text{Retail \%} = \frac{\$\text{retail}}{\text{Total Value}}$$

These percentages were then applied to the market valuation to determine the relative market values for each of the business activities.

Given that the cashflows for the market valuation are now in effect to be determined by application of regulatory principles, a determination of value using the previously proposed allocation value approach is no longer necessary. Discounting the cashflows at the WACC used to derive revenue will simply produce the assumed RAB.

It is now proposed to use the Cardno estimates of proportion of assets in bulk water, bulk transport and distribution as the basis for allocation.

No value will be assigned to the retail businesses as the South East Queensland Council of Mayors submission, that the water businesses effectively apply and receive a retail margin of zero, has been accepted.

A Setting the Initial Regulatory Asset Base

A.1 Objectives of the SEQ water reforms

In May 2007 the Queensland Water Commission (the Commission) released its final report, *Our Water; urban water supply arrangements in South East Queensland*, which set out proposed reforms to the water industry in South East Queensland.

The overarching objective of the institutional reforms in SEQ is for water in the SEQ region to be managed on a sustainable, financially viable and integrated basis to provide increased security and reliability of supply. In addition, there are a number of principles underpinning the new institutional arrangements. Specifically:

- The *Water Act 2000* (the *Water Act*) which provides explicit guidance on the principles to be observed by the Commission. In particular section 346(1)(d) which outlines the principles for cost sharing and pricing states:

  "the principles that the costs of water sources should be shared among users who benefit (either directly or indirectly) from the water source; and pricing should be consistent with government commitments under intergovernmental agreements, including the National Water Initiative. Cost recovery arrangements must manage the financial risks to asset owners"

- General policy objectives related to efficiency, clarity of institutional roles and competition.

  - improving economic performance in the delivery of bulk water products "has been earmarked as one of the most important objectives of the reforms"; and

  - the arrangements are to be, so far as practicable, consistent with the direction and spirit of the national water reform agenda which the State Government has formally agreed to under the National Water Initiative. [3]

A.2 National water reform

A.2.1 National Water Initiative (NWI)

All States and territories have committed to the NWI in the area of best practice water pricing and institutional arrangements. Specifically under clause 64 of the NWI Queensland has agreed to implement water pricing and institutional arrangements which inter alia:

(i) promote economically efficient and sustainable use of:

a) water resources;

[3] Queensland Water Commission, Our water, urban water supply arrangements in South East Queensland, Final Report, March 2007, pp.3-4.

b) water infrastructure assets; and

c) government resources devoted to the management of water;

(ii) avoid perverse or unintended pricing outcomes.

Other requirements aimed to achieve consistency in water pricing policies for water storage and delivery, and to achieve consistency in approaches to pricing of water planning and management are set out in Clauses 65, 67 and 73 of the NWI.

As highlighted in the previous section the Commission requires the reforms to be consistent with the NWI.

A.2.2 COAG's water reform framework

The NWI built on the 1994 strategic framework for the efficient and sustainable reform of the Australian water industry (the 1994 COAG framework). The NWI notes, that as part of the NWI parties are committed to meeting their commitments under the 1994 COAG framework and continuing to meet the objectives and policy directions of the 1994 COAG framework in a way that is consistent with the objectives and actions set out in the NWI.

The COAG water reform agreement states that 'The Deprival value methodology should be used for asset valuation unless a specific circumstance justifies another method.' The deprival value is based on the lower of the DORC or the economic value (maximum of the assets net present value based on existing prices or the net realisable value of the assets).

For example, this approach was endorsed by the QCA in its 'Statement of Regulatory Pricing Principles for the water sector':

> *'Deprival value has been endorsed by COAG as the preferred approach to valuing network assets for public reporting processes (performance monitoring) and by ARMCANZ as a basis for water pricing, unless specific circumstances justify another method*[4] *'*

They go on to explain that this is a basis of the 'competitive neutrality pricing requirements for Queensland local government business activities (as set out in the Local Government Act 1993).

A.3 Summary

As outlined above increasing economic efficiency and ensuring national consistency are two key outcomes for the reform of SEQ water sector and hence, the choice of asset valuation methodology should result in prices which are consistent with these outcomes and avoid perverse pricing outcomes.

[4] Queensland Competition Authority, 'Statement of Regulatory Pricing Principles for the Water Sector', December 2000, p33.

A.4 Determining the asset value for SEQ water businesses

A.4.1 Theory

When there is no clear market to value the assets (or the services provided), as is the case with many regulated assets, asset valuation methods adopted are split into two main groups:

- Value based – the NPV of the cash generated from the business or the net realisable value of selling the assets of the business; and
- Cost based – the cost of purchasing the assets for example, the depreciated historic cost, the depreciated replacement cost etc

There are pros and cons to the two methods but in simple terms the valued based methods can be circular, and the cost based methods, especially those that rely on historical cost, do not have a strong standing in economics in the case of long standing assets that are 'sunk'. Alternative methods that are cost based focus on the replacement cost rather than the historic cost.

A hybrid approach is the Optimised Deprival Value (ODV). Deprival value is based on the lower of the Depreciated Optimised Replacement Cost (DORC) and the economic value (EV) (maximum of the assets net present value (NPV) based on existing prices or the net realisable value (NRV) of the assets). The logic behind this is that:

- it would be cheaper to build the asset again – that is, if the DORC is lower than the NPV based on current prices, then the asset should be rebuilt (upper end);
- if the NPV of the future cash flows is lower than the scrap value of the assets, then the owner would chose to scrap the assets (lower end); and
- the price that customers are willing to pay for the asset reveals its value.

A.4.2 Practical application

Following, and consistent with, the national water reform principles the vast majority of jurisdictions have used ODV or some form of economic valuation for the determining the initial value of water assets. The only major example, of using DORC for pricing principles is GAWB in Queensland.

For example, as reported in the National Water Commission Urban Water Charging Stocktake[5]:

- NSW adopts the present value of free cash flows generated at the time of the valuation;
- Victoria similarly backward solved from the free cash flows being generated by prices at the time of the valuation;

[5] NWI Steering Group on Water Charges, *Water Storage and Delivery charges in the urban water sector in Australia,* February 2007, Appendix E.

- South Australia has adopted the fair value approach which is generally consistent with depreciated replacement cost;
- Western Australia has adopted the deprival value for the Water Corporation;
- Tasmania uses a variety of methods including DORC, however we understand that DORC is not used for practical pricing purposes;
- The ACT has used ODV; and
- The Northern Territory uses DORC but excludes all assets previously contributed by the Government, effectively resulting in a line in the sand approach.

Therefore national reforms recommend the use of ODV, and in most cases the economic value not the DORC has been adopted, as the economic value is lower (consistent with the ODV principle).

In Queensland the QCA's principles recommend ODV, however the QCA has consistently rejected EV as it believes that economic value is "not suitable for regulatory pricing purposes".[6] As outlined above, despite this decision, other Australia regulators continue to reject DORC in favour of EV for the valuation of water assets.

A.4.3 Merits

A range of different valuation methods have been used by regulators to address how the value of the sunk assets of a monopoly business should be reflected in the prices. One of these options is a DORC valuation.

There is little basis in economic theory to support a DORC valuation of assets:

- *'Economic theory reserves a special treatment for sunk costs. These assets which have been built and are in place in given physical condition as the result of previous decision making. … What they would cost to replace of no relevance to present of decision making'*[7].

Irrespective of the merits of DORC in other circumstances, moving to adopting DORC when prices were previously implicitly based on a lower valuation involves a windfall gain to the current asset owner. This is well documented in the economic literature, for example:

- *'Replacement cost (valuation) provides existing owners with a free lunch.'*[8]
- *'To adopt a replacement cost or current cost or current cost approach at this late stage would involve a very large transfer of wealth from the consumer to the stakeholder, which would be inconsistent with the requirement that the regulator strike a balance.'*[9]

[6] Queensland Competition Authority, Final Report Gladstone Area Water Board: Investigation of Pricing Principles, September 2002, p.44.
[7] Professor David Johnstone, *Comments on Tobin's q and the supposed economic justification for replacement value (DORC) regulatory asset valuation*, Report the Energy Markets Reform Forum, 23 August 1999, p 7
[8] Ibid p. 10

For this reason, the owner of 'sunk' assets will typically ask for DORC to get this windfall.

Revaluing the assets at DORC will mean that to justify this new asset value, prices will need to increase. However price increases should reflect an increase in costs or to reflect demand shocks, they should not be driven by simply a change in the valuation method used to value 'sunk' assets. The only result will be a price shock to consumers without any corresponding improvement in services.

Irrespective of these strong precedents not to adopt a DORC valuation, and given the Government's desire to avoid price shocks, the more relevant precedent is the existing practice within SEQ water businesses, and as a result consideration of ODV using the existing price path is required to determine how the bulk water assets should be valued.

A.5 Recommendations

The best determinant of the value of bulk water assets is current prices.

Both the QCA and the NWC have verified, through independent assessment of prices, that SEQ councils have been meeting the full cost recovery requirements set out COAG's water reform agenda and reinforced through the NWI.

In setting prices councils have made an implicit valuation of the value of the assets, and what the consumers are prepared to bear. These prices should form the basis of the valuation of the assets (net present value of future cash flows) for the transfer of ownership as they reflect the implicit value of these 'sunk' assets.

This approach is consistent with the COAG water reform agreement that endorses the use of ODV, unless a specific circumstance justifies another method

Assuming that the councils have been using these principles then the current prices would implicitly reflect the asset values of the businesses, unless the DORC valuation is lower (which seems unlikely given experience in other jurisdictions).

[9] Whittington, *Regulatory asset value and cost of capital.* Working Paper, University of Cambridge, 1998, p 4, quoted Johnstone p. 10.