

Financing capital investments and taxation

In determining its draft 2008 Water Plan revenue requirement, Melbourne Water has adopted a real, post-tax weighted average cost of capital (WACC) of 5.1% and has applied a straight line depreciation profile.

This chapter details the WACC that Melbourne Water intends to use in establishing the appropriate rate of return on the regulatory asset value for the 2008 regulatory period. It also details Melbourne Water's views around the appropriate depreciation methodology.

10.1 Opening regulatory asset value and new assets for 2008 regulatory period

As discussed in Chapter 4, Melbourne Water proposes to use actual capital expenditure, contributions and disposals for the period from 1 July 2004 to 30 June 2007 and forecasts for 2007/08 in determining its regulatory asset value as at 1 July 2008.

Forecast capital expenditure, contributions, disposals and depreciation occurring in the 2008 regulatory period are included in the regulatory asset value, which is used to determine the return on and of assets.

Return on assets and depreciation are both major inputs to Melbourne Water's revenue requirement for the 2008 regulatory period and are discussed below.

10.2 Weighted average cost of capital (WACC)

For the purposes of 2008 Waterways Water Plan, Melbourne Water has used the Commission's preliminary WACC estimate of 5.1%.

Melbourne Water and the retail water businesses commissioned consultants, the Strategic Finance Group (SFG), to provide an empirical estimate of the WACC for their businesses. SFG developed a real, post-tax WACC mid-point estimate of 6.2% but recommended a 75th percentile figure of 6.4%, based on empirical analysis of the underlying data, financial theory and the requirement for all WACC parameters to be estimated in an internally consistent manner.

Adopting the recommended value could add at least an additional 1.7% to Melbourne Water's proposed price path.

The report detailing SFG's estimate (see Appendix 3) notes that a number of WACC parameters cannot be estimated with great precision, but can be narrowed down to an economically reasonable range. Further, SFG believes that a regulator should set the return from this range by taking account of estimation uncertainty and consider the consequences of under investment. The consequences of under investment include adverse impacts on the financial viability of the regulated water business and on future investment (see Appendix 3).

An economically reasonable range can be established using Monte Carlo simulation and this is the basis for the parameter estimates and resultant inter-quartile ranges set out in Table 10.1.

Table 10.1: SFG recommended WACC parameter value ranges

Parameter	Recommended range for the 2008 price determination
Real risk-free rate	2.64 – 3.36%
Market risk premium	5 – 7%
Gearing	50 – 60%
Credit rating	BBB – BBB+
Debt issuance costs	0.125%
Total debt margin	1.24 – 1.36%
Equity beta (geared to 60%)	0.9 – 1.1
Gamma	0
Corporate tax rate	30%
Real, post tax WACC, mid-point	6.2%
Real, post tax WACC, 75 th percentile	6.4%

Importantly, the ranges for equity beta and gamma are significantly different to those used by the Commission (0.75 and 0.5 respectively) to develop its real, post-tax WACC of 5.1%. SFG notes that there is limited empirical evidence to support water business having a lower equity beta, or systematic risk, than other utilities, such as gas and electricity. In particular, that data over the last 30 years indicates that the estimated betas of water businesses are not statistically significantly different from those of other utilities. In addition, SFG notes that any estimate of gamma other than zero is inconsistent with the Officer Capital Asset Pricing Model WACC that is used by Australian regulators.

The report also draws on regulatory precedent to recommend that the 75th percentile estimate is a way of balancing the asymmetric consequences of over and under investment in key infrastructure, i.e. the costs of setting the WACC too low are much more severe than the costs of setting it too high.

While supporting the conclusions of the SFG consultancy, in light of the numerous upward pressures on prices, at this point in time Melbourne Water has not adopted the proposed real, post-tax WACC estimate of 6.4% determined as being appropriate for the Melbourne metropolitan water businesses. Melbourne Water does, however, believe that the issue of the appropriate WACC for water businesses should be further debated. Importantly, this includes the issues around the empirical estimates for equity beta and gamma.

The return on assets has been determined by applying the Commission's proposed WACC of 5.1% to the average regulatory asset value for each year of the 2008 regulatory period. This represents around 30% of waterways and drainage services total revenue requirement. Return on assets is shown in Table 10.2

Table 10.2: Return on assets waterways and drainage assets (\$ million)

	Forecast Year Ending					Total
	08/09	09/10	10/11	11/12	12/13	
Opening RAV 2008 regulatory period	43.5	42.7	41.9	41.2	40.4	209.7
New assets	1.7	5.7	9.6	13.0	16.1	46.1
Total	45.2	48.4	51.5	54.2	56.5	255.8

10.3 Depreciation method

Melbourne Water proposes to adopt the straight line depreciation method to calculate the return of capital (depreciation) allowance.

The allowance for a return of capital, or depreciation, represents the revenue Melbourne Water requires to efficiently maintain its capital asset base. Depreciation represents around 11% of waterways and drainage services revenue requirement.

The following sections discuss Melbourne Water’s proposed depreciation method and the asset lives to be applied.

10.3.1 Depreciation method

Melbourne Water believes that the straight line depreciation method is superior to alternatives in terms of simplicity, consistency and transparency. It used a straight line depreciation profile in its 2005 Water Plan and supports the continued use of this approach for its waterways and drainage services.

10.3.2 Asset lives to be applied

Melbourne Water has calculated its depreciation forecasts using a straight line depreciation method and average asset lives. Different average asset lives are applied to the opening regulatory asset values as compared to new assets. This is necessary because of the different characteristics of existing and new assets. An average asset life for the opening regulatory asset value for waterways and drainage assets is 61 years and for corporate asset allocations is 21 years, compared to an average asset life for new waterways and drainage assets of 103 years and for corporate asset allocations of seven years.

10.3.3 Capital depreciation allowance

The capital depreciation allowance forecasts for the 2008 regulatory period are detailed in Table 10.3.

Table 10.3: Capital depreciation allowance forecasts (\$ million)

	Forecast Year Ending					Total
	08/09	09/10	10/11	11/12	12/13	
Opening RAV 2008 regulatory period	14.6	14.6	14.6	14.6	14.6	73.0
New assets	0.8	2.5	4.0	5.5	7.1	19.9
Total	15.4	17.1	18.6	20.1	21.7	92.9

10.3.4 Taxation

Under the Commission’s approach to determining the revenue requirement, businesses are able to directly recoup the cost of company tax during the regulatory period. The Commission prescribes a calculation for benchmark tax liability that allows Melbourne Water to recoup company tax costs.

The benchmark tax liability is based on Melbourne Water’s revenue forecasts less allowable deductions for operating expenditure, interest, tax depreciation and franking benefit. This represents around 3% of waterways and drainage services revenue requirement.

In the 2005 regulatory period, Melbourne Water did not have a benchmark tax liability due to the tax depreciation allowance being able to fully offset the tax liability. A significant number of large assets will be fully depreciated for tax purposes prior to the Commission resetting prices, which will increase Melbourne Water’s benchmark tax liability, thus increasing the required revenue.