

Water Ways:

Inquiry into Reform of the Metropolitan Retail Water Sector

A draft report for further consultation and input

December 2007



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About the Victorian Competition and Efficiency Commission

The Victorian Competition and Efficiency Commission, which is supported by a secretariat, provides the Victorian Government with independent advice on business regulation reform and opportunities for improving Victoria's competitive position.

VCEC has three core functions:

- reviewing regulatory impact statements, measurements of the administrative burden of regulation and business impact assessments of significant new legislation
- undertaking inquiries referred to it by the Treasurer, and
- operating Victoria's Competitive Neutrality Unit.

For more information on the Victorian Competition and Efficiency Commission, visit our website at: www.vcec.vic.gov.au

Opportunity for further comment

You are invited to examine this draft report and provide comment on it within the Commission's public inquiry process. The Commission will be accepting submissions commenting on this report and will be undertaking further consultation before delivering a final report to the Government.

Submissions may be sent by mail, fax, audio cassette or email.

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The Commission should receive all submissions by close of business **Friday 18 January 2008**.

Terms of reference

Reform of the Metropolitan Retail Water Sector

I, John Lenders MP, pursuant to section 4 of the State Owned Enterprises (State Body – Victorian Competition and Efficiency Commission) Order, hereby direct the Victorian Competition and Efficiency Commission to conduct a review of the metropolitan retail water sector.

Objective

To review and recommend to the Victorian Government options to improve the structure of the metropolitan retail water sector to ensure it continues to provide secure and reliable water services at least cost to the community.

This should include recommendations regarding:

- the best structure to allow for the efficient and least cost provision of Melbourne's water supply upgrades, as well as ongoing safe, reliable and sustainable water and sewerage services to Melbourne;
- options to reduce costs of the metropolitan sector whilst maintaining and improving the level of service over time and ensuring it remains innovative and financially viable;
- the broad staging and timing of any proposed structural reforms to the metropolitan water sector; and
- any related improvements to governance and industry structure in the context of the Government's Water Plan and climate change.

Context

The Next Stage of the Government's Water Plan announced major supply projects to diversify and boost water supplies for Melbourne. These projects include reconnecting Tarago reservoir (15GL), the Sugarloaf Interconnector (75GL) and Australia's largest desalination plant (150GL).

The Government's Plan indicated that as a result of these projects, along with continued investments to maintain and improve water services, the average Melbourne Water bill was expected to double (in real terms) by 2012.

The metropolitan water authorities – Melbourne Water as the wholesale supplier and three retail water companies, City West Water, South East Water and Yarra Valley Water – have now finalised their draft pricing proposals for the next pricing period and have advised Government of average real prices increases of between 100 per cent and 140 per cent.

Given the potential size of the price increases, the unprecedented capital investment and the fact that the structure of metropolitan water sector has not been reviewed since it was established in 1995, the Government intends to review the current three retailer structure to determine whether costs could be reduced and capital structures reconsidered to ensure the major projects and ongoing services will continue to be delivered at least cost to the community. The review should also closely consider the impact of demand reduction on high fixed-cost water businesses.

Significant efficiency and performance gains have been extracted by the retail companies in the past decade. The most effective means of maintaining and improving service performance should be considered in the course of the review.

Process of the Review

- The Victorian Competition and Efficiency Commission (VCEC) will undertake the review and provide a final report for Government consideration.
- The review will identify and evaluate all available options to improve the efficiency, operation and performance of the sector, including through reforming the structure and/or reducing costs of the sector, and recommend a preferred option and possible next steps in its final report.
- The review will be completed upon presentation of the final report to Government.

Specific Issues to be Addressed

The review will:

- assess the extent to which the current structure and operation of three retail authorities and competition by comparison between those retailers are the best arrangements to address the new challenges facing the sector;
- identify the options available to reform the current arrangements including potential structural reforms, and whether, and to what extent, additional benefits could be harnessed through the introduction of further reforms, such as retail contestability, development of competitive urban water markets etc;
- assess the implications of demand variations for both pricing strategies and capital investment;
- evaluate the costs and benefits of these options and recommend a preferred option for Government consideration;
- identify any related improvements to governance and industry structure in the context of Our Water Our Future, The Next Stage of the Government's Water Plan and climate change; and

- identify the timeframe and next steps for implementing any recommended reforms to the sector, including the appropriate period for an independent price determination.

Outcomes/Outputs

A report that provides clear recommendations on achieving:

- a new water delivery structure that provides a least cost, effective and efficient service to Melbourne households and industry for the future;
- fair and equitable apportionment of costs; and
- means in which improvements can be made to ensure that Melbourne's future water supplies are managed within the Government's announced price increases.

Timeframes

The review will be finalised with a report to Government by the end of February 2008, with an interim report in December 2007.

JOHN LENDERS MP

Treasurer

21 August 2007

Preface

The release of this draft report gives interested participants the opportunity to comment on the Commission's analysis of reforms of the metropolitan retail water sector prior to the presentation of the final report to government.

In preparing this draft report, the Commission has consulted widely with a range of businesses, government departments, local governments and individuals with an interest in the metropolitan retail water sector. Stakeholder input has greatly assisted the Commission in preparing its draft recommendations on ways to improve the structure of the metropolitan retail water sector to ensure it continues to provide secure and reliable water services at least cost to the community.

The Commission invites written submissions on the draft report, especially regarding the recommendations and information requests. These submissions may address any of the issues covered.

At the conclusion of consultation on the draft report, the Commission will produce a final report to be presented to the Victorian Government. The Order in Council establishing the Commission says that the Treasurer should publicly release the final report within six months of receiving it and that the Victorian Government should publicly release a response to the final report within six months of the Treasurer receiving it.

The Commission looks forward to receiving feedback on the draft report.

The Commissioners have declared to the Victorian Government all personal interests that could have a bearing on current and future work. Moreover, the Commissioners confirm their belief that they have no personal conflicts of interest in regard to this inquiry.

Graham Evans AO
Chair

Bruce Cohen
Commissioner

Alice Williams
Commissioner

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Abbreviations

ACCC	Australian Competition & Consumer Commission
AGV	Auditor General Victoria
AIG	Australian Industry Group
ASIC	Australian Securities and Investments Commission
AWA	Australian Water Association
BEMC	Bulk Entitlement Management Committee
COAG	Council of Australian Governments
CSOs	community service obligations
CUAC	Consumer Utilities Advocacy Centre
CRSWS	Central Region Sustainable Water Strategy
CWW	City West Water
DEA	Data envelope analysis
DHS	Department of Human Services
DSE	Department of Sustainability and Environment
DTF	Department of Treasury and Finance
EPA Victoria	Environment Protection Authority Victoria
ESC	Essential Services Commission
EWOV	Energy and Water Ombudsman Victoria
FFO	Funds From Operations
GSL	Guaranteed Service Level
IFR	Internal Funding Ratio
IPART	Independent Pricing and Regulatory Tribunal
MAV	Municipal Association of Victoria
MWC	Melbourne Water Corporation
MWST	Ministerial Water and Sewerage Taskforce of Tasmania
NCC	National Competition Council
NWC	National Water Commission

NWI	National Water Initiative
OFWAT	Water Services Regulation Authority UK
PC	Productivity Commission
PPP	Public Private Partnership
PPWCMA	Port Philip and Westernport Catchment Management Authority
PwC	PricewaterhouseCoopers
RAV	Regulatory Asset Value
RIS	Regulatory impact statement
RWC	Regional water corporations
SEW	South East Water
SWC	Sydney Water Corporation
WACC	Weighted Average Cost of Capital
WIRO	Water Industry Regulatory Order
WSAA	Water Services Association of Australia
YVW	Yarra Valley Water

Glossary

Allocative efficiency	see Efficiency (allocative)
Aquifer	A layer of underground sediments which holds water and allows water to flow through it
Augmentation	Increase in size and/or number
Baseflows	The component of streamflow supplied by groundwater discharge
Biosolids	Stabilised organic solids derived from sewage treatment processes that can be managed and used safely for nutrient, soil conditioning, energy or other value
Bulk charges	The charges by Melbourne Water for the provision of bulk water supply and sewage treatment services to the retailers
Bulk entitlement	The right to water held by water and other authorities defined in the <i>Water Act 1989</i> (Vic.). The BE defines the amount of water that an authority is entitled to from a river or storage, and may include the rate at which it may be taken and the reliability of the entitlement
Bulk procurement	The ability to secure a source of water sufficient for the needs of customers
Cap	An upper limit for the diversion of water from a waterway, catchment or basin
Capital	An investment in assets that will be used by a business for a number of years in order to provide services to customers
Carbon offset	Any human induced activity that deliberately removes carbon dioxide from the atmosphere (such as revegetation) or avoids carbon dioxide emissions (such as installing more efficient appliances). The activity must be in addition to a 'business as usual' situation
Catchment	An area of land where run-off from rainfall goes into one river system.
Catchment management authorities (CMAs)	Authorities that are responsible for regional and catchment planning and coordination, and waterway, floodplain, salinity and water quality management
Channel automation	Computerised system which automates the ordering, delivery and measurement of supply in water irrigation channels. The system involves remotely controlled regulators and gates

Data envelope analysis	DEA is a statistical methodology which estimates an efficiency frontier for multiple production outputs and inputs using linear program techniques.
Desalination	The removal of salt from water sources
Developer charges	Amounts sought from developers to contribute to the cost of extending the supply network to accommodate new development
Discretionary water use	Water used for non essential purposes (such as garden watering)
Distribution	Includes taking water from the Melbourne Water network and transporting it to customers' premises and taking sewage from customers' premises and transporting it to a connection point with the Melbourne network to be treated. A component of the current responsibilities of the three water retailers
Draft water plan	A document prepared for the purpose of allowing stakeholders including the general public to comment on a water retailer's proposed prices, service levels and expenditure for the forthcoming regulatory period
Dynamic efficiency	see Efficiency (dynamic)
Economies of scale	The reduced unit costs that result from undertaking an activity in higher volume; for example, providing operations and maintenance services across the whole of Melbourne rather than in one part of Melbourne.
Economies of scope	The reduced unit costs that arise from one business undertaking a range of activities; for example, savings from the joint provision of water and wastewater services
Ecosystem	A dynamic complex of plant, animal, fungal and micro-organism communities and the associated non-living environment interacting as an ecological unit
Ecosystem services	The processes and conditions by which natural ecosystems sustain and fulfil human life. Services such as clean air, water cycling and purification, nutrient cycling, soil formation, biomass production, waste disposal, crop pollination, provision of food and minerals, and the maintenance of genetic diversity result from functioning ecosystems
Efficiency (allocative)	Obtained when resources are used to produce those products and services that best meet society's demands and thereby contribute the most to social well-being
Efficiency (dynamic)	Ensures that the pattern of resource use remains efficient over time by reflecting changes in consumer demands, technology and resource availability. It involves the development of innovative products and services to better

	satisfy consumer demands, the adoption of lower-cost production methods, and investment in the productive capacity required to produce the products and services demanded by the community
Efficiency (productive)	Achieved when a product or service is produced at the lowest possible cost (for a given quality)
Effluent	Treated sewage that flows out of a sewage treatment plant
Environmental flow regime	The streamflow required to maintain appropriate environmental conditions in a waterway
Environmental water reserve	The share of water resources set aside to maintain the environmental values of a water system and other water services which are dependent on the environmental condition of the system
Estuaries	Zones where a river meets the sea, influenced by river flows and tides and characterised by a gradient from fresh to salt water
Exploration licence	Granted to investigate groundwater or other subsurface occurring material such as minerals or petroleum
Fit for purpose	Water which requires no further treatment for intended use
Fixed charges	Usage charges (as opposed to volumetric charges) that occur independent of metered water consumption
Floodplain	Lands which are subject to overflow during floods. Often valuable for their ecological assets
Greywater	Household water which has not been contaminated by toilet discharge and includes water from bathtubs, dishwashing machines and clothes washing machines
Groundwater	All subsurface water, generally occupying the pores and crevices of rock and soil
Groundwater management area	Discrete area where groundwater resources of a suitable quality for irrigation, commercial or domestic and stock use are available or are expected to be available. Generally these areas are suitable for ecologically sustainable development and in most cases some degree of development has already taken place
GSL payments	Guaranteed service level payments are financial payments made to individual customers who experience service levels below defined thresholds
Headworks	Dams, weirs and associated works used for the harvest and supply of water
Hydrology	The science dealing with surface and groundwaters of the earth; their occurrence, circulation and distribution; their

	chemical and physical properties; and their reaction with the environment
Interconnected grid	A network of pipes that allows water to be moved across a given region
Irrigation district	An area with definite geographic boundaries within which water is allocated for irrigation under the control of a local or state authority or other body
Marginal cost (short-run) SRMC	The change in cost resulting from a one-unit change in output, over a timeframe in which varying the levels of one or more outputs is impractical. SRMC reflects the immediate costs, including opportunity cost, of consumption
Marginal cost (long-run) LRMC	The change in cost resulting from a one-unit change in output, over a timeframe in which all inputs are variable. It is the sum of short run marginal operating and capital costs. LRMC can be used to rank potential investments and to determine which investments should be undertaken to meet future expected consumer demands
Melbourne water cost allocation model	The means by which Melbourne Water shares its costs among the three water retailers
Non-residential	Water use in industry, commercial/institutional buildings, open spaces (parks and gardens) and the water distribution system
National Water Initiative	Agreed to and signed at the 2004 meeting of the Council of Australian Governments (COAG), with the objective of increasing the productivity and efficiency of water use and the health of river and groundwater systems in Australia
Once through supply system	A supply system where the water is not reused (i.e. from supply to house to treatment plant to discharge to the environment)
Outfall	The site of discharge of a liquid from a pipe. Applied particularly to the point at which a sewer discharges to a treatment works or receiving water (such as river, creek or bay)
Pollution charges	Charges or levies applied to activities that cause pollution
Potable	Suitable for drinking
Productive efficiency	see Efficiency (productive)
RAV (regulatory asset value)	The value of water business assets for regulatory purposes. These values were set initially for the water businesses by the Victorian Government and have been subsequently adjusted to take into account investment in new assets, asset disposals, depreciation and inflation
Real options	The ability to adapt decisions to take into account

	unexpected developments
Reclaimed water	Water recovered from sources that are considered to be waste or unwanted supplies
Recycled water	Water derived from sewerage systems or industry processes that is treated to a standard appropriate for its intended use
Regional River Health Strategy	The key strategy for the protection of river values in each catchment management region in Victoria
Regulated systems	Systems where the flow of the river is regulated through the operation of large dams or weirs
Regulatory depreciation	The component of the revenue requirement of a regulated water business that recovers the capital cost of investment in assets
Residential use	Water use in private housing
Retail	Functions that relate to the provision of water/sewage services to customers such as billing and call centre operation. A number of the functions that metropolitan Melbourne's water retailers currently perform are beyond retail, and include functions traditionally performed by distributors
Retail competition	A situation where customers can choose and enter into a contract with their preferred retailer
Retailers	Refers to City West Water, South East Water, Yarra Valley Water, the three water retailers in metropolitan Melbourne. The retailers are licensed and operate under the <i>Water Industry Act 1994</i> (Vic.)
Reticulation	The network of pipelines used to take water into areas of consumption. Includes residential districts and individual households
Revenue requirement	The revenue needed by each water business to cover operating costs and taxes, and provide a return on assets and a return of assets (depreciation). The revenue requirement provides a business with sufficient revenue to fund ongoing network operating costs, invest in new assets over the life of the asset and provide a return to shareholders
Rising block tariffs	Pricing structure where a higher price per kilolitre applies above a specified level of consumption and seasonal prices, or incentive schemes such as rebates, are given for using alternative sources of supply
River basin	The land which a river and its tributaries drain
Run-off	Precipitation or rainfall which flows from a catchment into streams, lakes, rivers or reservoirs

Sales water	Lower-reliability water offered to irrigators on a seasonal basis, in proportion to their base rights, after provision has been made to meet the base rights in the following year
Salinity	The total amount of water-soluble salts present in the soil or in a stream
Sewage	The waterborne wastes of a community
Sewerage	A physical arrangement of pipes and plant for the collection, removal, treatment and disposal of liquid waste
Sewer mining	Process of recycling wastewater for uses such as public space irrigation
Statement of obligations	The statement of obligations is issued by the Minister for Water and imposes obligations on the water businesses in relation to the performance of their functions
Stormwater	Rainfall run-off from urban areas
Stream flow management plan	A plan developed with community input to ensure that the water resources of the area are managed sustainably
Sunk costs	Costs that have been incurred on assets that have no resale value or alternative use
Sustainability	Living and working in ways that do not jeopardise current and future social, environmental and economic resources
Sustainable diversion limit	The maximum volume that can be diverted from a sub-catchment while protecting the environment
Third party access regime	The means by which an external party can gain access to a monopoly network. Third party access may be able to be obtained under a state based regime (as in NSW) or under Part IIIA of the <i>Trade Practices Act 1974</i> (Cwlth.)
Third pipe systems/dual reticulation	Systems used to supply recycled water for uses such as garden watering and toilet flushing
Trade waste	Refers to industrial and commercial liquid waste discharged to the sewerage system
Transfer payments	A system of payments between businesses
Triple bottom line	Integrated approach to the achievement of environmental, social and economic outcomes
Unincorporated groundwater areas	Areas with limited groundwater resources which are not defined as groundwater management areas and do not have a defined permissible consumptive volume
Unregulated system	A river system where no major dams or weir structures have been built to assist in the supply or extraction of water
User pays	A pricing approach in which users pay the true cost of their

	water consumption
Volumetric charges	Usage charges (as opposed to fixed charges) based on metered water consumption
Wastewater	Water that, following capture or use by the community, does not currently have a form of beneficial recycling. Includes greywater, sewage and stormwater
Water authorities	Authorities charged with supplying water to towns and cities across Victoria, for urban, industrial and commercial use. They administer the diversion of water from waterways and the extraction of groundwater
Water right	Rights to water held by irrigators in an irrigation district
Water supply protection area	Area that has been or is proposed to be proclaimed under the <i>Water Act 1989</i> (Vic.) for the purpose of establishing a management plan
Waterway	The <i>Water Act 1989</i> (Vic.) defines what a waterway is and it includes a river, creek, stream, watercourse and a natural channel where water regularly flows, whether or not the flow is continuous
Wetlands	Inland, standing, shallow bodies of water, which may be permanent or temporary, fresh or saline
Wholesale market	A competitive market where a commodity such as water can be sought from multiple suppliers
The Water Industry Regulatory Order (WIRO)	Issued by the Government and provides direction to the Essential Services Commission in its role of monitoring and reviewing pricing proposals submitted by regulated water businesses

Key messages

- Melbourne's water sector is facing major challenges, with the recent lower and more variable inflows to traditional water storages.
- These changes have emphasised the need for water conservation and better use of our water resources. They also require action to ensure Melbourne has water supply security, as a result of which the Government announced major supply augmentations earlier this year.
- The Government has set a target that average water bills will no more than double in real terms by 2012. Restructuring the retailers would make only a very small contribution to the target, because the cost savings would be small compared with total industry costs, which are dominated by wholesale costs.
- The Government's price target can be achieved, however, through adjustments to operating expenditures and demand projections, as the Essential Services Commission has identified in its desktop review. A full cost review is likely to identify further scope for cost savings.
- The Government's concerns about potential price differences should be addressed by a reallocation between the retailers of Melbourne Water's wholesale water and wastewater costs.
- If further measures are required to deliver greater pricing parity after the full cost review by the Essential Services Commission, there should be a one-off adjustment in regulatory depreciation for two of the three retailers.
- The Commission also recommends a range of changes to governance arrangements to further enhance the efficiency of the industry.
- The Commission is also proposing some changes to regulatory arrangements which would improve the integration of water resource management in Melbourne, and better position the industry should there be movement towards greater contestability in the future.

Overview

The review at a glance

The inquiry into Reform of the Metropolitan Retail Water Sector was established to ensure that the sector was operating as efficiently as possible. The Government's intent was that the level and distribution of prices following the delivery of supply augmentations announced for Melbourne would be consistent with its policy that average water bills would no more than double (in real terms) by 2012.

Melbourne has a single wholesale supplier in Melbourne Water, and three retail water companies—City West Water, South East Water and Yarra Valley Water—all government owned. The inquiry was set up after the retailers submitted draft pricing proposals for the next pricing period (2008-09 to 2012-13), which foreshadowed price increases in excess of the Government's price target, and which if accepted would have resulted in substantial price differences between the retailers.

In particular, the Government requested that the Commission provide recommendations on achieving:

- a new water delivery structure that provides a least cost, effective and efficient service to Melbourne households and industry for the future
- fair and equitable apportionment of costs
- means in which improvements can be made to ensure that Melbourne's future water supplies are managed within the Government's announced price increases.

The Commission has reviewed the operating and financial performance of the three metropolitan retailers since the industry was disaggregated in 1995 and found that the retailers have performed well relative to both domestic and international benchmarks, improving service levels while achieving cost efficiencies. However, more recent financial performance has been less robust in the face of drought conditions, resulting in restrained growth in revenue at a time of growth in operating and capital expenditure.

The environment in which the retailers operate has also changed substantially over the past decade. Melbourne has grown faster than expected, and climate change suggests a future of much lower and more variable inflows to traditional water storages. These changes have emphasised the need for water conservation and better use of our water resources. They also require action to ensure Melbourne has water supply security, as a result of which the Government announced major supply augmentations earlier this year. Each of these factors

point to the timeliness of this review of the structure of the metropolitan retail water sector.

Overall, the Commission considers that the Government's pricing targets are achievable.

The Commission considered a number of options for structural reform, the most far-reaching of which would be consolidation from three retailers to one. However, the Commission's review of the current three retailer structure in Melbourne demonstrates that changes to this structure can at best only have a relatively small impact on the overall costs of the sector and as such only a very small effect on retail water prices over the next five year period. In large part, this is because of the relative scale of costs associated with capital investments upstream of the retailers required over this period.

Accordingly, the Commission has reviewed other options, not involving structural change, for reducing the size of the proposed price increases and the price differentials between the three retailers. These options relate primarily to the method by which Melbourne Water's costs are allocated to the retail sector, and the period over which assets are depreciated for pricing purposes.

The Commission has also recommended a number of changes to improve the current governance arrangements, and some regulatory changes that would improve the integration of water management in Melbourne and better position the metropolitan water sector for greater contestability in the future.

The rest of this overview provides further details of the Commission's approach to the issues addressed in this inquiry.

Structural reform of the metropolitan retail water sector

In line with the terms of reference seeking 'a new water delivery structure that provides a least cost, effective and efficient service to Melbourne households and industry for the future', the Commission assessed the scope for reform by examining three options for change to the current retail structure:

- (1) consolidating the retail sector into a single entity
- (2) establishing two retailers, including the possibility of these incorporating Melbourne's two major waste treatment plants
- (3) separating the retail and distribution functions.

In assessing these three structural options, the Commission had regard for estimates of potential savings provided by the retailers and Melbourne Water, as well as the available literature and international experience on economies of scale and scope.

Consolidating the retailers into a single entity

Consolidating the retailers into a single entity was examined because it has the most potential to deliver cost savings from streamlining corporate and other overhead functions, and to address any concerns about coordination between retailers on water conservation and other sector-wide issues.

The information available to the Commission suggested that there would be cost savings of between \$14.3 million and \$19.9 million per year from merging three retailers into one. Most of these savings would be in operating costs, rather than in capital expenditure, as the retailers already competitively outsource nearly all of their capital spending. There would also be significant transitional costs of between \$38 million and \$63 million in bringing about a merger. For example, the cost involved in combining three information technology systems into one would be significant.

Given the extent of the proposed retail price increases for Melbourne, merging the three retailers would have only a marginal price impact. The small size of these savings available from structural reform relative to the proposed price increases reflects the fact that a large proportion of the price increases arises from capital expenditure on the major water supply augmentations and sewerage infrastructure. This expenditure is outside the retailers' control, and would be unaffected by their consolidation.

There would also be other potential costs and risks associated with such a merger or indeed any merger, which cannot be readily quantified:

- the potential loss of dynamic efficiencies through, for example, less flexible decision making, or slower uptake of cost-reducing innovations
- some operational risks arising from the diversion of management focus in the short-term which could impede continued water conservation efforts, especially in the period leading to the delivery of the supply augmentations.

Depending on how the Government decides to structure the wholesale part of the sector as the new augmentations come on stream, the single retailer option could also leave such an entity facing multiple wholesalers of water supply in the future, possibly requiring reversal of a merger decision. The Commission considers that issues associated with moving to a single retailer outweigh the small net benefits associated with it.

Establishing two retailers

Establishing two retailers was examined as a possible way to achieve some cost savings whilst avoiding possible concerns about diseconomies of scale from the creation of a large single retail business. In assessing this option, the Commission also considered the possibility of the two retailers assuming responsibility for

Melbourne's two major wastewater treatment plants to improve incentives for the retail sector to develop wastewater recycling and manage trade waste.

Reducing the number of retailers to two would involve many of the same transition costs as moving to a single retailer, but would yield smaller ongoing savings. Consequently, this option would yield only a very small reduction in the growth of average water bills over the next five years. A potential advantage of this model is that it may improve incentives for treatment of wastewater, but this is an issue about which further information is sought.

Separating the retail and distribution functions

Separating the retail and distribution functions was examined as a way to facilitate ongoing innovation in the water sector through the introduction of competition in the retailing of water and wastewater services.

This option could involve creating a single or multiple distributors in addition to multiple retailers. This could be an eventual pathway to competition, but is technically more challenging to implement than retail consolidation, and the Commission is not aware that such a structure has been implemented in the water sector anywhere in the world (although Queensland is moving in this direction). On balance, this was viewed as a longer term option, reflecting uncertainty about the potential benefits and costs, and therefore it would be helpful if more data could be developed on this opportunity.

Cost savings through shared services

In light of the limited savings available from structural change, the Commission also examined the scope to reduce costs while retaining three retailers, by exploiting opportunities for economies through coordinated procurement, open book benchmarking and joint provision of some services that the retailers currently provide separately. The retailers estimate that such arrangements could contribute annual net savings of at least \$3 million per annum over two years, and at least \$5 million per annum over three to five years.

Structural reform options

Given the issues in moving to a single retailer, which outweigh the small net benefits, the Commission is seeking comment on two options in regard to Melbourne's retail structure. The two options are:

- Three retailers with a shared services arrangement contributing annual net savings of up to \$3 million per annum over two years, and up to \$5 million per annum over three to five years.
- A reduction in the number of retailers to two, possibly resulting in a very small decrease in average water bills over the next five years and with some

possible benefits if it also involved a transfer of control of the eastern and western treatment plants to the retailers.

In either case, the Commission is recommending ‘accounting ring-fencing’ of the retailers’ distribution function. Doing so would require the retailers to report separately costs that are currently shared between the distribution and retail functions, consequently generating better data to inform a future decision on separation of the distribution and retail functions. The Commission considers this will be essential to better inform the option of developing an urban water market in the future.

Non-structural reform options

As any changes to structural arrangements in the metropolitan retail water sector will have only a marginal price impact over the next five years, the Commission also looked at non-structural options for reducing proposed aggregate costs and prices, and the differentials between retailers.

The Essential Services Commission (ESC) has already undertaken a preliminary desktop review of the options for reducing retailers’ costs and consequently the price of water to customers, which suggests that a 14.8 per cent interim price increase is generally consistent with the likely five year outcomes from a full price review. This outcome is consistent with the Government’s target of containing price increases to no more than doubling in real terms in the next five years, and is achieved largely as a result of:

- the decision that the desalination plant be built as a public private partnership
- adjustments to operating expenditures
- a re-assessment of the retailers’ projections of expected demand.

However, it is still likely that there would be substantial differences in prices between retailers. To address these concerns, the Commission is recommending changes in the way that Melbourne Water’s bulk water and wastewater costs are allocated between the retailers, supported if necessary by some changes in the timing of regulatory depreciation (as set by the ESC).

Melbourne Water uses a disaggregated cost model to recover its costs from the retailers. This model recovers both costs that are ‘sunk’ and also identifies future costs. The method of allocating sunk costs has limited impact on efficiency. The most important consideration is to ensure that to avoid impacts on efficiency and future investment decisions, charges for sunk costs are fixed and unavoidable. Historically, sunk costs have been allocated between retailers on the basis of demand shares based on 1998 volumes. The Commission supports a reallocation in line with more recent (2004-05) volumes, being the year that the independent

regulatory processes commenced. This change would reduce the price increase for Yarra Valley Water, while increasing them for the other two retailers (table 1).

In regard to recovering future bulk water and sewerage costs, the Commission recommends that these costs should be ‘pooled’ and then allocated according to the forecast volumetric demand of each retail business. This reflects the adoption of a more integrated water management approach to the cost allocation process, which has greater regard for the range of beneficiaries (including the environment) of specific capital expenditures, and the often multiple drivers of such investments. The Commission has estimated that this approach will also reduce the price increase for Yarra Valley Water while increasing them for the other retailers.

The Commission also:

- supports the view of the ESC that for price regulation purposes the demand estimates of the retailers have been under-estimated for the short-term, and has not found any evidence to suggest that changes in the demand forecasts would have any marked impact on the planned capital expenditures over the next five years. As a result, the demand projections can be increased and price rises revised downwards while the revenue requirement is unchanged
- does not consider modifications to environmental and health regulations or customer service requirements would be necessary or appropriate for the Government to achieve its price objectives.

The Commission considers that the ESC’s full price determination process is also likely to result in further reductions to the price projections in the draft water plans of the retailers. In the event that this process, together with the proposed adjustments to Melbourne Water’s cost allocation, are not sufficient to achieve the required level of prices and pricing parity between the retailers, the Commission favours using deferral of regulatory depreciation for Yarra Valley Water and City West Water to achieve additional reductions.

The effect of this change would be to reduce the level of revenue that the ESC would permit these two retailers to earn during the next regulatory period, but to increase the amount of revenue that could be earned—other things being equal—in the subsequent period. As this deferral would reduce these retailers’ cash flows in the coming regulatory period, the impact on their financial structure would need to be monitored and if necessary addressed through the application of the Government’s dividend policy.

The Commission expects that implementing the above options would change the retailers’ price profiles, both in aggregate and for individual retailers, as set out in table 1.

Table 1 **Estimated average annual real retail price increase (2008-09 to 2012-13)**

	<i>City West Water</i>	<i>South East Water</i>	<i>Yarra Valley Water</i>
Submission to ESC based on current tariff structures	19.1	14.8	21.9
Submission to ESC adjusted for PPP	16.6	13.8	19.9
<i>Potential adjustment to expenditure forecasts</i>	0 to -0.8	0 to -0.3	0 to -1.2
<i>Potential adjustment to demand forecasts</i>	-1.8	-1.9	-2.3
ESC preliminary view of required price increase (lower end of range)	13.9^a	11.7^a	16.4
<i>Reallocation of sunk costs (based on 2004-05 demand shares)</i>	0.4	0.3	-0.5
<i>Allocation of MW future costs based on forecast volumes</i>	0.8	0.2	-0.6
<i>Deferral of regulatory depreciation</i>	-0.3	0	-0.5
Estimated required price increase	14.8	12.2	14.8
Net change in price increases (compared to initial submissions)	-4.3	-2.6	-7.1

^a These figures are taken directly from the ESC's submission to the inquiry and do not sum exactly, due to rounding.

The recommendations in this draft report relating to costs and prices are inter-related. For the purposes of the calculations in table 1, the Commission has assumed the continuation of three retailers and a five year regulatory period, which are the current arrangements. If either of these assumptions is changed, the calculations would also change. However, the Commission is confident that the issues put to it by the Government can be addressed by a combination of the measures discussed in the draft report and set out in table 1.

Governance reforms

The Commission was also asked to consider whether there is scope for improving governance and related arrangements.

Planning decisions and the supply-demand balance forecasts upon which they are based are critical to decisions on supply augmentation and system operating arrangements. At present both the *Central region sustainable water strategy* and the retailers' statements of obligations foreshadow arrangements for updating the forecasts on an annual basis. Until the supply augmentation projects are completed, the Commission is of the view that this work should be directed by the Office of Water in the Department of Sustainability and Environment, with input from Melbourne Water and the retailers. Each retailers' statement of obligations should be amended accordingly.

The Commission is also recommending additional changes to governance arrangements:

- There should be more transparent evaluation of the costs and benefits of obligations imposed on retailers through their statements of obligations and then passed on to customers through endorsement by the ESC of the retailers' water plans. Current obligations include issues such as sustainable water resource management, water recycling, identifying the best mix of supply and demand measures and provision of backlog reticulated sewerage services.
- Recognising that an increasingly high proportion of the retailers' costs are not controlled by them, and considering the advantages and disadvantages of different corporate forms in regard to public accountability, legislative simplicity and achieving the efficient delivery of multiple objectives, the three metropolitan retailers should be made statutory corporations.
- The Government should be cognisant of the recent weakening in the retailers' financial performance and capital position in the face of drought conditions when implementing dividend and capital management policies.
- The ESC should make greater use of cost-based benchmarking to assess the performance of the retailers and prompt further efficiency improvements.

The Commission is also recommending that the regulatory period for the next price determination for retailers be for three years commencing from July 2009. There have been significant changes which suggest that a shorter regulatory period is more appropriate than the five year period foreshadowed by the ESC in March 2007, including that:

- augmentation projects are now known, but their timing and cost will not be determined until procurement processes are complete
- projections of water demand are unusually uncertain and restricted in the current environment, but will normalise once supply constraints are removed
- the Government's responses to the recommendations in this report could change significantly the environment within which the retailers are operating.

Future contestability

The Commission was also asked to consider the scope for greater competition in the urban water sector, both in the short and long term. It had regard for the longer term options in making its recommendation on structural arrangements in the immediate future, but has not formed a view about which—if any—longer term reforms should be adopted. The current literature and relevant international experience currently provide limited evidence for concluding that in the case of water, competition will result in reduced aggregate costs and prices in all circumstances. In the Commission's view the opportunities are constrained in the short term, and would have at best marginal impact, although in the longer term the greater diversity of supply options could open up more opportunities.

In the short term the Commission is recommending that all water supply options in the central region be brought into an integrated regulatory system, with regulatory arrangements providing greater future scope for recycling and stormwater use (including through better definition of rights that are fit for purpose).

In addition, the Commission recommends the development of a state-based access regime for water and wastewater infrastructure services. The Commission believes that a state-based access regime can facilitate the efficient use of the metropolitan water and wastewater infrastructure. Developing its own regime would also avoid the risk associated with ad hoc development of a regime under the *Trade Practices Act 1974* (Cwlth).

The Commission also considered the longer term issues that will be relevant to the Melbourne metropolitan water sector, and some areas where further work may be beneficial in this regard. These include:

- the arrangements to optimise system management of the expanded water grid and new water sources
- whether a centrally determined economic water value model could be developed that attempts to replicate the operation of an actual competitive urban water market
- amendments to bulk entitlements, to reflect the new water sources
- whether a market mechanism can contribute to system management
- roles and responsibilities in the new system; for example, whether a grid manager should be established
- how implementation of the new arrangements—for example, with the supplier of the desalination plant—could affect further reforms and, if so, how to avoid adverse outcomes.

The Commission is aware of the importance of rapidly implementing a number of the recommendations it has put forward to achieve the Government's objectives in regard to the size and equity of water price increases. A proposed work plan (including time frames) for implementation is set out in table 2. The Commission welcomes further comment both on the recommendations and work plan/time frames.

Request for further information

The Commission is also seeking additional information on a number of issues.

Retail sector structural reform

- The opportunities to achieve operational and capital efficiencies from greater use of benchmarking and coordinated procurement of capital projects.
- The two options for change to Melbourne's retail structure, which are:
 - Three retailers with a shared services arrangement contributing annual net savings of up to \$3 million per annum over two years, and up to \$5 million per annum over three to five years.
 - A reduction in the number of retailers to two, possibly resulting in a very small decrease in average water bills over the next five years and with some additional benefits if it also involved a transfer of control of the eastern and western treatment plants to the retailers.

Short term contestability initiatives

- The demand prospects for sewer mining and any regulatory impediments to it.
- The impact on integrated water resource management of the allocation of responsibilities for harvesting stormwater and for groundwater.
- The appropriate pricing methodology to be used in an access regime for water and wastewater infrastructure services.

Short and medium term reform—governance arrangements

- The advantages and disadvantages of different financial incentives for encouraging conservation.
- The advantages and disadvantages of increasing the maximum payment for backlog sewerage connections in the metropolitan area.

Draft recommendations

This section lists the Commission's preliminary recommendations in the order they appear in the report.

Draft recommendation 4.1

That the Victorian Government introduce a system of accounting ring-fencing for the metropolitan retail water sector. The sector should report on their water distribution, wastewater collection and retail costs. The Essential Services Commission should develop a methodology for implementing accounting ring-fencing, audit the information provided and publish the information as part of its ongoing monitoring role for the Victorian water sector.

Draft recommendation 5.1

That the Government clarify the rights framework with respect to wastewater and recycled water, applying best practice regulatory design principles.

Draft recommendation 5.2

That the Government clarify the rights to stormwater and responsibilities for the provision of stormwater harvesting services, and bring stormwater within the existing water resource management framework. In so doing, the Government should apply best practice regulatory design principles.

Draft recommendation 5.3

That the retailers:

- compare their approaches and assess opportunities for streamlining their processes in dealing with developers and plumbers
- remove any unnecessary differences between them in standards that they impose on developers and plumbers.

Draft recommendation 5.4

That the Government finalise the trade waste review within twelve months, clarifying accountabilities and regulatory arrangements, with scope for consideration of the use of market instruments to continue beyond this date.

Draft recommendation 5.5

That the Government develop an access regime for water and wastewater infrastructure services.

Draft recommendation 6.1

To achieve greater pricing parity in the future and a more appropriate allocation of costs, the Government direct Melbourne Water to allocate sunk costs on the basis of 2004-05 demand shares.

Draft recommendation 6.2

To achieve greater pricing parity in the future and a more appropriate allocation of costs, the Government direct Melbourne Water to allocate all future costs across the bulk supply system according to volume.

Draft recommendation 6.3

To achieve the Government's pricing objectives, regulatory depreciation of selected retailers should be deferred for the next regulatory period to the extent necessary. Any adverse financial consequences should be addressed through a modified dividend policy or a capital injection.

Draft recommendation 7.1

That for each pricing period the Government specify in the statement of obligations the quantifiable outcomes that it expects the retailers to achieve through meeting these obligations.

Draft recommendation 7.2

That:

- a regulatory impact statement (RIS) be prepared before a new or varied obligation (above a threshold level) is inserted in a statement of obligations
- the publication of amended obligations required by the Minister within a regulatory period, be accompanied by a statement of the outcome(s) the obligation is intended to achieve.

Draft recommendation 7.3

That the retailers be made statutory corporations under the Water Act.

Draft recommendation 7.4

That the threshold for review by the Department of Treasury and Finance of water retailers' capital works be raised from the current amount of \$5 million and be based on a percentage of each business' capital expenditure.

Draft recommendation 7.5

That the Office of Water, with input from Melbourne Water and the retailers, coordinate the annual review of water availability and use in the metropolitan area envisaged in the *Central region sustainable water strategy*. This review should be linked to the supply augmentation projects and their operating arrangements. The retailers' statement of obligations should be amended accordingly.

Draft recommendation 7.6

That the Essential Services Commission's revenue determination period beginning in July 2009, be for a period of three years.

Draft recommendation 7.7

That the retailers report to the Minister for Water their performance in achieving the outcomes specified in their statements of obligations.

Draft recommendation 7.8

That the Essential Services Commission introduce, on a trial basis, a rolling program of benchmarking of the retailers' processes and activities.

Table 2 Work plan for implementing recommendations

Draft recommendation and timeframe for implementation

Within 6–12 months

Draft recommendation 4.1: ... introduce a system of accounting ring-fencing for the metropolitan retail water sector.

Draft recommendation 5.4: ... finalise the trade waste review within twelve months, clarifying accountabilities and regulatory arrangements, with scope for consideration of the use of market instruments to continue beyond this date.

Draft recommendation 6.1: ... direct Melbourne Water to allocate sunk costs on the basis of 2004-05 demand shares.

Draft recommendation 6.2: ... direct Melbourne Water to allocate all future costs across the bulk supply system according to volume.

Draft recommendation 6.3: ... regulatory depreciation of selected retailers should be deferred for the next regulatory period to the extent necessary. Any adverse financial consequences should be addressed through a modified dividend policy or a capital injection.

Draft recommendation 7.1: ... for each pricing period the Government specify in the statement of obligations the quantifiable outcomes that it expects the retailers to achieve through meeting these obligations.

Draft recommendation 7.2: ... a regulatory impact statement (RIS) be prepared before a new or varied obligation (above a threshold level) is inserted in a statement of obligations; and the publication of amended obligations required by the Minister within a regulatory period, be accompanied by a statement of the outcome(s) the obligation is intended to achieve.

Draft recommendation 7.3: ... the retailers be made statutory corporations under the Water Act.

Draft recommendation 7.4: ... the threshold for review by the Department of Treasury and Finance of water retailers' capital works be raised from the current amount of \$5 million and be based on a percentage of each business' capital expenditure.

Draft recommendation 7.5: ... the Office of Water, with input from Melbourne Water and the retailers, coordinate the annual review of water availability and use in the metropolitan area envisaged in the *Central region sustainable water strategy*. This review should be linked to the supply augmentation projects and their operating arrangements. The retailers' statements of obligations should be amended accordingly.

Draft recommendation 7.6: the Essential Service Commission's revenue determination period beginning in July 2009, be for a period of three years.

Draft recommendation 7.7: ... the retailers report to the Minister for Water their performance in achieving the outcomes specified in their statements of obligations.

Draft recommendation 7.8: ... the Essential Services Commission introduce, on a trial basis, a rolling program of benchmarking of the retailers' processes and activities.

Within 12–18 months

Draft recommendation 5.1: ... clarify the rights framework with respect to wastewater and recycled water, applying best practice regulatory design principles.

Draft recommendation 5.2: ... clarify the rights to stormwater and responsibilities for the provision of stormwater harvesting services, and bring stormwater within the existing water resource management framework. In so doing, the Government should apply best practice regulatory design principles.

Draft recommendation 5.3: ... the retailers compare their approaches and assess opportunities for streamlining their processes in dealing with developers and plumbers; and remove any unnecessary differences between them in standards that they impose on developers and plumbers.

Draft recommendation 5.5: ... develop an access regime for water and wastewater infrastructure services.

1 Introduction

1.1 The context

Since January 1995, Melbourne has received its water and wastewater services from a wholesaler (Melbourne Water) and three retail water businesses (City West Water, South East Water and Yarra Valley Water). At disaggregation, it was intended that this structure would create retail businesses that would be more accessible to and focussed on their customers, and to stimulate efficiencies through ‘competition by comparison’ between broadly similar businesses (VOSOE 1995, pp. 4–8). Twelve years on, the Government has asked the Commission to review and recommend options to improve the structure of the metropolitan retail water sector to ensure it continues to provide secure and reliable water services at least cost to the community, particularly in the context of the major supply projects that have been announced to diversify and boost Melbourne’s water supplies.

These projects—announced in *Our water our future: the next stage of the Government’s water plan*—include:

- construction of a major desalination plant, adding up to 150 gegalitres annually—about a third of Melbourne’s current water needs
- a major irrigation modernisation project in the Goulburn and Murray irrigation systems, with water savings to be shared equally between the irrigators, the environment and Melbourne
- expansion of Victoria’s water grid, including interconnectors between Melbourne and Geelong, Melbourne and the Goulburn River, and Melbourne and the new desalination plant
- options to increase water recycling, incorporating an upgrade of the Eastern Treatment Plant to tertiary standard
- further water conservation initiatives (Government of Victoria 2007).

These projects—involving capital expenditure of \$4.9 billion—will enable Melbourne to move to stage 2 water restrictions by 2010 and progressively to low level or no restrictions by 2013.¹ Restrictions would be lifted earlier if inflows closer to the average of the last 10 years are restored. Within a few years, the configuration of Melbourne’s water supplies—traditionally based around large storages in closed catchments—will be radically different.

¹ Based on a scenario using rainfall data from the last three years.

The Government believes that water consumers should bear the costs of the augmentations, and expected the average Melbourne water bill to double in real terms by 2012. With such major changes imminent, it is timely to review the structure of the metropolitan retail water sector.

The terms of reference for the inquiry direct the Commission to:

- assess the extent to which the current structure and operation of the three retail businesses and competition by comparison between the three retailers are the best arrangements to address the new challenges facing the sector
- identify the options available to reform the current arrangements, including potential structural reforms, and whether and to what extent, additional benefits could be harnessed through the introduction of further reforms, such as retail contestability, development of competitive urban water markets, etc
- assess the implications of demand variations for both pricing strategies and capital investment
- evaluate the costs and benefits of these options and recommend a preferred option for government consideration
- identify any related improvements to governance and industry structure in the context of *Our water our future: the next stage of the Government's water plan* and climate change
- identify the timeframe and next steps for implementing any recommended reforms to the sector, including the appropriate period for an independent price determination.

The Government has also directed the Commission to provide clear recommendations on achieving:

- a new water delivery structure that provides a least cost, effective and efficient service to Melbourne households and industry for the future
- fair and equitable apportionment of costs
- means in which improvements can be made to ensure that Melbourne's future water supplies are managed within the Government's announced price increases.

In addition to the Commission's inquiry, the Government has announced that the Essential Services Commission (ESC) will undertake a broadly simultaneous inquiry into water tariff structures, including:

- increasing reliance on volumetric charges as distinct from fixed charging for water consumption
- combining volumetric charging for residential and non-residential water and sewerage services

- the proposed shift in charging to increase the share paid by non-residential customers.²

These pricing issues are therefore outside the scope of the Commission's inquiry.

A number of other Australian jurisdictions are also reviewing the structure and regulatory frameworks governing their metropolitan water sectors. Reviews have been undertaken into the urban water sectors in New South Wales (IPART 2005) and Queensland (QWC 2007a) and reviews are also underway in Western Australia (ERA 2007a) and Tasmania (MWST 2006).

1.2 The challenges

There are a number of significant challenges for Melbourne's water sector in the next few years. Melbourne Water points out that an immediate challenge for the industry is 'delivering a significantly larger capital program effectively and efficiently in a resource constrained construction market'. Melbourne Water plans to spend \$2.9 billion between 2008-09 and 2012-13 (and this excludes the desalination plant³), while the retailers' proposed capital works program is \$2.3 billion over the same period, an increase of 85 per cent over the first regulatory period (Melbourne Water, sub. 30, p. 12). The Commission is mindful of the extent of the challenges involved in delivering such a large program, and has considered how proposals for change would impact on delivering this program. Similarly, the water businesses have pointed to the difficulties of attracting and retaining staff and to the risks associated with greater uncertainty about their businesses (Melbourne Water, sub. 30, p. 13; Yarra Valley Water, sub. 36, p. 24).

A related challenge for the sector is to minimise the cost and price increases associated with delivering the augmentation program. The retailers estimate that their initial price proposals would have implied an annual average price increase across Melbourne of 18.2 per cent⁴ over the next five years, well above the 14.8 per cent annual increase consistent with the Government intention to constrain price increases to no more than doubling in real terms by 2012 (South East Water, sub. 34, p. ii).

It is a major task for the sector to deliver the augmentations within the Government's price constraints, enhance service standards and meet its

² The ESC's draft report can be found at www.esc.vic.gov.au.

³ The Government has announced that the plant will be delivered through a public private partnership.

⁴ This is derived from a weighted average of the three retailers' draft water plan submissions. In their proposals, released in August 2007, Yarra Valley Water proposed real annual increases over the next five years of 22 per cent, City West Water 16.8 per cent, and South East Water 14.8 per cent.

economic, social (including public health) and environmental objectives. The Commission has explored ways to achieve this, focusing—as the terms of reference request—on the cost structures of the retail businesses. It has analysed a range of options for restructuring the retail sector, considering whether there are any economies or diseconomies of scale from amalgamating the retailers, the transition costs that would be involved, and any impacts on long term efficiency. The Commission has also examined ways to improve outcomes under the existing industry structure. However, with more than half of retailers’ costs driven by payments to Melbourne Water for bulk water and wastewater services, and with payments for bulk water set to increase as the supply augmentations are developed, the cost savings that could be achieved through restructuring the retailers are constrained. As a result, the Commission has also explored non-structural options for reducing the price increases in a manner consistent with the Government’s pricing policy.

The challenges associated with the cost and delivery of the water sector’s capital program are driven in part by population and economic growth. A further major contributing factor has been the impact of drought and increased uncertainty with respect to future rainfall and stream flow patterns. These pressures have highlighted the need for a more integrated approach to resource management over the water cycle and all water resources (for example, seawater, wastewater, and stormwater).

A key consequence is the need to ensure appropriate structures that optimise a water supply system that in a few years will look quite different from Melbourne’s traditional reliance on large storages in closed catchments. Melbourne Water describes this challenge as one of ‘integrating major new water sources and optimising operations with respect to cost, quality, energy and emissions’ (sub. 30, p. 11). Similarly, Yarra Valley Water has noted:

Given that the management of bulk water supplies will have the greatest impact on future prices it is critically important that arrangements are put in place that actively manage bulk water supplies in the context of a new desalination plant, the Sugarloaf Interconnector and the imminent creation of a water grid. (sub. 36, p. 20)

In this context, it is also noted that many water capital projects are ‘lumpy’, long-lived and, once constructed, are characterised by sunk costs. Moreover, their benefits are heavily dependent on rainfall patterns, which are inherently difficult to predict. A small delay in implementing large projects can save substantial costs, but can also impose costs if the delay prolongs water restrictions.

A related task is to ensure processes are in place to enable an appropriate balance between supply augmentations and demand management initiatives. In the past five years, as well as the major capital projects, the Government has:

- provided rebates on rainwater tanks
- regulated five star efficiency requirements, including water conservation, for new buildings
- imposed obligations on water businesses to reduce per capita water consumption, to reduce leakages and other losses of water, to implement programs for the sustainable use of recycled water and to substitute, if appropriate, potable supplies with water from alternative sources that are fit for purpose.

However, as City West Water has noted:

After the augmentations are operational, and the storage levels have recovered, there will be ample water to meet demand, especially if behavioural change persists. The current drivers of drought and supply shortages will no longer apply. Melbourne's long term water supply demand strategy needs to be refreshed taking the augmentations into account and recalculating the social, environmental and economic value of water conservation and recycling expenditures. Policy settings may have to change and the corresponding retail sector obligations clearly specified. (sub. 15, p. 5)

Similarly Yarra Valley Water noted that 'maintaining community support for water conservation even after the new sources of supply are brought on line' will be a major challenge (sub. 36, p. 6).

Finally, in the face of uncertainty, South East Water believes that reform options should be considered within the context of a longer term vision of the emerging Victorian water grid, and that structural reform of the Melbourne retailers should be deferred until this broader review is completed (sub. 34, p. vii). The Commission's view, however, is that rather than defer worthwhile reforms, some changes could proceed provided that they do not compromise options for longer term reform.

1.3 The policy context

The Commission has been careful to ensure that the recommendations in this report are consistent with Government policy and obligations. This section outlines a number of important policy positions. Further details of the Government's existing policies and strategies are set out in:

- *Securing our water future together: the Government's white paper on water* (2004)
- *Central region sustainable water strategy* (2006)
- *Our water our future: the next stage of the Government's water plan* (2007).

1.3.1 Public sector ownership

The Government has stated that it ‘will maintain overall stewardship of all water resources irrespective of source, on behalf of all Victorians’ and that ‘water authorities will be retained in public ownership’ (Government of Victoria 2004, p. 12). The *Constitution (Water Authorities) Act 2003* (Vic.) amended the *Constitution Act 1975* (Vic.) to make it unlawful to transfer responsibility for the delivery of water services from a public authority to a non-public body. A future Victorian Government will not be able to transfer services to a private body unless it has the support of a three-fifths majority of members of Parliament.

1.3.2 Pricing

In establishing this inquiry, the Government has outlined a policy that supports parity of pricing for water users across the Melbourne metropolitan region. Additional policies relevant to pricing include those adopted under the Council of Australian Governments (COAG) process, in which Australian Governments agreed that they would base their pricing regimes on the principles of consumption-based pricing, full-cost recovery and desirably the removal of cross-subsidies. They also agreed that where service deliverers are required to provide water services to classes of customers at less than full cost, the cost of this would be fully disclosed and ideally be paid to the service deliverer as a community service obligation (COAG 1994). The National Water Initiative, which builds on the 1994 COAG framework, commits governments to move towards upper bound pricing by 2008,⁵ and to develop pricing policies for recycled water and stormwater that are congruent with pricing policies for potable water, and stimulate efficient water use no matter what the source, by 2006 (COAG 2004, clause 66(ii)).

1.3.3 Economic, environmental and social objectives

The metropolitan retail water sector operates within a framework of economic, environmental and social objectives. In particular, the retailers are required to:

- operate according to sustainable management principles, which include (a) responding to climate change; (b) maintaining and restoring natural assets; (c) using resources more efficiently; and (d) managing everyday environmental impacts (for example, see the statement of obligations for City West Water, clause 25.2)

⁵ Upper bound pricing is the level at which, to avoid monopoly rents, a water business should not recover more than the operational, maintenance and administrative costs, externalities, taxes or tax equivalent regimes, provision for the cost of asset consumption and cost of capital, the latter being calculated using a weighted average cost of capital (COAG 2004, p. 30).

- adopt a commercial focus, with dividends based on profitability and the Government’s dividend benchmarks
- meet a range of specific targets around improving the efficiency of water use, water recycling and water quality including water conservation targets to reduce total per capita water use across the region by at least 25 per cent (compared to the 1990s average) by 2015 and 30 per cent by 2020.

In the *Central region sustainable water strategy*, the Government also indicated that it:

- will not place treated recycled water or stormwater directly into the drinking water supply system
- will work with water authorities and all industries in the region to:
 - explore alternative pricing options to encourage sustainable use by industry prior to the next pricing determination
 - investigate how to develop water markets in the central region⁶ that could be open to large industrial water users (Government of Victoria 2006a, pp. 50, 52).

1.3.4 Conduct of the inquiry

The Commission advertised the inquiry in the daily press and by circular to interested parties, inviting them to make submissions. The terms of reference and inquiry particulars were also listed on the Commission’s website at www.vcec.vic.gov.au.

The Commission received 56 submissions from a number of stakeholders, including water businesses, industry associations, academics, industry suppliers, consumers, and local governments. In addition, the Commission had discussions with a wide range of interested parties (particularly the three Melbourne retailers and Melbourne Water) to identify and assess issues relevant to the inquiry. The Commission also held a workshop to discuss options for improving the water sector. It commissioned PricewaterhouseCoopers to review the financial performance of the retailers. ACIL Tasman was engaged to provide advice on economies of scale in water and wastewater services, and to review the Commission’s assumptions about the benefits and costs of consolidation in the retail water sector. Farrier Swier Consulting and NERA provided strategic advice and commentary on urban water markets.

Appendix A contains a list of submissions to the inquiry, those with whom the Commission met, and the contractors.

⁶ The central region comprises the area south of the Great Dividing Range that includes the West Gippsland, Central Highlands, Barwon, Port Phillip and Westernport regions and the urban centres of Geelong, Ballarat, Greater Melbourne, Melton, Sunbury, Warragul and Traralgon (Government of Victoria 2006a, p. 3).

1.3.5 Report structure

Chapter 2 outlines the current industry regulatory structure and identifies issues that are to be addressed in the rest of the report. Chapter 3 assesses the performance of the three retail businesses since disaggregation. This assessment provides insights into the effectiveness of competition by comparison, which can inform a judgement about whether it has a useful role to play in the future.

Chapter 4 describes the options for restructuring the metropolitan retail sector that the Commission has examined and the criteria it has used to compare them. Chapter 5 considers options for reforming the regulatory structure to permit more contestability. Chapter 6 considers non-structural options—typically involving some financial adjustments—which would constrain price increases and result in greater parity of pricing in the Melbourne metropolitan area.

The terms of reference also direct the Commission to consider governance issues. The Commission has identified a number of ways to improve governance of the metropolitan water sector, and these are described in chapter 7.

Finally, while the report focuses on short term options for improving industry performance, the Commission is keen to avoid recommendations that would undermine longer term options for improving the sector. The Commission has not tried to form a view about a future ‘vision’ for the sector. In chapter 8, however, it has attempted to summarise the best thinking on this issue. Doing so helps both to identify opportunities for a future work program while also ensuring the recommendations in this report will facilitate long term improvements.

2 Industry and regulatory structure

2.1 Introduction

This chapter describes the industry and regulatory structure in the metropolitan retail water sector. Specifically it:

- details the industry structure of the metropolitan water sector (section 2.2)
- outlines the regulatory structure within which the industry operates (section 2.3)
- provides information on prices and costs (section 2.4).

In doing so, the chapter provides necessary background information for discussions in later chapters of:

- the operational and financial performance of the retailers (chapter 3)
- proposals for the restructure of the metropolitan retail water sector (chapter 4)
- how the regulatory and institutional framework can be improved (chapters 5 and 7).

2.2 Industry structure

The industry structure for the supply of water and wastewater services in the Melbourne metropolitan region was established in 1995, when Melbourne Water, which until then was responsible for water supply and wastewater treatment in the metropolitan area and for Melbourne's parks and waterways, was disaggregated into:

- three metropolitan Melbourne retail water companies (City West Water, South East Water and Yarra Valley Water)
- Melbourne Water (supplier of wholesale water and wastewater services to the retailers)
- Melbourne Parks and Waterways.¹

2.2.1 The metropolitan retail water companies

The three metropolitan retail water companies (the retailers) provide water and wastewater services in defined geographical areas in the Melbourne metropolitan

¹ In December 1996 Melbourne Parks and Waterways was combined with the National Parks Service and other separately managed park assets to form Parks Victoria.

region. Their functions are defined under the *Water Industry Act (Vic.)* 1994 (s80), and include to:

- provide, operate and protect water supply systems
- identify the community's needs relating to water supply and to plan for these needs
- develop and implement programs for the conservation and efficient use of water
- conduct research into issues related to the functions
- educate the community about any aspect of water supply.

The retailers operate the water reticulation system and the non-trunk wastewater network; provide meter reading and customer billing services (including for drainage services on behalf of Melbourne Water); handle call centre inquiries and complaints; and provide trade waste services to commercial and industrial customers. In addition, the retailers operate a number of small waste treatment plants.

Each retailer operates under licences that are exclusive to other licensees for a designated Melbourne area issued under the Water Industry Act.² The retailers, which are fully owned by the Victorian Government, are public companies limited by shares under the *Corporations Act 2001* (Cwlth.). Their relationship with the bulk supplier, Melbourne Water, is governed both by regulatory arrangements and bilateral bulk water and wastewater agreements. In 2006, bulk water entitlements were vested with each of the three retailers, on a pooled basis (section 2.3.6). As a consequence, it was intended that:

... as holders of the bulk entitlements, primary accountability for long term management of water resources to meet demand would now rest more clearly with the Melbourne retail authorities (Government of Victoria 2006b, p. 89)

The retailers and Melbourne Water make up a bulk entitlement management committee, which operates as the decision-making body in respect of a range of issues relating to the bulk entitlements.

The metropolitan retailers are substantial businesses, which in 2005-06 serviced 1,563,000 property connections, generated revenue of \$990 million and employed 1039 people (table 2.1). Table 2.1 also shows that there are considerable size differences between the retailers, with City West Water smaller than the other two. Amongst other differences, the soil in City West Water's region has more clay than the other two retailers, which results in costly pipe bursts in dry years. Yarra Valley Water, on the other hand, needs to do more

² That is, only unlicensed parties could provide services within the area of a retailer.

scouring of its pipes to address water quality in regions sourcing supply from the Upper Yarra. City West Water earns a higher proportion of its revenue from non-residential customers, servicing the majority of Melbourne's industry and key locations such as major sporting facilities (sub. 15, p. 39). Chapter 3 assesses the operational and financial performance of the retailers.

Table 2.1 Metropolitan retail water sector

	<i>City West Water</i>	<i>South East Water</i>	<i>Yarra Valley Water</i>	<i>Combined</i>
Property connections (water) (2005-06)	316,000	605,000	642,000	1,563,000
Employees (as at 30 June 2006)	244	423	372	1,039
Revenues (water and sewerage) (2005-06)	\$253M	\$362M	\$375M	\$990M
Average residential water bill (2005-06)	\$560	\$569	\$590	\$576*
Initial regulatory asset value (as at 1 July 2004)	\$734M	\$1,515M	\$1,567M	\$3,816M
Proposed capital expenditure (2008-2013) (2006-07 dollars)	\$421M	\$633M	\$1,283M	\$2,337M
Proposed average annual operating expenditure (2008-2013) (2006-07 dollars)	\$293M	\$394M	\$452M	\$1,139M [#]

Source: Melbourne Water (sub. 30, p. 16) in turn drawing on National Performance Report 2005/06 – Major Urban Water Utilities, 2005/06 Annual Reports and Draft 2008 Water Plans of City West Water, South East Water and Yarra Valley Water * Weighted average # Total average annual operating expenditure

2.2.2 Melbourne Water Corporation (Melbourne Water)

Melbourne Water is a statutory corporation, fully owned by the Victorian Government, and established under the *Water Act 1989* (Vic.). It is Victoria's largest urban water business, providing over 60 per cent of the state's potable water and 11 per cent of water supplied in Victoria for urban and rural purposes (sub. 30, p. 26). Its water supply system comprises assets that harvest, store, treat and transfer water to five retail water businesses (City West Water, South East Water, Yarra Valley Water, Western Water, and Gippsland Water).

Melbourne Water treats around 300 GL of sewage collected by the three retailers. The assets that make up its sewerage system include 343 kilometres of sewers and two sewage treatment plants at Carrum (Eastern Treatment Plant)

and Werribee (Western Treatment Plant). Melbourne Water recycled 14.6 per cent of the sewage it treated in 2005-06, for use on site in its treatment plants and by the retailers, Southern Rural Water and a private sector recycled water supplier (sub. 30, pp. 26-9). Melbourne Water's supply responsibilities are defined through bulk entitlements, Bulk Supply Agreements (covering, for example, operational arrangements and water quality) with each of the retailers, and the instrument of appointment as storage operator. Melbourne Water also provides waterways and drainage management services to the greater Melbourne community (sub. 30, p. 6).

Melbourne Water is also a delegate of the Minister in respect of licensing diversions from and works on waterways in the Yarra Basin (as well as some areas a little to the west).

2.2.3 Other water entities

A number of other water authorities operate in or interact with the metropolitan retail water sector.

Southern Rural Water

Southern Rural Water is the trading name of the Gippsland and Southern Rural Water Corporation, a statutory rural water corporation established under the Water Act. Southern Rural Water is responsible for rural water supply across the entire southern part of Victoria, from the Great Divide to the coast, including the Melbourne metropolitan region. Its three principal activities relate to headworks, licensing and irrigation. In the metropolitan area, Southern Rural Water implements the Government's regulations and policy for groundwater and surface water resource management. It assesses licence applications, issues licences to construct new farm dams and bores (if approved), and manages new and existing groundwater and, other than in the Yarra basin, surface water licences. Southern Rural Water also supplies untreated water to Western Water and manages the delivery of water to the Werribee irrigation district. In 2005-06, Southern Rural Water employed 140 staff and generated revenues of \$25.4 million (SRW 2006, pp. 16, 72).

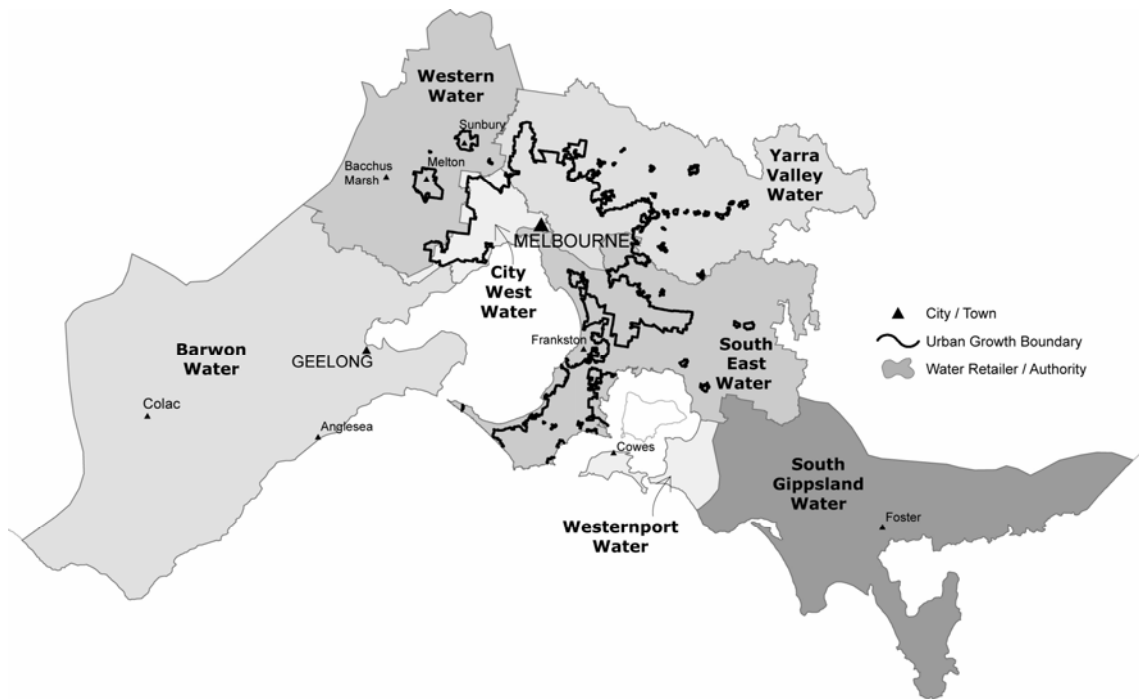
Regional Water Corporations (RWCs)

Four Central Region water corporations—Western Water, Barwon Water, Westernport Water and South Gippsland Water—operate in regions contiguous to the three metropolitan water retailers, and are either currently connected to the metropolitan water supply system (Western Water) or will be connected under the proposed supply augmentations and interconnections outlined in *Our water our future: the next stage of the Government's water plan*. In the case of Western

Water, part of its operations fall within the current urban growth boundaries established under Melbourne 2030 (see figure 2.1).

Each of the RWCs is responsible for both water and wastewater services in their defined geographical regions. RWCs are statutory water corporations established under the Water Act and have many legal characteristics in common with Melbourne Water.

Figure 2.1 **Water retailers/corporations and the Melbourne 2030 urban growth boundaries**



Source: DSE 2007b

2.3 Regulatory structure³

2.3.1 Legislative framework

The legislative framework for the metropolitan water sector is comprised of a number of Acts, most of which are Victorian (box 2.2) but relevant Commonwealth Acts include the *Trade Practices Act 1974* (Cwlth.) and the *Corporations Act 2001* (Cwlth.). The most significant Victorian Acts are the *Water Act 1989* (Vic.) and the *Water Industry Act 1994* (Vic.).

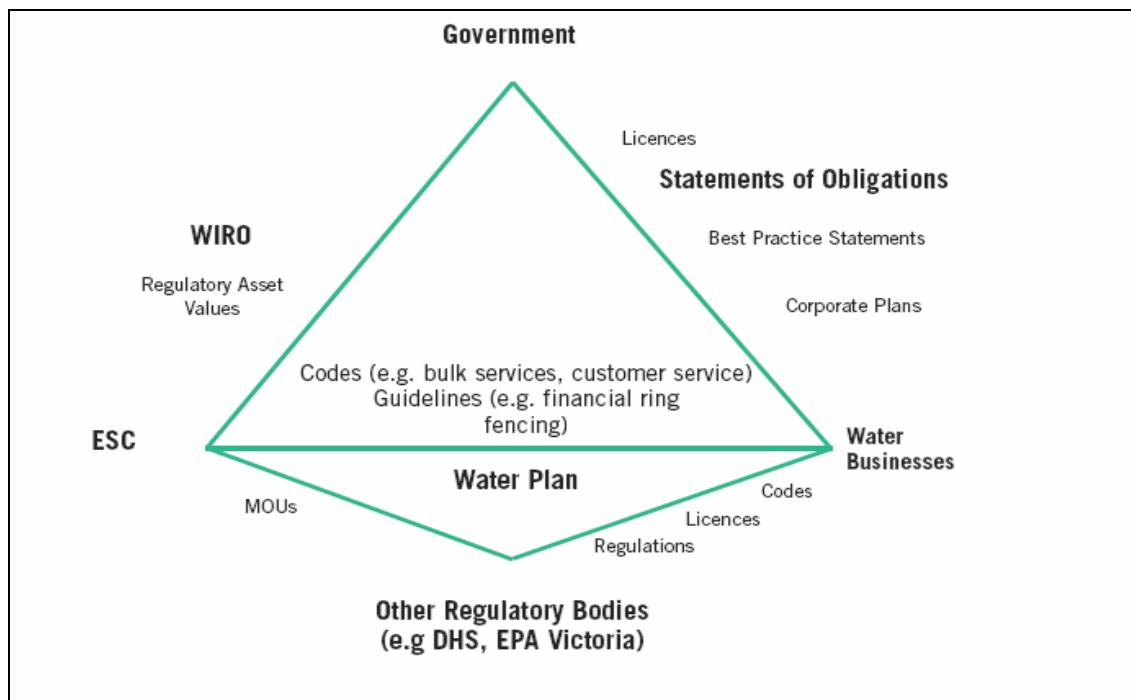
³ This summary draws on ESC (2004a).

Box 2.1 Water legislation in Victoria

- The *Water Act 1989* is the principal Act relating to water in Victoria, with purposes relating to integrated water resource management, promoting the orderly, equitable and efficient use of water, and sustainable use of water. It details the objectives and governance arrangements for the regional water corporations and Melbourne Water.
- The *Water Industry Act 1994* enabled the disaggregation of Melbourne Water and established a licensing system for retail water and sewerage businesses.
- The *State Owned Enterprises Act 1992* established the retailers as state owned companies under that Act. Governance arrangements for the retailers are set out in that Act, and in the *Corporations Act 2001* (Cwlth).
- The *Constitution (Water Authorities) Act 2003* secures the public control of water services by entrenching public ownership of water authorities.
- The *Catchment and Land Protection Act 1994* divides Victoria into ten regions and establishes a catchment management authority for each region
- The *Safe Drinking Water Act 2003* provides a regulatory framework that encompasses a catchment-to-tap, risk-based approach to the supply of drinking water across Victoria.
- The *Food Act 1984* prohibits the supply or sale of water for human consumption that is unsafe or unsuitable.
- The *Environment Protection Act 1970* creates a legislative framework for the protection of the environment in Victoria.
- The *Essential Services Commission Act 2001* established the Essential Services Commission and provides for an economic regulatory framework for regulated industries, such as the water industry.

This legislative framework is supplemented by various regulatory instruments—including licences, statements of obligations, a water industry regulatory order, codes of practice, and corporate plans—which define the roles of water businesses and impose obligations on them (figure 2.2).

Figure 2.2 Regulatory framework



Source: Adapted from Department of Natural Resources and Environment, Establishing the Essential Services Commission as the Economic Regulator of the Victorian Water Industry, Information Sessions 23, 24 April 2002

Four ministers have particular responsibilities relating to the water sector⁴:

- the Minister for Water, supported by the Department of Sustainability and the Environment (DSE), has primary responsibility for developing water policy and administering Victoria's water legislation
- the Minister for Health, supported by the Department of Human Services, administers legislation relevant to the safety and quality of drinking water, including regulatory arrangements for drinking water quality under the *Safe Drinking Water Act 2003* (Vic.)
- the Minister for the Environment, supported by Environment Protection Authority (EPA) Victoria and DSE, has responsibilities relating to the sector's environmental performance
- the Treasurer, supported by the Department of Treasury and Finance (DTF), shares responsibility with the Minister for Water for corporate governance of Melbourne Water and the three retailers, as described in box 2.2.

⁴ Several other ministers have responsibilities for legislation and regulation relating to particular aspects of the sector's operations, such as workplace safety and consumer protection.

Box 2.2 Governance responsibilities of the Treasurer and Minister for Water for Melbourne Water and the retailers

- The Treasurer and Minister for Water are jointly responsible for the appointment and removal of Directors.
- Both Ministers provide comments on corporate plans directly to Melbourne Water and the retailers, which must have regard to these comments.
- Both Ministers have the power to require periodic performance reports from Melbourne Water and the retailers, whose quarterly reports include progress towards achievement of the financial targets and key performance indicators in their corporate plans.
- The Treasurer determines dividends, following consultation with the Minister for Water and the boards of Melbourne Water and each retailer.
- The boards of Melbourne Water and the retailers are required to immediately notify the Minister and the Treasurer of any matter which may prevent or significantly affect the achievement of their objectives or the financial targets in their corporate plans.
- The Treasurer must be consulted by the Minister for Water on any written directions given to Melbourne Water.
- The Minister for Water must seek the approval of the Treasurer to establish, restructure or abolish Melbourne Water and the retailers.
- For capital projects above \$5M, Melbourne Water and the retailers are required to submit a business case for the Minister's endorsement and the Treasurer's approval.

The key regulatory instruments in the metropolitan water sector are:

- licences, through which the Minister imposes conditions on the retailers, which may include compliance with a statement of obligations (Water Industry Act, s7(4)(c))
- statements of obligation for water corporations and retailers respectively, which specify obligations in performing their functions and exercising their powers (Water Industry Act, ss4I, 8). The Minister for Water, after consultation with the Treasurer and the Essential Services Commission (ESC), may issue, amend or revoke a statement of obligations that, 'without limiting the generality of that power', covers issues such as governance, quality and performance standards, community service obligations, sustainability principles, and customer and community consultation. While a broad range of issues can be included as obligations, the ministerial powers are limited in that they do not authorise the Minister to introduce new functions or powers additional to those specified in the Water Industry Act. There is no requirement that the Minister give public notice of an intention to amend or vary a statement of obligations or consult with anyone, other

than the Treasurer, the ESC and the relevant water business. The ESC must be consulted, but its consent is not required and in the current regulatory period there is no scope to re-set prices when an amendment is made, unless the impact exceeds 2.5 per cent of the revenue requirement. Cost implications smaller than this are deferred to the next period. Chapter 7 discusses possible improvements to the process for establishing or varying obligations

- the Water Industry Regulatory Order (WIRO), which specifies the goods or services to be regulated by ESC and other matters such as the approach that ESC is to adopt in regulating prices
- the corporate planning process. Each year, Melbourne Water and the retailers are required to submit a three year corporate plan to both the Minister and the Treasurer. The plans are prepared with a view to ensuring that the ministers are comfortable with the proposed strategic direction and projected performance of the retailers and Melbourne Water from a shareholder perspective. They set down the proposed strategic direction for the business, and projected financial and non-financial performance, over the corporate plan period (currently 3 years for the retailers). They are provided in a form that meets the information requirements of the Treasurer and Minister, and allow them to form a view as to whether the proposed strategic direction is appropriate, and whether the plan provides a sound basis for monitoring the performance of the business. The Treasurer and the Minister for Water provide written comments on each corporate plan to the Chairman of each business each year.

The Minister for Water, after consulting with the Treasurer, may give written directions to Melbourne Water and they must be published (Water Act, s307). If compliance with a direction causes a financial detriment to a water corporation, the Treasurer may direct that financial reimbursement be provided (s307A).

2.3.2 Economic regulation

ESC is the independent economic regulator of the water sector, and follows a process set out in the WIRO. Water retailers are required by their statement of obligations to put forward water plans to the ESC to inform the ESC's decision about prices during a prescribed regulatory period. These plans identify:

- outcomes the retailers expect to deliver over the plan period (driven by regulations, customer preferences and business initiatives)
- projects or programs to achieve the outcomes (for example, a treatment plant upgrade might be needed to maintain the demand-supply balance)
- expenditure required to deliver the projects or programs

- the revenue required to fund the expenditure and the prices required to deliver the revenue.

The water plans provide the basis for the retailers to consult with customers, regulators and DSE. Consultation occurs during plan development and also when the retailers table their plans as exposure drafts as the first stage of the price review. The exposure draft articulates the reasons for the price increases sought by the retailers and is an opportunity for the Minister to comment on their priorities. The businesses can take these comments into account before submitting their plans formally to the ESC for approval. The WIRO allows the retailers to recover a return on assets in place at 1 July 2004 and a return on new investment after that date. The ESC reviews whether the prices contained in the plans are consistent with principles set out in the WIRO, and whether the expenditure projections are consistent with efficient delivery (possibly using independent expert review and benchmarking to assess this). Retailers are then permitted to earn the revenue required to fund their operating expenditure, depreciation and a return on assets. Given projections of water demand, prices are then set at a level which will yield the revenue requirement.

The first pricing period was for three years (2005-06 to 2007-08). The ESC is responsible for determining the length of subsequent pricing periods and proposed in March 2007 (before the major supply augmentations were announced) that the next period should be five years, but the Victorian Competition and Efficiency Commission (the Commission) has been asked to take a view on this in the inquiry.

2.3.3 Environmental regulation

Particular environmental impacts associated with the water sector relate to the impact of water extraction on the health of rivers, and the effects of wastewater discharges. EPA Victoria administers the *Environment Protection Act 1970* (Vic.), which establishes water quality objectives. The key water quality policy instruments are State Environment Protection Policy (Waters of Victoria) 2003 and the State Environment Protection Policy (Groundwaters of Victoria) 2002, which provide for protection and sustainable use of Victoria's water environment. EPA Victoria monitors and oversees the environmental performance of the State's water sector, which includes licensing for the discharge of treated wastewater into waterways and the management of biosolids generated at treatment plants. EPA Victoria has signed a memorandum of understanding with the ESC which, amongst other things, helps ensure that economic regulation of the water sector is consistent with environmental regulation (EPA Victoria 2005).

2.3.4 Water quality regulation

The Department of Human Services is responsible for the regulation of drinking water in Victoria, in particular the implementation and oversight of the *Safe Drinking Water Act 2003* (Vic.) and the Safe Drinking Water Regulations 2005. This legislation requires water suppliers to prepare plans for management of risks in relation to drinking water, the auditing of plans, and that drinking water meet quality standards specified in the regulations.

2.3.5 Consumer complaints

The Energy and Water Ombudsman Victoria (EWOV) is responsible for dealing with consumer complaints in the water sector. Melbourne Water (and other water corporations) and the retailers belong to a dispute resolution scheme administered by the EWOV and approved by the ESC.

2.3.6 Bulk Water Entitlements

Since the passage of the Water Act, there has been a program of converting the historical, imprecise rights of water supply authorities to firm, enduring, tradeable bulk entitlements. These rights are granted by the Minister for Water under the Water Act, which vests in the Crown the right to the use, control and flow of water in any waterway and of groundwater. A person cannot take groundwater or water from a waterway unless authorised under the Act.

Since October 2006, the Melbourne bulk entitlements (Yarra, Thomson, Goulburn and, still pending, Tarago) have been held by the three retailers as a non-divisible 'pool' to allow the integrated operation of the bulk water supply system to continue largely unchanged. At the same time 'caps' on the amount of water extracted were introduced (400GL per annum from the Yarra; 555GL per annum from the total system) and the retailers were given two years in which to report back to the Minister on whether or not further disaggregation of the 'pool' was desirable.

2.3.7 Responsibility for long term planning

The current arrangements for long term resource planning in the water sector in Victoria are:

- the Minister for Water is responsible for planning long term, large scale changes in water supply and use at a regional level (that is, a region of the State that may cover an area serviced by a number of water businesses). The Minister for Water does this by causing a sustainable water strategy to be prepared that sets out actions to secure water for industry, cities and towns in a region, while safeguarding the region's rivers and aquifers.

- a sustainable water strategy must provide for the strategic planning of the use of water resources in the region to which it applies to identify:
 - threats to the reliability of supply and quality of water for both environmental and consumptive uses in the region
 - ways to improve and set priorities for water security including managing demand for water, investing in water supply systems and infrastructure for water recycling and re-use
 - ways to improve and set priorities for the health of rivers and aquifers and to maintain the environmental water reserve in accordance with the environmental water reserve objective.
- each water business must develop a program of works consistent with any sustainable water strategy to manage its demand and supply balance, to ensure it can meet current demand plus a buffer of contingency water equivalent to seven years growth in demand for urban areas (for example, Clause 26 City West Water Statement of Obligations)
- the three retailers and Melbourne Water develop this program of works by jointly preparing a water supply demand strategy every 5 years, to identify the best mix of demand measures and supply options for urban supply systems
- the retailers and Melbourne Water produce a joint implementation plan to assign responsibilities for the actions identified in the water supply demand strategy, and a contingency plan for meeting short term shortfalls.
- the retailers and Melbourne Water include their proposed actions in the water plans that they submit to the ESC.

The development of regional sustainable water strategies and water supply demand strategies is an iterative process. regional sustainable water strategies are informed by forecast demand and potential supply options identified in water businesses' water supply demand strategies. These strategies, in turn, are revised and reviewed, if the Minister for Water, through a Sustainable Water Strategy, decides to pursue a particular demand management or supply augmentation option at a regional level.

These iterations provide for a non-static planning framework, which enables both regional sustainable water strategies and water supply demand strategies to be revised over time in light of any significant new information. As noted above, the *Central region sustainable water strategy* provides for this by requiring an annual review of the underlying inflow and demand assumptions for balancing supply and demand.

In addition to regional sustainable water strategies and water supply demand strategies, which take the existing balance between water available for consumption and the environmental water reserve as given, the Water Act provides for a long term water resources assessment at least every 15 years.

This 15 year assessment must identify whether or not there has been a disproportionate decline in water availability or deterioration in river health. If the assessment identifies such a decline in water availability or deterioration in river health, the Water Act sets out the process by which the balance between the environmental water reserve and the allocation of water for consumptive purposes can be reviewed and changed if required.

2.3.8 Issues

The regulatory framework which has been established for the metropolitan retail water sector gives rise to a range of governance issues with respect to:

- the statement of obligations, through which the Government imposes obligations on the retailers
- community service obligations
- the appropriate corporate form of water businesses, having particular regard to the roles and responsibilities of boards
- the manner in which the government as shareholder oversees the operations of the water businesses
- planning, including implications for capital expenditure and demand management
- the length of the regulatory period

These issues are considered in chapter 7.

2.4 Prices and costs

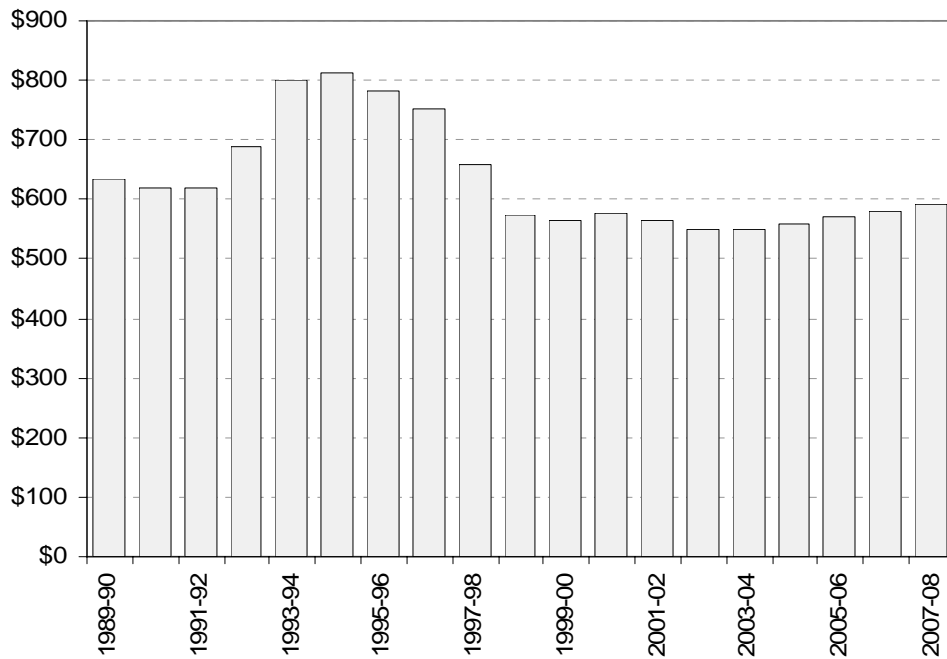
2.4.1 Prices

Prices currently applying in the Melbourne metropolitan region, and across Victoria as a whole, have been set by the ESC, having regard to the range of economic, social and environmental obligations imposed on each retailer.

Figure 2.3 shows what a household which consumed 230 kilolitres of water per annum would have paid for water and sewerage between 1989-90 and 2007-08 in Melbourne. It shows that the payment for this volume of consumption fell with the price restructuring that took place in 1998, and has changed little in real terms since then.

Figure 2.3 overstates actual household bills, in the sense that it does not take account of the fact that average consumption has fallen as conservation efforts have intensified. Figure 2.4 takes this into account by showing the average household bill for 2004–05 to 2007–08, based on each year’s average consumption.

Figure 2.3 Average household bills for 230 kL consumption^{a,b}

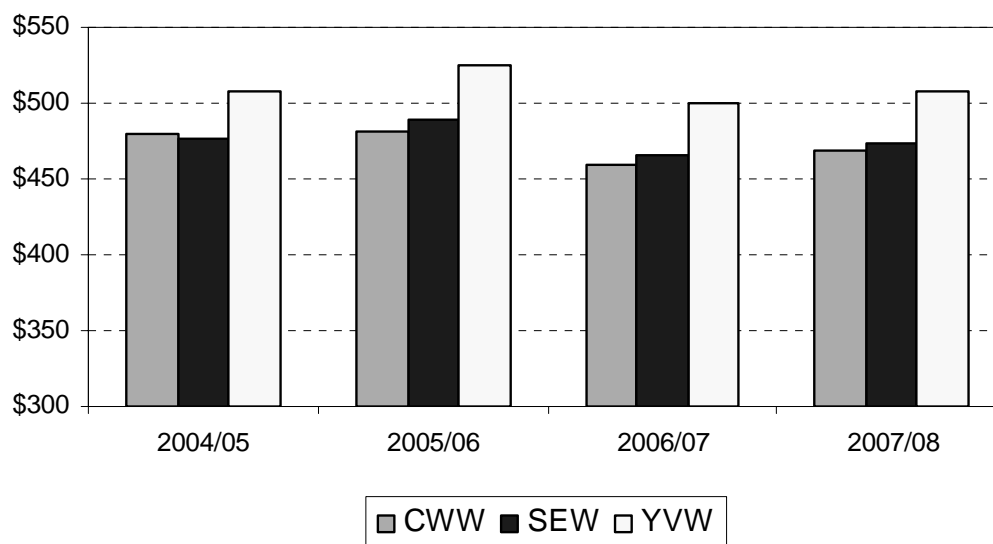


^a Figures are real 2007/08 dollars.

^b includes water and sewerage charges.

Source: ESC 2007d

Figure 2.4 Annual household bills based on each year's average consumption^a



^a Figures are real 2007/08 dollars.

Source: ESC 2007e

Finally, table 2.2 compares current household water bills for each retailer in 2007-08, and what the bills would have been under the prices proposed by the three retailers. It shows that in 2005-06 families using 180 kL of water per annum paid similar bills across the metropolitan area (varying by about 3 per cent)⁵, but that by 2012-13, under the pricing proposals in the retailers' water plans, significant differences between bills would emerge.

Table 2.2 Water and sewerage bills (\$2007-08)⁶

	2007-08 (180kL)	2012-13 (Proposed bills 180 kL)
City West	\$495	\$1187
South East	\$495	\$988
Yarra Valley	\$511	\$1376

Source: ESC 2007f

⁵ Much larger differences have been evident between the metropolitan and contiguous water businesses. In 2005-06, water bills for households consuming 250kl were City West Water (\$560), South East Water (\$569), Yarra Valley Water (\$590), Barwon Water (\$658) and Western Water (\$713) (WSAA 2007).

⁶ These numbers are calculated on the basis of 180 kL consumption, existing tariff structures.

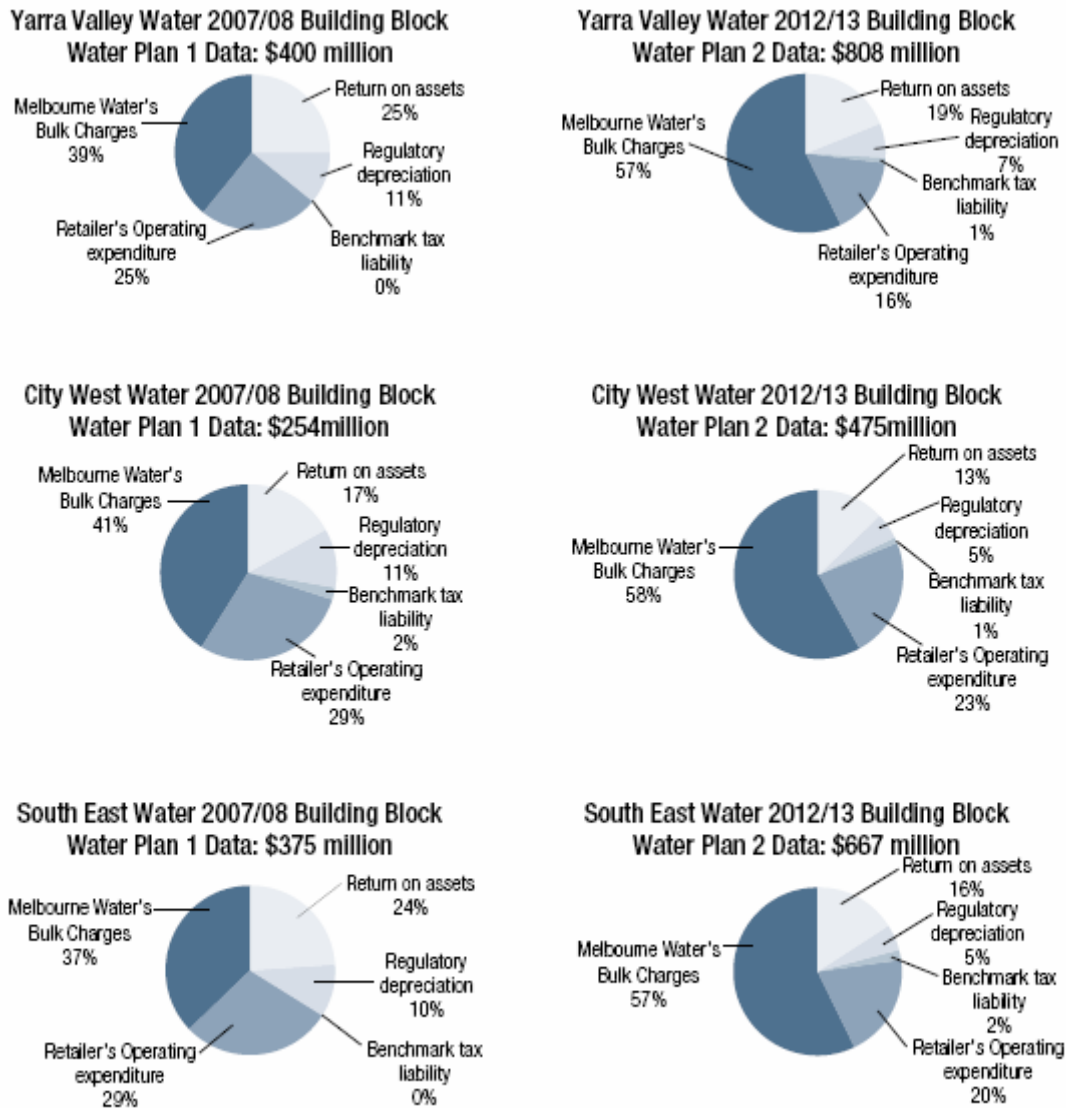
It is difficult to quantify the impacts of movements in water prices on non-domestic consumers because of the variety of types of entities in this sector and the very large differences in their water usage patterns.

2.4.2 Costs

Analysis of the proposed cost structures of the water businesses helps to explain these trends in water bills. Figure 2.6 shows that, based on water plan data, their payments to Melbourne Water for bulk water and wastewater services currently make up between 37 and 41 percent of the operating costs of the three retail water companies, rising to between 57 and 58 per cent by 2012-13.

Costs can be broadly divided into those that are ‘controllable’ and those that are ‘non-controllable’. Controllable costs are expenses that can be influenced by management decisions (either in terms of the price or quantity of the input). Yarra Valley Water argues that it does not control its licence fee, environmental contribution, bulk water charges, return on assets, regulatory depreciation and benchmark tax liability, leaving only about 21 per cent of its total projected operating costs in 2007-08 that it controls (sub. 36, p. 10).

Figure 2.5 Retailers' water and sewerage operating costs^a
(2006-07 dollars)



^a Categorisation of costs is based on Yarra Valley Water's operating costs table in its Water Plan 2008/09–2012/13 Consultation Draft. Does not include licence fees and environmental contributions. South East Water's figures are projections from 2004 and adjusted from 2004 dollars.

Source: sub. 36, p. 73

It is not surprising, then, that proposed increases in wholesale water prices are the largest determinant of the size of proposed increases in retail price increases.

Movements in wholesale prices also contribute to the projected divergence in retail prices across Melbourne. Melbourne Water uses average cost models to determine the retail water business' share of these costs by:

- dividing Melbourne Water's water and sewerage systems into their constituent parts
- allocating Melbourne Water's costs across the system
- allocating the costs associated with a given part of the system to retail water businesses based on their forecast contribution to the cost drivers of that part of the system
- aggregating retail water business' use of each part of the system to give an overall cost share (sub. 30, p. 33).

Changes in the cost allocation model would have significant impacts on wholesale price increases for individual retailers and hence on the differences between their price increases. Melbourne Water's cost allocation model is discussed in chapter 6.

3 Performance of the retail water sector

3.1 Introduction

The inquiry's terms of reference require the Commission to 'assess the extent to which the current structure and operation of the three retail authorities and competition by comparison between those retailers are the best arrangements to address the new challenges facing the sector'.

This chapter examines the performance of the retail water sector since 1995 to assess whether the objectives of increased efficiency and improved services to consumers have been achieved, and the implications of their performance going forward. The chapter draws on a number of sources of information:

- comparison of the performance of Melbourne's retailers relative to other Australian and international water businesses (sections 3.3 and 3.4)
- monitoring of service quality and compliance with regulatory obligations by the Essential Services Commission (ESC) (section 3.5.1)
- evidence relating to the adoption of strategies for containing costs such as outsourcing and benchmarking (section 3.5.2)
- a review of the financial performance of the metropolitan retail water sector undertaken for the Commission by PricewaterhouseCoopers (PwC) (section 3.5.3).

In reviewing the performance of the retail sector, it is important to recognise that a number of factors apart from structural change contributed to these outcomes. Other important concurrent changes include corporatisation, changes to governance arrangements, and the development of more explicit regulatory and service obligations (see chapter 2).

3.2 Competition by comparison

3.2.1 Concept and approaches

A number of participants argued that the current structure of Melbourne's retail water sector has contributed to the improved performance of the sector by facilitating a form of competition by comparison.

The concept of competition by comparison was developed in the 1980s as a way to help limit abuse of market power in monopolised utility industries such as electricity and water. It was suggested that monopoly enterprises could be successfully regulated using ‘the costs of comparable firms to infer a firm’s attainable cost level’ (Shleifer 1985, p. 320). In practice, comparative competition has been employed in several ways, ranging from simply reporting publicly on the performance of utilities, to the active use by economic regulators of ‘league tables’ as a means for setting prices.

The United Kingdom applies the latter approach to the privatised England and Wales water sector. The Water Services Regulation Authority (Ofwat) uses information on the relative performance of water businesses to set prices. It collects information on a wide range of cost and service quality factors for each business and uses these to develop league tables of regulated entities. Ofwat explained its approach as follows:

... our work uses comparisons of companies’ performance and we use best practice both to judge the performance of others and to raise standards across the industry. ... It is our ability to make comparisons that has allowed us to set appropriate price limits that have allowed the industry to deliver both significant capital programmes whilst also delivering significant efficiency and service improvements. (2006, p. 18)

In the Melbourne retail water sector, public reporting on aspects of performance (mainly service quality and regulatory compliance) was established with the aim to ‘stimulate comparative competition and to inform customers about the service levels they receive’ (sub. 56, p. 11) and to achieve greater transparency and scrutiny. The ESC has noted from its experience in the energy distribution and retail sectors in Victoria that ‘disclosure and reporting of information can be a strong driver of performance’ (ESC 2006, p. 5). The ESC publishes regular performance reports that enable customers and other stakeholders, as well as the three metropolitan water retailers themselves, to compare performance. To date the ESC has used the performance data in a limited way—to establish service standards, but not cost benchmarks—in the building block approach it uses to determine price increases for the retailers. It has noted that it ‘does not expect the companies to aim to match the best performance irrespective of cost. Rather, it expects companies with lower performance to consider cost-effective ways to improve performance, consistent with their customers’ needs and willingness to pay’ (ESC 2002a, p. 7).

The focus of the ESC performance monitoring on service quality and compliance in the past reflected its role prior to 2004, which limited responsibilities to these areas. Going forward, the ESC has foreshadowed that it will broaden its activities in a number of areas including monitoring:

... financial performance, particularly performance against the benchmarks used to set prices for the regulatory period including operating expenditure, capital expenditure, returns on assets, and revenue. (ESC 2006, p. 8)

3.2.2 Participants' views

Inquiry participants generally agreed that the performance of the three retailers has improved since 1995. However, participants differed on the scale and scope of these improvements and the contribution of competition by comparison.

Several participants argued that the performance of Melbourne's retail water sector has improved significantly. The Australian Water Association (AWA), for example, stated that:

... there is both anecdotal and statistical evidence that the current retail structure in Melbourne has delivered significant cost efficiency and service level improvements [relative to national performance] since its introduction in 1995 ... The Melbourne model has been well regarded internationally (e.g. often cited at International Water Association workshops) and retailer performance has been extensively reported ... (sub. 26, p. 3)

Some participants argued that by many standards, the retail sector in Melbourne is reasonably efficient and innovative and delivers high levels of customer service. City West Water submitted that:

... cost efficiencies and improvements in customer service...can be measured by comparison with other major urban water authorities in Australia. Melbourne currently has the lowest bills of all capital city authorities. And this has been achieved whilst delivering amongst the best returns on assets in the Australian water industry. (sub. 15, p. 1)

South East Water and Yarra Valley Water referred to an international comparison by Ofwat (section 3.4), which showed Melbourne retailers' costs per property of delivering water and sewerage services are either the lowest or one of the lowest in its study (sub. 34, p. 24; sub. 36, p. 42).

Some participants argued that the current structure of the metropolitan retail water sector, and in particular competition by comparison, has contributed to improvements in the sector's performance. Yarra Valley Water, for example, stated that 'comparative competition has created a dynamic environment leading to innovation and creativity' (sub. 36, p. 16). The Council of Ageing submitted that:

... there have been some interesting and valuable innovations that have stemmed from the Melbourne water retail sector. Of particular note is the hardship and support program for low income and vulnerable customers

developed by Yarra Valley Water, ... now widely adopted by essential service providers (sub. 14, p. 2).

The Consumer Utilities Advocacy Centre also argued that retaining competition by comparison is important to lock in these gains and achieve further improvements (sub. 45, p. 2).

However, inquiry participants also noted the difficulty in attributing trends in performance to competition by comparison. City West Water, for example, noted:

Although CWW and other retailers have improved service levels over the past 10 year period (as suggested in ESC comparative reports published since 1998) it is difficult to judge which changes management and boards would have driven anyway. However, in saying that, boards and management have had the benefit of knowledge of the comparative performance results when making decisions regarding changes to business practices. (sub. 15, p. 16)

Other participants argued that the gains realised since the introduction of competition by comparison have been overstated, or that such competition is less relevant to meeting the future challenges facing Melbourne's water sector. Alastair Munro (sub. 16, p. 1) argued that 'competition by comparison has failed to demonstrate any significant benefits' and the Municipal Association of Victoria (MAV) submitted that the view within local government is:

... that competition by comparison has not achieved significant efficiencies or driven innovation in areas such as water conservation, as genuine comparisons between the retailers are difficult [as] each retailer services a unique community [and] each retailer's organisational priorities differ, again making comparisons difficult. (sub. 23, p. 4)

Overall, the input to this inquiry indicated that there is a widely held view that the retail sector has improved its performance since 1995, particularly in the area of customer service. The diversity of views about the role of competition by comparison in driving improved performance reflects the difficulty in attributing changes in performance to particular factors, including corporatisation and other changes introduced in 1995. The remainder of the chapter examines the available evidence on the performance of the metropolitan retail water sector.

3.3 National comparisons

As noted above, some participants argued that the performance of Melbourne's water retailers has been comparable to, or better than, water businesses in other Australian cities. To look at the relevant evidence on comparative performance, the Commission reviewed two recent studies:

- the *National Performance Report* (previously *WSAAfacts*) which reports the performance of Australian water businesses using comparable measures of service quality and efficiency
- statistical analysis of the comparative efficiency of the water supply activities of 18 Australian businesses by Coelli and Walding (2005).

3.3.1 National performance reporting

The *National Performance Report* and *WSAAfacts* provide mostly unaudited information on the operational, financial and service quality performance of Australian water and wastewater businesses over the period 1995-96 to 2005-06.

The Commission sought to compare the performance of the metropolitan retail sector with that of Brisbane Water, Gold Coast Water, Sydney Water and the WA Water Corporation. These interstate water businesses were chosen for comparison against Melbourne's water retailers as they are also commercialised, government-owned utilities of similar size servicing major metropolitan centres.

It was only possible to compare performance over an extended period using a small number of indicators¹. Moreover, a number of features of the data limited the conclusions that could be drawn. In particular, water businesses around Australia face differences in the age and use of their infrastructure, climatic and soil conditions, and governance and regulatory environments. This is likely to explain some of the differences in performance between water businesses. While comparing the rate of change in performance partly addresses these limitations, the environment in which Australian water businesses operate has not been static either.

- Reflecting these limitations, the national performance indicators provide a mixed impression, with Melbourne's performance relatively good on a number of indicators but on par or lagging behind other jurisdictions on others:²

¹ Sources for these indicators include WSAA 1997a, WSAA 1997b, WSAA 1998, WSAA 1999, WSAA 2000, WSAA 2001, WSAA 2005, NWC & WSAA 2007.

² The choice of indicators examined in this section was dictated by data availability and a view about the most appropriate performance indicators for the water sector.

- *Operating cost per property:*³ As noted in research done for the Department of Prime Minister and Cabinet by Marsden Jacob and Associates ‘Melbourne is one of the lowest cost water providers in Australia [on the basis of] average cost per property ... of the organisations listed in *WSAAfacts 2005* only Hobart was less expensive’ (2006, p. 52). A major reason for this is that in the period from 1995-96 to 1999-2000, the combined water and wastewater operating costs per property for the three retailers fell more rapidly than for other water businesses. Between 2000-01 and 2005-06, the performance of Melbourne’s retail sector has been better than some jurisdictions but behind others; in real (price adjusted) terms, operating costs per property for City West Water and South East Water fell by 14 per cent and one per cent respectively (Yarra Valley Water was not reported). Over the same period, real operating costs per property in Brisbane fell by 21 per cent and rose by 11 and 50 per cent respectively for the WA Water Corporation and Gold Coast Water. Data was not available for Sydney for the period 2000-01 to 2001-02 but for the period 2002-03 to 2005-06 a 35 per cent fall in real operating costs per property occurred.
- *Water supply interruptions* (excludes Gold Coast): Since 1999-00 nearly all water businesses succeeded in reducing the number of planned and unplanned water supply interruptions. Between 1999-00 and 2005-06, the number of interruptions in Melbourne fell by an average of 40 per cent. This compares with reductions of 42 per cent for Brisbane and an increase of 71 per cent for Sydney.
- *Sewer (wastewater reticulation) main breaks and chokes:* Changes in the incidence of sewer main breaks and chokes since 1997-98⁴ varied between the water businesses. City West Water achieved the largest improvement over the period with a 42 per cent decrease in breaks and chokes per thousand properties. The number of sewer main breaks and chokes was unchanged over the period for South East Water and rose by 12 per cent for Yarra Valley Water. In comparison, breaks and chokes fell 23 percent in Perth and 14 per cent in Brisbane, but rose 77 per cent and 3 per cent for Gold Coast and Sydney respectively.⁵

³ Comparison of operating costs over time is limited by the treatment of Melbourne Water charges for the Melbourne retailers in *WSAAfacts*. Prior to 2000-01, *WSAAfacts* reported the operating costs of the retailers on two bases: i) using only Melbourne Water operating costs (a figure that is directly comparable with other businesses); and ii) using full Melbourne Water charges (including capital related costs). Since 2001-02 only the latter value is reported. Also, operating costs per property are only reported on a nominal basis prior to 2000-01; both nominal and real costs are reported after that date.

⁴ Sewer (wastewater reticulation) main breaks and chokes (per 1000 properties) were not reported prior to 1997-98.

⁵ The apparent poor performance by Gold Coast Water is distorted by an atypically low result in 1997-98.

- *Average annual water bills:* Annual water bills⁶ increased for all water businesses over the period, except in Melbourne where bills fell by approximately 16 per cent in real terms in the nine years to 2005-06—driven most substantially by the price restructuring that occurred in 1998—and were below those of the other water businesses in 2005-06. This compares with an increase in real terms of six per cent in both Perth and the Gold Coast, 22 per cent in Sydney and 41 per cent in Brisbane over the same period.
- *Water quality compliance:* There was a general, but small, improvement in water quality compliance over the period for all water businesses. The seven city businesses complied with 100 per cent of their biological and chemical quality standards in 2005-06. This required an improvement of 2.5 percentage points from 1995-96 for City West Water, Yarra Valley Water and Sydney Water, but only one percentage point for South East Water. Gold Coast's compliance was already at 100 per cent at the beginning of the period.

Overall, the Commission has not drawn strong conclusions about the relative performance of Melbourne's retail water sector from these national performance indicators. This reflects, in part, difficulties in 'controlling' for the different circumstances facing each of the water businesses. However, the indicators generally demonstrate improvement in performance since disaggregation.

3.3.2 Benchmarking analysis

Several submissions cited a performance benchmarking study by Coelli and Walding (2005) to support their view that performance of the Melbourne retail water sector has improved under the current industry structure.

Using 2002-03 data from *WSAAfacts* for 18 Australian water businesses (including the three retailers), the study applied data envelopment analysis (DEA)⁷ to obtain a 'best practice' production frontier against which the businesses were compared. The analysis compares the efficiency of a business within a peer group of similar businesses and hence 'controls' for differences

⁶ Average bills are based on assumed average annual household consumption of 250 kilolitres.

⁷ DEA is a statistical methodology which estimates an efficiency frontier for multiple production outputs and inputs using linear program techniques.

between the businesses. The study also attempted to compare changes in total factor productivity⁸ for the water businesses over the period 1995-96 to 2002-03.

The study concluded that the three retailers performed at (City West Water) or near (South East Water and Yarra Valley Water) the determined efficiency frontier in 2002-03. These results should be used with some caution due to limitations in the WSAA data and a lack of information on the number of firms in any given 'peer' group. Nevertheless, read in conjunction with partial indicators of performance discussed in section 3.4.1, the results of the study lend support to the view that Melbourne's retailers are performing at a level that is at least comparable to, and more likely above that of, other Australian water businesses.

3.4 International comparisons

Ofwat undertakes an annual international comparison of the performance of water businesses to assist in regulating water and wastewater businesses in England and Wales. Apart from those it regulates, the study covers a number of water businesses in Europe, Australia (eight businesses including Melbourne's retailers), the United States and Canada. Again, differences in the circumstances (structural, regulatory, environmental and customer profile) of the utilities in the different jurisdictions limit the scope for meaningful comparison.⁹ Nevertheless, it is possible to draw some broad conclusions from the latest Ofwat (2007) study covering the period 2004-05:

- Ofwat looks at customer service levels using five network indicators and three customer contact indicators. The Melbourne companies were not included in the analysis of network indicators, but performed relatively well on customer contact indicators covering complaints and call centre responsiveness (Ofwat 2007, p. 32).
- Measures of cost efficiency for water services (unit cost data for both operational and total costs) show Melbourne's retailers have performed well relative to all other countries (with similar or better unit costs measured on a per property basis, and better unit costs when measured on a volume

⁸ Change in total factor productivity (TFP) measures the change in output attributable to technical change and efficiency change (i.e. not due to changes in inputs). Results of this part of the study were not considered reliable by the authors and are not discussed in this report.

⁹ Ofwat considered that Australia has a generally similar regulatory framework to England, Scotland and Wales. Based on the number of property connections, the Melbourne retailers are small to medium compared to businesses in England and Wales but comparable in size to water businesses in Europe and North America (Ofwat 2007, pp. 17, 20).

delivered basis). The Ofwat indicators also highlighted that Australian businesses have improved their relative performance on a connection basis over the five years to 2004-05 (Ofwat 2007, p. 59).

- The comparison of cost efficiency for wastewater services (unit cost data for both operational and total costs) indicates that the performance of Melbourne's retailers is better than that of UK businesses when measured on both a connection and volumetric basis. Ofwat notes a dramatic increase in capital maintenance costs for some Australian utilities in 2004-05 (Ofwat 2007, p. 60-1).
- Australia had a higher water mains burst rate than all other countries in the study except Portugal. Although there was no breakdown by water business, the study noted Australia has a particular problem with tree root intrusion (exacerbated by drought) (Ofwat 2007, p. 66).
- Ofwat noted Australian water businesses—including Melbourne's retailers—had high operating margins compared to other countries in the study (Ofwat 2007, p. 70). However this assessment does not accord with the detailed financial analysis undertaken by PricewaterhouseCoopers (PwC) for the Commission (section 3.5.3).

On the basis of the indicators for which the data allows comparison with the Melbourne retailers, the Ofwat study indicates that the performance of the retailers is at least comparable to that of other water businesses.

In an attempt to 'control' for the different circumstances and provide more meaningful comparisons of efficiency, a recent study by De Witte and Marques (2007) used DEA analysis (see footnote 7) to evaluate the performance of 122 drinking water utilities in Europe, the United Kingdom and Australia—including the Melbourne retailers. The data set was screened to remove what were termed 'outliers',¹⁰ resulting in 15 of the water businesses, including City West Water and Yarra Valley Water, being excluded from the analysis. The single remaining Melbourne retailer, South East Water, was identified as being on the efficiency frontier. While the results of studies such as this one are driven by the methodology employed and the limitations of the underlying data, they provide further support for a positive view of the performance of Melbourne's retailers.

3.5 Relative performance of Melbourne's retailers

The Commission reviewed a range of other information to form a view on the performance of the metropolitan retail water sector. This evidence included:

¹⁰ Businesses assessed as being so different from the others as to distort the results.

- monitoring of service standards and innovation by the ESC (section 3.5.1)
- information on initiatives by the retailers to improve efficiency (section 3.5.2)
- historical information on the financial performance (section 3.5.3).

3.5.1 Monitoring by the Essential Services Commission

The ESC (and its predecessor the Office of the Regulator General) has reported on the performance of the three Melbourne retailers since 1995. The stated aim was ‘to stimulate competition by comparison and inform customers about service levels they receive’ (Office of the Regulator-General 1998, p. 11). In 1996 the coverage of the ESC reports was expanded to include all Victorian urban water and wastewater businesses.

In its first report on all Victorian water businesses the ESC identified the rationale behind its reports in the following terms:

... (a) public monitoring and reporting role is important because it provides reliable and consistent information that can be used to:

- inform customers about the performance of their water business
- identify base line performance and provide incentives for businesses to improve their own performance over time
- allow comparisons to be made between businesses and thereby facilitate competition by comparison which can encourage businesses to further improve their performance relative to others, and
- inform the decision making processes of regulated businesses, regulatory agencies and Government (ESC 2006, p. 5).

The indicators used by the ESC for its performance monitoring address the service obligations and environmental standards applying to the retailers under their licence agreements and the *Environment Protection Act 1970* (Vic.) and cover:

- affordability
- customer responsiveness and service
- network reliability and performance
- drinking water quality
- environmental performance.

The ESC uses a number of measures to obtain an overall picture in each of the five performance areas. The following performance summary is drawn from the

latest ESC *Water performance report* (ESC 2007a) and historical data covering 16 of the 56 individual measures included in the report.¹¹

- *Affordability*: in 2005-06 average household bills for water and sewerage—the principal measure of affordability used by the ESC—were 34 per cent below the level of 1994-95 in real terms (ESC 2007c). A substantial part of this decline occurred when pricing was restructured into service and usage components in 1998¹²; since then bills have largely trended sideways in real terms. Other measures of affordability monitored by the ESC relate to programs for customers experiencing payment difficulties (instalment plans and grants) and restrictions for non payment of bills. These measures provide insights into the differing policies adopted by the water retailers. For example, Yarra Valley Water’s program of support for low income customers provides for a relatively high average debt level at which supply restrictions or legal actions are triggered.
- *Customer responsiveness and service*: Call centre performance and complaints (to the retailers and to the Energy and Water Ombudsman (Victoria)) are measures used to monitor customer service. In addition, both network performance and water quality contribute to the level of service received by customers. Overall customer service, as measured by the average number of complaints (all sources) received by the retailers from customers, improved by 31 per cent over the eleven years to 2005-06 (ESC 2007c).
- *Network reliability and performance*: reporting of indicators in this area has been developed over time. Monitoring shows significantly improved reliability and continuity of water supply, reduced water losses and restoration times for water supply interruptions but increases in sewer blockages. For example:
 - average water supply customer interruption frequency (planned and unplanned) has fallen steadily for all three retailers since 1998 when this measure was introduced (figure 3.1).
 - the frequency of sewer blockages has increased slightly since 1996 although the performance of the retailers has varied considerably (figure 3.1). Blockage rates have trended down for City West Water and up for Yarra Valley Water, while for South East Water they have trended sideways. The retailers indicated that increased tree root intrusion—

¹¹ Some time series start at the time of disaggregation in 1995-96 but others were introduced later. For most series the final data point available is 2005-06, but unaudited data is available for 2006-07 for some series.

¹² The 1998 reforms moved water and wastewater pricing to a user pays basis. Bills now comprise a flat service charge plus inclining block volumetric tariffs for water. The changes were not revenue neutral: an injection of \$850 million from the Victorian Government (of which \$550 million went to Melbourne Water and the balance to the retailers) enabled a reduction in both wholesale bulk charges and retail charges.

particularly for Yarra Valley Water—associated with the drought is a major factor in the recent deterioration in this performance (sub. 36, p. 101).

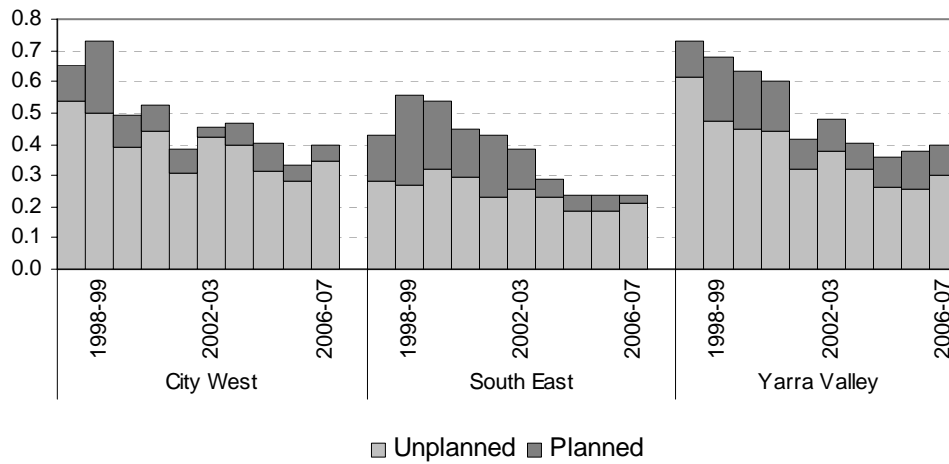
- *Drinking water quality*: Water testing for microbiological contamination and customer complaints about water quality are the main measures used to monitor drinking water quality. There has been a consistently high level of water quality compliance in the sector and water quality complaints have declined about 36 per cent since disaggregation. Yarra Valley Water experiences a consistently higher level of complaints about water quality as the closer proximity of its customers to major supply sources means that natural sediments are more evident in the water (sub. 36, p. 88).
- *Environmental performance*: this area of performance has been subject to significant change as standards have been tightened by the EPA. A wide range of measures—including water recycling, biosolids reuse, greenhouse gas emissions, effluent quality and sewage treatment compliance—are monitored by the ESC:
 - since disaggregation sewage treatment plant compliance with environmental standards generally remained high, although in recent years City West Water has experienced a number of problems that have caused compliance to fall
 - average household consumption of water fell by approximately 30 per cent and water losses from the system (as indicated by non-revenue water) fell by 40 per cent over the last ten years. The amount of water recycling and biosolids reuse both increased significantly (from a low base).

Overall, the ESC monitoring results suggest there have been significant improvements in the performance of the retailers on a variety of customer service indicators since 1995. The ESC stated:

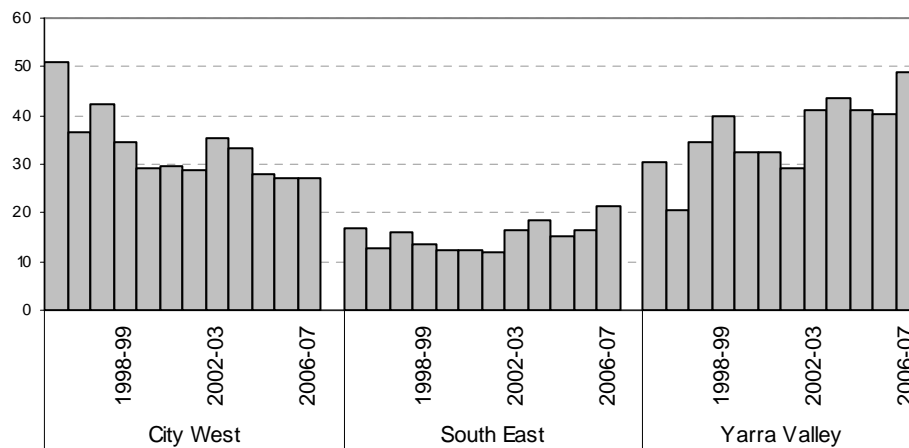
Generally, the performance results for 2003-04 show that the customers of Melbourne's three retail water businesses continue to receive a relatively high level of service, with significant performance improvement recorded over the past nine years (ESC 2004b, p. 1).

Figure 3.1 Water and wastewater network performance

Average water supply interruptions per customer per annum



Sewer blockages per 100 km of sewer mains



Source: ESC 2007c.

Reporting on innovation

The level of innovation achieved to improve service and to meet government obligations, provides evidence of dynamic efficiency. ESC considers that stimulating innovation is a key mechanism by which comparative competition leads to improved service delivery (sub. 56, p. 12).

During the period 1996 to 2004 the ESC required Melbourne's water retailers to report publicly on service innovations and initiatives that provided customers with greater benefits than those in their obligations. The performance reports indicate that the retailers implemented a total of 184 service innovations/initiatives over the period. The vast majority of these innovations were related to customer service, including hardship policies, response time improvements and concessions. There were also a significant number of water conservation initiatives. Reporting of innovations by the ESC ceased in 2004-05 as part of the changes to the performance reporting framework at that time. The Commission understands that the decision to discontinue reporting reflected the expanded focus of the monitoring and reporting by the ESC to cover regional water businesses and because of the high costs of monitoring, auditing and reporting on innovation.

3.5.2 Retailer initiatives to improve efficiency

One way that businesses can seek to achieve cost-efficiencies and promote innovation is through outsourcing activities to specialist service providers. Reflecting this, the proportion of a business's activities that are outsourced or subjected to competitive tendering (market tested) can be an indirect indicator of whether businesses are delivering their services at least cost over time.

Outsourcing

Outsourcing can be a way to exploit cost savings available in high volume activities such as meter reading or bill printing. It is also a way to tap into technical expertise such as the design, construction and maintenance of water and wastewater infrastructure. Contracting with major service providers helps ensure costs are competitive and benchmarked, whilst a rigorous tendering process enables the retailer to select contractors with the best mix of capabilities (Yarra Valley Water 2005, p. 71).

Yarra Valley Water argued that extensive outsourcing of operations has been a major contributor to improved efficiency in the metropolitan retail water sector (sub 36, p. 39) and expects that 58 per cent of controllable operational costs will be outsourced in 2007-08 (sub. 36, p. 10). Outsourced services include maintenance, design, consultancy and asset construction, meter reading and replacement, bill printing and distribution and debt collection (Yarra Valley Water 2005, p. 71). Yarra Valley Water expects the IT outsourcing contract it entered into in 2005-06 to reduce the cost of IT services by around 21 per cent over seven years (Yarra Valley Water 2006, p. 48). In addition, Yarra Valley

Water relies almost entirely on sewer and water contractors to design and deliver its capital works program (Yarra Valley Water 2004, p. 91).

Approximately 50 per cent of South East Water's controllable operating expenditure and in excess of 90 per cent of capital expenditure is subject to outsourcing or market testing (sub. 34, p. 26). South East Water has made further efficiency gains by renegotiating its contracts for telecommunication services, accommodation leases, electricity supply and insurance premiums, adding to the \$2 million productivity savings it realised in 2005-06. South East Water's outsourcing occurs through an alliance with Thiess Services and Siemens Ltd. South East Water entered into the alliance for the purpose of achieving 'enhanced cost efficiencies and service levels across South East Water's operations and maintenance and capital work budgets' (sub. 54, p. 3). According to Thiess Services, the alliance has delivered significant savings for South East Water (box 3.1).

Currently, approximately 65 per cent of City West Water's operating expenditure is competitively tendered. These services include operational contracts, billing and collection, information systems, energy, transportation, transactional banking and audit (sub. 15, p. 40). In 2004, City West Water participated in a WSAA shared service benchmarking study in order to ensure that its corporate service costs were efficient. The results indicated that City West Water has a below median shared services operating cost per property supplied, and a below median shared services operating cost as a percentage of total operating cost (sub. 15, p. 40).

Box 3.1 Utility Services alliance

In 2004 South East Water entered into a strategic alliance with Thiess Services and Siemens Ltd. Known as the **'us'**-Utility Services alliance, it provides operations, maintenance and construction services to its principal customer South East Water. The alliance has around 600 employees and subcontractors drawn from their respective parent companies. In addition, **'us'**-Utility Services contributes to South East Water's increasing income from non-regulated services, now nearing \$40 million.

South East Water identified a number of operational efficiencies and process improvements that were realised through the alliance:

- a procurement approach based on alignment around achieving mutually agreed outcomes (as opposed to conflicting objectives that may arise under other forms of contracting)
- the development of a more commercial culture and focus
- the introduction of common operating systems, processes and procedures
- relocation of the majority of staff to a more central location
- greater workforce flexibility and responsiveness

- improved communication, cooperation, knowledge transfer and multi-skilling
- leveraging off the buying power of partners
- ready access to the expertise and resources of all companies.

South East Water (sub. 34, p. 27) stated that, despite market prices for key inputs having risen on average by eight per cent per annum, the cost increases for major water, sewer and mechanical/electrical activities have been absorbed over the past two years as a result of the efficiencies achieved under the alliance. South East Water has also seen significant improvements in the delivery of capital projects, on time and budget.

According to Thiess Services, the alliance has delivered annual savings to South East Water of \$8.4 million (equivalent to seven per cent of the operations and maintenance and capital spend). In addition, the forecast cumulative savings in the five years to 2010 are \$20 million for operations and maintenance and a five to ten per cent reduction in the cost of capital projects (sub. 54, p. 3).

Source: SEW (sub 34, p. 26–27); Thiess Services (sub 54).

In summary, there is considerable evidence that the metropolitan retailers are pursuing opportunities to build on the cost savings achieved in the early years after disaggregation. These include gain-share/ pain-share relationships and other initiatives to extend the scope of revenue sources beyond regulated areas as well as increased outsourcing and competitive tendering. However, it is not possible to quantify the savings delivered by the different approaches adopted by each of the retailers.

Efficiency gains through shared services

Opportunities also exist for the retailers to drive costs lower by collaborating to gain benefits from aggregate procurement and joint provision of some functions. In response to a request from the Commission, the retailers commissioned Growth Solutions Group (GSG 2007) to report on realised and potential opportunities for cost savings through shared services.

The report identified a greater focus on collaborative activities in the past five years. However, these initiatives have largely been limited to the industry's response to government conservation and recycling targets, the need to develop and execute water restriction guidelines and to undertake industry wide planning. There have also been some limited shared services such as shared resources for pipe bursts (GSG 2007, pp. 6-7).

A number of potential opportunities for further cost savings through shared services or aggregate procurement were identified in the report. Areas where differences in the retailers' costs indicated the potential for efficiency gains

included energy bills, meter reading, laboratory services and fleet expenses. In addition, consolidation of training services is anticipated to provide productivity gains by reaching more employees for the same overall cost (GSG 2007, pp. 14-15). The scope to achieve further cost savings through the development of shared services is explored in chapter 4.

3.5.3 Financial analysis of the metropolitan retail water sector

As much of the publicly available analysis of the retail water sector focuses on service quality and compliance, PricewaterhouseCoopers was retained by the Commission to review financial data provided by the retailers (PwC 2007).

The key conclusions the Commission has drawn from the analysis of financial performance are:

- solid efficiency improvements by the metropolitan retailers occurred in the early years after disaggregation
- the financial performance of the retail sector has come under pressure recently from a combination of rising costs and slow revenue growth
- cost pressures include:
 - growth in the retailers ‘uncontrollable’ costs, that is bulk water and sewerage charges and costs of meeting regulatory and water conservation obligations, as well as increasing maintenance costs, reflecting the impact of the drought
 - substantial increases in capital expenditure programs
- revenue pressures include the effect of the drought and water conservation measures on volumes, within an environment of price restraint
- the previous factors combined with a constant dividend payout ratio (on a pre-tax basis) in recent years have resulted in an upward trend in gearing levels and declining free cashflow and interest cover.

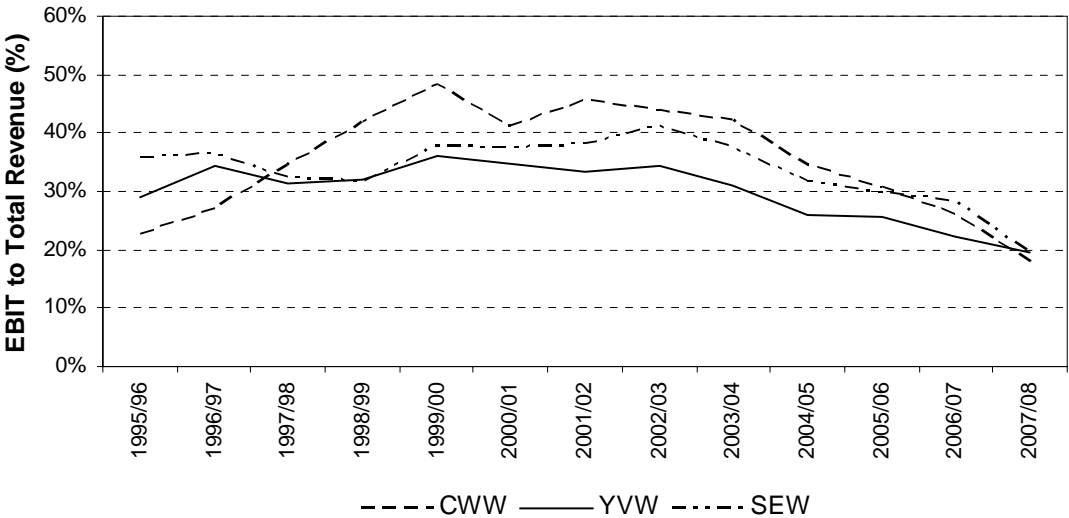
Financial results

In the early years after disaggregation the retailers realised improvements in their financial performance as cost efficiency gains, together with the capital injection associated with the pricing restructure in 1998 (see footnote 12), led to rising profitability. On a number of indicators, however, the overall financial performance of the retail sector has recently declined from the high levels of performance achieved in the late 1990s and early 2000s.

After peaking during the period 1999-2000 to 2002-03, profitability—using the standard EBIT measure (the ratio of earnings before interest and tax to total revenue)—has fallen steadily (figure 3.2) due to restrained revenue growth and expenditure pressures (discussed later in this section). Over this period the government has applied a constant pre-tax dividend payout ratio¹³ (with the exception of the special dividend in 2002-03). As profitability has declined, so too has the actual level of dividends paid since 2002-03.

However, on an after tax basis the dividend payout ratio for all retailers has risen materially over the past three years (figure 3.3). These ratios indicate the retailers are currently paying out as dividends an increasing proportion of post-tax profit. As a consequence, the financial position of the water retailers has altered as shown by key financial ratios including gearing (figure 3.4) and debt serviceability ratios (figure 3.5).

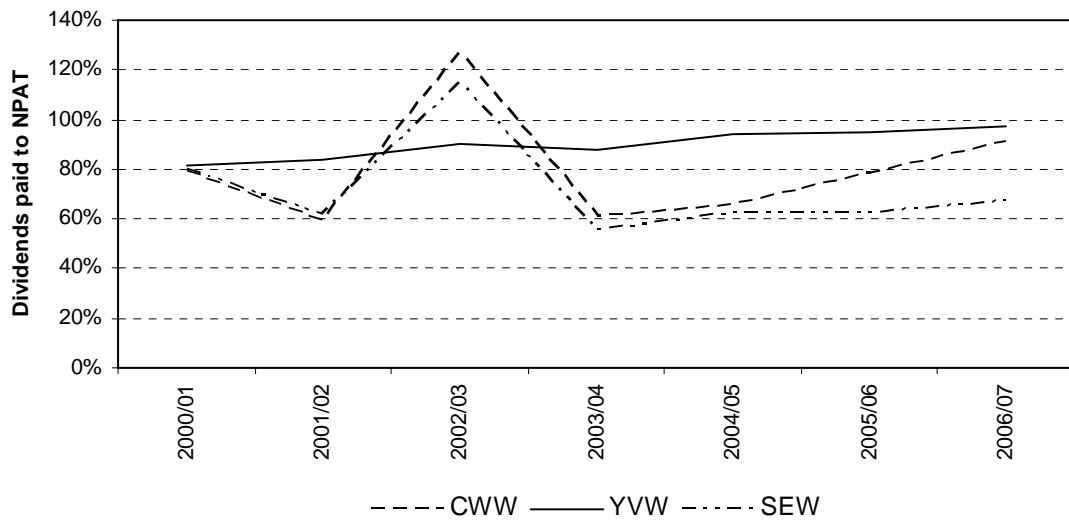
Figure 3.2 Trends in profitability



Source: PwC (2007).

¹³ A pre-tax payout ratio (dividends plus income tax paid or payable to pre-tax profits) of 65 per cent has been applied, subject to some flexibility.

Figure 3.3 Dividend payout ratio^a 2000-01 to 2005-06

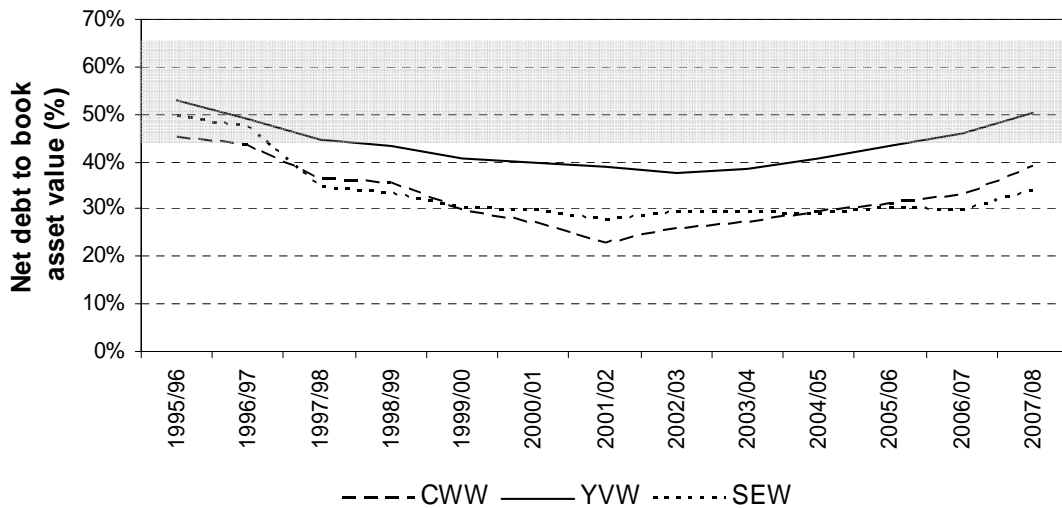


^a Dividends accrued as a proportion of postr-tax profits.

Sources: PwC 2007

This progressive increase in gearing across the retailers may reflect a policy decision by the shareholder to gradually increase debt levels through dividend distributions to shift the retailers' capital structure to a more commercial level of debt financing aligned with ESC funding criteria. Nevertheless, it has led to Funds From Operations (FFO) Interest Cover ratios for both City West Water and Yarra Valley Water falling below the 2.25 per cent mid point of the benchmark range set by the ESC (2005b, p. 18) indicating these retailers, on some measures, are at threshold levels of debt serviceability. This is of particular relevance given the rising capital expenditure trends, outlined further in the report.

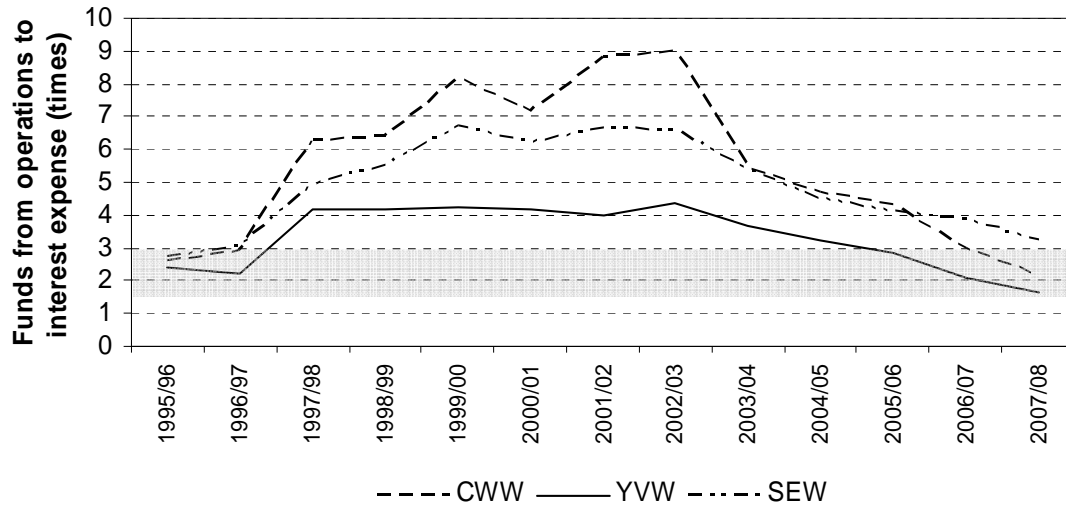
Figure 3.4 Gearing ratio^a



^a Shaded area shows ESC critical range (45 per cent to 65 per cent) for gearing ratio .

Sources: PwC 2007

Figure 3.5 Interest cover^a



^a Shaded area shows ESC critical range (1.5 per cent to 3.0 per cent) for FFO interest cover.

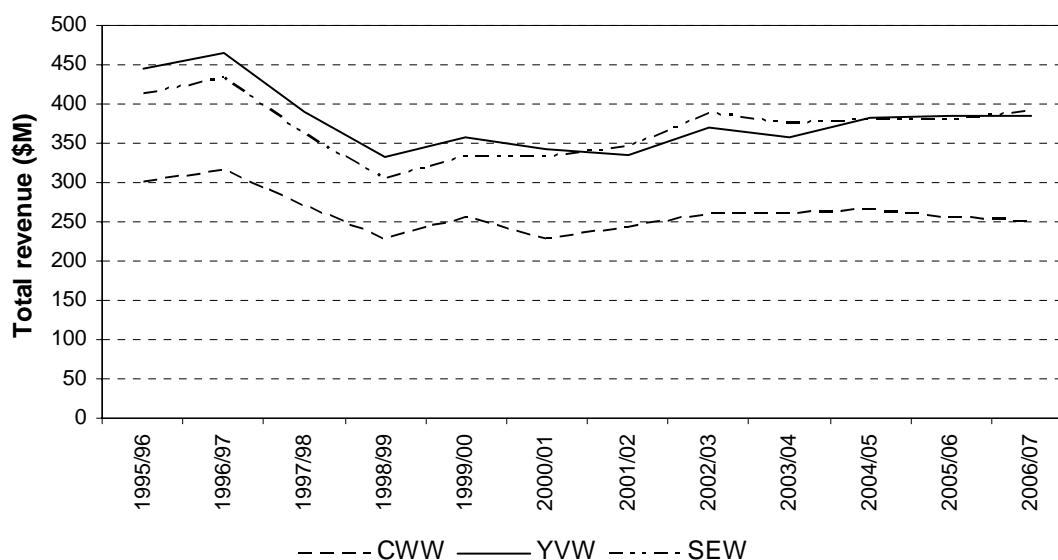
Source: PwC (2007).

Restrained revenue growth

The recent decline in the retail sector’s financial indicators reflects a number of factors that have put downward pressure on revenues.

- Over the period since disaggregation in 1995 total revenues¹⁴ have declined by 11.5 per cent (35 per cent in real terms) due substantially to the effects of pricing reforms introduced in 1998. Since 1998 total revenues have grown gradually, reflecting the offsetting influences of growth in serviced properties and falling usage per property (figure 3.6). In nominal terms, total revenue for the retail water sector fell from \$1.16 billion in 1995-96 to a low of \$0.87 billion in 1998-99 and has since risen to \$1.02 billion in 2006-07.
- Price restraint has coincided with declining water use by households and businesses, reflecting the impact of the drought and water conservation measures. Demand for water has been below the levels that were used to determine the retailers' allowable price increases for the period 2005-06 to 2007-08.¹⁵

Figure 3.6 Trends in retail sector operating revenue^a



^a Water and wastewater

Source: PwC (2007)

¹⁴ Total operating revenue includes water service charges, wastewater service charges, trade waste charges, sanity service charges, water usage charges, sewage disposal charges, developer contributed assets, new customer contributions and other revenue.

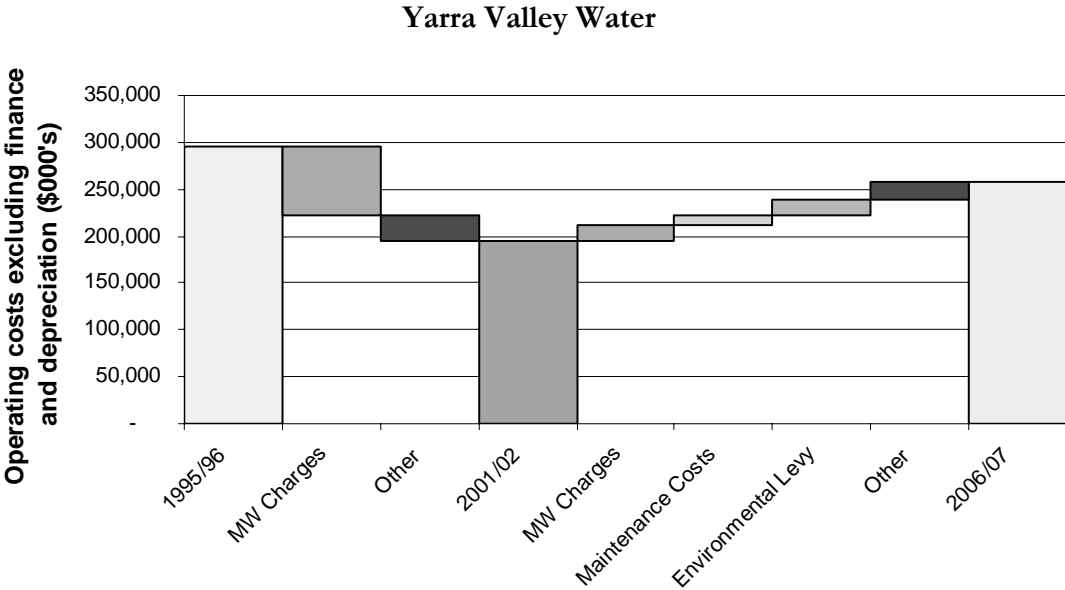
¹⁵ Average annual price increases for the three retailers in the 2005-06 to 2007-08 determination ranged from 1.8 per cent to 2.2 per cent in real terms (ESC 2005a, p. ix), while average household consumption fell 9.4 per cent over the first two years of the period (ESC 2007c).

Expenditure pressures

The recently declining financial performance of the retail sector also reflects a number of pressures on operating and capital expenditure.

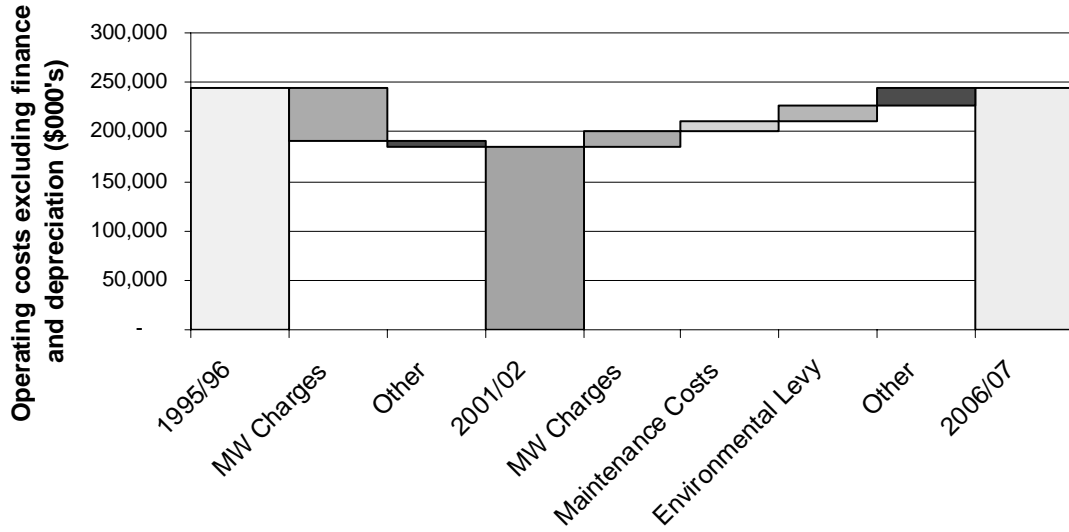
- In the period immediately after disaggregation operating costs (excluding finance and depreciation) fell significantly, most substantially due to a reduction in Melbourne Water’s bulk charges (figure 3.7). Between 1995-96 and 2000-01 Melbourne Water’s bulk charges fell by 40 per cent and other operating costs fell 23 per cent as the retailers pursued efficiency improvements. Together these factors produced a fall of 35 per cent in total operating costs.
- Since 2000-01, however, operating costs have risen, reflecting a 13 per cent increase in bulk charges and a 70 per cent increase in other operating costs (including expenditure to meet obligations imposed by government such as the environmental contribution¹⁶ and licence fees as well as maintenance of assets).

Figure 3.7 Contributions to operating cost movements^{a b}

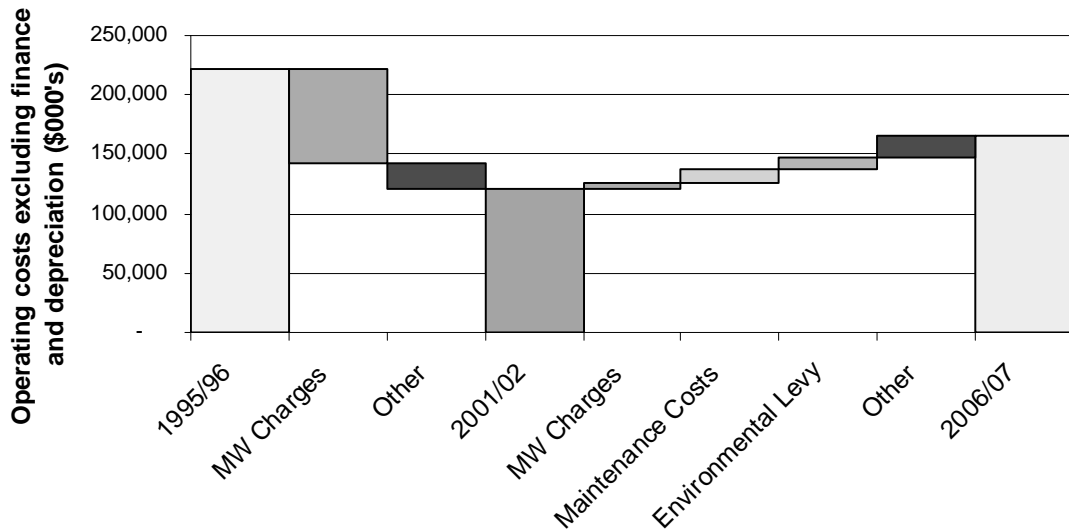


¹⁶ The environmental contribution was introduced in 2003-04 through an amendment to *Water Industry Act 1994* (Vic.) for a five year period to promote the sustainable management of water and address adverse water-related environmental impacts.

South East Water



City West Water



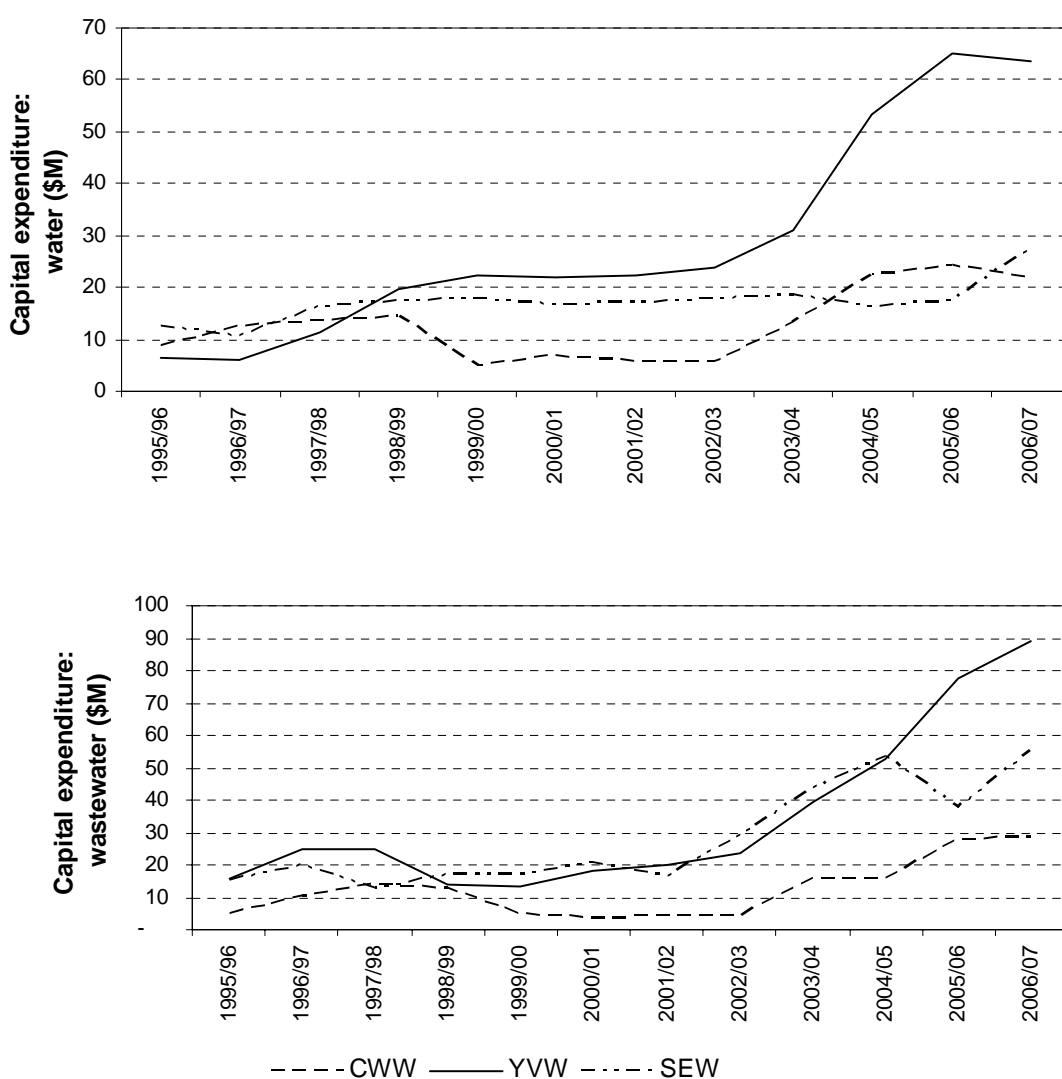
^a The Commission has avoided direct comparisons between the operating costs of the retailers due to differences in the way expenditure has been classified by them. Also, the figures provided by South East Water included some expenditure relating to work for other entities undertaken by the Utility Services alliance.

^b The bridge charts show the contribution to the change in total operating costs in each of the time periods due to the major cost categories (for the period 1995-96 to 2001-02 these are Melbourne Water charges and 'other' costs; for the period 2001-02 to 2005-06 the environmental contribution and maintenance costs are also separated out).

Source: PwC 2007.

- Capital expenditure on water and wastewater services by the retailers has also risen strongly since 2001-02, particularly for Yarra Valley Water (figure 3.8). The recent rise in expenditure occurred after a period of restrained spending. While some of the overall rise reflects additional spending to meet growth, other drivers of the expenditure are the need to renew mains and sewers, spending to meet water quality and sewerage treatment standards and to improve system capacity and reliability. The Commission has not formed a view on the level or reasonableness of capital expenditure, which is beyond the scope of this inquiry.

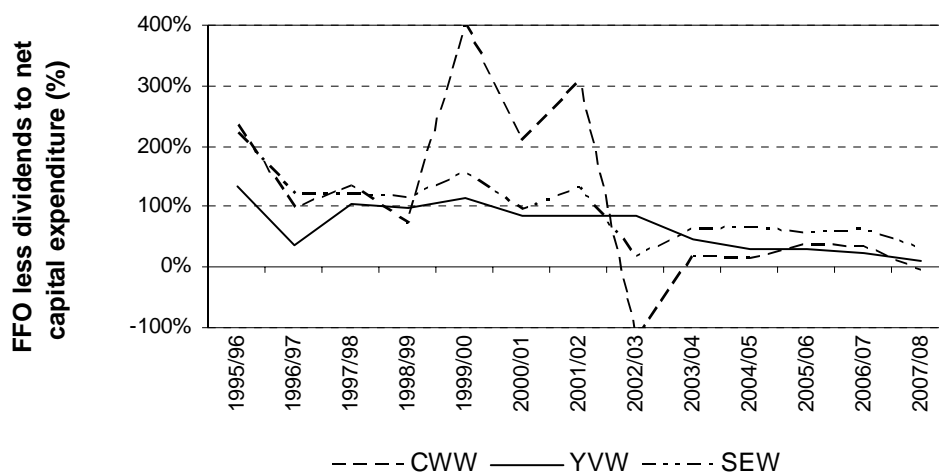
Figure 3.8 Trends in capital expenditure



Source: PwC 2007.

- Consistent with the ESC's funding criteria and as a consequence of the after tax payout ratios that have been applied, much of this capital expenditure has been financed from debt. This has meant the retailers have gone from a position of fully funding their capital expenditure from internal funds prior to 2001-02 to having an Internal Funding Ratio (IFR)¹⁷ close to (South East Water) or below (Yarra Valley Water and City West Water) the ESC's benchmark in 2006-07 of 35 per cent. These declining IFR levels indicate a diminishing ability for the retailers to self fund capital projects. Projections are for this position to deteriorate in 2007-08 with South East Water joining the other two retailers with an IFR below the benchmark and the ratio becoming negative for City West Water (figure 3.9).

Figure 3.9 Internal financing ratio



Source: PwC (2007).

Implications

A review of the financial performance of the retail sector highlights that significant efficiency and profitability gains were made in the years immediately after disaggregation. This contributed to marked improvements in the financial performance of the retailers during that period. In the last five or six years, the financial performance of the retail sector has been affected by restrained growth in revenue (due to price controls and the effect of the drought) combined with growth in operating and capital expenditures.

¹⁷ IFR = FFO / capital expenditure

As a consequence the cash flow position and financial strength of the retailers has deteriorated. These trends make the retailers vulnerable to a continuation of the cost and revenue pressures experienced over the past five or six years and place pressure on capital expenditure programs. The ESC needs to be closely monitoring these indicators going forward. Given the large increase in capital expenditure that has occurred recently, and which is planned in the future, the Department of Treasury and Finance should adopt a more flexible approach to dividends and consider broad cash-flow requirements for the Melbourne water retailers. The uncertainty of the current operating environment and the rising capital expenditure requirements should be key considerations for future dividend levels. This issue is discussed further in chapter 7.

3.6 Future performance challenges

The available evidence indicates that, during the period 1995-96 to 2000-01, the Melbourne retail water sector improved its performance against a range of financial, customer service and quality measures. Since 2000-01 the pace of improvement has slowed against some indicators and reversed against others. The early gains reflect improvement in both factors outside the control of the retailers—such as Melbourne Water’s bulk charges—and factors over which the retailers have control—such as reductions in some of their operating costs. The question the Commission has been asked to address is whether the current structure and operation of the retail sector and competition by comparison are the best to address the new challenges facing the sector. Relevant to this judgement is the extent to which the retailers control their current and future costs. If their future costs are largely driven by factors beyond the retailers’ control then the ability to compare performance, and by extension the current structure of the retail sector, has less relevance in future.

In analysing current and future cost drivers for Melbourne's water retailers, it is useful to distinguish between costs based on different degrees of effective control. In principle, competition by comparison can influence retailers’ activities and hence their controllable expenditures. Non-controllable costs are beyond the influence of the business, and hence unlikely to be influenced by comparative competition.¹⁸

¹⁸ In practice, the dividing line between controllable and non-controllable costs is blurred (see section 2.4.2 where controllable/non-controllable costs are explained). For example, government water conservation and environmental obligations are usually expressed in a general way, allowing retailers some discretion about the nature, level and timing of expenditure.

A major influence on retailers' future costs is the increase in Melbourne Water bulk charges—arising from Melbourne Water's own projects as well as major supply augmentations—over which the retailers have no control. These are projected to rise from \$399 million in 2007-08 to over \$1 billion in 2012-13 or to 57 per cent of total costs from 39 per cent (sub. 36, pp. 73). Other operating expenditure over which the retailers have no, or limited, control include the environmental contribution, recycling and water conservation programs to meet government targets, smart water fund contributions, Our Water Our Future advertising, Energy and Water Ombudsman (Victoria) payments, the cost of administering and enforcing water restrictions and the cleaner production program and grants (City West Water 2007b).

The Commission was not able to establish an exact estimate of these non-controllable costs for the sector. However, an approximation of the level of controllable costs can be obtained by excluding the most significant non-controllable costs (Melbourne Water charges, finance and depreciation charges, and the environmental contribution) from total operating costs; using the PwC analysis, this indicates that controllable costs were \$273 million in 2006-07 when operating costs excluding only Melbourne Water charges were \$315 million.

In summary, the key future drivers of retail sector costs are expected to be beyond the control of the retailers. The primary factor is the expected large increase in bulk charges resulting from the Government's announced water supply augmentations. Whilst the retailers' controllable costs are expected to fall as a proportion of their total costs, they are still expected to increase in dollar terms. This suggests that the scope for the structure of the retail sector, and specifically, competition by comparison, to influence the aggregate performance of the sector is likely to be relatively less than has previously been the case, though still significant in dollar terms.

3.7 Conclusions

This chapter has reviewed the available evidence on the performance of the retail water sector to ascertain whether the original intent underpinning structural separation of the water sector—namely improvements in efficiency and customer service—has been achieved. The chapter has also considered the implications of this performance for the future structure of the sector.

Domestic and international comparisons indicate that Melbourne's retailers have performed relatively well against a range of service delivery indicators, with gains concentrated in the years immediately after the sector was disaggregated in 1995.

The pace of improvement has slowed in recent years and participants identified the drought as a contributing factor.

The evidence relating to efficiency, in terms of the costs of delivering services to consumers, also indicates that the performance of the sector has improved, especially in the period up to 2001-02. Since then the picture is more complicated. The retailers have faced increases in a range of costs, reflecting increases in Melbourne Water's bulk charges as well as the costs of meeting government obligations relating to the environment and water conservation. At the same time, revenues have been constrained by modest price increases and decreasing water consumption.

The combination of slow growth in revenues and increasing operating and capital expenditures has placed a strain on the financial performance of the retail sector which has little to do with the structure of the sector and much to do with cost factors beyond the retailers' control. On those expenditures over which they do have control the retailers have made significant efforts to achieve cost savings through benchmarking and outsourcing.

The recent Draft Water Plans highlighted the growing level of non-controllable costs the retailers face and the issues associated with comparing the performance of the retailers over time and relative to each other.

Overall, this suggests that the extent to which competition by comparison operates to drive efficiencies in the sector has diminished over time, and that the potential role of competition by comparison will be relatively smaller in the future. However, the Commission considers there will continue to be a significant role for performance benchmarking carried out by ESC and, at the national level, by the National Performance Report produced under the auspices of the National Water Commission. Performance reporting in the future is discussed in chapter 7.

4 Options for retail sector structural reform

The inquiry's terms of reference require the Commission to make recommendations about the 'the best structure to allow for the efficient and least cost provision of Melbourne's water supply upgrades, as well as ongoing safe, reliable and sustainable water and sewerage services to Melbourne'.

This chapter assesses proposed changes to the structure of the retail water sector against a set of specific criteria. The changes considered are:

- consolidating the retail sector into a single entity (section 4.3.1)
- establishing two retailers, based on the eastern and western water and wastewater systems (section 4.3.2)
- separating the distribution and retail functions to facilitate competition in the supply and retail functions (section 4.3.3).

4.1 Criteria for assessment

Given the challenge facing the water sector in planning for and delivering the major supply augmentation initiatives, and the potentially disruptive effect of structural changes, it is important that a strong case for change be established before embarking on any restructuring. This involves establishing that for any change the benefits clearly exceed the costs, the risks have been identified and can be managed, and longer term options for reform are not unnecessarily compromised.

The criteria used to assess structural options are listed in table 4.1. Consistent with the Victorian Government's objective of sustainable resource management, the criteria address short term and longer term economic, environmental and social issues. Some criteria (for example, potential cost reductions and transition costs) are more amenable to quantification than others (such as the impact on innovation). Where quantifiable impacts are small, qualitative factors (such as the impact on innovation) issues assume much greater importance.

Table 4.1 Assessment criteria

<i>Criterion</i>	<i>Explanation</i>
Practical feasibility	Whether the option is feasible to implement within the short term and ensures businesses are financially sustainable in the longer term
Economic impacts	<p>Whether the desired option delivers water and wastewater services at least cost, having regard to service levels desired by customers and environmental impacts. Key issues are:</p> <ul style="list-style-type: none"> • impact on water businesses' costs (whether the industry structure captures economies of scale and scope for water businesses and suppliers) and costs facing third parties • impact on incentives to innovate to improve services to customers and increase productivity • whether an option promotes transparency so that cost savings are sustained and regulation is as effective as possible in limiting misuse of monopoly power
Transitional costs and risks	An assessment of system integration, staff-related and other costs of moving to a new structure as well as the technical and policy-related risks. Risks include diverting management from addressing the major challenges discussed in chapter 1 (such as achieving the Government's water conservation objectives and delivering major supply augmentations efficiently)
Social impacts	Whether an option delivers the Government's social objectives covering provision of concessions and rebates, community input to planning and decision-making, and the safety, quality and security of water and wastewater services
Environmental impacts	Whether an option delivers on the Government's environmental objectives, including that water resources such as rivers, groundwater, effluent disposal and greenhouse gas emissions are managed in an integrated and sustainable manner
Impact on water bills	The impacts in terms of the level, fairness and equity of pricing outcomes
Future contestability options	Whether the option would compromise contestability opportunities that may emerge from the development of alternative sources of supply in an interconnected water grid

Sources: VCEC and various submissions.

4.2 Issues with the current retail structure

Based on the view that the metropolitan retail water sector is performing well, a number of participants argued that the present structure is satisfactory. The Australian Water Association, for example, considered that while there are opportunities for improvement, the current structure of the retail sector is sound (sub. 26, p. 2). Similarly, Dr Kein Gan noted the current structure provides benefits such as encouraging a diversity of perspectives and priorities, and concluded ‘that problems with the existing retail structure are minor against the weight of proven benefits’ (sub. 8, p. 2).

Other participants identified perceived problems with the present structure that retail consolidation could help address. Key among these problems were:

- the higher cost of providing water and wastewater services under a disaggregated retail sector
- a lack of coordination between retailers which hampers water conservation efforts
- a lack of coordination between retailers which hampers the delivery of trade waste, wastewater and recycling services
- the present retail structure makes it harder to attract and retain people with the skills needed to deliver a much larger water sector capital program.

In a number of cases, these perceived problems also relate to the current split between wholesale and distribution/retail services, as well as the structure of the retail industry. The following discussion focuses on the extent to which the structure of the retail sector exacerbates or mitigates these perceived problems as the wider issues regarding vertical separation are beyond the scope of this inquiry.

4.2.1 Costs of providing water and wastewater services

A number of participants argued that the cost characteristics of the water and wastewater industry are important in considering the best structure for the metropolitan water sector. They argued that there are economies of scale and scope¹ in the provision of water and wastewater services, reflecting a combination of high fixed and sunk costs, the long life of the assets and synergies between the provision of water and wastewater services.

¹ Economies of scale mean that that the unit costs of providing water or wastewater services fall as output rises. Economies of scope mean that unit costs are minimised when water and wastewater services are produced by the same business.

Melbourne Water suggested that merging the three retailers could deliver ‘immediate operating cost efficiencies in the order of \$15 to \$20 million per year ... through the removal of duplicated corporate functions, overhead costs and external services. It would also be reasonable to expect (sometimes significant) economies of scale ...’ (sub. 30, p. 17). South East Water stated, however, that the retailers may be of a size that puts them in the range of an efficient scale and that a merger, particularly into a single business rather than two businesses, could give rise to diseconomies of scale (sub. 34, p. 43). Yarra Valley Water argued that the retailers ‘appear to be around or slightly larger than the apparent optimal size’ (sub. 36, p. 19). The Australian Water Association stated that ‘amalgamation per se does not necessarily mean economies of scale are available and there may be diseconomies that result (sub. 26, p. 2).

Several participants also argued that costs savings could be achieved by amalgamating contiguous water businesses such as Western Water with the metropolitan retail sector. This is considered further in section 4.3.

Evidence on economies of scale in the water industry

To support views about potential costs savings from retail consolidation, many participants drew on studies of economies of scale and scope in the water sector. A feature of the literature is that it examines evidence for vertically integrated water, that is, those that are involved in all aspects of the water and wastewater supply chain.² Few studies examine the sources of economies at the level of the different elements of the supply chain.

Despite these limitations, recent reviews of the literature on economies of scale and scope support the finding of economies of scale in the delivery of water and wastewater services (ACIL Tasman 2007 and IPART 2007). However, there is no clear finding on the size of utility at which these economies are exhausted and or when diseconomies of scale set in:

- For integrated water supply businesses, recent literature reviews indicate that there are modest economies of scale. A comprehensive review of the literature by ACIL Tasman concluded that there are modest economies of scale for small water utilities, with those supplying more than 200 megalitres of water per day (around 73 gicalitres per annum) experiencing constant returns to scale.³ In reviewing the relevance of the literature to water

² For water, the key elements of the supply chain are harvesting and treatment, transmission, distribution and reticulation, and retailing (mainly billing and dealing with customers). For wastewater, key elements are: wastewater collection and transportation, wastewater treatment and disposal (of biosolids and treated wastewater). Increasingly, these systems are becoming interlinked; for example, where treated wastewater is provided as a substitute for potable water supplies.

³ In 2005-06, Melbourne’s retailers supplied between 110GL (City West Water) and 173GL (Yarra Valley Water) to between 316 000 and 642 000 connected properties (chapter 2).

businesses in Western Australia, ACIL Tasman (2007, p. v) concluded that efficiency losses from separating Water Corporation into entities one-third to half of its current size should be modest.⁴

- There is no consensus on the question of when scale diseconomies set in. Several studies have found diseconomies of scale for very large water businesses (those with 2 million or more connections). In reviewing the relevance of the literature to Sydney, IPART concluded that Sydney Water (with over 1.6 million connections) is at or approaching a size at which water utilities in other jurisdictions have been found to experience diseconomies of scale (IPART 2005, p. 53). The point when diseconomies emerge probably will depend on a variety of local factors including the usage of the existing network, the condition of the infrastructure, and governance and regulatory frameworks.
- There is little evidence of economies of scope between water and wastewater. The reviews by ACIL Tasman and IPART both concluded that there are currently few, if any, economies of scope in combining water and wastewater functions. This may change, however, with the trend to greater use of wastewater as a water resource (ACIL Tasman 2007, p. v).
- There may be economies of vertical integration in water supply functions. Several studies have found that there are economies from integrating water wholesale activities with distribution and retail functions. In relation to vertical separation in Perth, ACIL Tasman (2007, p. xviii) concluded that the available literature and experience from other utility industries, indicates that efficiency gains from vertical integration are likely to dissipate at a relatively small size (approximately 2.4 gigalitres per year). However, there is no evidence of economies from integrating wastewater collection and treatment/disposal (ACIL Tasman 2007, p. 20).
- There is very little empirical evidence on economies of scale in specific elements of the supply chain such as water distribution, sewage collection and pure retailing functions such as billing and meter reading.⁵ Given the high cost of building water distribution and sewage collection capacity, it makes sense to install significant 'excess' capacity to cater for future growth (ACIL Tasman 2007, p. xvi). This can mean that significant economies of scale exist in the short and medium term. However, in mature networks, continued expansion can place a strain on infrastructure as the volumes

⁴ For comparative purposes, Water Corporation serves around 2 million people spread over a very large area (2.5 million kilometres). In the Perth region, the Corporation has around 664 000 connected properties and supplies around 623 megalitres of water per day or 227 gigalitres annually (ACIL Tasman 2007, p. 6).

⁵ ACIL Tasman (2007, p. 21) found only one study that specifically examined economies of scale in water distribution. The study, by Cubbin and Tzanidakis (1998), found some evidence of economies of scale in distribution, although the results were highly sensitive to the specification of the modelling approach used.

carried in central locations increase. The resulting bottlenecks can necessitate large scale and expensive remedial work to increase water main and trunk sewer capacity. ACIL Tasman (2007, p. xvi) suggest that this characteristic is likely to contribute to the findings in the literature that large water distribution systems can be subject to diseconomies of scale. The nature and extent of any economies of scale in water distribution and sewage collection are unknown. It is also likely that beyond some undefined point, further growth in distribution and collection networks is likely to encounter diseconomies associated with managing larger organisations.

In conclusion, the Commission considers that the relevant literature does not provide support for the view that Melbourne's retailers are operating at an inefficient scale. Given the difficulties in translating lessons from the overseas literature to Melbourne's relatively unique situation, the Commission has considered the potential sources of savings or diseconomies arising from retail consolidation, drawing on input from the retailers, Melbourne Water and external consultants (sections 4.3 and 4.4).

4.2.2 Impact on water conservation efforts

Continuing present efforts to conserve water is important, particularly given the uncertainty around future rainfall and the lead times for the major supply augmentations. A question arising from submissions was does the structure of the metropolitan retail sector have an impact on water conservation efforts, particularly in the short term?

Melbourne Water argued that the current structure is not the most effective for addressing the challenge of water conservation. It argued that effective integrated water management requires a consistent planning approach with supporting market processes and appropriately designed economic incentives as well as coherence and consistency in the water conservation messages and programs the industry operates. In its view, the ability of the current industry structure to achieve this was questionable (sub. 30, p. 13).

Some participants argued that the three retailers had done an effective job in promoting water conservation. For instance, Monash University stated:

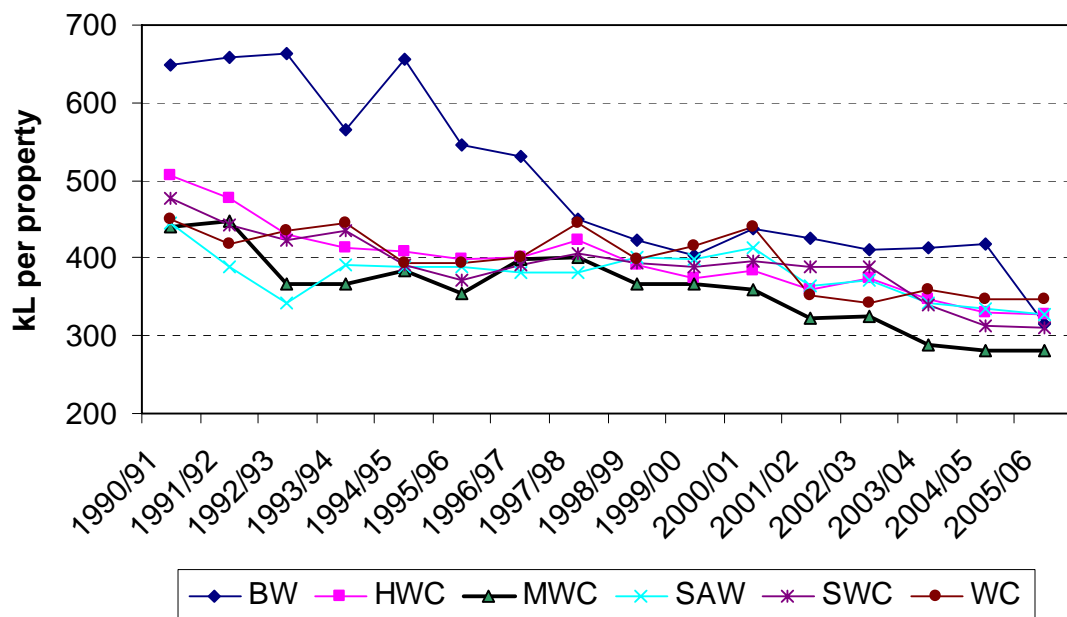
... we commend the Melbourne water retailers in their proactive approach to water restrictions and community engagement over the last four years. For example, the retailers have been successful in developing important relationships with key community stakeholder groups (such as sporting associations) and local businesses to address increasing risks and to reduce water consumption practices. (sub. 35, p. 10)

In discussions, members of the Ai Group argued that the current structure favoured conservation efforts. From their experience, the customer focus of the

separate retailers in supporting conservation initiatives was far superior to that experienced from a single supplier in the past.

The empirical evidence on the success of Australian cities' conservation efforts does not indicate clearly whether one industry structure is preferred over another (figure 4.1). A comparison with the (integrated) major urban water authorities in Australia, suggests that Melbourne has achieved the second largest reduction in water supplied per property, falling from 439 kilolitres (kl) per property in 1990-91 to around 280kl in 2005-06 (a fall of 36 per cent). This compares with reductions achieved by the Brisbane Water (down 51 per cent), albeit from a higher base), Hunter Water Corporation (36 per cent), Sydney Water Corporation (35 per cent), South Australian Water (26 per cent) and the Water Corporation of Western Australia (21 per cent). However, it is difficult to isolate from these trends the specific reasons for reductions in water consumption in the different jurisdictions because of different approaches to water pricing and water restrictions.

Figure 4.1 Impacts of water conservation policies^a



^a This figure shows the volume of water supplied (in kilolitres) divided by the number of properties for Melbourne (MWC), Brisbane (BW), the Hunter region (HWC), South Australia (SAW), Sydney (SWC) and Western Australia (WC).

Source: Melbourne Water based on WSAA data.

The significance of industry structure for water conservation also needs to be put into perspective. A key factor driving the quantum of water conservation in the medium to long term has been Government driven action, including the

Government's setting of targets for reductions in water use. These targets are embedded in each retailer's statement of obligations, which refer to water conservation obligations spelt out in the Joint Water Conservation Plan 2007–2015. These include targets of:

- 30 per cent reduction in drinking water consumption, per capita by 2015 from the 1990's average
- 30 per cent reduction in residential per capita consumption by 2015 from the 1990's average (City West Water et al 2007, p. 3).

The metropolitan water retailers must meet these targets, and make water conservation their first priority as required by government (City West Water et al 2007, p. 5). The conservation plan also specifies explicit programs, such as water efficient showerhead replacement, water efficient clothes-washer replacement, increased pressure management and leakage reduction (City West Water et al 2007, p. 3). The Government can change those targets and programs, such as when it decided that all water retailers had to increase their programs to save water by:

- installing an extra 80 000 water efficient showerheads in addition to the 180 000 already committed over the next 18 months
- early commencement of a program to cut water use among the top 1500 industrial water users
- working with Government to install water saving measures in government buildings (Bracks 2007).

These targets and programs will apply regardless of industry structure. It is likely, therefore, that a key factor influencing the performance of the retail sector in achieving these savings will be the incentive structures facing water businesses. As discussed later in this report, although a mechanism exists to enable the retailers to recover the costs of delivering conservation programs their incentives to invest in such activities could be more focused (section 7.2.2). A further consideration is that there are likely to be risks that water conservation performance will be affected if the primary focus of the retailers is on restructuring (see below).

4.2.3 Coordination on trade waste and water recycling

Trade waste refers to industrial and commercial liquid waste discharged to the sewerage system. Currently, responsibility for managing trade waste is shared between the retail sector and Melbourne Water. The retail sector manages the acceptance of trade waste into the sewerage system; Melbourne Water is responsible for operating Melbourne's two major treatment facilities at Werribee and Carrum. The management of trade waste is an important issue for the safety of sewer workers, the protection of sewage treatment processes and the

environment, and for those businesses that discharge trade waste. It also affects water recycling because the quality of wastewater influences the cost and quality of recycled water—and hence the achievability of the Victorian Government’s target for the metropolitan water sector that 20 per cent of all treated water will be recycled by 2010. Given the linkages between trade waste and recycling, it is important that the retail sector and Melbourne Water work closely together to manage trade waste issues.

Several inquiry participants argued that the involvement of three retailers and Melbourne Water in managing trade waste and water recycling can further complicate the process of reaching agreement on issues, imposing unnecessary costs on the water sector and industry. Melbourne Water, for example, stated:

Management arrangements in the Melbourne water industry are unique in that the parties monitoring and managing trade waste acceptance do not have the ultimate responsibility for its environmental impacts. This creates an anomalous situation when undertaking the majority of planning for trade waste, whereby different drivers and business priorities (e.g. service provision and the environment) can lead to conflicting positions on policy implementation. (sub. 30, p. 21)

Differences in views about trade waste issues can also impose costs on businesses if they lead to delays in reaching agreement or result in overly restrictive conditions on the acceptance of trade waste. While little information was provided on the extent of the costs to businesses,⁶ the Commission understands that problems can arise when businesses apply for variations to the default trade waste acceptance standards that are set by government in the retailer statement of obligations. In considering an application, retailers may need to consult with Melbourne Water.⁷ City West Water informed the Commission that on average it refers around 35 variations per annum to Melbourne Water.⁸

City West Water argued that problems relating to the management of trade waste and achievement of the Government’s recycling target could be addressed by reforming the structure of the retail sector. It put forward a ‘sustainability model’

⁶ Australian Vinyls Corporation Pty Ltd argued that negotiations between the retailers and Melbourne Water do not produce the best outcomes for industry or the retailers (sub. 27, p. 2). Foster’s Group also expressed concern about the levels of communication between the retailers and Melbourne Water in ‘technically complex areas’ (sub. 47, p. 2).

⁷ Clause 22.5 of the retailer statement of obligations requires consultation with Melbourne Water. In addition, the bulk sewerage agreement between Melbourne Water and the retailers requires written consent from Melbourne Water before accepting non-standard trade waste if that trade waste is from a business with a ‘risk ranking’ of 1-3, or the acceptance will have a substantial impact on the load at the treatment plant.

⁸ Concerns about the current arrangements led the Victorian Government to initiate a review of trade waste policy in 2005. The review is being undertaken by the Department of Sustainability and Environment and the review had not been reported publicly at the time this draft report was finalised.

for the sector that would involve integrating wastewater treatment with the existing retail functions (sub. 15, pp. 2, 23–5). It argued that giving retailers the responsibility for managing the wastewater treatment plants could improve decision-making on acceptance of trade waste and on investment in water recycling. This is similar to the view of the Ai Group in its submission to the trade waste review being undertaken by the Department of Sustainability and Environment:

Metropolitan water retailers must be able to negotiate and finalise trade waste agreements with their industry clients without subsequent review by another regulator or agency. (Ai Group 2006, p. 7)

City West Water argued that this model can work with a number of retailers (sub. 15, p. 25), however, it suggested that an option is to consolidate the retailers to form two businesses based around the eastern and western sewerage catchments (section 4.3.2).

While structural changes are one way to address concerns about coordination on trade waste and recycling, there may be other options. Melbourne Water proposed improvements to the governance and regulation, including for instance, assigning the role of technical regulator for trade waste to the Environment Protection Authority (sub. 30, p. 21). Non-structural options for improving the management of trade waste are outlined in chapter 5.

4.2.4 Impacts on skills and technical capacity

A number of participants argued that a major issue facing the water sector is how to retain and attract the skills necessary to deal with the challenges facing the sector.⁹ Melbourne Water, for example, stated:

According to the International Water Association, 50 per cent of water professionals will retire in the next 5 to 10 years, and each year a smaller percentage of young professionals are attracted to a career in water. In addition, the employment market in Australia and internationally is particularly buoyant at present with significant infrastructure investment and the mining boom as local examples. (sub. 30, p. 13)

Several participants argued that there is presently a major shortage of skilled workers in the water sector. Melbourne Water, for example, reported that ‘skills in highest demand are expected to include process (plant) design, new technology specialists, estimating staff and project/site engineers’ (sub. 30, p. 13).

⁹ See Yarra Valley Water (sub. 36, p. 6), South East Water (sub. 34, pp. 3–4), Civil Contractors Federation (sub. 11, p. 2) and Melbourne Water (sub. 30, p. 13).

At issue is whether the present structure exacerbates the shortages in these engineering skills by spreading the limited talent across a number of smaller organisations. Would merging the retailers assist in retaining the current skilled workforce and/or attract skilled workers because of the perceived advantages of working in a larger business with a better career structure and more diverse roles?

It is unclear whether the number of retailers would make a significant difference to retaining and attracting the necessary skills, especially given the high level of outsourcing in the sector (chapter 3). Melbourne Water, for example, expected that merging the three retailers would save only five positions in the engineering/procurement activities. Moreover, information from participants indicated that most of the expected labour savings from retail consolidation would be in areas such as where skill shortages are less of a concern. In addition, a variety of factors affect the attractiveness of a workplace to skilled workers; apart from remuneration, other important factors include advancement and training opportunities as well as organisational culture. On balance, structural change does not appear to be a very effective way to address skills shortages in the water sector.

4.3 Options for retail sector structural reform

As noted, a range of structural reform options for the retail sector were put forward during the inquiry. The three options for change to the current retail structure examined are:

- consolidating the retail sector into a single entity
- establishing two retailers, based on the eastern and western water and wastewater systems
- separating the retail and distribution functions to facilitate competition in the supply and retail functions.

The option of combining the retailers into a single entity was examined because it has the most potential to deliver cost savings from streamlining corporate and other overhead functions, and to address any concerns about coordination between retailers on water conservation and other sector-wide issues. The option of establishing two retailers was examined as a way to achieve some cost savings, whilst avoiding possible concerns about diseconomies of scale from the creation of a single large retail business. As part of assessing this option, the Commission also considered whether a model involving integrating the two major wastewater treatment plants into the operations of the two retailers would improve incentives for the retail sector to develop wastewater as a substitute for potable water supplies. The third option was examined as a way to facilitate ongoing innovation in the water sector through the introduction of competition in the

retailing of water and wastewater services—although this was viewed as a longer term option, reflecting uncertainty about the potential benefits and costs.

A number of participants also raised the potential for structural reforms that involved some or all of the regional water businesses in the Central Region operating in areas contiguous to the three Melbourne metropolitan retailers.¹⁰ Arguments put forward in support of these options included that some, if not all, of these businesses were below efficient scale—for example, Western Water and Westernport Water provide water services to only 52 000 and 15 000 properties respectively; that as a result of the planned investments in the desalination plant and the water grid (in particular the pipe between Melbourne and Geelong) each of these entities would be connected to the Melbourne metropolitan system in the near future and; in the case of Western Water, that it is already connected and has a substantial proportion of its customer base, if not its geographical area, located in towns within Melbourne 2030 boundaries (figure 2.1).

The Commission determined, however, that it was not reasonably feasible for it to consider options involving parts of Western Water without looking both at that entity in its entirety, and in conjunction with other contiguous retailers. The Commission viewed such an approach as beyond the scope of the terms of reference of this inquiry, and also likely to be unnecessarily disruptive to those entities in the timeframe available. The Commission notes the view put forward by Western Water that any review of regional water businesses, if considered necessary, would be best to occur ‘towards the end of the Water Plan 2008-2013 period and not at this point of the business planning cycle’ (sub. 20, p. 2).

4.3.1 Single retailer

Moving to a single retailer was proposed by Melbourne Water (sub. 30, pp. 14-9) the Master Plumbers’ and Mechanical Services Association of Australia (sub. 31, pp. 5-7), Frankston City Council (sub. 51, p. 2), Alistair Watson (sub. 9, pp. 2-3) and Alastair Munroe (sub. 16, p. 3).

Practical feasibility

No specific impediments to combining the retailers were raised, other than the likely transition costs and risks. Some submissions argued that a single metropolitan retailer would need to maintain regional centres across the metropolitan area, as existed previously under the Melbourne and Metropolitan Board of Works.

¹⁰ See for example, Melbourne Water (sub. 30, p. 19) and Thiess (sub. 54, p. 3).

Economic impacts

In examining the economic impacts of moving to a single metropolitan retailer the Commission examined the potential:

- operating and capital savings (including savings to third-parties)
- impacts on dynamic efficiency
- impacts on the effectiveness of regulation.

Participants provided different estimates of the operating and capital cost savings possible under a single metropolitan retailer. Yarra Valley Water indicated that operating savings could be around \$15 million per annum. South East Water also expected that merging the three retailers would generate recurrent savings (sub. 36, p. 43). Neither Yarra Valley Water nor South East Water expected retail consolidation to deliver significant savings in capital expenditure.

Melbourne Water considered that total operating savings from retail consolidation would be between \$15–\$16 million per annum and capital cost savings would be around \$22 million over five years. As noted, Melbourne Water also considered that establishing a single retailer would reduce its own costs by eliminating the need for sewerage and water billing meters.¹¹ A single retailer could also be a way to address concerns raised by the Master Plumbers' and Mechanical Services Association of Australia about the emergence of unnecessary differences in technical standards between the three retailers (sub. 31, p. 4).

The main difference between these estimates relates to the potential capital savings. The Commission considers that any savings on the capital side arising from retail consolidation are likely to be small:

- The retailers already outsource nearly all of their capital expenditure (chapter 3), enabling them to capture any savings or potential for innovation that stem from the aggregation of capital programs.
- There appear to be no regulatory or institutional impediments to retailers adopting more efficient capital procurement methods such as alliances, public private partnerships or bundling of projects (including with each other) if there are sufficient cost savings to warrant such approaches.
- The ability to capture any savings available from more coordinated capital procurement methods such as the alliance model adopted by South East Water (chapter 3) does not depend on the structure of the retail sector (see section 4.4). The retailers have indicated that they see advantages in greater

¹¹ Yarra Valley Water argued that Melbourne Water would retain many of its billing meters to enable it to continue to monitor infrastructure performance.

sharing of information about procurement opportunities and costs (section 4.5).

The information provided by Yarra Valley Water and Melbourne Water are difficult to compare because they are based on differing assumptions. Nevertheless, they indicate that the potential aggregate savings from merging the three retailers could be between \$14.3 million and \$19.9 million per annum (table 4.2). These estimated savings represent 5–7 per cent of the retailers' controllable operating costs in 2006-07.¹²

Table 4.2 Potential cost savings under a single retailer

<i>Cost category</i>	<i>Description</i>	<i>Assumption (total savings per annum)</i>
Savings to Melbourne Water	Reduced need for sewerage and water billing meters	\$1.6m
Savings to other businesses	Potential savings to plumbers, and other bodies that currently deal with three retailers	Not costed but probably small
Operating cost savings: labour	Labour savings in management and administration	\$9.2–\$11.5m
Operating cost savings: contracts	Lower payments to external providers of telecommunications, IT support and other	\$3.5–\$6.8m
Capital cost savings	Savings from aggregating purchases of materials and equipment, and greater buying power as a result of aggregating projects	Likely to be small
Other savings	Potential to find more cost-effective ways to meet water conservation, recycling and non-commercial objectives	Not costed but probably small
Total estimated savings	Total savings to the retail sector and to third-parties from retail consolidation	\$14.3m–\$19.9m

Sources: VCEC based on discussions with Yarra Valley Water and Melbourne Water.

The estimates are based on a range of simplifying assumptions. Focusing on the operating cost savings, the estimates of Yarra Valley Water and Melbourne Water appear to be very similar, but they differ in terms of their composition and the underlying assumptions (see table 4.3).

¹² Controllable operating costs for the retail sector were \$273 million in 2006-07 (chapter 3).

Table 4.3 Comparison of cost savings assumptions

<i>Cost category</i>	<i>Yarra Valley Water assumptions</i>	<i>Melbourne Water assumptions</i>
Labour savings	123 positions No claims for pay rises as a result of productivity gains	99 positions No change in pay rates post merger
Other annual savings	Assumed contract savings in: <ul style="list-style-type: none"> • telecommunications (\$1m) • IT support (\$2m) • Other (\$0.5m) 	Assumed contract savings in <ul style="list-style-type: none"> • Communications and marketing (\$2.2m) • IT support, including telecommunications (\$1.45m) • Procurement & materials (\$1.4m) • Other (\$1.7m)
Capital cost savings	No capital cost savings from bulk purchasing and aggregation of capital procurement contracts. Bundling is hard because 75 per cent of capex is on one-off projects which are time sensitive (done on-demand). The other 25 per cent is ongoing programs and whilst more amenable to bundling are generally not large enough to justify the transaction costs associated with this approach.	Estimated savings of \$21.5 million over five years. Comprises: <ul style="list-style-type: none"> • reduced IT capital expenditure to upgrade systems (\$12.5m assuming 2% saving on total IT capital expenditure) • reduced other capital expenditure (\$9m). Likely to be some other capital savings. Harder to quantify but could be up to \$4m per annum (not included in estimated capital savings).

Sources: VCEC based on discussions with Yarra Valley Water and Melbourne Water.

Based on a review of the estimated cost savings, including input from ACIL Tasman on economies of scale and the information provided by Melbourne Water and Yarra Valley Water, the Commission considers that these estimates may overstate the cost savings likely to be realised from creating a single retailer for Melbourne.

The potential savings from a retail merger may be overstated because there is a risk of diseconomies associated with a single retailer serving nearly 1.6 million properties in metropolitan Melbourne. As noted, IPART concluded that Sydney Water (with over 1.6 million connections) is at or approaching a size at which water utilities in other jurisdictions have been found to experience diseconomies

of scale (IPART 2005, p. 22). Productivity growth could also be slower under a single metropolitan retailer if there is less flexible decision-making and autonomy for regional managers, resulting in poorer timing of capital investment or less (slower) uptake of cost-reducing innovations.¹³

Some participants considered the present retail structure promotes productivity improvements and innovation. For example, Monash University referred to a recent unpublished survey which noted:

... interviews with staff in the retailers reported that the work of other retailers influenced their thinking and practice and that the dispersed responsibilities allowed for local experimentation at a smaller scale that could then be replicated by other retailers if successful. This was seen as important to innovation and creativity in the sector. (sub. 35, p. 10)

The estimated savings also take no account of a merger's impact on the ability of regulators such as the Essential Services commission (ESC) and the Environment Protection Authority to monitor and regulate retailers' behaviour. The ESC, for example, has used differences in retailers' demand projections, service standards, capital and operating expenditure proposals, and assumptions about population growth and demand responsiveness to help in assessing proposed price increases. The ESC submitted that irrespective of changes in industry structure, there would be a need to retain public disclosure of disaggregated performance (sub. 56, p. 12).

Transition costs and risks

The estimated aggregate savings of having a single retailer do not account for the costs involved in moving to that structure. In the short term, moving to a single retailer is likely to impose:

- systems integration costs (IT and billing systems)
- redundancy costs
- costs of renegotiating existing contracts
- other costs such as costs of communicating with staff and customers.

Furthermore, moving to a single retailer in the short term also involves a number of technical and policy implementation risks which, although hard to quantify, weigh on any decision about structural change.

¹³ To illustrate the potential significance of this point for costs, if productivity growth under a single retailer over the next five years was zero instead of the one per cent previously assumed by the Essential Services Commission (2005, p. xi), then the productivity penalty on the retailers' controllable operating costs (totalling \$273 million in 2006-07) would be just under \$3 million per annum.

Information provided to the Commission by Melbourne Water and Yarra Valley Water suggested that the transition costs could be between \$38–63 million (table 4.4). Yarra Valley Water expected total costs to be between \$50 million and \$65 million (sub. 36, p. 19). Yarra Valley Water subsequently provided information indicating that it expected costs to be at the top of this range. In discussions, Melbourne Water indicated that it expected transition costs of around \$38 million. Both Yarra Valley Water and Melbourne Water stressed that their estimates are indicative only. However, the Yarra Valley Water estimates appear slightly high because they incorporate some questionable components (such as \$3 million for employing a team to plan and manage the transition) and include some costs that the retailers already incur (such as spending on corporate branding).

In discussions, Melbourne Water and Yarra Valley Water agreed that integration of IT systems is the biggest challenge, and costs would depend on how integration is managed. Melbourne Water considered that a low cost path may be to replace IT systems gradually rather than immediately—although this may delay some of the benefits of integration. Alternatives would be to adopt the best of the current systems or to design an entirely new system. This is an area that would require further investigation to firm up the potential IT transition costs. The Commission considers that IT integration costs are likely to be in the range outlined by Yarra Valley Water and Melbourne Water.¹⁴

The Yarra Valley Water and Melbourne Water estimates of transition costs depend on assumptions regarding the approach to (and pace of) systems integration, the number of redundancies and the cost of renegotiating or terminating some existing contracts (table 4.5).

¹⁴ The IT costs of between \$30–\$41 million are equivalent to a cost per customer of between \$19–\$26 (based on 1.6 million customers). These seem to be reasonable having regard to the technically challenging process of implementing full retail competition (FRC) in gas in Victoria. To enable FRC, the regulated gas distribution businesses needed to implement new IT and billing systems. The ESC allowed the businesses to recover capital costs totalling \$55.8 million. Based on an estimated 1.5 million gas customers in 2002, this represented a capital cost per customer of around \$37 (ESC 2002b).

Table 4.4 Potential direct and indirect transition costs

<i>Cost category</i>	<i>Transition cost description</i>	<i>Cost estimate</i>
IT costs	Costs of hiring additional IT support, consolidating telecommunications services and equipment, integrating and consolidating complex IT systems and applications, paying out existing IT contracts and facilities management support	\$30–\$41m
Redundancy costs	Retrenchment and payout costs plus the costs of providing job placement services	\$5.4–\$8.9m
Other costs	Costs associated with paying out existing contracts, re-branding a merged entity and communicating with customers, and seeking external input from HR and other consultants	\$3–\$13m
Supply augmentations	Any adverse impacts on the ability of the retail sector to deliver capital projects or maintain water conservation efforts until the augmentations are operating	Not costed
Costs to government	Costs to the Victorian Government associated with appointing a new Board, revising legislation and agreements (e.g. statement of obligations)	Not costed
Costs to other parties	Costs incurred by Melbourne Water and other parties in re-writing agreements and contracts, redesigning systems (e.g. bulk water agreements) and other costs	Not costed
Staffing	Impact of uncertainty on retention and attraction of skilled staff	Not costed
Total	Estimated total transition costs	\$38.4–\$63.4m

Sources: VCEC and discussions with Yarra Valley Water and Melbourne Water.

Table 4.5 Comparison of transition cost assumptions

<i>Cost category</i>	<i>Yarra Valley Water assumptions</i>	<i>Melbourne Water assumptions</i>
IT costs	IT costs of \$41m comprising: <ul style="list-style-type: none"> • Applications consolidation \$27m • Telecommunications consolidation \$5m • Contract payout \$5m • Transition team \$2m • Recontracting and facility management support \$2m Assumes a single retailer adopts the best available IT systems	IT costs of \$30m, assuming existing systems utilised until replacement is required
Redundancy costs	\$8.9m	\$5.4m
Other costs	Transition team (\$3m), payout contracts (\$5m), legal (\$1m), re-branding (\$3m) and customer communications (\$1.5)	Re-branding, legal and contracts (\$3m)

Sources: VCEC and discussions with Yarra Valley Water and Melbourne Water.

In addition to quantifiable transition costs, retail consolidation would involve technical and policy implementation risks. There is the risk, for example, that consolidation would take longer than anticipated, thereby increasing transition costs and delaying expected benefits. The uncertainty for employees during the transition to a new structure may also cause the loss of key staff, which in turn could jeopardise delivery of the retail sector’s planned capital works programs. Depending on the process, there may be risks associated with integrating the retailers’ IT systems. There is also the policy implementation risk that disruption caused by retail consolidation would adversely affect the water conservation activities of the retailers (see below).

Social impacts

As discussed in chapter 3, evidence suggests that aspects of the current structure and regulatory framework governing the water sector have played a useful role in stimulating improved customer services. This has been achieved through a combination of more transparency about the relative performance of the retailers on customer services, establishment of improved consultative arrangements

(customer consultative committees) and the creation of an independent customer complaint mechanism (the Office of the Water and Energy Ombudsman).¹⁵

Some participants were concerned that these benefits would be lost if the three retailers were merged. The Council of the Ageing Victoria, for example, argued that innovations such as the hardship and customer compensation programs had stemmed from the current retail sector. It argued, therefore, that structural reform would be disruptive to such innovation by the retail sector (sub. 14, p. 2). Others argued that service levels could be maintained under a single retailer by retaining detailed reporting on customer service performance, existing customer consultative processes and an independent customer complaints mechanism.¹⁶

The Commission considers that either a single or multiple retail structure could deliver the Government's social equity and customer service objectives. Existing programs to deliver concessions to disadvantaged groups would also be retained. There may be some advantages, however, of the present retail structure due to the opportunity to try different approaches to resolving common social equity issues. As discussed in chapter 3, some submissions cited the hardship policy developed by the retail sector as a worthwhile innovation that arose from the retailers trying different approaches to address a common issue.¹⁷

Environmental impacts

Some participants argued that moving to a single retailer could deliver improvements in water conservation outcomes. The Commission considers that the primary drivers of water conservation are likely to be the Government's targets and the incentives embedded in the regulatory structure (section 4.2.2). There is a risk, however, that the disruption resulting from consolidation of the retail sector could undermine the retail sector's water conservation efforts, at least in the short term.

Impact on water bills

As noted in chapter 1, water bills are expected to rise significantly due to the cost of the major supply augmentations and the major capital projects proposed by Melbourne Water and the retailers. Moving to a single retailer offers the prospect of reducing retail costs (and thus average water bills) over time. However, as noted above, this process involves initial added costs as well as ongoing savings.

¹⁵ Notwithstanding these improvements, chapter 7 argues that there is scope to further clarify objectives.

¹⁶ Some participants supported continued or enhanced performance reporting by the retail sector. See for example, Consumer Utilities Advocacy Centre (sub. 45, pp. 3-4) and Yarra Valley Water (sub. 36, p. 3).

¹⁷ See for example, Council of the Ageing (sub. 14, p. 2), St Vincent de Paul Society Victoria (sub. 4, p. 5) and Monash University (sub. 35, p. 9).

Given the extent of the proposed retail price increases for Melbourne and the size of the potential savings, merging the three retailers would have little influence on proposed increases in water bills. Depending on how the ESC treats the transition costs and savings, the impact could be to reduce the average price increases sought by the retailers by between 0.04 and 0.17 per cent per annum (from the starting point of an average annual increase for the retail sector of 18.2 per cent over the next five years).¹⁸

A further potential advantage of a single retailer is that it would facilitate pricing parity across the metropolitan area. It is noted, however, that there are also non-structural options to reduce the price differentials between retailers (chapter 6).

Future contestability options

In forming a view about the desirability of a single metropolitan retailer, a further consideration is whether this would compromise contestability opportunities that may emerge from the development of alternative sources of supply in an interconnected water grid.

According to some participants, establishing a single retailer for Melbourne would not prevent the development of retail competition at some point in the future. South East Water, for example, argued that:

... the creation of a single retail water business would not preclude the introduction of competition. For example, it would still be possible to:

- Separate the potentially contestable retail functions (e.g. metering, billing and customer service) from the distribution function
- Allow other parties to supply retail services and enable them to compete for customers (e.g. two or more retail businesses could compete for customers in the same geographic area)
- Allocate bulk water entitlements to these retail water businesses to generate more competition upstream.

The single metropolitan retail water business would, in these circumstances, actually be a single metropolitan distributor. This would also require the development of a third party access regime to the infrastructure. (sub. 34, p. 20)

The potential options for introducing greater competition into the water sector in Melbourne in the longer term are explored in more detail in chapter 8. The

¹⁸ The lower figure assumes that transition costs (of \$50.5 million) are spread over five years; the higher figure assumes that these costs are spread over ten years. Both estimates are based on the assumption that to reduce the average level of price increase by 1 per cent over the next five years from 18.2 per cent per annum, it is necessary to reduce operating costs by around \$38 million per annum. It is also assumed that 50 per cent of the average annual operating savings (\$16.6 million) are achieved two years after the merger, with the full savings achieved in the remaining three years of the period.

options considered range from those designed to promote competition in sources of supply (competitive sourcing) through to full retail contestability. The key point is that the establishment of urban water markets at the retail level requires that there be multiple retailers at some stage.

Another concern is that a single retailer could finish up facing multiple wholesalers (or certainly multiple sources of water supply), which could result in the reversal of a decision to move to a single retailer. However, all of these decisions are likely to be longer term, and in making a decision on a single retailer it should not be assumed that they will occur.

4.3.2 Two retailers

A further option considered by the Commission was the scope to consolidate the existing retailers into two. There are a number of ways in which the boundaries of two metropolitan could be established. For instance, the boundaries could be drawn having regard to a desire to achieve two similar entities with equal numbers of industry and residential consumers.

An option put forward by City West Water (sub. 15, p. 25) involved establishing two retailers covering the east and west of Melbourne. Under its 'sustainability' model, the metropolitan water sector would be reorganised into three separate functions:

- resource management (managing the catchments and the drainage and stormwater systems)
- network management (responsible for managing the integration of water from various sources and maintaining the dams and associated infrastructure)
- service provision (responsible for the existing retail functions but taking on responsibility for sewerage treatment) (sub. 15, p. 23-25).

Under this model, the retail sector would be reconfigured to give it more control over alternative sources of supply. According to City West Water the retail sector would be responsible for managing:

... all three products; water, sewage and recycled water, with the ultimate goal of optimising alternative sources of supply and would have responsibility for the sewage treatment plants, to create a shift in thinking from sewage treatment to water production. The Service Provider would be more resource-focused and involved in promoting/monitoring of rainwater tanks, grey water tanks and recycling systems, and maintain data on all sources of water in their geographic area. (sub. 15, p. 24)

While this model could operate under a single retailer or multiple retailers, City West Water noted a potential split into two retailers would be based on existing

sewage catchments serving the eastern and western sewage treatment plants (sub. 15, p. 25). The strongest argument for linking the two sewage catchments is that it could enhance the commercial incentives for recycling, especially in an environment where costs of potable water are increasing. A possible related advantage of this model is that it would address business concerns about the lack of coordination in the management of trade waste (section 4.2.3).

Practical feasibility

There are no obvious technical impediments to forming two metropolitan retailers. Substantial work would be needed to identify and divide assets amongst the two entities unless consolidation simply involved a merger between two existing retailers.

There are many ways that a model involving two retailers could be configured. In discussions, City West Water indicated that a retailer based on the western sewage catchment would incorporate all of the areas currently served by City West Water, along with areas served by Yarra Valley (mainly in Melbourne's northern and inner eastern suburbs) and South East Water (around Southbank and the north-eastern bayside suburbs). A retailer based on the eastern sewage catchment would incorporate most of the area currently served by South East Water and some areas serviced by Yarra Valley Water. The Commission understands there are no major practical barriers to implementing such a structure. Issues that would need to be worked through include revising the bulk water and sewerage agreements between Melbourne Water and the retailers as well as technical agreements that exist between the retailers governing usage of the existing water and sewerage infrastructure.

A further issue to be considered in establishing two retailers is whether it would be desirable to create entities with similar financial structures and/or customer bases. Creating two similar entities could address the current disparity in size between City West Water and the other two retailers and thus facilitate comparisons of performance. A number of factors limit the comparability of a two retailers based on the eastern and western sewage catchments. For example, the western retailer would have a very large share of non-residential demand. Also, the soils to the west of Melbourne are mostly basaltic clay soils (that are prone to swell and shrink causing more frequent water pipe bursts) and the climate is drier compared to areas to the east of Melbourne. On the other hand, areas to the east of Melbourne have more trees, contributing to tree root intrusion into sewers. These factors would complicate comparisons between the performance of eastern and western retailers.

There are no major impediments to transferring responsibility for managing the eastern and western treatment plants to the retail sector. Consideration would need to be given to specific assets and staff that would be transferred. The

Commission also understands that many of the engineers that usually work on the treatment plants are currently engaged in the water supply augmentation projects being managed by Melbourne Water. Consequently, consideration would need to be given to the timetable for transferring operation of the treatment plants with a view to minimising unnecessary disruption to Melbourne Water's capital program.

Economic impacts

The relevant issues considered in evaluating the economic impacts of moving to a dual retailer structure were:

- operating and capital savings (including savings to third-parties)
- impact on dynamic efficiency.

Creating two retailers is likely to result in smaller cost savings than is achievable from moving to a single retailer (table 4.7). The main differences in the potential savings are:

- Melbourne Water would still need to maintain many of its billing meters, thereby reducing its cost savings.
- operating cost savings (labour and contracts) would be slightly smaller due to the need to retain separate call centres and corporate functions. The Commission has conservatively assumed that the savings could be 75 per cent of those achievable under a single retailer.
- there are no diseconomies of scale associated with creating two large retailers.
- the adverse impacts on dynamic efficiency would be slightly less than those occurring with a single retailer due to the ability to compare approaches to issues.

The potential cost impacts of creating two retailers depend on how consolidation occurs. One approach would be to draw the boundaries for the two new retailers based on the sewage catchments. Another would be to merge two of the retailers, resulting in two businesses that are very different in scale. The estimated savings also do not take account of any costs or benefits associated with City West Water's proposal to transfer responsibility for wastewater treatment to the retail sector.

Table 4.6 Potential cost savings under two retailers

<i>Cost category</i>	<i>Description</i>	<i>Assumption (total savings per annum)</i>
Savings to Melbourne Water	May be a reduction in the number of billing meters	Not costed but probably small
Savings to other businesses	Some savings for plumbers, and other bodies that would need to deal with two rather than three retailers	Not costed but probably small
Operating cost savings: labour	Labour savings from moving to two sets of head office and corporate functions	\$6.8–\$9m
Operating cost savings: contracts	External corporate costs for telecommunications, IT support and other	\$3–\$5m
Capital cost savings	Savings from aggregating procurement of materials and equipment and capital works	Likely to be small
Other savings	Potential to find more cost-effective ways to meet water conservation, recycling and non-commercial objectives	Not costed
Dynamic inefficiencies and diseconomies	Compared to single retailer model less likely to encounter diseconomies (cost increases) due to slower management decision making or a reduced customer focus	Not costed but probably small
Total savings	Total savings from creating two retailers	\$9m–\$14m

Sources: VCEC based on discussions with Yarra Valley Water and Melbourne Water.

Based on a number of simplifying assumptions, the Commission’s preliminary estimate is that gross cost savings (excluding transition costs) from creating two retailers could be \$9m–\$14m per annum.¹⁹ These savings are between 30-40 per cent less than the gross cost savings from creating a single retailer.

Compared to the single retailer model, however, the two retailer structure potentially has less adverse effect on dynamic efficiency. As noted, the economic literature and views of participants supported concerns about the effect on dynamic efficiency of moving to a single retailer. Moving to a two retailer structure overcomes these concerns to some extent as there would still be opportunities to develop and share different approaches to common issues.

¹⁹ South East Water considered that cost savings of up to \$12 million per annum may be generated from establishing two retailers but did not detail how this estimate was derived (sub. 34, p. 43).

In addition, integrating wastewater treatment within a retail structure based on the east and west sewage catchments also potentially provides some dynamic efficiency benefits for the retail sector and businesses. This option would reduce the number of bodies involved in managing trade waste issues—a problem identified by the retailers and some businesses (section 4.2.3). As noted, there may be other ways to improve the management of trade waste (chapter 5).

Transition costs and risks

Moving to a two retailer structure would involve many of the same transition costs and risks as a move to a single retailer model. The transition costs would be similar due to the need to integrate existing asset management, billing and IT systems. Redundancy costs would be slightly lower, reflecting the assumption that there would be smaller labour savings. Similar costs would be incurred in renegotiating existing contracts and communication with staff and customers.

Moving to a two retailer model would impose some additional transition costs due to the need to identify and allocate assets and other infrastructure to the new entities. There would be additional transition costs if responsibility for managing the eastern and western treatment plants was transferred to the retail sector.

The option of creating two retailers would give rise to technical and policy implementation risks similar to those arising from a move to a single retailer. These risks include diverting management focus from water conservation and capital expenditure priorities, and the loss of key staff due to the uncertainty caused by change.

Overall, the transition costs and risks of moving to a two retailer structure are likely to be similar to those of creating a single retailer. As noted, the transition costs of moving to a single retailer are estimated at \$38–\$63 million.²⁰ The key policy implementation risk revolves around the potential for structural change to undermine the retailers' water conservation efforts.

Social impacts

Moving to a two retailer structure is not expected to adversely affect meeting the Government's social equity objectives. A two retailer structure could still retain existing mechanisms which encourage the retail sector to deliver high levels of customer service (such as customer consultative committees and an independent customer complaint mechanism) and concessions to disadvantaged groups. Existing programs to deliver concessions to disadvantaged groups would also be retained.

²⁰ South East Water considered that the transition costs of merging the three retailers into two would be 'in the order of \$50 million for the retailers (plus any costs incurred by Government)' (sub. 34, p. 44).

A two retailer model would also retain some of the benefits of the present retail structure, namely the capacity to try different approaches to resolving common social issues.

Environmental impacts

As noted, the key environmental issues for the metropolitan water sector are managing water resources in a sustainable manner, meeting regulatory obligations (around issues such as sewage spills and wastewater discharges into the environment) and continuing to implement the Government's water conservation and recycling objectives, particularly in the period leading up to completion of the major supply augmentations.

These objectives could be achieved under any retail structure. However, the main policy implementation risk associated with consolidating the retailers is the potential disruption to water conservation efforts. As noted, this risk arises because of the potential loss of key staff and the diversion of management focus to the restructure.

Impact on water bills

The impact on household and business water bills of moving to two retailers is likely to be small. Compared to creating a single retailer, moving to two retailers would deliver smaller cost savings, but similar transition costs. As a result, moving to two retailers will have a smaller impact on water bills than the option of creating a single retailer, unless there are offsetting productivity gains from shifting responsibility for managing the eastern and western treatment plants to two retailers.²¹ However, these gains are unlikely to be significant over the next pricing period.

Future contestability options

Compared to the option of creating a single retailer, establishing two retail businesses would partly address the risk that a single retailer could finish up facing multiple wholesalers (or certainly multiple sources of water supply). In addition, the number of retailers will have an influence on any future decision to introduce greater contestability into the retail sector.

²¹ The Commission estimated that the impact on the retailers' average level of price increases could vary depending on how the ESC treats the transition costs and operating savings. If the transition costs (\$50.5 million) are amortised over 10 years then the average price rise would fall by around 0.08 per cent per annum over the five year regulatory period. Amortising transition costs over a shorter period, such as 5 years, would result in an average price increase of 0.05 per cent per annum over that period. These calculations would change if the regulatory period for reviewing water pricing is varied from the current five years (chapter 7).

4.3.3 Separating the distribution and retail functions

A further structural option discussed by some participants is separating the distribution functions performed by retailers from their retail functions.²² This option could involve creating a single or multiple distributors in addition to multiple retailers. This model was put forward as a pathway to introduce competition into the retail sector in the future.

At present, metropolitan retailers are responsible for managing water distribution and waste collection, and for providing retail services (such as procuring water from Melbourne Water, customer billing and handling complaints). The distribution and waste collection functions have natural monopoly characteristics—service costs are likely to be lower with one provider of water distribution and wastewater collection in a particular area. Joint provision of distribution and retail services is a potential impediment to third-party access and competition in the retail sector. Structural separation, involving separating out these activities to form one or more distributors and, possibly, multiple retailers was thus viewed as a way to facilitate competition.

The interest in this structural option stems from the experience in the energy sector. However, there are important differences between energy and water that bear on the potential benefits from structural separation of distribution and retailing. As noted by IPART:

... in water, a greater share of costs are in the transportation network (ie, the natural monopoly element of the supply chain) than in the potentially competitive areas. (In contrast, gas and electricity are expensive to produce, but relatively inexpensive to transport) ... [And] water has traditionally been less valuable than the products or services provided by other network industries, so a given percentage gain in efficiency has been worth less in water than in other industries. (2007, p. 47)

This situation may change as the cost of water increases and technological developments in water treatment and recycling open opportunities to develop low-cost localised sources of water and wastewater treatment. These developments can stimulate business and local government interest in supplying water and wastewater services to new or existing residential and commercial consumers.

Another important point is that the move to introduce retail competition into the energy sectors occurred gradually, and drew on a large body of empirical work examining the benefits and costs and implementation issues. There is very little

²² This option was discussed in submissions from City West Water (sub. 15), Melbourne Water (sub. 30), South East Water (sub. 34) and Yarra Valley Water (sub. 36).

evidence and experience to draw on in assessing the arguments for separating out the water distribution and retail activities (IPART 2007, p. 19).

Practical feasibility

This option is technically more challenging to implement than retail consolidation. And, as noted, the Commission is not aware that such a structure has been employed anywhere in the world. There is also very little technical literature on how such an option would work in practice.

In principle, there are different ways of separating the distribution and retail functions. As South East Water (sub. 34, p. iv) noted, options include:

- establishing multiple distributors based on the current metropolitan retail boundaries
- establishing multiple retailers servicing particular regions (within and outside Melbourne)
- establishing multiple retailers serving particular customers/services (such as trade waste services and recycled water)
- these options could be implemented with or without allowing free entry into the retail sector (discussed in more detail below).

The Queensland Water Commission recently proposed establishing a single distribution business and three retail businesses serving South East Queensland (box 4.1).

In Western Australia, the Economic Regulation Authority recently considered the scope for introducing full retail contestability into urban water markets. It concluded that retail contestability is premature for small customers at this time, given the uncertainty about the potential benefits and costs. The Authority considered, however, there is greater scope for introducing retail contestability for large customers and sought further input on how contestability could be introduced (ERA 2007b, pp. 79-80).

Box 4.1 Water reform in South East Queensland

The South East Queensland (SEQ) region is experiencing a severe drought. Coupled with forecasts of strong population growth (particularly in Brisbane, the Sunshine Coast and the Gold Coast), this is straining the region's water resources. The Queensland Government is building a water grid to connect all major water sources in SEQ, including new and existing storage dams, the new desalination plant on the Gold Coast and the Western Corridor Recycled Water Scheme. The grid is intended to facilitate water sharing by enabling water to be moved from areas of surplus to areas of shortage.

In May 2007, the Queensland Water Commission (QWC) released a report to the State Government recommending a series of major structural changes to the water sector. The proposals included:

- establishing a grid manager to plan and manage the operation of the water grid
- transferring to the State Government ownership of major supply and bulk transport assets from local government
- establishing two state-owned water wholesalers (in addition to the operator of the desalination plant) and a state-owned trunk pipeline operator
- creating four new local government owned retail and distribution businesses from the 17 local governments currently providing these services.

The QWC also recommended that an assessment of the introduction of retail competition be undertaken.

In September 2007, the Queensland Government announced details of the model to be implemented, based on the model proposed by QWC:

- a SEQ statutory water grid manager will be established from 1 July 2008
- a single State-owned body will manage all SEQ dams and major water treatment plants (in addition to the operator of the desalination plant and Western Corridor Water Recycling Scheme), and a further state owned body will manage the trunk pipelines
- further consideration is to be given to the ownership of wastewater treatment plants (with a decision expected in January 2008)
- retail activities to be split from distribution, effective from 1 July 2009, with all water reticulation pipes and sewerage pipes to be moved into a single regional entity, wholly owned by the local governments, with retail activities to move from local governments to new entities no later than 1 July 2010
- local governments in SEQ to be asked to advise the Government on the number of retailers they wish to establish.

Legislation to establish the bulk supply business, the manufactured water business, the bulk transport business and the water grid manager, was passed by the Queensland Parliament in late November 2007. Further legislation will be brought forward in 2008 to facilitate the operation of SEQ urban water market.

Source: QWC 2007a and 2007b.

Economic impacts

Splitting distribution and retail activities has advantages and disadvantages, which depend on the structural model implemented. It is not possible to estimate the economic impacts due the lack of information about the costs of water distribution and wastewater collection relative to the costs of the retail activities.

In principle, introducing retail competition through structural separation could deliver a number of benefits:

- increasing choice of provider and lower retail costs for consumers
- promoting product innovation (for example, in terms of the level of security of supply)
- better decision-making within the water sector (instead of trying to rely on surveys and consultation to find out what consumers value, prices and switching would reveal customers true willingness to pay).

It was argued that any benefits from introducing retail contestability would be small because distribution and collection make up the bulk of water and wastewater costs. South East Water stated that the activities of construction, expansion and maintenance of the water supply network and wastewater collection network account for a significant proportion of service provision costs. It also said that retail activities such as the management of customer interface systems (including call centres) and billing account for a far smaller proportion of final costs (sub. 34, p. 46). According to City West Water (sub. 15, p. 26), these retail functions account for a small proportion of its total operating costs (around 6 per cent). In a submission to an inquiry into competition in the West Australian water sector, the West Australian Water Corporation argued that its retail costs represent less than five per cent of the total costs of service provision (Water Corporation 2007, p. 24).

The economic impact of splitting the distribution and retail functions will also depend on the configuration of the distribution function. Creating a single distribution business could be an effective way to capture economies of scale in the distribution function, without compromising the dynamic efficiency and customer service benefits stemming from the existence of three retailers. As South East Water noted:

The rationale for this structure is that the more material scale efficiency benefits associated with merging the business (to the extent that these exist) would arise from the network side of the businesses rather than the retail element of the businesses... (sub. 34, p. 46)

As noted, there is very little empirical evidence on economies of scale in water distribution and sewage collection. However, given the need to make large adjustments in the capacity of distribution and collection to cater for future growth, it is likely there are economies of scale in these particular activities in the

short term (section 4.2.1). Whether these economies are outweighed at some point by diseconomies associated with managing large organisations is unclear.

Notwithstanding the uncertainty about the scale efficiency benefits associated with the option of a single distribution business, it may be preferable to establish more than one distribution business to enable comparisons of service quality and network performance. As noted, the ability to compare forecasts of demand and expenditure proposals can assist in regulating the distribution businesses.

A possible disadvantage of separating distribution and retail activities is additional costs associated with loss of economies of scope between distribution and retail activities. There is nothing in the economic literature indicating strong synergies between the two. But in principle, separating retail and distribution will give rise to some additional transaction costs due to the need to coordinate the provision of the two services. Yarra Valley Water noted the distribution system has a major impact on customer satisfaction (sub. 36, p. 20), implying a need for arrangements linking investment decisions relating to the network to customer willingness to pay. As pointed out by South East Water:

Experience from other utility sectors indicates that the up-front costs and issues associated with customer churn and marketing for customers associated with implementing the necessary information systems and regulatory framework for full retail competition can be significant. (sub. 34, pp. 48–9)

In assessing lessons for the West Australian urban water sector of gas reform in Victoria (where there is full retail competition), ACIL Tasman (2007, p. 67) stated that:

... there are some useful lessons, particularly in the complete lack of concern regarding so-called economies of vertical integration. The industry also demonstrates the ability to manage and plan a fairly complex supply chain without a central control, planning or procurement role.

There appear to be relatively few concerns as to the level of transaction costs, efficiency of operation and investment in this setting—and some support for the view that system size economies have been accessed with a much less aggregated system than is typical of water—and, historically, of electricity.

Overall, there is insufficient information to assess potential economic impacts of separating the distribution and retail functions of the metropolitan retail water businesses. Given the future potential for third parties to seek access to the water distribution and wastewater collection networks and the future potential to exploit opportunities presented by the development of additional water supply sources and the expanding water grid, it would be worthwhile to obtain further information about the cost characteristics of the distribution and retail function. Some of the information needed to consider requests for third-party access and to assess future opportunities could be obtained by requiring the retail water

businesses to report on their distribution and retail costs to the ESC (accounting ring-fencing).

Draft Recommendation 4.1

That the Victorian Government introduce a system of accounting ring-fencing for the metropolitan retail water sector. The sector should report on their water distribution, wastewater collection and retail costs. The Essential Services Commission should develop a methodology for implementing accounting ring-fencing, audit the information provided and publish the information as part of its ongoing monitoring role for the Victorian water sector.

Transition costs and risks

The transition costs and risks of structurally separating distribution and retail functions are likely to be substantial. Separation would require establishing a new regulatory and governance framework for the distribution and retail sectors and arrangements for managing the interface between retail businesses and distributors. Depending on the model, businesses may need to implement costly changes to existing IT, asset management and customer billing systems. The size and nature of the transition costs would depend on the model of separation and the pace of implementation. For example, South East Water (sub. 34, p. iv) noted that a model that retained three retailers could avoid some of the corporate re-badging and customer information costs associated with retail consolidation, as the current interface with end customers would remain.

In drawing out lessons for the water sector of the international experience with electricity sector reform, ACIL Tasman (2007, p. 61) noted that:

A simple decision to reform the [electricity supply industry] has not necessarily resulted in improvements in efficiency, a lowering of prices or improvements in dynamic efficiency. The market mechanism must be developed with great care and the market structure (the number of competing generators) must be appropriate. A poor market mechanism and an uncompetitive structure will almost certainly give worse outcomes than the pre-reform situation.

The experience in electricity and gas sectors also suggests that the transition to more disaggregated industry structures and the introduction of retail competition occurred gradually and with a number of safeguard mechanisms in place to manage technical and customer risks.

Social impacts

Moving to separate the distribution and retail functions is not expected to adversely affect meeting the Government's social equity objectives. Existing arrangements for protecting consumers (such as customer consultative

committees and an independent customer complaint mechanism) could be retained. Existing programs to deliver concessions to disadvantaged groups would also be retained.

Environmental impacts

As noted, it is possible to achieve the Government's sustainability objectives under any structure for the metropolitan water sector. The policy implementation risks associated with changes to the retail structure, such as the potential disruption to water conservation efforts, are not relevant in the case of separation of the distribution and retail functions due to the longer term nature of this particular option.

Impact on water bills

Given the longer term nature of this option, separating the distribution and retail functions will not address the Government's immediate concern about the size of the retailers' proposed price rises. In the short term, the Commission supports accounting ring-fencing to facilitate third-party access and better evaluation of longer term options for contestability.

Future contestability options

The separation of distribution and retail activities would support future policy options to promote greater competition where possible, including potential full retail competition.

4.4 Are there other ways to achieve retail sector cost savings?

Given the significant transition costs and risks involved in consolidating the retail sector, the Commission asked the retailers and Melbourne Water if cost savings could be achieved via greater cooperation in shared services and procurement between the three retailers. The metropolitan water businesses were asked to explore opportunities to:

- establish shared services in activities such as billing, call centres, IT and other corporate functions
- achieve savings in capital expenditure through bundling similar infrastructure projects such as water and sewerage pipe renewal programs.

The retailers engaged an external consultant to coordinate their response on these issues. The retailers argued that they have achieved a high level of efficiency as a result of pursuing a number of strategies, including:

- outsourcing and alternative approaches to procurement, with examples of the latter including South East Water's Utility Services alliance and the use of 'gain share/pain share' contracts for capital works
- access to aggregated procurement through Victorian Government channels which cover areas such as advertising, telecommunications and IT, fuel and electricity, vehicles and waste water treatment
- benchmarking of their own operations against other retailers, as well as interstate and overseas water businesses, which has resulted in a number of strategies being implemented to achieve efficiencies
- cooperation on a number of matters including planning, forecasting, water recycling, water conservation programs, emergency response, and implementing water restrictions (GSG 2007).

Nevertheless, the retailers identified potential opportunities to achieve further savings of up to \$3 million per annum over the next two to three years. With improvements in the capacity of the retailers to benchmark and collaborate, these savings could reach \$5 million per annum within three to five years (GSG 2007, p. 16). The retailers considered that these additional savings could be achieved through a mix of strategies: more use of shared services, coordinated procurement and open book benchmarking (that is, a transparent process of comparing the costs of specific activities undertaken by each retailer).²³ This could be regarded as an extension to the current system of transparent reporting on customer service standards and regulatory compliance, and should encourage least cost practices across the retailers.

In reaching this view, the retailers concluded that there are limited net savings in some areas for shared services such as call centre operations, integration of IT systems and capital works procurement. For example, the retailers indicated that IT, billing and collection systems account for around \$35 million per annum (around 13 per cent) of their controllable operating costs, as well as around \$10 million per annum in capital costs and more than one-third of all employees. The payback period from moving to single call centre, and billing and collection system would be 9–11 years, reflecting upfront costs of \$15–\$20 million over two to three years, compared with annual savings of \$1.4–\$2.3 million (GSG 2007, pp. 11-2). The retailers argued, however, that such savings would be outweighed by the disadvantages of a single call centre and billing and collection system. They believe that such a move would weaken their customer links and undermine efforts to improve customer service (GSG 2007, p. 13).

²³ The retailers did not provide a detailed breakdown of the potential savings. It appears, however, that around half of the estimated \$3 million in annual savings comes from savings in procurement of common inputs such as electricity, gas, fuel and motor vehicles, meter reading, laboratory services, and training services (GSG 2007, pp. 14–5).

Coordinated procurement of capital works is another area for potential savings examined by the retailers. There is no consensus within the sector on the best way to procure capital works and each retailer has a different approach. The retailers indicated that because most capital projects are small scale and geographically remote from similar projects undertaken by other retailers, smaller contractors are just as likely to provide value for money as are larger firms (GSG 2007, p. 13). On the other hand, Thiess Services argued that the Utility Services Alliance with South East Water is expected to deliver around \$20 million in operating cost savings over five years, compared to a traditional procurement method (sub. 54, p. 9). South East Water indicated that the Utility Services alliance model is scaleable and robust for further expansion of the operations across the Melbourne retail water sector (SEW 2007). That said, the retailers argued that strengthening their ability to learn from best practice through benchmarking of capital and operational efficiency would assist them in evaluating different approaches and pursuing further cost saving opportunities. This issue of improving retail sector benchmarking is discussed in chapter 7.

The Commission invites further comment from participants on the opportunities to achieve operational and capital efficiencies from greater use of benchmarking and coordinated procurement of capital projects.

A further related issue is the adoption of different asset management, customer information and billing systems by the retail sector. The extent to which the retailers have adopted different IT systems is highlighted by the estimated size of the transition costs associated with the consolidation options for the retail sector (sections 4.3.1 and 4.3.2). The Commission has not examined whether the choices made by retailers in respect of their IT systems have been justified. Ultimately, the ESC will form a view about the need for future expenditures by the retailers. There may, however, be a case for greater cooperation in future between the retailers in the development and procurement of these systems or, at a minimum, moves to ensure common standards and processes so as to not adversely compromise potential medium to longer term contestability options.

On balance, the Commission considers that operating and capital costs savings (at least \$3 million per annum over two years and up to \$5 million over three to five years) can be achieved by a combination of more use of shared services, coordinated procurement and open book benchmarking. Moreover, the increased use of benchmarking of costs by the retailers offers the opportunity to deliver additional savings in operating and capital costs (section 7.4.2).

4.5 Conclusion

The evidence reviewed in chapter 3 suggests that although the retail sector's financial performance is under pressure due to rising costs and slow revenue growth, the metropolitan retail businesses have performed relatively well in terms of their operational efficiency, customer service and compliance with regulatory obligations. Despite this, there is evidence that further savings are possible either through changes to the structure of the sector or by greater use of shared services.

The potential gross savings from merging into a single retailer are estimated at \$14.3–\$19.9 million per annum. These savings may be overstated, given concerns that moving to a single retailer would lead to some diseconomies and dampen incentives to improve productivity and innovate, particularly in an environment where there are multiple sources of supply. Importantly, there are also significant transition costs and policy implementation risks. Estimates of the transition costs range from \$38 million to \$63 million. Moving to a new retail structure also risks the retailers' current focus on working with customers to implement the Government's water conservation objectives in the period before new sources of supply become available. And moving to a single retailer would complicate any decision to move towards a more contestable market structure for the water sector in the longer term.

In light of these issues in moving to a single retailer, which outweigh the small net benefits, the Commission is seeking comment on two options for change to Melbourne's retail structure. The two options are:

- Three retailers with a shared services arrangement contributing annual net savings of up to \$3 million per annum over two years, and up to \$5 million per annum over three to five years.
- A reduction in the number of retailers to two, possibly resulting in a very small decrease in average water bills over the next five years and with some additional benefits if it also involved a transfer of control of the eastern and western sewage treatment plants to the retailers.

In either case, the Commission is recommending 'accounting ring-fencing' of the retailers' distribution function so better data is available to inform a future decision on separation of the distribution and retail functions. The Commission considers this will be essential to facilitate the option of developing an urban water market in the future.

5 Short term contestability initiatives

5.1 Introduction

The inquiry's terms of reference direct the Commission to identify 'whether, and to what extent, additional benefits could be harnessed through the introduction of further reforms, such as retail contestability, development of competitive urban water markets, etc'.

The Commission addressed this part of the terms of reference by considering:

- the nature of the benefits that further reforms could bring (section 5.2)
- the extent to which contestability is practical and likely to develop in metropolitan Melbourne in the short term (section 5.3)
- modifications to the regulatory and institutional framework that would facilitate contestability (section 5.4).

5.2 Potential benefits from contestability

Water markets have made a substantial contribution in rural Victoria to reducing some of the worst impacts of the drought; for example, by encouraging the movement of water to where it can add the most value. The experience in rural Victoria has shown that contestability and water markets can encourage flexibility and innovation, and a diversity of approaches. While arrangements that work well for irrigation water may not suit a large city, the experience in rural Victoria suggests that it is at least worth considering whether contestability and the development of water markets are feasible in Melbourne.

Similarly, the National Water Commission—responsible for monitoring progress against the National Water Initiative, which all governments have agreed to implement—notes that opening up water markets is one element of successful urban water reform, which:

... depends in particular on successful implementation of the water planning framework, opening up water markets and implementing best practice water pricing and institutional arrangements. (2007b, pp. 69-70)

Contestability can become more beneficial as the potential for innovation increases. It is evident from decisions that the Government has already taken that solutions to Melbourne's supply security problems will involve new resources, such as seawater and recycled water. Participants in the inquiry suggested that stormwater could become an important resource, and this is discussed later in this chapter. There are also likely to be many different ways to supplement the actions that the Government has already taken to manage

demand. Contestability can create incentives to search out and implement the least costly ways of solving Melbourne's water problems.

As the next section shows, however, the extent of potential contestability in the short term in Melbourne is not extensive, and there is limited evidence of the benefits of such contestability initiatives. Nevertheless, there appears scope for some regulatory and institutional reforms which would reduce some impediments to contestability and which could be implemented without significant cost. While such reforms (outlined in section 5.4) would not have a substantial early impact on prices, they would help move towards a more integrated approach to water resource management and would not hinder longer term reforms, should they be desired by government. Chapter 8 describes options that have a longer term focus but does not put forward a view as to which, if any, should be pursued.

5.3 Short term contestability options

The Commission explored the current and short term potential extent of contestability in Melbourne in three areas that it considered most prospective:

- amongst large urban water users
- in greenfield sites
- in sewer mining.

5.3.1 Contestability for urban water users

One area of potential contestability is with respect to urban water users. In the short term, contestability is more likely to be possible for large users, although even in these cases the potential seems unlikely to be substantial. This section outlines the scope for contestability in the short term, with and without a third party access regime. It also considers the scope for contestability at the boundaries between licence areas for existing retailers.

Without third party access

Large consumers

Ring fencing retailers from distribution, as discussed in chapter 4, could enable contestability between existing retailers or, if government policy permitted it, could reduce the barriers for new entrant retailers to compete to provide retail water services to large customers. In the absence of a third party access regime, competitors would not use a current retailer's system to transport water, but would rather buy water from them at the point of connection to customers' properties. In such circumstances, competition would be limited to functions such as billing and meter reading. Without access to different water sources,

competitors would not be able to offer different price and reliability combinations.¹ They would, however, increase pressure on the existing retailer to improve the efficiency of its retailing services.

With competition limited to such a small component of the cost structure, the benefits in the short term are likely to be small. Implementing this proposal may require adjustments to the existing retailers' billing systems, so that they can accommodate customers switching between retailers. There could also need to be specific regulatory requirements, allowing cooling off periods and the like. It would also require that the ESC set wholesale prices at the point of connection to properties, as well as maximum retail prices. Whether competitive entry into retailing is attractive would depend on the 'headroom' between the wholesale and maximum retail prices. An issue that would need to be resolved is whether a new retailer would also be required to take on obligations through a statement of obligations; for example, with respect to water conservation.

The Commission's initial view is that this form of contestability—given that it would be limited to the retail margin—seems unlikely to generate a net benefit after allowing for the costs of putting in place the necessary regulatory and operational arrangements. That said, facilitating this form of contestability could provide an opportunity for learning, which could be built on in the future and which may facilitate innovation.

Greenfield sites

In the absence of a third party access regime, there could be competition to supply infrastructure, water and wastewater services to greenfield developments close to the boundary between the licence areas of metropolitan retailers and/or a non-metropolitan water corporation. The Commission is not convinced, however, that the Government should encourage competition in this form between businesses that it owns. If the government-owned retailers were allowed to compete with each other, this would require particularly intensive shareholder scrutiny by the Department of Treasury and Finance to ensure that such competition did not simply erode shareholder value without necessarily encouraging more efficient business models or behaviour. For the same reason, it is not obvious that there would be benefits from competition between water businesses outside the metropolitan area and the metropolitan retailers.

A possible but less likely situation is where a party other than a retailer has excess water that it could supply without accessing a retailer's distribution network. The *Water Industry Act 1994* (Vic.) does not provide for such situations. It does not

¹ This would not necessarily be true if wholesale pricing were reformed to introduce short run pricing signals (see chapter 8). In this event, new entrants could package short and long run wholesale price signals to provide new tariff structures to large consumers. The ESC is currently reviewing tariff structures, as described in chapter 1.

prohibit an unlicensed person from entering into a water supply agreement with customers, whether large or small, or on a greenfield site or not. In these circumstances the provisions of the *Safe Drinking Water Act 2003* (Vic.) would not necessarily apply (because the Act applies only to 'water suppliers', a term which does not include informal small scale suppliers). However, if the water was to be used for drinking or in food manufacture, some provisions in the *Food Act 1984* (Vic.) would apply, such as the prohibition on supply of unsafe water, since water is a food. Where water supplied in these ways has to meet particular standards appropriate for manufacturing, agriculture or sporting activities, and even in water supply between neighbours, the parties could enter into agreements on the appropriate quality of the water to be supplied.

Given that there are no apparent legislative impediments to competition for greenfield sites, the Commission sees no need for legislative change in this area, but it is difficult to envisage that any competition resulting from such a situation would be other than marginal.

With third party access

More extensive contestability could develop if a suitable access regime were in place (see section 5.4.2). Some possibilities, such as full retail contestability, are at best only likely to become feasible in the long term, and are discussed in chapter 8. In the short term, even with an access regime, the Commission's initial view is that contestability is likely to be limited by a lack of access to water supplies. In the absence of the Government disaggregating the retailers' pooled bulk entitlements and/or reallocating a portion of the entitlement, a large user or greenfield development in the metropolitan area might be able to contract with the holder of a water entitlement other than the retailers, or a small scale producer of water (perhaps from a small scale desalination plant or roof harvesting) may have some surplus water to sell back into the system. In addition, private developers of sewer mining (see section 5.3.2) might see opportunities to sell water to large users or greenfield sites, particularly if they were able to secure access to an existing pipeline carrying recycled water. A further opportunity for encouraging the development of contestability would be to allow the operator of the proposed desalination plant to retail a proportion of the water it produces. However, this plant is not due to be operational until the end of 2011 (Government of Victoria, 2007c).

Should such transactions evolve beyond small scale, they could make the task of centralised optimisation of the supply and demand balance across the system as a whole more difficult, and increase the attractiveness of developing a market mechanism for managing supply and demand balances (see chapter 8).

5.3.2 Contestability for recycled water

As the price of potable water rises, projects to produce recycled water can be expected to become more attractive. Recycling can free up potable water supplies; reduce stress on streams and rivers during a drought; and is a potential source of competition. It can reduce the overall costs of water supply if recycled water has lower costs than alternative water supplies that are either displaced or deferred. It also adds to the diversity of supply sources, and can therefore increase supply security.

Sewer mining

Sewer mining is:

... the process of tapping directly into a sewer (either before or after a sewage treatment plant) and extracting wastewater for treatment and use as recycled water. Some sewer mining by-products may be returned into the sewerage system. (Sydney Water 2007)

Sewer mining is already being undertaken in Victoria. Multiple water reuse technology, developed by Waste Technologies of Australia:

... is being piloted at Flemington (racecourse) through a grant from the Victorian Government's Smart Water fund. Half the size of a standard shipping container, the unit provides localised filtration of sewage through a novel arrangement of standard membranes, without the need for bacterial digestion. (WME 2007)

Another example is the City of Melbourne's new building, which extracts sewage and processes it on site to produce 100kL per day of recycled water for toilet flushing, plant watering, cooling tower make-up, irrigation, filling of council street sweepers and make-up water for council fountains. City West Water does not charge for the sewage extracted, nor does it charge for the pollutants returned to the sewer, on the basis that it is helping to establish a demonstration project. The City of Melbourne paid for the connection to the sewer (which City West Water will maintain) and for the treatment facility (micro-filtration and reverse osmosis), and will be responsible for its ongoing operation and maintenance. The City of Melbourne will develop a recycled water quality management plan and a health and environment management plan to satisfy health and environmental regulators.

These examples are, however, small in scale, and the Commission is not aware of larger commercial projects in the metropolitan area.² Proponents of larger projects might, for example, seek payment from customers for treating their sewage and might sell the recycled water to multiple customers. Sydney Water's sewer mining policy indicates the issues that would need to be resolved, including:

² Larger recycling projects are occurring within or downstream from the wastewater treatment plants.

- determining who manages risks relating to sewage content
- maintaining adequate flows through the sewerage system
- allocating access to sewage (Sydney Water adopts a first come, first served approach)
- responsibility for managing the sewage
- responsibility for connection costs.

Extending the use of sewer mining beyond the small scale own use applications described above would require the further development of regulatory arrangements for the use of recycled water. Third party access to pipelines carrying potable water is not relevant, given the prohibition on direct potable re-use. Third party access to the sewerage system could be relevant, depending on decisions made with respect to property rights associated with wastewater (see section 5.4.1). The scope for a state-based access regime is considered in section 5.4.2. Finally, whether it would be worth developing a regime for access to pipelines carrying recycled water will depend on how the market develops, and whether there are enough customers close to the recycled water treatment plants to justify the investment in expensive pipeline systems. While there appear to be few regulatory impediments to small scale sewer mining in the metropolitan area, Sydney's experience suggests that a number of issues would need to be resolved before larger scale opportunities could be pursued, including:

- the rights framework for wastewater (see section 5.4.1)
- the prices to be paid for sewage and recycled water
- mechanisms for allocating wastewater between competing users.

Given the formative stage of the market for recycled water at the moment, and the Government's clear intention to increase its use, it would be useful to identify the demand prospects for sewer mining, and any regulatory impediments to it, as a precursor to implementing a sewer mining code if appropriate.

The Commission is seeking further information on the demand prospects for sewer mining and any regulatory impediments to it.

5.4 Regulatory reform

While the scope for contestability appears limited in the short term, the Commission assessed two related areas of regulatory reform that could open up opportunities for contestability in the future and help to ensure that it leads to improved outcomes:

- improving the integration of water resource management
- development of a state based access regime.

5.4.1 Improving integration of water resource management

With water potentially supplied from many sources, an integrated approach to water resource management requires that:

... supply from all sources and demand are managed in the best interests of the community as a whole, having regard to alternative competing uses (e.g. urban, irrigation and the environment). (Melbourne Water, sub. 30, p. 11)

Manningham City Council sees:

... integrated water management as an important method providing a range of benefits including providing alternate water to conserve existing water supplies, improving run-off quality (to benefit receiving water ways) and to provide local scale solutions which engage with community. (sub. 52, p. 1)

With surface water under pressure, the importance of alternative supply sources until recently regarded as insignificant is growing. These include:

- seawater
- waste water—increasingly seen as a resource rather than as a waste product
- stormwater—the Stormwater Industry Association (Victoria) noted that annual stormwater run-off into Port Phillip Bay is about 537 000 megalitres per year, which exceeds potable water use of about 400 000 megalitres per year (sub. 28, p. 2).
- groundwater, whose use is being made more attractive by price increases and restrictions on the use of potable water.³

As well as being substitutes for each other in consumption, the production of these different water resources is sometimes interdependent⁴ and they all have environmental impacts, which should be reflected in decisions relating to their use. Contestability could play an important role in bringing forward the best of these different options at the right time and at the least overall cost, but this is more likely to happen if the institutional and regulatory framework takes account of the interdependencies between different water resources.

Integrated water resource management is a large and multi-dimensional issue. Submissions raised three aspects of this issue that relate to the role of the metropolitan retail water sector that is the focus of this inquiry:

- the planning framework (this is discussed in chapter 7)
- definition of water rights

³ Use of groundwater in the metropolitan area is managed by Southern Rural Water (SRW). People who wish to access groundwater are required to secure a licence from SRW, for which they pay a licence fee and a usage charge for the water extracted.

⁴ For example, harvesting stormwater could reduce groundwater, and the use of water influences the supply of wastewater.

- whether the allocation of roles and responsibilities, and incentive arrangements, support integration.

Clarifying urban water rights

The concept of water rights

A prerequisite for the development of water markets is that there are clearly defined rights and obligations attached to the various resources and assets that might be traded in these markets. There are many different types of water resources and water rights. Water resources include water from dams and catchments, rivers and waterways, groundwater, rainwater that falls on private properties, wastewater, stormwater, and manufactured water (such as desalinated water and recycled water). Each has different characteristics that may warrant different rights, or different conditions of ownership or use. For example, water rights associated with a large storage facility might include:

- the legal nature of the holder's rights to draw water from the storage
- volumes that may be drawn as a percentage of the storage capacity, after allowing for environmental flows
- mechanisms for ensuring environmental flows
- obligations to pay a proportionate share of infrastructure costs
- metering arrangements
- allowable uses for the water.

Water rights for recycled water, on the other hand, might include:

- reliability standards
- water quality, health and safety obligations
- risk allocation between supplier and customer
- force majeure or drought provisions
- limitations on on-selling the water.

There can also be rights associated with infrastructure such as storage facilities, pipeline networks, or recycling plants. For example, in a market with third party access to infrastructure, there may be rights to have access to available network capacity in order to transport water. Unbundling of the water commodity from storage rights and environmental management obligations supports a competitive trading market by providing clearer information on costs, risks and opportunities. This in turn allows the potential benefits of a market to emerge; market participants can specialise in particular areas, and there will be incentives to identify opportunities for improvement.

The instruments chosen to describe water rights and their supporting legal and regulatory frameworks should be 'fit for purpose'; that is, appropriate to meet

stated policy objectives (for example, establishing supply reliability standards, environmental management, providing a basis for pricing, and supporting water trading), and to encourage efficient risk allocation. From a regulatory policy perspective, water rights and other related instruments should be designed in line with regulatory best practice.⁵ The point that Marsden (2002, p. 43) makes in relation to property rights seems likely to apply to water rights more generally:

From an economic perspective, all property rights regimes should be defined to be welfare maximising. Optimal regimes therefore differ from situation to situation because underlying costs and benefits vary.

In Melbourne, the rights for different forms of water appear to be at different stages of development. This probably reflects the previously low value of some resources. Wastewater and stormwater, for example, have been thought of as nuisances to be disposed of, rather than as valuable resources. This is now changing, however, with the growing scarcity of water.

Surface water

Surface water is water in waterways and reservoirs. In Melbourne, the retailers have been allocated bulk water entitlements that permit them to take water from the Yarra River up to a diversion limit; to store water in specified reservoirs; and to take their share of the inflow into the storages (Government of Victoria 2006b, p. 11). As noted in chapter 2, these entitlements were also seen as underpinning the allocation of responsibility to the retailers for producing a water supply-demand strategy for Melbourne by early 2007 (Government of Victoria 2006b, p. 89).

The Government's announced system augmentations and interconnections have significantly changed the environment since the pooled bulk entitlements were introduced, and may have implications for the appropriate form of rights for stored water in the metropolitan system. Chapter 8 outlines possible forms for urban water markets, and points out that contractual rights could facilitate the development of such markets. Further refinement of water rights would most likely be required to facilitate the development of urban water markets, should this be desired.

Wastewater

Recycled water is manufactured from wastewater (which includes greywater and sewage). The Government indicated in *Securing our water future together* that it would introduce legislation to clarify the responsibilities of water authorities for recycled water services, and to bring recycled water within the existing water resource management framework (Government of Victoria 2004, p. 144). The *Water (Resource Management) Act 2005* (Vic.) implemented these commitments in

⁵ As set out in chapter 3 of *The Victorian Guide to Regulation* (Government of Victoria 2007).

so far as it clarified that water authority powers and functions extend to the supply of recycled water and that the provisions of the *Water Act 1989* (Vic.) dealing with the assessment of the state's water resources and long range planning encompassed recycled water.⁶

In a number of significant instances recycled water is expressly excluded—to ensure that the statutory rights framework (including bulk entitlements and take and use licences) does not extend to recycled water. *Securing our water future together* envisaged that the rights framework would be extended to wastewater, but it was considered that the supply of recycled water is better managed through contractual arrangements. For example, contracts are better suited to deal with water quality and risk issues. This means that the water resource planning framework extends to recycled water—but the statutory rights framework does not.

The Government has therefore provided some clarification of the rights framework with respect to recycled water, but uncertainties remain. With respect to wastewater, although general principles suggest that any person who captures wastewater is entitled to the recycled water produced from it, there still seems a lack of clarity about rights to the wastewater itself.

Draft recommendation 5.1: That the Government clarify the rights framework with respect to wastewater and recycled water, applying best practice regulatory design principles.

Stormwater

Stormwater is rainfall run-off from urban areas. The Municipal Association of Victoria (MAV) noted that stormwater—a form of wastewater—and recycled wastewater are the most promising alternative supply sources of water, but pointed out that ‘questions about ownership of stormwater undermine councils use of this resource’ (sub. 23, p. 7). The Stormwater Industry Association (Victoria) believes that ‘there is a lack of clarity in legislation surrounding stormwater, especially in relation to property rights’, and that:

... until some of the ownership and allocation (eg. for consumptive use, environmental flow) issues are addressed there will continue to be confusion that will frustrate efforts to effectively use the water and develop innovative environmental solutions. (sub. 28. p. 5)

The Institute of Public Works Engineering Australia (Victoria Division) similarly noted a lack of clarity in relation to ownership of stormwater (sub. 44, p. 1), although the Melbourne Water Research Centre at the University of Melbourne pointed out that the Government's White Paper had allocated ownership of

⁶ It did this by including a definition of recycled water in the Water Act and by clarifying that a reference to ‘water’ in either the Water Act or the Water Industry Act includes a reference to recycled water—unless otherwise specified in the relevant provision.

stormwater for harvesting purposes to Melbourne Water (sub. 41, p. 2). The Southern Metropolitan Regional Management Forum suggested:

A 'stormwater entitlements framework' is required to define roles and responsibilities between water authorities, environment, industry, community and local government. (sub. 50, p. 4)

These submissions and other examples (box 5.1) demonstrate the growing interest in the use of stormwater as a resource. Such developments may be impeded, however, if there is a lack of clarity about the ownership of stormwater, and about regulations relating to its use.

Box 5.1 New ideas for stormwater use

A residential estate

According to Eccleston (2007), the Groves residential estate, near Mernda on Melbourne's northern fringe, has been designed to re-shape the way water flows through the estate, cutting mains water use to 45 per cent less than on conventional developments, stormwater run-off by 65 per cent and wastewater by 24 per cent. Less stormwater run-off will allow for smaller stormwater infrastructure and the overall quality of stormwater run-off is expected to increase. Stormwater offsets have helped to reduce costs and rain water tanks and water-efficient appliances have been mandated in the estate.

A stormwater water factory

A recent article by Heining (2007) noted a proposal that Adelaide could produce half of its drinking water within five years from a system that cleans stormwater naturally, for around 50–60 cents per kilolitre. A giant stormwater drain would channel water through a holding storage and wetland, from where it would be injected into underground aquifers, from which it would be drawn as needed.

Sources: Eccleston 2007; Heining 2007.

The Government has recognised the potential of stormwater, indicating that it expects water businesses to identify opportunities for stormwater use in new subdivisions (Government of Victoria 2004, p. 144). In the Central Region Sustainable Water Strategy, the Government indicated that it had adopted allocation rules for stormwater in urban areas, and that it will develop a detailed set of rules for the pricing and allocation of stormwater as part of the Statewide Urban Stormwater Strategy (Government of Victoria 2006a, p. 61). The Commission understands that preliminary scoping work has been undertaken. The Commission believes that, as for recycled water, although general principles suggest that any person who collects stormwater is entitled to it, the Government should clarify who owns stormwater, responsibilities for providing stormwater

harvesting services, and should bring stormwater within the existing water resource management framework.⁷

Draft recommendation 5.2: That the Government clarify the rights to stormwater and responsibilities for the provision of stormwater harvesting services, and bring stormwater within the existing water resource management framework. In so doing, the Government should apply best practice regulatory design principles.

Groundwater

Extensive use is made of groundwater in metropolitan Melbourne. In the Port Phillip and Western Port region, licences exist to extract more than 42 000 megalitres of groundwater from aquifers each year for commercial and irrigation use (PPWCMA 2004, p. 69). This represents just under 9 per cent of metropolitan Melbourne's average annual water consumption of around 480 000 megalitres (Government of Victoria 2007b, p. 1). There are approximately 9 000 groundwater bores drawing from the aquifers in the region (DSE 2004a, p. 1; DSE 2004b, p. 1).

Groundwater is regulated under the Water Act, whose purposes include the elimination of inconsistencies in the treatment of surface and groundwater resources (s1(f)).⁸ In addition to regulation under the Water Act, groundwater is also regulated under the *Environment Protection Act 1970* (Vic.). The State Environment Protection Policy (Groundwaters of Victoria) was developed to meet community demands for an integrated framework of environment protection goals for groundwater. It aims to maintain and, where necessary, improve groundwater quality to a standard that protects existing and potential beneficial uses of groundwaters. It sets a consistent approach to, and provides quality objectives for, groundwater protection throughout Victoria. This policy overrides all existing groundwater protection provisions in other State Environment Protection Policies.

In its Central Region Sustainable Water Strategy (Government of Victoria 2006a pp. 31–4), the Government specified six 'Actions' with regards to groundwater, to:

- (1) establish environmental reserves

⁷ This framework should be consistent with government policy and legislation, which gives households the right to any stormwater collected in rainwater tanks.

⁸ Provisions on the integrated management of surface water and groundwater are found throughout the Water Act; for example, in the Minister's responsibilities for assessment and accounting for water, which expressly extend to groundwater as well as surface water (s22(2)(a)), and in management plans to ensure equitable management and long term sustainability of groundwater and surface water resources (s32A). In addition, the Minister may make allocations of environmental entitlements from groundwater, as well as from waterways and other sources (s48B). Further, the Minister (or his or her delegate) may issue licences to take and use groundwater as well as water from other sources (s51).

- (2) establish permissible consumptive volumes
- (3) undertake compliance reporting
- (4) ensure aquifers are sustainably managed
- (5) identify and develop underutilised groundwater resources
- (6) where appropriate, issue new entitlements or licences to extract additional water from aquifers.

Considerable progress has been made in implementing these actions. This can, however, be expected to be an iterative process as the Government develops a more integrated framework encompassing all water sources, and ensures arrangements with respect to groundwater are consistent with conservation measures in place from time to time.

Roles, responsibilities and incentive arrangements within an integrated water resource management framework

Many organisations—at all three levels of government and in the private sector—influence outcomes in the metropolitan water sector. The way in which these entities interact—whether they complement each other or not—may have a significant impact on the extent of integration of water resource management and on the quality of outcomes. If different agencies ignore the interdependencies between them, this could lead to over-exploitation of some resources, under-development of others, distorted investment patterns and additional costs for third parties.

A number of processes already exist for improving integration between different organisations in the water sector, for example:

- the Government's approach to water supply planning, described in chapter 2, is intended to encourage an integrated approach
- the statement of obligations requires each retailer to consult with regulatory agencies in developing its water plan; to consult with Melbourne Water about a range of issues; to consult with the other retailers and Melbourne Water in respect to educational material about water conservation; to work with the other retailers and Melbourne Water to review the Metropolitan Water and Conservation and Recycling Plans; to develop in conjunction with the other retailers and Melbourne Water a joint Water Supply Demand Strategy; to ensure that its Drought Response Plan complements and is consistent with comparable plans of the other retailers and Melbourne Water; and to participate with municipal councils in developing domestic wastewater management plans.

Notwithstanding these processes, during the inquiry the Commission has become aware of some cases where structural arrangements or unclear allocation

of responsibilities may discourage an integrated approach to water management. Issues of which the Commission has become aware include:

- responsibility for harvesting stormwater. The Melbourne Water Research Centre believes that ownership of stormwater for harvesting purposes should be assigned to the retailers, which are better placed to work with landholders and councils to access, retrieve and redistribute this water (sub. 41, p. 2)
- responsibility for groundwater. As it is a substitute for surface water, an argument could be made that management of groundwater and surface water should be undertaken within the one organisation
- different standards between retailers may add to third party costs. The Master Plumbers and Mechanical Services Association of Australia noted that technical, business and application standards can vary between the retailers and that consistency would ‘significantly improve the efficiency of the sector’ (sub. 31, p. 4). Similarly, the Commission was told that differences between retailers in their approaches to new developments more generally adds to costs
- responsibility for managing trade waste. Chapter 4 pointed out that difficulties in negotiating arrangements between the retailers and Melbourne Water for accepting trade waste impose costs and delays by complicating the process of reaching agreement on issues.

The Commission has not been able to assess the arrangements for harvesting stormwater and groundwater.

The Commission seeks information about the impact on integrated water resource management of the allocation of responsibilities for harvesting stormwater and groundwater.

The Commission has not received evidence about the size of the additional costs imposed by different technical standards, or about any benefits from them. It is also possible that the retailers have implemented different approaches in response to differences that they face in relation to general planning policies and council requirements⁹, which are beyond the retailers’ control.

The Commission believes, however, that it would be useful for the retailers to:

- compare their approaches and assess opportunities for streamlining their processes in dealing with developers and plumbers
- remove any unnecessary differences between them in standards that they impose on developers and plumbers.

⁹ The Commission also recognises that general planning policies and council requirements (for example, house design and local drainage) may impact more broadly on water resource management. A detailed examination of these issues is beyond the scope of this inquiry.

Draft recommendation 5.3: That the retailers:

- compare their approaches and assess opportunities for streamlining their processes in dealing with developers and plumbers
- remove any unnecessary differences between them in standards that they impose on developers and plumbers.

In relation to trade waste, a number of options have been suggested for improving current arrangements (box 5.2). The Government established a trade waste review in December 2005 to examine options such as these, but it has not yet reported. Considerable discussion has been undertaken about some of these issues, but others, such as the role of market instruments, may require more time as the work is innovative. While it is beyond the scope of this inquiry to address all issues related to trade waste, the Commission believes that the Government should seek to finalise the trade waste review within twelve months, with scope for consideration of the use of market instruments to continue beyond this date.

Draft recommendation 5.4: That the Government finalise the trade waste review within twelve months, clarifying accountabilities and regulatory arrangements, with scope for consideration of the use of market instruments to continue beyond this date.

Box 5.2 Options for improving the management of trade waste

Research

The Australian Industry Group (AIG) suggested that research into the contribution of discharges including trade waste to the treatment system is needed (sub. 55, p.13).

Policy framework and accountabilities

Government objectives in relation to recycled water are an important determinant of the willingness of retailers and Melbourne Water to accept trade waste. Melbourne Water proposed that the Government should:

Translate policies relating to sustainable trade waste into clear and common objectives and obligations for all stakeholders and to establish a clear link between trade waste policy and the drivers of change... (sub. 30, p. 21)

The AIG believes targets should be prioritised, in order to give guidance to regulators and trade waster customers (sub 55, p. 14).

Governance

At present, the Department of Sustainability and Environment sets policy and is the regulator of trade waste acceptance standards (Melbourne Water, sub. 30, p. 21). Melbourne Water suggests that these roles should be separated by assigning the role of technical regulator for trade waste to EPA Victoria (sub. 30, p. 21). The AIG believes an independent body should be responsible for trade waste acceptance

standards and that there should be scope to appeal trade waste decisions to an independent authority (sub.55, p.14).

Regulatory reform

The statements of obligations require retailers to accept trade waste that meets standards that are attached to the statement. Retailers can enter into agreements to accept trade waste that does not comply, but must obtain Melbourne Water's consent, if this is required by the Bulk Sewage Agreement (for example, clause 21.5, in City West Water's statement of obligations). Given the importance of these standards, there is a case for them to be set after transparent scrutiny of their costs and benefits. In chapter 7 the Commission recommends that obligations in the statements of obligations should be subject to a regulatory impact statement process or equivalent before being introduced.

Structural change

As discussed in chapter 4, City West Water (sub. 15, p. 25) has proposed a 'sustainability model' which would bring together water and wastewater treatment within one organisation in order to improve coordination of decisions relating to acceptance of trade waste into the sewerage system.

Pricing

The ESC's draft report on water tariff structures (2007g, pp. 48-49) considers proposals for basing trade waste fees on the risk profile of the customer, changing the pollution load parameters reflected in variable charges, and introducing differential charges based on to which treatment plant customers discharge.

Use of economic instruments

The charging regime for trade waste is designed to recover costs incurred by the retailers and Melbourne Water in treating waste from trade waste dischargers. The issues paper for the trade waste review notes that this raises many issues around what the charges are intended to achieve, who should pay, the impacts on industry viability, and whether there are more cost effective ways to reduce pollution loads. The issues paper also mentions other approaches, such as cap and trade permits, which could warrant further examination. The AIG has a range of suggestions for improving trade waste charging (sub. 55, p. 15).

5.4.2 A state-based access regime

Several submissions have indicated that there could be benefits from Victoria developing an access regime:

- Yarra Valley Water argued that development of a state-based access regime will improve the effectiveness of the water sector, irrespective of structural form (sub. 36, p. 3).
- South East Water argued that 'the benefits associated with third party access potentially include the promotion of efficient entry, competition in

potentially competitive parts of the networks and additional pressure for efficient transportation costs' (sub. 34, p. 48).

- Melbourne Water, on the other hand, noted that an access regime would be a necessary part of the introduction of competition to the sector, but suggested that the benefits of this approach may be modest (sub. 30, p. 20).

Access regimes are intended to address situations in markets where there are facilities that cannot be replicated in an economically efficient manner. Where the owners of such facilities operate in related markets, they may have an incentive to deny access to their facilities or to offer access on terms and conditions which make entry unattractive. By putting in place transparent and cost effective access regimes, governments can facilitate the more efficient use of infrastructure services.

Under Part IIIA of the Trade Practices Act (TPA) a regime has been established to facilitate third parties obtaining access to the services of certain facilities of national significance. This regime is part of an integrated national competition policy, which was agreed between the Commonwealth, State and Territory governments in the 1990s.

The TPA specifies three main routes through which third parties may gain access to the services of facilities:

- declaration by the responsible minister of the services of a facility after recommendation by the National Competition Council (NCC), with subsequent arbitration of the terms and conditions of access by the Australian Competition and Consumer Commission (ACCC)
- the States or Territories can develop effective access regimes for certification under the TPA
- undertakings setting out the terms and conditions on which third parties may obtain access can be developed by the owners of facilities and accepted by the ACCC.

In the case of the Melbourne metropolitan water system, declarations with respect to any infrastructure, including dams and storage facilities, treatment plants and pipeline networks, would only be possible if a number of tests specified in sections 44G(2) and 44H(4) of the TPA are satisfied. While this issue has not yet been formally considered, the recent Services Sydney case suggests that access could be sought, and declared, with respect to at least parts of the Melbourne metropolitan water network.

The Commission believes that a state-based access regime can facilitate the efficient use of the metropolitan water and wastewater infrastructure. Further, the Commission recognises that the possibility that access may be declared under the TPA provides impetus for the development of a state-based access regime.

If Victoria does not develop its own access regime, it may find that one is developed piecemeal through applications by third parties with respect to specific parts of the network. Moreover, the lengthy dispute between Services Sydney and Sydney Water, extending over more than three years so far, demonstrates that significant time and resources could be absorbed by access claims. City West Water (sub. 15, p. 29) and Yarra Valley Water (sub. 36, p. 23) both pointed out that a state-based access regime could reduce the delays inherent in using the provisions of Part IIIA of the TPA.

With a substantially rising price of water, new sources of supply, and an increasingly interconnected pipeline system, the probability that a third party will seek access with respect to parts of the network appears likely to increase. In this context, the Commission believes that Victoria could avoid the risks associated with ad-hoc developments under the TPA by developing its own state-based access regime.¹⁰

Such a state-based regime would be capable of providing a framework for considering the net benefits of specific access proposals, greater certainty as to the scope of its application, and potentially simpler administrative arrangements by which access may be obtained.

Draft recommendation 5.5: That the Government develop an access regime for water and wastewater infrastructure services.

It is beyond the scope of this inquiry to determine the precise form that such a state-based access regime should take. However, the Commission notes that key elements of any such regime will be:

- specification of the assets that the regime covers
- identification of the responsibilities of network operation and maintenance
- requirements for eligible users of the network
- mechanisms for allocating access rights
- identification of responsibilities for approving, undertaking and financing expansion of the network
- methodology for access pricing
- specification of service quality standards
- responsibility for network balancing and associated costs
- methodology for estimating system losses
- procedures for dispute resolution.

¹⁰ The Economic Regulation Authority has reached a similar conclusion in its inquiry on competition in the water and wastewater services sector in Western Australia, concluding that there is potential for benefits in the form of increased competition in the non-natural monopoly segments of the sector from implementing a state-based third party access regime (ERA 2007b, p. 65).

Of particular importance will be the methodology for access pricing. The experience with Services Sydney illustrates the issues that may be in contention (box 5.3).

Box 5.3 Access pricing: the Services Sydney case

Services Sydney proposed a bottom-up building block approach to pricing access, which would calculate the price of access based on blocks of costs such as capital costs, operating and indirect costs. Sydney Water, on the other hand, proposed a 'retail-minus' methodology, which would calculate access prices by subtracting from retail prices the costs of contestable activities associated with supply in the downstream market. Sydney Water also sought a contribution towards the maintenance of the uniform price of sewerage throughout the Sydney region. The ACCC, in the first application of access pricing to the water and sewerage industry in Australia, determined that the access price is to be Sydney Water's regulated retail price minus Sydney Water's avoidable costs, plus any facilitation costs associated with providing access. Services Sydney has applied to the Australian Competition Tribunal for a review of the determination made by the ACCC.

Source: West Australian Department of Water (2007, pp. 23–6).

The Economic Regulation Authority of Western Australia, in its inquiry into that state's water sector, has reviewed different access pricing methodologies, and has endorsed the retail minus avoidable cost approach recommended by the ACCC, while stressing that it is essential that avoidable cost be calculated in a way that recognises option value and opportunity cost (ERA 2007b, p. 68).

The Commission seeks information on the appropriate pricing methodology to be used in an access regime for water and wastewater infrastructure services.

6 Options for non-structural reform

The inquiry's terms of reference require the Commission to make recommendations regarding options to reduce the costs of the sector whilst maintaining and improving the level of service over time, and ensuring it remains innovative and financially viable.

This chapter considers non-structural measures that could be implemented to reduce both the need for retail price increases and the price differentials emerging between the retailers, taking into account the Essential Services Commission's (ESC's) advice on the proposed price increases and expected adjustments. The options considered are:

- (1) revising the allocation of costs across the sector either through changes to the allocation of Melbourne Water's bulk supply costs and/or changes to the allocation of retailer costs (section 6.2)
- (2) financial measures involving adjustments to components of the regulatory framework (weighted average cost of capital (WACC), regulatory asset value (RAV) and regulatory depreciation) (section 6.3)
- (3) implementing a system of transfer payments between the retailers (section 6.4).

6.1 Proposed price increases and expected adjustments

When the Government released *Our water our future: the next stage of the Government's water plan* in June 2007, it indicated that it expected the average water bill in Melbourne to double in real terms by 2012 (Office of the Premier 2007b). An increase of about 14.8 per cent per year would double prices in real terms over a five year period. The initial pricing proposals of two of the three retailers, City West Water and Yarra Valley Water, were above the cap foreshadowed by the Government and would lead to a widening gap between prices across Melbourne.

On 14 August 2007, the Minister for Water announced that the ESC would be asked to approve a 14.8 per cent real increase in water prices from 1 July 2008 (Office of the Premier 2007c). The retailers submitted revised average annual price increases to the ESC, based on the existing tariff structures, as reflected in table 6.1 below. A preliminary assessment undertaken by the ESC, involving a desk top review of the retailers' pricing proposals¹ and taking into account the

¹ That is, the retail businesses' expenditure and demand forecasts.

Government’s announcement that sea water desalination will be delivered via a public private partnership (PPP), suggests that a 14.8 per cent interim price increase for 2008-09 is generally consistent with the likely five year outcomes from a full price review (sub. 56, p. 3).

6.1.1 Delivery of desalination plant via PPP

On 19 September 2007 the Government announced delivery of the seawater desalination project foreshadowed in *Our water our future: the next stage of the Government’s water plan* via a PPP (Office of the Premier 2007d). This has the effect of deferring expenditure by Melbourne Water and reducing the required increase in bulk charges for water and sewerage over the five years to 2012-13. The expected impact on the proposed price increases of the retailers is set out in table 6.1 below.

Table 6.1 Average annual real retail price increases (2008-09 to 2012-13)

	<i>City West Water</i>	<i>South East Water</i>	<i>Yarra Valley Water</i>
	%	%	%
Submission to ESC based on current tariff structures	19.1	14.8	21.9
Submission to ESC adjusted for PPP	16.6	13.8	19.9

Source: Sub. 56, p. 4.

6.1.2 Retailers’ expenditure

Having conducted a preliminary assessment of the retail businesses’ proposed customer service levels, operating expenditure and capital expenditure, the ESC formed views on the robustness of these forecasts and the potential for adjustment (sub. 56, p. 3).

The ESC noted the strong record of the retail businesses in delivering service enhancements and improving service delivery. Given the application of an interim price increase, its own review of tariff structures and the Commission’s review of industry structure, the ESC was of the view the retailers should treat the coming year in a ‘business as usual’ manner rather than implementing major service enhancements. On these grounds, the ESC suggested reductions in proposed expenditure on major service initiatives, new billing systems, new offices, increasing guaranteed service level (GSL) payments and CO₂ emission reductions (sub. 56, p. 5).

In terms of business as usual operating expenditure, the ESC recognised that there are some common drivers increasing costs, including expectations about electricity pricing, wage growth, IT support costs, contract and labour rates for contractors, and the introduction of increased demand and conservation programs. However, the ESC also suggested there may be scope to reduce future operating expenditure if conservation expenditure is reduced in the second half of the regulatory period (following water supply augmentation), and higher productivity savings are identified. In addition, the ESC corrected for overstatement of the Environmental Contribution payable by the retailers (sub. 56, pp. 5-6).

The ESC noted the scale of the capital expenditure program of Victoria's industry in the coming regulatory period. The ESC suggested that businesses will be competing against each other for resources, material and contractors—highlighting the need to identify and prioritise programs across Victoria and the opportunity for the businesses to review the timing of expenditure. While the ESC did not quantify any reductions to capital expenditure forecasts, it noted the impact of the timing and delivery of capital expenditure on final prices. For example, a deferral of ten per cent of capital expenditure from the first two years to the last two years of the regulatory period has the effect of a 0.1 to 0.2 per cent decrease in retail prices (sub. 56, p. 7).

The ESC's range of potential adjustments to the expenditure forecasts of the retailers are set out in table 6.2 below.

6.1.3 Demand forecasts

As set out by Yarra Valley Water (2007a, p. 32), forecasts of demand for water and sewerage services are critical as they establish the size of the services expected to be delivered by the retailers (and Melbourne Water upstream). As the retailers recover their revenue requirement through a combination of the prices they propose to charge and quantity of water they believe they will sell,² changes in demand forecasts result in changes to forecast retail prices. This issue is of particular importance to the Commission as the Terms of Reference require the Commission to consider the implications of demand variations for pricing strategies and capital investment.

In the 2005 *Central region sustainable water strategy* (CRSWS), the Government indicated that it would set water conservation targets to reduce total per capita water use across the region by at least 25 per cent (compared to the 1990s average) by 2015, increasing to 30 per cent by 2020 (Government of Victoria 2006a, p. 4). In addition, the Government committed to exploring

² That is, revenue = price x quantity sold.

alternative options to encourage sustainable use by industry prior to the next pricing determination (Government of Victoria 2006a, p. 49). Each retailer prepared demand forecasts with the objective of meeting the CRSWS target, and the draft water plans include substantial expenditure on additional measures such as recycling, education and appliance replacement. According to the ESC (sub. 56, p. 8), from 2005-06 to 2012-13 City West Water is projecting falls in water demand of 19 per cent,³ South East Water is projecting ten per cent and Yarra Valley Water 16 per cent.

The ESC noted that, while the demand forecasts have been prepared on a rigorous and thorough basis consistent with current Government policies and targets, they have been prepared on a conservative basis. Components of the forecasts that appear conservative include (sub. 56, pp. 8-10):

- *Restrictions*: The ESC suggested that, in the short term, forecasts of household usage may be slightly overstated, but over the full regulatory period assumptions about restrictions and total usage are pessimistic.
- *Inflow assumptions*: In accordance with the requirements of the CRSWS, forecasts have been prepared on the basis of the low-inflow assumptions in the CRSWS. The ESC suggested that, while these assumptions may be suitable for contingency planning, regulatory pricing would more appropriately use likely or average inflow assumptions, rather than a 'worst-case' scenario.
- *Water supply augmentations*: While the ESC recognised that future storage levels and Government policy will determine whether restrictions will be relaxed once the supply augmentations are operational, it stated that it may be reasonable to expect an easing of restrictions and an increase in residential consumption from 2010-11 in particular.
- *The CRSWS*: Given the major changes to the regions demand-supply balance expected to occur as a result of the proposed supply augmentations, the ESC suggested that the CRSWS may be reviewed earlier than anticipated (originally 2012). This could mean that some of the targets contained in the CRSWS, such as the reductions in per capita usage, could be relaxed to reflect improved supply conditions. In this case demand is likely to be higher than the retailers have forecast.
- *Elasticity of demand*: As part of making demand forecasts, the retailers take account of the impact of higher prices on the quantity of water demanded.⁴ The ESC noted that elasticity of demand adjustment had not been made by

³ The majority of this decrease is from non-residential customers.

⁴ The 'elasticity of demand' measures the demand response of customers to a change in the price of a good or service. For example, if the elasticity of demand is -0.2, a ten percent increase in price will reduce demand by two per cent.

Yarra Valley Water to adjust between its original forecast and the revised 14.8 per cent forecast.

- *Customer growth*: The ESC suggested that the retailers' customer growth forecasts may be conservative given the latest data from the Australian Bureau of Statistics and that growth rates appear understated, in particular for Yarra Valley Water and South East Water.

The potential adjustments to demand and expenditure forecasts suggested by the ESC in terms of the impact on proposed retail price increases, are shown in table 6.2 below.

Table 6.2 Average annual real retail price increases (2008-09 to 2012-13)

	<i>City West Water</i>	<i>South East Water</i>	<i>Yarra Valley Water</i>
	%	%	%
Submission to ESC based on current tariff structures	19.1	14.8	21.9
Submission to ESC adjusted for PPP	16.6	13.8	19.9
<i>Potential adjustment to expenditure forecasts</i>	0 to -0.8	0 to -0.3	0 to -1.2
<i>Potential adjustment to demand forecasts</i>	-1.8	-1.9	-2.3
ESC preliminary view of required price increase (lower end of range)	13.9 ^a	11.7 ^a	16.4

^a These figures are taken directly from the ESC's submission to the inquiry and do not sum exactly due to rounding.

Source: Sub. 56, p. 4.

The Commission has reviewed the ESC's findings and supports the conclusions it has reached with respect to the impact of variations in demand on price outcomes. Further, the Commission has not found any evidence to suggest that changes in the demand forecast would have any material impact on the planned capital expenditures—either by the retailers or Melbourne Water—over the next five years. However, the Commission recognises that, in extreme instances, if actual demand is lower than forecast then lower than expected revenues may be realised.

6.2 Cost allocation

The allocation of the costs of water and sewerage services in Melbourne affects the extent to which price differentials exist across the retailers. While the retailers currently have different prices (see chapter 2), prices comply with the regulatory framework administered by the ESC. The proposed price increases contained in the retailers' draft water plans would significantly increase this differential. In its submission to the inquiry, Yarra Valley Water indicated that price differentials between the retailers were being driven by a number of factors, in particular the allocation of Melbourne Water's costs and the extent of its capital works program compared to the other two retailers (sub. 36, p. 27).

6.2.1 Allocation of Melbourne Water's costs

The allocation of Melbourne Water's costs involves recovering from the retailers the costs associated with existing (sunk) assets, and the costs associated with capital and operating expenditure incurred over the coming regulatory period. A disaggregated cost model is used to identify the future costs associated with each major component of the water and sewerage systems, and assigns those costs to retailers based on the proportion of their respective volumes. The allocation of sunk costs (or assets) currently involves a 'line in the sand' approach under which Melbourne Water's asset value was adjusted to the RAV and allocated between the retailers based on their proportion of 1998 demand. The treatment of future and sunk costs is considered further below. Melbourne Water subsequently recovers the costs allocated to each retailer through a combination of fixed and variable charges (that is, a two-part tariff), with variable charges representing the long run marginal cost of service provision.

Nine cost allocation principles guided the development of the revised water and sewerage average cost models used in preparing Melbourne Water's Draft 2008 Water Plan (see Box 6.1). The principles were developed by a working party involving Melbourne Water, the retailers and DSE, with ESC oversight.

Box 6.1 **Melbourne Water cost allocation principles**

- costs should be apportioned based on system use (e.g. the distance water is transported, assets used and the volumes provided)
- costs should be disaggregated to appropriate system elements (e.g. the headworks, transfer and treatment elements of the water supply system)
- disaggregated costs should be allocated to retail customers based on relevant cost drivers
- for water services the relevant cost driver is volume consumed
- for sewerage services the relevant cost drivers are sewage volume and pollutant load
- future capital and operating costs should be allocated using retail water business forecasts of volume and load
- sunk asset costs should be allocated using existing asset shares consistent with a 'line in the sand' approach
- future capital and operating costs should be assigned to system elements and allocated based on benefits (as measured by forecast volumes and loads) received over the relevant regulatory period
- allocated costs should be total costs over the whole regulatory period.

Source: Sub. 30, p. 34

The Commission notes that this is one set of potential cost allocation principles, broadly derived from an overarching objective to allocate costs on a causal basis, with no indication of what weight should be placed on each principle. The Commission further notes that there is no single methodology for allocating costs correctly and other allocation principles exist—for example, to facilitate an integrated water management framework.

Allocation of Melbourne Water's sunk costs

The proposed allocation of Melbourne Water's sunk costs involves the recovery of depreciation and return associated with assets constructed prior to the start of the next regulatory period (i.e. before July 2008). These assets represent a major component of costs in the cost allocation model. Estimates of the written down replacement cost of these assets had been used in Melbourne Water's cost allocation model, but the model was revised to reflect the (significantly lower) RAV set by the Government.

Given the cost shares faced by the retailers are based on their use of the different parts of the system, changing the relative values of the different system elements would impact on their overall cost shares. Therefore, to avoid major price shocks for individual retailers, the RAV was allocated to system elements to retain their relative proportion of total asset value.

For example, if the water transfer assets represented 30 per cent of the asset value underpinning the current cost shares, then water transfer assets received 30 per cent of the water RAV. If a particular water supply zone represented five per cent of the transfer system asset value underpinning current cost shares, then it was allocated five per cent of the water transfer RAV. The costs associated with the RAV (i.e. depreciation and return) have been allocated to the retailers using historical (1998) volumes. Under this approach, Yarra Valley Water bears 42 per cent of the costs associated with sunk assets, City West Water 24 per cent and South East Water 34 per cent (Melbourne Water 2007).

In its submission to the inquiry, City West Water questioned whether sunk costs should be apportioned on the basis of historical or future volumes, suggesting:

... it could be argued that sunk costs allocated based on historical asset shares and volume are effectively creating an exit fee. Thus, should CWW reduce its utilisation of MWC's sunk cost assets relative to the other retailers, it receives no financial reward (sub. 15, p. 42).

Melbourne Water has indicated that it was originally planned to use forecast volumes to allocate all costs, but customer impacts and the potential for material changes in cost shares (both initially and over time) have resulted in the differential treatment of sunk asset costs, and further capital and operating expenditure, using a 'line in the sand' approach.

The Commission notes that a precise allocation of sunk costs is not necessary for efficiency, and efficiency may in fact permit a wide band of apportionment.⁵ The general principle applying to sunk cost recovery is that, to minimise the impacts on efficiency and future investment decisions, charges for sunk costs should be fixed and unavoidable.⁶ Thus economic theory suggests it would not be appropriate to allocate sunk costs (in this case the regulatory depreciation and return associated with existing assets) on the basis of future demand.

5 For example, one approach to the recovery of sunk costs is a two-part tariff structure where fixed capital costs are recovered through a fixed charge component, while any immediate (short run) marginal costs of service provision are recovered through a variable charge component. This approach can serve to minimise potential distortions in the use of infrastructure because once the fixed fee is paid, decisions on service use relate entirely to the variable cost component. If this component is based on the marginal cost of service, consumption and production decisions should be consistent with efficient outcomes. An alternative approach is to set charges on the basis of Ramsay pricing principles, which allocate sunk costs on the basis of relative willingness to pay between users of the particular services. While Ramsay pricing, in theory, provides correct signals to maximise efficiency in the use of infrastructure, it is rarely applied in practice because of the informational requirements necessary to estimate individual customers' willingness to pay.

⁶ See, for example, the Harvard Energy Policy Group (<http://www.ksg.harvard.edu/hepg/index.html>), who contend that for economic efficiency, sunk costs should be allocated in a way that does not distort new investment decision-making: future actions should be unaffected by the recovery of sunk costs, because they have no effect on those sunk costs. Because of their nature, the economically most efficient sunk cost allocation methodology is to recover the full efficient sunk costs over the lifetime of the assets through fixed and unavoidable (i.e. mandatory) charges.

The Commission has examined changes in demand shares since 1998. By way of comparison, in 2004-05 shares in water demand were 25 per cent for City West Water, 36 per cent for South East Water and 39 per cent for Yarra Valley Water (NWC and WSAA, 2007, pp. 99, 123, 135). The Commission has estimated that a reallocation of sunk costs in line with 2004-2005 demand shares⁷ would reduce Yarra Valley Water's real annual retail price increase by about 0.5 per cent while increasing City West Water's by about 0.4 per cent and South East Water's by about 0.3 per cent.

The Commission supports an allocation of sunk costs in line with more recent historic demand shares. The Commission further notes that the allocation of sunk costs could be used more broadly to achieve the desired degree of pricing parity between the retailers. However, to avoid distorting or reducing the incentives for the retailers to operate efficiently, the Commission is of the view that a reallocation of sunk costs should be a one-off, up-front adjustment.

Draft recommendation 6.1: To achieve greater pricing parity in the future and a more appropriate allocation of costs, the Government direct Melbourne Water to allocate sunk costs on the basis of 2004-05 demand shares.

Allocation of Melbourne Water's future costs

Broadly speaking, the cost allocation model determines the relative proportions of Melbourne Water's future costs that are attributable to the services provided by water headworks, water transfer, sewage treatment and sewage transfer assets respectively.⁸

The proposed allocation involves 'pooling' water headworks costs and allocating them according to the forecast aggregate volumetric demand of each retailer. According to the ESC (sub. 56, p. 10), Melbourne Water has proposed a single usage price for headworks across all of the retailers from 2008-2009, to reflect the fact that the businesses benefit from security of supply provided by the headworks system as a whole.

The future costs associated with the water transfer system are allocated on the basis of asset utilisation. For example, if a retailer represents 50 per cent of the

⁷ 2004-05 was applied as it is consistent with the timing of the determination of the RAV allocations to the retail businesses.

⁸ Water headworks are the assets used to harvest stream flow from the catchment areas and store it until required for supply to customers. Water transfer assets are service reservoirs and the mains and pipelines that transport water to the retail businesses. Sewerage infrastructure comprises network or transfer assets (catchments and major transfer pipelines) and the two major treatment plants (Eastern and Western Treatment Plants).

annual volume through a supply zone, then they will be allocated 50 per cent of the operating and capital costs associated with that zone.

For wastewater, the costs associated with each treatment plant reflect the nature of the treatment process used. Treatment costs are subsequently allocated to the retailers sending sewage to each particular plant on the basis of volume and load. Similar to allocation of the water transfer system, the costs of the sewage transfer system are allocated to the retailers based on each retailer's contribution to total annual flows through each sewerage basin.

As recognised by City West Water, the allocation of Melbourne Water's future costs in this way mitigates against pricing parity by adopting a causal approach to allocation (the need for which was identified by the ESC in its first price determination in 2005) (sub. 15, p. 6). Given the lumpy nature of investment in each retailer's geographic area and the fact that changes in demand will vary between the businesses, the expected outcome is non-uniform cost allocations in any given regulatory period. In addition, the methodology does not specifically account for the fact that investment in sewage treatment is in large part driven by the objective of releasing potable water for alternative use.

Adopting an integrated water management principle

As noted by Yarra Valley Water, there is no single, objectively correct allocation methodology that must be adopted in order to achieve efficient outcomes (sub. 36, p. 84). In its submission to the inquiry Yarra Valley Water indicated that:

... a significant proportion of Melbourne Water's forecast capital expenditure (in particular, sewerage capital) relates to environmental compliance obligations ... The benefits from increased expenditure to meet environmental compliance obligations are enjoyed by all Melburnians. The widespread community benefit from this expenditure implies that it may not be appropriate to allocate costs differentially across the metropolitan retailers (sub. 36, p. 82).

The Commission supports this view and believes that, given the benefits of sewerage system upgrades can accrue outside an individual retailer's geographical area of supply, a more equitable allocation of these costs may involve apportioning them across all customers in the metropolitan area on a beneficiary pays basis. Under this approach, those costs incurred by an individual retailer that have beneficiaries outside the retailer's boundary would be allocated across all retailers whose customers receive a benefit. This contrasts with the current user pays approach, under which costs are allocated based on each retailer's use of the system, e.g. the distance over which water is transported, the assets used and the volumes provided.

In its submission to the inquiry, Melbourne Water examined a number of options for reforming the allocation of future costs, all involving increasing the

degree of pooling of bulk supply costs while reducing reliance on user pays. Melbourne Water specifically examined:

- spreading Melbourne Water’s Northern Sewerage capital costs over all retailers (option 1—which would deliver a 1.2 per cent difference in average bulk supply charge increases faced by retailers)
- allocating all future compliance capital costs in proportion to total water and sewage volumes (compliance costs are those costs associated with new standards covering, e.g., water augmentation, Eastern Treatment Plant, sewer transfer system) (option 2—0.7 per cent difference)
- allocating all future sewage treatment plant costs in proportion to total sewage volume and loads (i.e. ‘pooling’ the costs of sewage treatment plants in a similar way to water headworks costs) (option 3—3.7 per cent difference)
- allocating all future costs in proportion to total water and sewage volumes (option 4—0.4 per cent difference) (sub. 30, p. 36).

The estimated impact of these options on Melbourne Water’s proposed increases in bulk supply charges is shown in Table 6.3 below. While these options would not reduce the total forecast increase in Melbourne Water’s costs, they would decrease the differences in bulk supply charges faced by each retailer.

Table 6.3 Impact of alternative cost allocation methodologies on average annual real bulk supply charge increases (2008-09 to 2012-13)

	City West Water	South East Water	Yarra Valley Water	Average	Range
Draft 2008 Water Plan (user pays)	26.60%	25.00%	29.30%	27.30%	4.30%
Revised price increases (user pays)	21.80%	22.90%	24.70%	23.50%	2.90%
Options (greater use of beneficiary pays)					
1. Northern Sewerage Project capital cost spread over all retail water businesses	22.50%	23.60%	23.70%	23.50%	1.20%
2. Future compliance capital costs allocated in proportion to total water and sewerage volumes	23.60%	23.00%	23.70%	23.50%	0.70%
3. Future sewage treatment plant costs allocated in proportion to total sewage volumes and loads	24.70%	21.00%	24.70%	23.50%	3.70%
4. All future costs allocated in proportion to total volumes	23.60%	23.20%	23.40%	23.50%	0.40%

Note: Revised price increases adjust for seawater desalination delivered as a PPP, actual rather than forecast 2006-07 expenditures and a correction to the allocation of water headworks costs.

Source: Sub. 30, pp. 35-36.

City West Water noted, that as it is Melbourne Water's future costs that are allocated on a causal basis (rather than sunk assets), any changes in cost allocations are likely to have a small effect on retail prices. By way of example, the Commission has estimated that option 4 (which allocates all future cost on the basis of volumes and involves the least disparity in bulk supply charges possible) reduces Yarra Valley Water's real annual retail price increase by about 0.6 per cent while increasing City West Water's by about 0.8 per cent and South East Water's by about 0.2 per cent.

As a result of the cost allocation methodology proposed by Melbourne Water, the charges imposed for bulk water and sewerage services vary between retailers. Capital expansion and a more interconnected water system in the future may cause bulk supply prices to diverge even further, especially if locational price signals are pursued in the recovery of the costs associated with the water and wastewater transfer systems. An alternative option would be for the costs of bulk supply to be treated 'more holistically' and for the charges paid by retailers to move in line with overall system costs. In this way these infrastructure costs could be 'smoothed' across all customers more equally. This approach is consistent with option 4 in the above table.

The Commission recognises that the adoption of an integrated approach to water management will result in some projects having multiple drivers, e.g. compliance and growth, and that isolating the point at which beneficiary pays should end and recovery of the costs associated with the other driver (in this case growth) should start is very difficult. The Commission considers that future bulk supply costs should be allocated across the system, according to volume, in line with a more integrated approach. This will avoid future price differentials between the retailers arising as a result of incremental bulk supply investments.

The Commission recognises that such an approach would mute efficient pricing signals. However, as the interconnected supply system becomes larger and more complex, so does the task of identifying and attributing costs. Importantly, there would still be scope for efficient price signals to be sent through the volumetric component of retail tariffs and the levying of one-off network augmentation charges.⁹ The Commission further considers that the incentive for the retailers to overestimate bulk supply requirements under a more integrated approach is outweighed by the review of expenditure undertaken as part of the ESC's price determination process, and the avoidance of repeated interventions and adjustments to cost allocation in the future.

⁹ For example, where an individual user chose to locate somewhere or consume/discharge in a way that would, in the absence of such a charge, lead to an increase in average prices for all users.

The Commission notes that the allocation of costs on this basis has implications for the introduction of third-party access to infrastructure. The potential for less cost reflectivity in respect of bulk supply services under a more integrated approach can increase the risk of third-party entrants offering services to those customers that are cheaper to serve than the average ('cherry-picking'). This may, in turn, have significant price impacts for the incumbent's remaining customer base. However, the effect is highly dependent upon the methodology used to price access to the infrastructure. As set out in chapter 5, this is an issue that will need to be addressed in the process of developing a state-based access regime.

Draft recommendation 6.2: To achieve greater pricing parity in the future and a more appropriate allocation of costs, the Government direct Melbourne Water to allocate all future costs across the bulk supply system according to volume.

The potential impact on required retail price increases of the Commission's proposed changes to the allocation of Melbourne Water's bulk supply costs are set out in table 6.4 below.

Table 6.4 Potential average annual real retail price increases under revised bulk supply charge allocation (2008-09 to 2012-13)

	<i>City West Water</i>	<i>South East Water</i>	<i>Yarra Valley Water</i>
	%	%	%
ESC preliminary view of required price increase (lower end of range)	13.9	11.7	16.4
<i>Reallocation of MW sunk costs on 2004-05 demand shares</i>	0.4	0.3	-0.5
<i>Allocation of MW future costs based on forecast volumes</i>	0.8	0.2	-0.6
Potential required price increase	15.1	12.2	15.3

Sources: Sub. 56, p. 4, VCEC estimates.

6.2.2 Allocation of costs between retailers

At present each retailer recovers all of the costs incurred in its licensed area. For example, Yarra Valley Water will recover all of the retail and distribution costs associated with the Northern Sewerage Project, City West Water all the costs of providing recycled water to its Altona Industrial Precinct and South East Water

will face all the costs of providing recycled water to the growth areas of Cranbourne West, East and North, Berwick South and Officer. Some of these costs may provide broader benefits across Melbourne (i.e. through reduced potable water consumption or improved environmental outcomes) and it may therefore be appropriate to establish some form of cost sharing arrangement between retailers.

The Commission understands that to date the retailers have not considered such cost sharing arrangements worthwhile as the price impact would be too small to justify the establishment of the necessary administrative arrangements. However, this may change with the advent of future recycling projects and significant system upgrades falling in the area of a single retail business.

Consistent with the Commission's suggested approach to the allocation of Melbourne Water's future costs to the retailers, the Commission considered the impacts of allocating the costs of the individual retailers across all retailers when the beneficiaries of the services provided are outside the current retail boundary.

In its submission to the inquiry, Yarra Valley Water indicated that a one per cent reduction in its proposed prices required either a reduction in operating expenditure of \$17 million per annum or a reduction in capital expenditure of \$120 million per annum (sub. 36, p. 1). City West Water's submission implies a reduction in operating expenditure of about \$12 million per annum is needed to achieve a one per cent reduction in the proposed price increase (sub. 15, p. 46).¹⁰ These figures have been used to assess the impacts of adjusting the allocation of costs between the retailers.

For example, the Commission examined the effects of allocating Yarra Valley Water's proposed capital expenditure for environmental protection across all three retailers according to 2005-06 demand shares. The Commission estimated that this would result in an average annual reduction in capital expenditure for Yarra Valley Water of about \$40 million—equivalent to reducing its required annual price increase by about a third of a percentage point (with increases in prices for City West Water and South East Water). The Commission also considered the effects of allocating City West Water's proposed recycling operating expenditure across all three retailers (again using 2005-06 demand). This would reduce City West Water's required annual price increase by about 0.8 percentage points, with increases in prices for South East Water and Yarra Valley Water.

¹⁰ Taking account of estimated lower bulk supply charges as a result of delivery of seawater desalination via PPP.

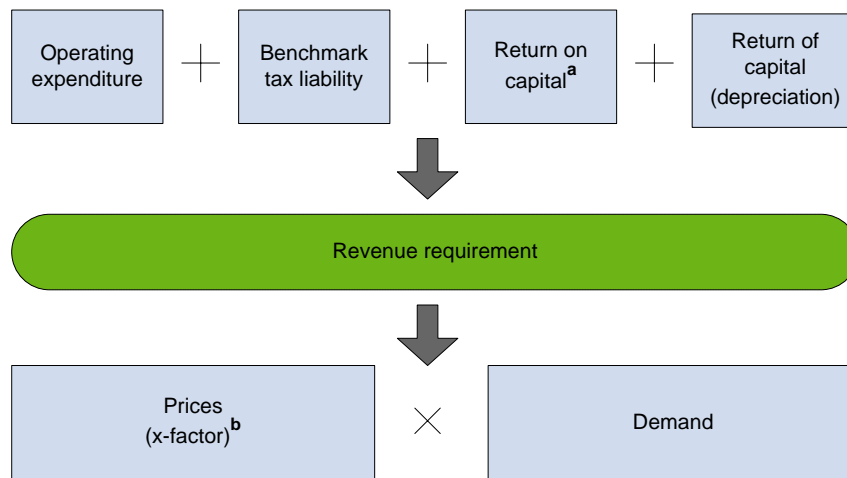
The Commission believes the price impacts of a cost sharing arrangement between retailers would be too small to warrant a potentially complex administrative arrangement (particularly given that identifying relevant projects and/or their beneficiaries may be both contentious and problematic). The Commission is of the view that such an arrangement may become overly burdensome without achieving strong benefits, and has the potential to undermine the incentives for each retailer to manage capital projects efficiently.

6.3 Financial options

As discussed above, the Commission believes much of the required reduction in average price increases for Melbourne's retailers over the next regulatory period will be achieved through the ESC's price determination process. This will involve identifying potential savings in capital and operating expenditure, which would lower the revenue requirement and therefore price growth. In addition, increased pricing parity between the retailers can be achieved through adjustments to the methodology for allocating bulk supply charges across the sector. However, in the event that further reductions in price growth are needed to achieve the Government's announced price target and for reducing price differentials between retailers, there is scope for achieving this through one or more financial options.

In approving the retailers' expenditure proposals, the ESC must be satisfied that the prices to apply over the regulatory period are set at a level that generates sufficient revenue to recover the efficient cost of delivering the services over the period, and do not reflect monopoly rents or inefficient expenditure (ESC 2007b, p. 24). The revenue requirement must allow the retailer to recover operating, maintenance and administrative costs, expenditure on renewing and rehabilitating assets, and also provide a rate of return on existing and new assets. The ESC uses a 'building block approach' to derive forward looking estimates of the revenue that the retailers need to deliver proposed service standards and outcomes over the regulatory period. The revenue requirement reflects benchmark operating expenditure and a return on the RAV updated every year to reflect additional capital expenditure (net of disposals and regulatory depreciation). The ESC's building block approach is set out in figure 6.1 below.

Figure 6.1 **Building block approach to price regulation**



^a Regulatory asset value multiplied by the weighted average cost of capital. ^b Average annual price growth over the regulatory period.

Source: Adapted from ESC 2005b

Inquiry participants put forward a number of financial measures that could contribute towards a reduction in average price growth over the next regulatory period. Yarra Valley Water, for example, suggested changes to key financial parameters that underpin the outcomes of the price determination process (sub. 36, p. 13). The Commission examined a range of financial options and considered that the following options warranted closer examination:

- Reducing the regulatory rate of return
- Adjusting RAVs
- Deferring regulatory depreciation.

6.3.1 Reducing the regulatory rate of return

One option to reduce average price growth over the forthcoming regulatory period is to lower the rate of return, which equates with the WACC for the retailers. Yarra Valley Water, for example, stated that prices can be reduced by adopting a lower value for the WACC (sub. 36, p. 1).

The ESC sets the WACC at the time of price reviews using the Capital Asset Pricing Model. In the 2005 *Water Price Review*, the ESC estimated a value for the WACC of 5.2 per cent which was applied to all Melbourne's urban water businesses in deriving price growth factors (ESC 2005a, p. 47). For the 2008 *Water Price Review*, the ESC estimated a value of 5.1 per cent for the WACC

(ESC 2007b, p. 37),¹¹ however the value that the ESC adopts in its draft and final decisions may vary from this initial estimate.

Under the building block approach (figure 6.1), the WACC—together with the RAVs of retailers—determines the overall return on capital. If the WACC is reduced, this would decrease the overall return on capital. In turn, this would lower the revenue requirement and the price growth factor required to achieve that requirement.

A preliminary study for DSE (DSE 2007a) estimated the changes required in key financial parameters to achieve average annual price growth consistent with the Government's announced price target for all three retailers in Melbourne. Using linear interpolation, the Commission has estimated the reductions needed in these parameters, including the WACC, to achieve a 1 per cent reduction in average annual price growth over the next regulatory period (table 6.6 on page 22). While these figures are illustrative only, they provide a broad indication of what changes would be required to achieve incremental reductions in average price growth. For example, to reduce Yarra Valley Water's average annual price growth by one percentage point, its WACC would need to be reduced by about 0.6 per cent (compared to the ESC's estimated value of 5.1 per cent).

While adjusting the WACC can achieve incremental reductions in average price growth, the Commission advises against this option for two reasons. First, reducing the WACC would involve departing from the widely accepted method that is currently used by the ESC to set the WACC, and may create uncertainty about which method will be used in future price reviews. Given that Yarra Valley Water and City West Water potentially face substantial reductions in average annual price growth compared to their draft water plans, it is likely that large adjustments in the WACC would be required for these retailers which may adversely impact on their financial performance (that is, their ability to meet operating expenditure and debt servicing obligations). As the retailers are expected to operate on a commercial basis, adjusting the WACC may complicate the opportunity for benchmarking performance and returns with other entities.

Secondly, it is not apparent that different WACCs would be appropriate for the metropolitan retailers given they are facing similar risks. That is, this option would result in different values of the WACC for different businesses which are unlikely to be explained by differences in risk premiums or gearing profiles. In addition, the effect of changing the WACC may be more difficult to explain and communicate because it affects the determination of average annual price growth

¹¹ By way of comparison, in its August 2007 draft decision the ESC determined a (real, post-tax) WACC of 5.6 per cent for gas distribution in Victoria. The (real, post-tax) WACC determined in October 2005 for electricity distribution in Victoria was 5.9 per cent.

through multiple channels, including through the overall return on capital and the discounting of projected future cash flows.

6.3.2 Reducing regulatory asset values

RAVs are a key determinant of the prices that retailers are allowed to charge their customers. The initial RAVs for Victoria's water businesses were set by the Minister for Water in March 2005, based on advice provided by the ESC. The initial RAVs for Melbourne's retailers are shown in table 6.5.

Table 6.5 Initial RAVs for Melbourne's water retailers

	2004 prices	2007 prices
	\$m	\$m
City West Water	734	789
South East Water	1515	1629
Yarra Valley Water	1567	1685

Sources: ESC 2005a, p. 42, DSE 2007a.

The setting of an initial RAV is generally envisaged as a one off exercise to create a degree of regulatory certainty around this key financial parameter at future price reviews. This is known as the line in the sand approach, which is used by some other regulators in Australia and the United Kingdom.¹² Broadly speaking, drawing a line in the sand involves reversing the building block approach to determining regulated prices. When prices are determined using a building block approach, the required revenue (and hence prices) for an efficient operator of the business is established on the basis of a known initial RAV and forecasts of operating and capital expenditure, regulatory depreciation and the cost of capital. By reversing this calculation, an initial RAV can be determined to achieve an intended level for prices or returns. That is, for a given revenue target or price, and after adopting forecasts or decisions on expenditure, regulatory depreciation and the cost of capital, an initial RAV can be derived that is consistent with those assumptions. RAVs are then updated over the regulatory period by taking into account new capital expenditure (net of customer and government contributions and asset disposals) and regulatory depreciation.

¹² The value of the regulatory asset base has been the subject of much contention in other regulated sectors. Approaches that seek to optimise the regulatory asset base at each price review may create uncertainty for regulated businesses and set up incentives for regulatory gaming.

RAVs—when applied to the WACC—determine the overall return on capital which is a key component of the revenue requirement in the ESC’s building block model (figure 6.1). For example, for City West Water, the return on capital (including existing and new assets) accounted for about 17 per cent of the revenue requirement in the 2005 *Water Price Review* (ESC 2005a, p. 37). Changing the initial RAVs of the retailers, therefore, will feed into changes in the overall return on capital.

Several submissions suggested adjusting the initial RAVs of the retailers to achieve a given revenue or price growth target. South East Water, for example, argued that a reduction in the aggregate level of revenue collected from customers could occur through adjustments to the RAVs of the retailers (sub. 34, p. 49). Similarly, Yarra Valley Water proposed changes to RAVs to reduce average price increases over the regulatory period (sub. 36, p. 13). Reducing RAVs is a process that writes down the value of the retailers’ asset values for the determination of regulated revenues, although it does not involve a write-down of balance sheet values in the financial accounts.

Based on a preliminary study for DSE (2007a), the Commission has estimated the reductions in initial RAVs needed to achieve a 1 per cent reduction in average annual price growth for each water retailer over the next regulatory period (table 6.6). For example, to reduce Yarra Valley Water’s average annual price growth by one percentage point, its initial RAV would need to be reduced by about \$210 million (in 2007 prices). This equates to a reduction in value of about 12.5 per cent.

One argument against adjusting initial RAVs is that it unwinds the line in the sand approach. The ESC noted that this approach, by locking in initial RAVs, breaks the circularity between determining initial asset values and future price paths,¹³ and creates greater certainty that prices and returns will not be affected at future price reviews by a need to revalue past investments (ESC 2005b, pp. 4–5). It follows that the potential for revaluations of initial RAVs could introduce additional uncertainty at the time of price reviews. That said, because the retailers are owned by the Victorian Government, the consequences of this uncertainty are limited.

However, it could also be argued that the initial RAVs for the retailers were set before the full implications of the ongoing drought became evident. Since the initial RAVs were determined, the Government has taken decisions to increase Melbourne’s water supplies through the construction of a desalination plant and

¹³ That is, the circularity involved in using a reverse building block calculation to set an initial RAV based on forecast prices or returns.

major pipelines. In addition, demand has been affected by long periods of water restrictions, which was not envisaged at the time initial RAVs were set.

There are unlikely to be any significant efficiency consequences from adjusting initial RAVs because most water infrastructure assets are sunk costs (section 6.2). However, there will be distributional and other potential impacts based on consequential pricing adjustments. The main trade-off to achieving lower price growth for water customers is that the Victorian Government must accept lower shareholder returns from the retailers. Where asset write-downs are large, this may also create the perception that there is diminished value in the businesses.

6.3.3 Deferring regulatory depreciation

Depreciation is one of the costs of running a business. In the building block model, regulatory depreciation is determined by the asset lives and depreciation profile approved by the ESC. As figure 6.1 shows, regulatory depreciation is a key component of the cost base that determines the revenue requirement. Because regulatory depreciation feeds into the calculation of updated RAVs, it also affects the overall return on capital.

Some inquiry participants, such as Yarra Valley Water (sub. 36, p. 13), suggested deferring regulatory depreciation in order to reduce average annual price growth over the next regulatory period. This option would reduce the revenue requirement and therefore the average annual price growth needed to meet that requirement.

Deferring depreciation expenses is one approach for managing the price paths implied by the significant investment in water infrastructure expected over the next five years. This option would smooth average price increases across adjacent regulatory periods. While deferring depreciation would reduce average price growth in the forthcoming regulatory period, it would add to price growth in the regulatory period that follows. This means that water customers will eventually pay for these costs.

Based on a preliminary study for DSE (2007a), the Commission estimated the annual amount of regulatory depreciation that would need to be deferred to achieve a 1 per cent reduction in average annual price growth over the next regulatory period (table 6.6). For example, to reduce Yarra Valley Water's average annual price growth by one percentage point, regulatory depreciation of \$17 million would need to be deferred each year from 2008-09 to 2012-13 (2007 prices). This is equal to 42 per cent of Yarra Valley Water's forecast revenue requirement for regulatory depreciation over the period of about \$40 million per year.

6.3.4 Which financial options?

The Commission examined a number of financial options for achieving the required level of retail prices and pricing parity between the retailers if further measures are necessary beyond the possible reductions identified by the ESC, and the proposed changes to the allocation of Melbourne Water's costs (section 6.2). A preliminary study for DSE (2007a) estimated the changes required in key financial parameters to achieve average annual price growth consistent with the Government's announced price target for all three water retailers in Melbourne. Using linear interpolation, the Commission calculated the reductions needed in these parameters to achieve a 1 per cent reduction in average annual price growth over the next regulatory period (table 6.6 below). These figures are for illustrative purposes only, and provide an indication of the changes needed to achieve incremental reductions in average price growth.

Table 6.6 Estimated change in financial parameters to achieve 1 per cent reduction in price growth

	<i>Reduction in WACC</i>	<i>Reduction in RAV</i>	<i>Reduction in regulatory depreciation</i>
	Percentage points	\$ million ^a	\$ million per year ^a
City West Water	0.8	135	13
South East Water	1.0	220	16
Yarra Valley Water	0.6	210	17

^a January 2007 prices.

Source: VCEC estimates.

In the event that the measures already described (in section 6.2) are not sufficient to achieve the required level of prices and pricing parity between the retailers, and further necessary cost reductions are not achieved by a full price review by the ESC, the Commission favours using deferral of regulatory depreciation to achieve additional reductions. As set out in table 6.7, the Commission has estimated that the deferral of regulatory depreciation could be implemented to achieve a 0.3 per cent reduction in City West Water's real price increases between 2008-09 and 2012-13 (about \$4 million per annum), and a 0.5 per cent reduction for Yarra Valley Water (about \$8.5 million per annum). The Commission is of the view that a deferral of regulatory depreciation should be a one-off, up-front adjustment. This measure avoids the perverse outcome of different WACCs for businesses facing similar risks and does not involve an arbitrary and permanent reduction in the value of the business. However, any adjustment to components of the regulatory framework creates a divergence in the financial performance of

the business from its underlying value and, as a consequence, reduces the clarity of the financial performance arrangements within which Boards and management operate.

In addition, the deferral of regulatory depreciation to alleviate the need for price increases may create a need for financial support to the retailers over the next regulatory period to prevent deterioration in financial performance. As with all the financial measures considered in this section, deferring regulatory depreciation effectively reduces the cash flow into the business, with no commensurate change in the business' underlying operating environment to reduce the amount of cash outflows. Both the ESC, as economic regulator, and DTF, as shareholder, would need to be mindful of the financial impacts of deferring regulatory depreciation. The Commission suggests addressing the financial effects of deferring regulatory depreciation, if this is necessary, either through a modified dividend policy or a capital injection. These issues are considered further in chapter 7.

Draft recommendation 6.3: To achieve the Government's pricing objectives, regulatory depreciation of selected retailers should be deferred for the next regulatory period to the extent necessary. Any adverse financial consequences should be addressed through a modified dividend policy or a capital injection.

6.4 Potential impacts on retail price increases

The Commission has considered the potential impacts on retail prices of the expenditure and demand adjustments identified by the ESC, its proposed changes to the allocation of Melbourne Water's bulk charges, and the deferral of regulatory depreciation necessary to achieve the Government's pricing target. The minimum real price increase that would be required each year after implementation of these adjustments is set out in table 6.7 below.

Table 6.7 **Estimated average annual real retail price increase (2008-09 to 2012-13)**

	<i>City West Water</i>	<i>South East Water</i>	<i>Yarra Valley Water</i>
	%	%	%
Submission to ESC based on current tariff structures	19.1	14.8	21.9
Submission to ESC adjusted for PPP	16.6	13.8	19.9
<i>Potential adjustment to expenditure forecasts</i>	0 to -0.8	0 to -0.3	0 to -1.2
<i>Potential adjustment to demand forecasts</i>	-1.8	-1.9	-2.3
ESC preliminary view of required price increase (lower end of range)	13.9^a	11.7^a	16.4
<i>Reallocation of MW sunk costs (based on 2004-05 demand shares)</i>	0.4	0.3	-0.5
<i>Allocation of MW future costs based on forecast volumes</i>	0.8	0.2	-0.6
<i>Deferral of regulatory depreciation</i>	-0.3	0	-0.5
Estimated required price increase	14.8	12.2	14.8

^a These figures are taken directly from the ESC's submission to the inquiry and do not sum exactly due to rounding.

Source: Sub. 56, p. 4, VCEC estimates.

As shown by table 6.7, non-structural measures could be implemented to bring required price increases for all retailers within the Government's announced price target of a doubling of bills in real terms over five years and reduce the price differentials emerging between the retailers.

There would, however, still be differences in prices between the three retailers. The Commission notes that the businesses currently have different prices, reflecting the different costs they face and the different levels of service they provide. In 2007-08, the typical bill for a household consuming 180 kL¹⁴ of water a year will be about \$495 for City West Water and South East Water customers,

¹⁴ The ESC has advised that average consumption across Melbourne in 2006-07 was about 170 kL per annum and about 190 kL in 2005-06. The retail businesses' pricing proposals were prepared on the basis of an average consumption over the period 2008-09 to 2012-13 of about 160 to 170 kL per annum.

and \$510 for Yarra Valley Water customers (with the variance between the highest and lowest bills being about three per cent) (ESC 2007d).

The Commission notes that its analysis of the potential impacts of non-structural options on the average annual real retail price increases over the next regulatory period is indicative only. The Commission may reassess its views on the use of non-structural options prior to submitting the final report as further information is received.

6.4.1 Achieving pricing parity through transfer payments

All three retailers observed that a system of transfer payments between businesses could be used to achieve full pricing parity across Melbourne (sub. 15, pp. 23, 45, sub. 34, pp. 49-50, sub. 36, p. 15). City West Water noted:

... equalisation of costs could be achieved by the introduction of cross subsidy payments among the retailers. This system was in place immediately following disaggregation of Melbourne Water until 1998 when full user pays was introduced. The introduction of a full cost equalisation regime would ensure uniform prices. ... Equalisation should occur as a transparent line item once stand-alone prices are determined. Assessment of performance can then be made against the stand-alone results (sub. 15, p. 45).

Such a scheme would effectively allow differential costs to determine prices and price increases, but incorporate a system of revenue transfers between the retailers to equalise prices to end customers. The requirement for transparency would also ensure that transfer payments are kept to a minimum. The Commission notes that implementation of a system of transfer payments could obviate the need for some or all non-structural measures to reduce prices and price disparity—that is, in all likelihood there would be no need to defer regulatory depreciation as the transfer payments would reduce price increases to the Government's target level. Yarra Valley Water argued that such an arrangement will still maintain the incentive properties of the current economic regulatory framework and the current structure (sub. 36, p. 16). However, City West Water noted that such a scheme runs the risk of a better operator subsidising a worse operator (sub. 15, p. 23) and South East Water considered the incentives for each retailer to operate efficiently and improve its performance could be undermined (sub. 34, p. 50).¹⁵ The Commission also notes there could be a number of other issues associated with a move to full retail pricing parity across Melbourne:

¹⁵ A system of transfer payments was implemented as part of the reform of the Victorian electricity industry. Equalisation amounts were incorporated into transmission charges such that rural distribution businesses paid lower transmission charges than they otherwise would and urban distribution businesses paid higher transmission charges.

- consistency with national water pricing principles
- effects on economic incentives arising from cost reflective prices
- impact on contestability
- cross-boundary equity issues
- impact on service quality.

6.5 Conclusions

In chapter 4 the Commission considered structural options for the metropolitan retail water sector to allow for the least cost provision of Melbourne’s water supply upgrades, as well as safe, reliable and sustainable water and sewerage services to Melbourne. The changes to structural arrangements put forward as options by the Commission in chapter 4 are likely to have only a small net benefit over the next five years, although they may impact on price distributions. For this reason, the Commission also considered a range of non-structural measures that could be implemented to reduce both the level of proposed retail price increases and the price differentials between the retailers.

In its submission to the inquiry, the ESC set out the results of a desk top review of the retailers’ pricing proposals, identifying a number of expenditure and demand adjustments and suggesting that a full price review would identify additional reductions (sub. 56, p. 4). The Commission considers that the full price review to be undertaken for the next regulatory period should establish the appropriate cost base.

In addition, the Commission is of the view that future bulk supply costs should be shared across the system according to volume, and that sunk costs should be allocated in accordance with more recent demand shares. In addition, if a full price review does not result in prices within the Government’s announced price target, and a substantial reduction in the proposed price differential between the retailers, the deferral of regulatory depreciation should be applied on a selective basis. Finally, it is noted that the recommendations in this draft report are inter-related. For example, in this chapter the Commission has assumed the continuation of the existing retail structure and a five year regulatory period, which are the current arrangements. If either of these assumptions changes, the detailed calculations also change. However, the Commission is confident that the issue put to it by the Government can be addressed by a combination of the measures set out in the draft report.

7 Short and medium term reform-governance arrangements

The inquiry's terms of reference require that the Commission include recommendations with respect to 'any related improvements to governance [of the metropolitan retail water sector] ... in the context of the Government's Water Plan and climate change'.

For the purpose of this inquiry, the Commission has defined governance as the framework of institutional and regulatory arrangements that operate in the water sector. The elements of this governance framework are outlined in chapter 2.

This chapter explores key areas of potential reform to the governance framework, focusing on:

- corporate objectives of the retailers (section 7.1)
- community service obligations (section 7.2)
- corporate form (section 7.3)
- government oversight as the shareholder of the retailers (section 7.4)
- planning, including implications for capital expenditure and demand management (section 7.5).

Chapters 4 and 6 considered the scope for achieving the Government's intention of constraining the prices charged by the metropolitan retailers for the supply of water to customers to no more than double in real terms over the next five years, and for achieving parity between the proposed price increases of the three metropolitan retailers. It is important to consider also what changes might be feasible to governance arrangements to ensure efficiency remains a primary focus while maintaining service quality and ensuring that the retailers remain financially viable.

The inquiry's terms of reference also require that the Commission 'identify the timeframe and next steps for implementing any reforms to the sector, including the period for an independent price determination'. Issues relating to the length of the regulatory period are considered in section 7.6.

7.1 Balancing objectives in the water sector

The *Water Act 1989* (Vic.) specifies multiple objectives for the water sector, including the 'orderly, equitable and efficient use of water resources' (s.1 (c)) and 'to make sure that water resources are conserved and properly managed for sustainable use for the benefit of present and future Victorians' (s.1 (d)).

Submissions recognised this range of objectives, with many highlighting the importance of water businesses embracing a triple bottom line approach to decision making that incorporates commercial, social and environmental drivers. South East Water believes that ‘the goal is to achieve a sustainable long-term industry that delivers triple bottom line outcomes’ (sub. 34, p. 6). Institute of Public Works Engineering Australia—Victoria Division Limited (IPWEA) (sub. 44, p. 5), Western Regions Councils (sub. 39, p. 2), Mornington Peninsula Shire Councils (sub. 37, p. 5), Monash University (sub. 35), Maribyrnong City Council (sub. 29) and the Municipal Association of Victoria (MAV) (sub. 23, pp. 5, 6) referred to the importance of sustainability or a triple bottom line approach. The Refrigerated Warehousing and Transport Association of Australia – Victorian Branch (sub. 48, p. 2) argued that ‘the cost of water is an issue, but availability, quality and reliability are more of a concern’. The Consumer Utilities Advocacy Centre (CUAC), believe that Victoria’s publicly owned retailers have to balance ‘two competing goals: maximising profit, and protecting the public interest’ (sub. 45, p. 8).

All of the businesses operating in the water sector must have regard to the objectives of the Government’s overarching water management framework – a framework which encompasses a number of objectives including commerciality and sustainability. As noted in chapter 2, however, the retailers and Melbourne Water operate under different legislative arrangements.

Retailers are established as companies under the *Corporations Act 2001* (Cwth.) and regulated by the *State Owned Enterprises Act 1992* (Vic.), which requires them to operate ‘as efficiently as possible consistent with prudent commercial practice’ (s.69). Section 72 of the State Owned Enterprises Act, however, recognises that non-commercial behaviour may also be required, as it permits the relevant Minister, with the approval of the Treasurer, to enter into an agreement with the company to perform, or cease to perform, activities in circumstances where the board of the company considers it is not in the commercial interests of the company to do so. Separately, retailers are required to:

- operate under licences issued pursuant to the *Water Industry Act 1994* (Vic.), which specifies the functions they must perform (s.80)
- undertake their functions in accordance with a statement of obligations issued by the Minister for Water pursuant to the *Water Industry Act* (s.8). Section 7.1.1 describes these obligations
- comply with obligations in respect of the environment and drinking water quality, imposed by the *Environment Protection Act 1970* (Vic.) and the *Safe Drinking Water Act 2003* (Vic.) and enforced by the EPA and the Department of Human Services.

In contrast, Melbourne Water is a state owned water corporation, established under the Water Act. Section 94 of the Water Act imposes a similar obligation to that in the State Owned Enterprises Act, requiring that each water corporation, in performing its functions, must act as efficiently as possible consistent with commercial practice. However, s.93 of the Water Act imposes a more explicit obligation to operate in accordance with sustainable management principles. Melbourne Water and other non-metropolitan water corporations, like the retailers, are required to undertake their functions in accordance with their statements of obligations (s.41 Water Industry Act).

At issue for the Commission is to consider how governance arrangements should apply to businesses operating within such a framework of objectives—in particular with respect to the retailers. In many instances, the balance required to be achieved between economic, social and environmental outcomes is able to be managed internally ‘consistent with prudent commercial practice’. However, it should also be recognised that in some instances—for example, with respect to particular conservation measures that have been imposed or to achieve specified recycling targets—entities may be required to operate in a non-commercial manner or in a manner which would have not occurred if such obligations were not imposed by Government.

There is a risk that requiring businesses to pursue a range of objectives can undermine their incentives to perform commercially while also not necessarily delivering the Government’s non-commercial objectives. It is difficult for the Government to monitor the performance of government business enterprises which have multiple objectives, because it has to form judgements about the trade-offs the businesses have made between these objectives as well as about their performance against each objective. This can open the way for retailers to pursue divergent objectives, which need not necessarily be the same as the Government’s. As a consequence, either the Government’s outcomes may not be achieved, or they may not be achieved at least cost to the community. This risk is reinforced by the retailers’ monopoly status, and their ability to pass on costs to the community (although subject to price regulation). It is therefore necessary to consider how best to manage the tension that may exist between commercial and non-commercial objectives, while simultaneously harnessing commercial incentives to drive efficiencies.

To this end, the Government has sought to implement objectives through a set of mutually reinforcing arrangements which enable both commercial and non-commercial objectives to be achieved efficiently. Thus, the Government has put in place arrangements whereby:

- obligations are transparently stated in statements of obligations

- water businesses are subject to a corporate planning process
- water businesses are subject to independent economic regulation.

The Commission believes that it is appropriate for retailers to operate within a water management framework that encompasses a range of objectives and that a mutually reinforcing set of governance arrangements is essential. These objectives should be imposed consistently across the Victorian water sector.

7.1.1 The statement of obligations

As noted above, the statement of obligations is an important instrument through which the Government seeks to achieve outcomes under water industry legislation. The use of this instrument is more likely to be effective in this regard if:

- there is clarity about the outcomes being sought
- the obligations are adequately specified and designed so that by achieving them the retailers contribute to the desired outcomes
- the obligations which are chosen are the ones that would yield the largest net benefits
- any trade-offs that need to be made between different obligations are made by the Government, since it is the Government that is imposing the obligations
- the retailers' performance in achieving the obligations and, through them, the desired outcomes is monitored and reported, to permit fine tuning of the obligations and/or approach where required.¹

Clarity of outcomes

The purpose of the statement of obligations is 'to impose obligations on the Licensee in relation to the performance of its functions and exercise of its powers' (clause 3). The outcomes that the Government is seeking to achieve through imposing the obligations are not, however, specified, although clause 6, which sets out guiding principles for the licensees (box 7.1), is indicative.

¹ The retailers are not currently required to report against the indicators in their statements of obligations, and do not currently do so in a comprehensive way, although they do report against some of their obligations; for example, in the context of reporting required by the ESC.

Box 7.1 **Guiding principles in the statement of obligations**

In performing its functions and providing its services the Licensee must:

- manage water resources in a sustainable manner
- effectively integrate economic, environmental and social objectives into its business operations
- minimise the impacts of its activities on the environment
- manage risk to protect public safety, quality and security of supply
- operate as efficiently as possible consistent with sound commercial practice
- manage its business operations to maintain the long term financial viability of the business
- undertake continuous review, innovation and improvement
- collaborate with other public authorities and government agencies to take account of regional needs.

Source: City West Water, statement of obligations, clause 6.

These principles are necessarily expressed in general terms and raise many questions, such as what is meant by ‘sustainable’ management of water resources and minimising impacts on the environment, and what are acceptable levels of risk in relation to public safety, quality, and security of supply. Further, since there are costs involved in achieving each of these outcomes, trade-offs between them are inevitable.

Specifying the outcomes that the Government wishes to achieve more precisely would:

- help to ensure that obligations are only imposed when they contribute to the outcomes
- provide additional guidance to the retailers about the Government’s expectations
- open up the possibility of using innovative approaches, such as competitive tenders, to achieve particular outcomes
- provide a basis for designing performance measures to assess whether by delivering the obligations the retailers are achieving the Government’s desired outcomes.

One possible approach would be to re-express the principles in clause 6 as outcomes. For instance, the principle relating to managing water resources in a sustainable manner could become ‘achieve sustainable management of water resources through achieving (particular targets).

Draft recommendation 7.1: That for each pricing period the Government specify in the statement of obligations the quantifiable outcomes that it expects the retailers to achieve through meeting these obligations.

Clarity of obligations

At present, some obligations in the statement of obligations are quite specific while others leave considerable room for interpretation. An example of a specific obligation is that retailers must meter all new water use (statement of obligations, clause 18).² Far less specific are obligations to implement programs for the sustainable use of recycled water (statement of obligations, clause 15.1 (f)) and to develop and implement programs for responding to climate change and maintaining and restoring natural assets (statement of obligations, clauses 25.2 (a) and (b)).

While few participants commented specifically on the clarity of the obligations imposed on the retailers, two submissions captured the tension between the competing views on this issue. South East Water commented that institutional arrangements should ideally leave service providers to deliver against defined outcomes (sub. 34, p. 10). This view favours obligations that are expressed in general terms, recognising that if the Government specifies obligations in detail, it may effectively instruct the retailers how to address particular issues. Such attempts to ‘micromanage’ can stifle innovation and divert the businesses’ attention to subordinate goals, possibly undermining higher level objectives.

The Consumer Utilities Advocacy Centre, on the other hand, believes that:

... some of the obligations are too broad, and do not give sufficient guidance from Government.... We would like the Commission to recommend more specific guidance on some elements mentioned in the statements of obligation. (sub. 45, p. 9)

Imprecisely specified obligations can lead to problems:

- if the obligations are open to different interpretations, it is difficult to assess whether the retailers are delivering what the Government intended and to compare their performance
- retailers confronted with a range of different, non-specific obligations have to make decisions which may better lie with Ministers who, as elected representatives, have responsibility for resolving the inevitable trade-offs between conflicting commercial and other public interest objectives.

² All references in this chapter are to City West Water’s statement of obligations. Clause numbers may be different for the statements of obligations for the other retailers.

In the context of the concern about future price increases which underpins this inquiry, it is relevant to note that the way that retailers interpret their obligations can have an impact on prices. For example, the retailers' recent draft water plans proposed large expenditures to deliver the obligations imposed in their statement of obligations. City West Water points out that of the \$130 million increase in operating expenditures over the forthcoming regulatory period, \$101 million (77 per cent) is accounted for by increases in bulk water and sewerage charges. The most important contributors to the remaining \$29 million are:

- new costs to create recycled water for the Altona Industrial Precinct recycled water project (\$11 million per annum)—driven by Government policy as a response to water scarcity
- increases in costs (\$8.7 million) associated with the delivery of water conservation and other recycling initiatives, cleaner production and environmental contributions—driven by Government policy. (sub. 15, p. 35)

The obligations to which these proposals could relate include clause 16 (water conservation), clause 17 (water supply demand strategy), and clause 26 (sustainable water strategy).

Yarra Valley Water's plan indicates that it will comply with the obligation in clause 26 of its statement of obligations (sustainable management) through measures that include net zero greenhouse gas emissions from its activities by July 2008, and reducing average water consumption to 281kl per capita by 2012-13 (from 301kl on average between 2003-04 and 2005-06). It projects an extra \$18.4 million in operating costs over the next regulatory period to deliver the planned reductions in per capita water consumption (Yarra Valley Water, 2007a, pp. 8, 10).

The size of these expenditures highlights the potential for unclear obligations to lead to substantial expenditures on initiatives that impact significantly on financial performance, which should only occur if they are achieving the Government's original intent.

Reforming the process for setting obligations

Finding the appropriate balance with respect to the level of detail to include in obligations is a delicate task. It is evident that the retailers have adopted different targets in relation to the same obligation. At issue is whether the process for³ setting obligations encourages the retailers to achieve the Government's desired outcomes in a way that yields the largest net benefits. One way to ensure that the most important outcomes and obligations are being pursued in the most cost

³ This process is based on City West Water's statement of obligations. There are some differences in process between the retailers.

effective manner would be to improve the process for incorporating obligations into the statement of obligations and assessing how the retailers respond to these obligations in their water plans.

One option is to build on the current process, which already permits some scope for scrutiny and consequent revision of the obligations (box 7.2).

Box 7.2 Process for determining the retailers' obligations

The process for determining obligations involves a number of steps:

- the Minister for Water makes and issues the statement of obligations, after consulting with the Treasurer and ESC, and publishes it in the Government Gazette
- the retailers develop an exposure draft of their water plan, to explain how they intend to meet their obligations. The retailers must consult with the Department about the issues that must be included in the water plans (clause 8.3).
- the retailers make available a draft of their plan to the public, the Minister, the Treasurer and specified regulatory agencies (Environment Victoria, the ESC and Department of Human Services) 8 weeks in advance of the Water Plan being submitted to the ESC for a decision on prices (City West Water, statement of obligations clauses 7.1, 7.2 and 8.4). This provides an opportunity for public scrutiny of the ways in which the retailers have interpreted the obligations. In principle, this stage should enable the costs and benefits of different obligations to be identified, and provides scope for the Minister to adjust the trade-offs between them.
- the Minister, after consultation with the Treasurer, can give written comments to the retailers in relation to their performance of the functions and the obligations in the statement of obligations at least one month before the date that the retailers must submit the Water Plan to the ESC. The retailer must make any variation to the Water Plan requested by the Minister (City West Water, statement of obligations, clause 8.5)
- regulatory agencies can make comments about specified regulatory obligations at least one month before the date that the retailers must submit the water plan to the ESC. The retailer must have regard for these comments
- one month later, the retailers submit amended water plans to the ESC to provide the basis for its decision on water prices for the relevant regulatory period
- once the ESC has approved the amended water plans, they provide the framework within which the retailers can develop corporate plans, for endorsement by the Treasurer and Minister for Water. DTF then monitors the performance of the water businesses against these plans.

Source: City West Water, Statement of obligations

Some amendments to the process could, however, strengthen its rigor and transparency by:

- expanding the amount of information about the costs and benefits of different options that is made available in the exposure draft
- linking the published analysis of options more directly to the outcomes they are intended to achieve
- publishing the Minister's and regulators' responses to the exposure draft; providing more time for the process to operate
- requiring retailers to report on their performance in achieving the outcomes.

Box 7.3 provides some suggestions as to how this might be achieved.

Box 7.3 Suggestions for improving the process for establishing the retailers' obligations

The following amendments to the statement of obligations could improve the process:

- to ensure that there is sufficient information for Ministers, the public and regulators to scrutinise how the retailers plan to satisfy the obligations, clause 8.3 could be amended to require that the retailer specify for obligations requiring some expenditure in the draft plan, the:
 - outcome that the expenditure is intended to achieve
 - significant options for addressing the outcome that have been explored
 - costs and benefits of each significant option
 - expected impact of the preferred option on the outcome
- clauses 7.1 and 8.4 could be amended to extend the period between the initial and submission draft to 4 months and clause 8.6 could be amended to extend the period for the retailers to respond to comments to 2 months. These longer periods would give sufficient time for the additional information to be assessed by the public, ministers and regulators, and for the retailers to respond to these comments
- an amendment could be made to clause 8.5 (a), requiring the Minister to publish his or her reasons for seeking variations to water plans
- an amendment could be made to clause 8.6, requiring regulatory agencies to publish their comments on the water plan
- a new clause could be added requiring the retailers to report annually on the extent to which by delivering each option they are contributing to the desired outcomes.

However, possible disadvantages with the approach outlined in box 7.3 are that it could:

- only operate after an obligation has been incorporated in the statement of obligations
- substantially increase the transaction costs of the process
- require the release of some project information that the retailers might regard as commercial in confidence
- require the Minister and regulatory agencies to explain (as does the current process) why they want less or more of a particular outcome.

An alternative approach would be to require that the Minister prepare a regulatory impact statement (RIS)⁴, or some equivalent, for new or amended obligations (above a threshold level and other than those relating to business processes) before they are inserted in the statement of obligations and published in the Government Gazette.

This would bring this form of regulatory intervention into line with the approach that the Government considers to be good practice in relation to environmental and water quality standards with which the retailers must comply,⁵ and with other requirements introduced under the *Subordinate Legislation Act 1994* (Vic.). It would be important that the Department of Sustainability and Environment consult with the retailers in preparing these options. To encourage these obligations to be linked to the outcomes, the Minister could specify the outcome(s) the obligation is intended to achieve.

⁴ A RIS is a document which, by comparing the costs and benefits of different options for addressing a clearly identified problem, identifies the best way to address that problem.

⁵ The procedure for declaring or varying a State Environment Protection Policy is set out in s18A of the Environment Protection Act. It comprises:

- publication on three occasions in a newspaper circulating in the relevant area of a notice of intention to declare or vary a SEPP and inviting submissions
- consideration of submissions
- consultation with affected government departments and statutory authorities
- preparation of draft policy
- preparation of draft policy impact assessment
- publication on three occasions in a newspaper circulating in the relevant area of a notice of preparation of the draft policy and inviting submissions
- The EPA must then wait three months, consider all submissions and respond in writing to each person who has lodged a submission before forwarding the SEPP to the Governor in Council.

Water quality standards are set out in a schedule to the Safe Drinking Water Regulations 2005 and accordingly are subject to the normal RIS process.

On balance, the Commission favours the second option, as it brings the process in line with general government policy, as it applies to statutory rules made under the Subordinate Legislation Act. This option complements recommendation 7.1.

Draft recommendation 7.2: That:

- a regulatory impact statement (RIS) be prepared before a new or varied obligation (above a threshold level) is inserted in a statement of obligations
- the publication of amended obligations required by the Minister within a regulatory period, be accompanied by a statement of the outcome(s) the obligation is intended to achieve.

7.2 Delivery and funding of community service obligations

A further issue is whether any of the obligations that the Government imposes on retailers should be regarded as community service obligations (CSOs). The Victorian Government, along with other state governments, has acknowledged that the ways in which governments use their businesses to deliver CSOs can significantly affect the ability of markets to allocate resources efficiently (box 7.4). Moreover, if some of the obligations placed on retailers were regarded as CSOs, there would be a case for budget funding, which would reduce price increases. Budget funding is already in place for concessions paid to customers, and the Government has indicated that it will:

... adjust concessions in next year's state budget to minimise the impacts [of price increases] on low income households. (Office of the Premier 2007c, p. 2)

Victoria's CSO policy, released in August 1994⁶, defines CSOs as:

... the non-commercial programs and activities of government business enterprises designed to meet community and social objectives determined by government ... The following three criteria [are] the basis for defining CSOs:

- The CSO is provided for some identifiable community or social benefit;
- The CSO is a result of a specific government directive to a government business regarding the provision of the CSO and the conditions (e.g. price) of its supply; and
- The CSO would not be supplied or would not be supplied on the same conditions by the government business enterprise, if it were acting primarily in its own commercial interest. (VOSOE 1994, p. 1)

⁶ This policy is currently being reviewed within DTF.

Victoria's policy also identified circumstances which did not qualify as a CSO:

... where the activity provided is an industry condition. Examples of this are universal access, or compliance with the legislative requirement for the industry or function (such as compliance with environmental standards) ... (VOSOE 1994, p. 7)

Box 7.4 Identifying and funding community service obligations

In November 2000, governments recognised (in the COAG forum) that it is preferable for CSOs to be clearly identified, funded from the Budget and reported by the government. ... Without careful and systematic identification and implementation of CSOs, market participants and taxpayers cannot determine whether the prices charged by a government business reflect full cost attribution (as required by the [Competition Principles Agreement] clause 3) ... Visible CSOs enable private firms to readily identify CSO payments to government-owned competitors and adjust their business decisions accordingly.

Source: NCC 2002, p. 2.22.

By virtue of the operation of the Government's CSO policy, any measure imposed under the statement of obligations is an 'industry condition' and so is not a CSO. However, there is a range of possible requirements contained in the statement of obligations that potentially display some CSO-type characteristics. Three areas that have been highlighted in submissions—conservation measures, backlog sewerage programs and funding for sporting grounds—are considered further below.

7.2.1 Conservation measures

As licensees under the Water Industry Act, one of the retailers' functions is to develop and implement programs for the conservation and efficient use of water. The statement of obligations gives effect to this function by setting out water conservation obligations spelt out in the Joint Water Conservation Plan 2007–2015, which embodies conservation targets set by Government policy. These include water conservation targets for Melbourne of:

- 30 per cent reduction in drinking water consumption, per capita by 2015 from the 1990s average
- 30 per cent reduction in residential per capita consumption by 2015 from the 1990s average (City West Water et al 2007, p. 3).

The metropolitan water utilities must meet these targets and make water conservation their first priority as required by Government (City West Water et al 2007, p. 5). The conservation plan also specifies explicit programs to meet

these conservation objectives, such as water efficient showerhead replacement, water efficient clothes-washer replacement, increased pressure management and leakage reduction (City West Water et al 2007, p. 3).

The Government can change those targets and programs, such as when it decided that all water retailers had to increase their programs to save water by:

- installing an extra 80 000 water efficient showerheads in addition to the 180 000 already committed over the next 18 months
- early commencement of a program to cut water use among the top 1500 industrial water users
- working with Government to install water saving measures in Government buildings (Office of the Premier, 2007a, p. 1).

At first blush, requiring businesses that have a commercial interest in selling water to discourage consumption appears to create an inherent conflict. However, there are a number of reasons why such effects are substantially ameliorated in the water sector.

In the first instance, any such conflict is lessened by the ESC's building block approach to revenue determination, which allows the retailers to recover a given allowed revenue through higher prices if projected (and accepted) sales volumes are lower. From one pricing period to the next, lower sales result in higher prices rather than lower revenue and lower profitability.⁷

More broadly, it may be a commercial decision for retailers to engage in conservation measures if demand management and conservation initiatives are the least cost option for addressing any imbalance between supply and demand – either in the short or longer term. This will depend on the strength of incentives to make such investments. For example, if retailers had individual property rights to water, investment in conservation would be encouraged to the point at which the marginal cost of measures to conserve water is equivalent to the marginal cost of augmenting supply.

For conservation to be an appropriate commercial response for water businesses in part depends on the probability of future supply shortfalls, and also the circumstances in which restrictions may be imposed externally. In this regard, the proposed augmentations announced in *Our water our future: the next stage of the Government's water plan* will inevitably change the balance between the supply and demand of water, which in turn will affect the extent to which conservation will

⁷ Paradoxically, if retailers' efforts to encourage conservation by their consumers are less successful than projected, so that demand is higher than forecast, the retailers will earn more revenue than projected. There is likely, however, to be a reconciliation at the end of the revenue period, which would limit the incentives for retailers to 'game' the projections.

have a role in managing that supply-demand balance. The augmentations can also be expected to affect the manner in which restrictions will be applied in the future, given that a desalination plant does not simply raise supply levels but also moves Melbourne towards less climate dependent water supply sources.

It is beyond the scope of this inquiry to consider how water restrictions will operate once supply has been augmented. Further, it is not possible to predict the extent of conservation measures in the future, which depends on both the timing and scale of the proposed augmentations and also on the volume of water that is available from traditional water sources over time. Some submissions project an ongoing role for water conservation. The MAV (sub. 23, p. 6), for example, notes that ‘there are clear environmental benefits in reduced water consumption’. In the short term, however—until augmentations are in place—it is clear that Melbourne will be subject to restrictions and retailers will be required to implement conservation measures strongly.

Generally, the Commission believes that on the basis of this analysis conservation measures should not be considered to be CSOs. The Commission also believes, however, that it is necessary to seek ways to create stronger financial incentives for the retailers to pursue water conservation. The current approach to price regulation already provides an incentive for the retailers to invest in conservation because it has decoupled revenues from the amount of water sold. To some extent—for example, in reducing leakage—it also builds a fixed return on expenditures on conservation into regulatory asset values. Under the current pooled bulk water entitlements, however, retailers only retain approximately one third of any water that they save through leakage reduction programs. Establishing independent entitlements would enable retailers to appropriate the full benefits of their conservation expenditures and so would strengthen their incentives. As discussed in chapter 5, however, the appropriate water rights framework is a wider issue, which should not be settled by the impact on conservation alone.

The Commission is seeking information on the advantages and disadvantages of different financial incentives for encouraging conservation.

An alternative approach to reduce tensions in incentive arrangements would be for the government to take on responsibility for water conservation. The Government could specify targets, and assess the best means to deliver these targets, from the full range of instruments at its disposal. This approach is applied in the energy industry, where Sustainability Victoria is responsible for providing information and advice about the efficient use of energy. However, such an approach may limit the effectiveness of achieving the conservation outcomes required. The retailers have the closest contact with their customers, and deal directly with them on water issues. Further, if the costs associated with conservation are incorporated into water business costs, this reinforces the

desired outcomes through the price mechanism. It is noted that if SEAV or another entity were given responsibility for water conservation, it could contract with retailers to deliver aspects of water conservation where close contact with their customers was required.

7.2.2 Backlog sewerage

Clause 20 of the statement of obligations requires licensees to develop and implement plans for providing sewerage infrastructure to unsewered urban areas. This can involve significant capital expenditure. Yarra Valley Water, for example, proposed in its Water Plan to spend \$45.89 million on its sewer backlog program between 2008-09 and 2012-13 (YVW 2007a, p. 30). Retailers are permitted to charge no more than \$500 for each connection, which means that most of the cost has to be recovered from other customers. The \$500 cap was set by the Government in 1998 and has not been changed since then to take account of increases in construction costs.

While the impact of this particular obligation on prices paid by other consumers is not likely to be large, it is one of a number of obligations which together can add up to more significant departures from cost reflective pricing. To bring the connection fee more in line with costs, the Commission's initial view is that the maximum payment for backlog sewerage connections could be increased. Requiring property owners to bear the full cost would, however, impose a significant additional cost on them. A more acceptable increase could be to increase the costs of connection in line with the increase in water prices.

The Commission is seeking information about the advantages and disadvantages of increasing the maximum payment for backlog sewerage connections in the metropolitan area.

7.2.3 Council sporting grounds and community spaces

The Western Region Councils submitted that:

The review should consider preferential billing for organisations such as councils that provide the community with social benefits through the use of community facilities (sub. 39, p. 2).

Maribyrnong City Council (sub. 29, p.2) and the City West Water Community Liaison Committee (sub. 24, p. 4) expressed similar views.

In essence, to implement this proposal would suggest that water supply to councils should be treated as a community service obligation, and that:

- water would be supplied at a preferential price to improve the utility of community facilities
- the Government should direct the retailers to provide water on this basis

- the retailers would not choose to supply water at prices that would presumably be below the cost of supply, if acting primarily in their own commercial interest.

Implementing this proposal would face some practical issues, such as the appropriate definition of a community activity. For example, should community groups other than councils also receive subsidised water? Moreover, councils have implemented significant water conservation initiatives, and their incentives to implement further innovations would be reduced by subsidised water prices. There would also be issues around whether such preferential pricing should continue once the drought ends or beyond the major supply augmentations. That said, lower prices could ensure, for example, that sports grounds remain usable and parks and gardens are protected from the drought, consequently maintaining valued community activities. A different approach would be for the Government to set up a special fund that councils could access to enable them to maintain their community facilities prior to augmentation.

Chapter 5 recommended that the Government should establish a clear ownership and regulatory framework for stormwater and recycled water. Any decision by the Government about whether to subsidise council's use of water would need to consider a number of sometimes conflicting considerations and is beyond the scope of this inquiry.

7.3 Corporate form

The *Constitution Act 1975* (Vic.) provides that water services may be delivered by either a statutory corporation or a company all of the shares in which are owned by or on behalf of the state (s97). Either form is compatible with the Constitution.

As noted earlier, the retailers are companies under corporations law, while Melbourne Water is a statutory corporation. In considering which of these corporate forms is most suitable for the retailers, the Commission has considered their advantages and disadvantages in relation to:

- public accountability
- legislative simplicity
- achieving the efficient delivery of the multiple objectives that the government is seeking from the sector
- the extent to which they maintain a formal, arms length, relationship between the boards and the Minister.

Public accountability

A company under the Corporations Act can be formed by the government and declared to be subject to the State Owned Enterprises Act without any examination

of its purposes or other related matters by Parliament. In the case of a statutory corporation, Parliament can consider the need for the corporation, its purposes and the clarity with which they are stated, the number and mode of selection of directors, and other matters. The executive may consider these same matters but the executive process is less transparent. In addition, a company's constitution can be changed by the government shareholder easily and quickly and without public awareness rather than through the slower and more public legislative process required for changes to a statutory corporation.

In relation to ongoing scrutiny by Parliament and the public of the operations of statutory corporations and companies under the Corporations Act, the public accountability requirements are substantially the same.⁸ There is, in addition, independent oversight of state owned companies by the Australian Securities and Investments Commission (ASIC), a Commonwealth statutory body formed under the *Australian Securities and Investment Commission Act 2001* (Cwth.), with responsibility for administering the Corporations Act.

Legislative simplicity

As companies, the retailers must have regard for their obligations under three Acts: the Corporations Act, the Water Act and the Water Industry Act. Melbourne Water, as a statutory corporation, on the other hand, must have regard only for the Water Act and the Water Industry Act.

Satisfying multiple objectives

As noted earlier, the retailers (and Melbourne Water) are required to pursue multiple and potentially conflicting objectives. In doing so, Melbourne Water 'must act as efficiently as possible consistent with commercial practice' (Water Act s94) and each water retailer must operate 'as efficiently as possible consistent with prudent commercial practice' (State Owned Enterprises Act, s69).

The Victorian Local Government Association pointed to a possible tension between commercial and non-commercial objectives, noting that it is the charter of corporations to maximise economic returns, and that:

while in and of itself, this is appropriate, we are concerned that the current governance arrangements do not allow for the flexibility to see their respective charters balance environmental and social targets or outcomes. (sub. 40, p. 1)

The tensions between potentially conflicting objectives can be lessened (but are unlikely to be eliminated) if the Government ensures that the obligations that it wishes to impose on government owned businesses are clearly and transparently

⁸ Both entities are ordinarily subject to the FOI Act, Charter of Human Rights and Responsibilities Act, some provisions of the Public Administration Act, Audit Act requirements for audit by the Auditor General, and the Ombudsman.

specified, and backed up by performance monitoring, as discussed in section 7.1. Yarra Valley Water's view is that:

Corporations Law provides a strong foundation for good governance and a clear framework including director accountabilities and reporting disciplines. (sub. 36, p.86)

Relations between boards and directors

Currently, neither the Minister nor the Treasurer has a legislated power to give a direction to a water retailer other than through amendments to the statement of obligations or variations to water plans. The situation is different with statutory corporations. Sections 307 and 307A of the Water Act enable the Minister, after consulting the Treasurer, to give written directions to a water corporation in relation to the performance of any of its functions. While if the retailers were to become statutory corporations the Minister would have a power of direction, the statement of obligations process as discussed in section 7.1 should reduce the need for this.

A more fundamental issue is that a number of developments in the last decade have affected the basis on which the retailers were set up as companies under the Corporations Act:

- Their commercial flexibility has been progressively eroded as the proportion of the costs they control has fallen (see chapter 3) and would be further eroded by the introduction of shared services (see chapter 4).
- An increasing proportion of their costs are government-imposed non-commercial obligations, principally through the statement of obligations, as described earlier in this chapter.

The Commission considers it is important to ensure that an appropriate corporate form is in place, consistent with the fiduciary duties under which directors operate. Although moving the retailers from state owned companies to statutory corporations would involve some costs, given that the commercial flexibility of the retailers is significantly less than when they were set up as companies and that the Government is imposing an increasing number of non-commercial obligations on them, the Commission believes that it would be more appropriate that they be made into statutory corporations.

Draft recommendation 7.3: That the retailers be made statutory corporations under the Water Act.

7.4 Government shareholder oversight

7.4.1 Role and rationale

Effective shareholder monitoring is a particularly important driver of efficiency and accountability in corporatised businesses, and may be a restraint on managerial discretion to pursue objectives other than those specified by government.

Private sector businesses are exposed to continuous shareholder and debt market scrutiny, with sanctions for a poorly performing management that include takeover, receivership, insolvency and bankruptcy. These disciplines are largely absent for government businesses, and hence ways have to be found to perform this role in the public sector. It is notable that some jurisdictions have elected to set up quite separate entities to perform the shareholding role—although this is a broader issue that cannot be addressed in this inquiry. Yarra Valley Water believes there should be ‘greater shareholder oversight to ensure focussed and effective monitoring of performance’ (sub. 36, p. 86). The Commission endorses Yarra Valley Water’s views about the importance of this role and in particular the need for a robustness in the corporate planning review process and in the setting and application of dividend policy (section 7.4.3).

7.4.2 Reviewing projects

Each year retailers prepare corporate plans for review by the Department of Treasury and Finance (representing the Treasurer as the shareholder of the retailers). The retailers also prepare water plans for review by the ESC at the start of each regulatory period, as described in chapter 2. It is expected that the water plan and the corporate plan will be prepared on a consistent basis (although over the course of a regulatory period the assumptions/projections in the water plan are likely to be updated for the purposes of the corporate plan in the light of developments, such as revised demand projections, Government policy initiatives and cost movements). As a water plan is currently prepared every three years, over time the actual and projected performance of the business will be different from the assumptions/projections in the water plan. Also, during the course of a regulatory period new projects (or revised cost submissions) that were not included in the water plan will come forward for the consideration of the Treasurer and the Minister for Water.

The Department of Treasury and Finance currently reviews detailed investment evaluations prepared by the retailers for all capital projects in excess of \$5 million. The capital expenditure detailed in the corporate and water plans may include projects which have been endorsed by the Minister and approved by the

Treasurer. It may also include proposed expenditure on proposals which have not been endorsed or approved.

While the Commission endorses the underlying purpose of the Department reviewing large capital projects (to protect the Government's financial exposure), it recognises it is not entirely consistent with individual entities having autonomy with respect to investment decisions. Moreover, the review process involves transaction costs and can delay delivery of capital programs.

The requirement for evaluations of projects exceeding \$5 million has been in place since 1993. The level of capital expenditure in the water sector is now substantially higher, and retailers are seeking new ways to deliver these projects more efficiently—such as through alliance contracts in which 'like' projects are bundled. As a result, an increasing proportion of projects can be expected to fall into the review process.

A complicating factor is that water businesses outside Melbourne are smaller than the retailers, often considerably so. Hence increasing the \$5 million threshold across the entire water sector could mean that the capital expenditure proposals of some businesses are never scrutinised. This problem could be addressed either by having different thresholds for different businesses, or by setting the thresholds as a proportion of a business's capital expenditure.

On balance, the Commission believes the review process should continue, but that there is a need to lift the threshold for the retailers.

Draft recommendation 7.4: That the threshold for review by the Department of Treasury and Finance of water retailers' capital works be raised from the current amount of \$5 million and be based on a percentage of each business' capital expenditure.

7.4.3 Dividends

It is common practice for boards of government owned businesses to make initial recommendations about the size of dividends and the assessment of capacity to pay dividends.

In Victoria, the three retailers pay dividends to the Government of Victoria, based on profitability and the government's dividend benchmarks:

- dividend = 50 per cent of net profit after tax
- dividends + income tax paid or payable = 65 per cent of profit before tax.

These percentages can be varied to take account of the retailers' liquidity and forecast cash requirements, the views of their board and the budgetary requirements of the general government sector (AGV 2004, p. 54). The

Department of Treasury and Finance is responsible for dividend payments and for overseeing the Government's 'shareholder' interest, including setting and administering the Government's dividend policy.

The dividend policy reflects the principle that dividends should only be paid out of current or accumulated profits—as required under the *Corporations Act 2001 (Cwlth.)*. This ensures that the retailers retain sufficient funds to enable them to conduct their business. This practice is considered to mirror commercial reality and is competitively neutral as required by the National Water Initiative (NWI steering group on water charges 2007, pp. 24–5).

As discussed in chapter 3, while dividends have fallen in dollar terms, over the past three years they have increased as a proportion of net profit after tax to a point where up to 100 per cent of after tax profits are distributed. This may be a reflection of a conscious effort to raise gearing levels, which were historically at relatively low levels in the early 2000s. However, recently the dividend levels have been combined with an accelerating capital expenditure program and an uncertain operating environment. This has placed a number of the retailers at threshold levels of interest cover and financing ratios (based on the ESC's parameters).

Contrary to concerns expressed by some inquiry participants, the dividend payout ratios of water retailers in recent years do not result in a higher cost of capital for retailers and, thus, higher prices to consumers. Nor will they compromise retailers' access to capital to finance investments and their consequent ability to meet their service obligations.⁹ From this it follows that the level of dividends also has no influence on competitive neutrality in the urban water industry and accordingly does not represent an impediment to future contestability in the industry.

Various submissions suggested that the Government should reinvest the dividends received from the water companies back into the community through grant programs and water saving projects (for example, Western Region Council, sub. 39, p. 2; MAV, sub. 23, p. 5). To the extent that these suggestions imply reinvestment of dividends is necessary to ensure that retailers have sufficient funds to meet capital expenditure requirements, these suggestions do not take into account that the retailers already have adequate access to finance (through debt) to meet their investment needs. To the extent that these suggestions imply

⁹ In practice, retailers borrow via the Treasury Corporation of Victoria (TCV), rather than in their own right. This means debt is available at the cost of debt to the Government of Victoria plus a risk premium that TCV determines is relevant to the water businesses. As the borrowings of the water retailers are too small to affect materially the credit rating of the State of Victoria, and the ESC's price determination is set having regard to ensuring retailers maintain their creditworthiness, the dividend policy as it applies to the three retailers is unlikely to have any effect on the cost of their borrowing.

retailers should invest in particular projects, such calls run contrary to the commercial and other obligations under which the retailers operate. Moreover, automatic reinvestment of dividends would reduce the ability of the Government (as the shareholder receiving those dividends) to ensure that these resources are used where they can most benefit the community.

That said, chapter 3 noted that there has been some deterioration in the retailers' financial indicators in recent years. The ESC is required under the Water Industry Regulatory Order 2003 to approve prices that allow the retailers to recover operating costs and a rate of return on assets and new investment (that is, to ensure they remain viable, sustainable businesses). Nevertheless, the Government's dividend policy should be cognisant of the retailers' financial situation, the uncertainty of the current operational environment, future investment plans and the fact that a number of financial indicators place the retailers at the lower thresholds of benchmarks. Therefore, the 65 per cent pre-tax payout ratio which has been applied in recent years may not necessarily be appropriate in the future, and a flexible approach—with annual dividend levels developed through consultation with the retailers—should be employed. This is particularly the case if it is necessary to defer regulatory depreciation for any retailer to achieve the Government's pricing policy.

7.4.4 Capital structure

As discussed in chapter 3, for much of their history, the retailers' gearing ratios have been below and their interest cover well above the ESC's pronounced threshold levels. In recent years, however, these ratios have deteriorated. The ESC should consider carefully these financial benchmarks in determining revenue requirements for the next regulatory period. If this deterioration was to continue after prices are adjusted at the start of the next full regulatory period, the Government would need to consider its options for strengthening the retailers' capital structures. Options would include:

- allowing the retailers to retain a greater proportion of their profits
- an injection of capital by the Government to enable the retailers to fund an increased share of their capital expenditures without resort to borrowing
- reallocating capital between retailers in order to reduce differences in their gearing ratios.

The Commission does not believe that there is an identified need for any of these options at the moment. However, the Government should consider this issue after the ESC's price determination for the period beyond 1 July 2009 has been completed. The impacts on the state budget and the effects on incentives of these options would need to be considered, along with their impacts on capital structures.

7.5 Planning

7.5.1 Characteristics of a good planning process

The National Water Commission (NWC), in its recent assessment of the National Water Initiative (NWI), stated that:

Despite most states indicating that they are on track with NWI timing for water plans, progress in rolling out plans consistent with the NWI continues to be a challenge for governments. The slow and in some cases inadequate delivery of water plans is a potential threat to achieving NWI outcomes on a statewide and national scale. (2007b, p. 42)

The NWC noted that urban water planning should ensure:

- Better integration of water supply demand scenarios and options
- Consideration of all supply options (including recycled water, desalination, rural to urban water trade, and cross-basin and inter-basin water transfers where economically viable and environmentally sustainable)
- Best practice climate change scenario planning, and strategies to include non-climate dependent water supply options when required to secure water supplies, and
- Clearer articulation of supply risk and security in plans, including exploring the feasibility of a national minimum reliability benchmark for water supply for major centres (in regard to expected frequency and severity of water restrictions) developed in consultation with the community. (NWC 2007b, pp. 21-2)

While these comments were made as part of a national assessment, rather than referring to Victoria, they nevertheless suggest that it is timely to consider whether there is scope to improve water planning for Melbourne, particularly in regard to the role of the retailers.

7.5.2 Developing supply-demand projections for Melbourne

The planning process for the water sector, the assumptions regarding water supply-demand, and the implications of the supply augmentation announced by the Government in *Our water, our future: the next stage of the Government's water plan* (2007b) are relevant to the view taken on the future cost and operating arrangements for Melbourne's retailers. It should also affect their view of the likely impact of demand management on their costs, with the scope for priority setting in capital expenditure.

The Victorian Government's White Paper *Securing our water future together*, stated that:

The water supply-demand strategy for Melbourne, to be produced jointly by the Melbourne water authorities in consultation with the community by early 2007, will update and refine the water resources strategy for the Melbourne area completed in 2002. This joint approach, building on the local knowledge each retailer offers, will help to ensure a mix of innovative local solutions combined with integrated system-wide planning.

The Water Supply-Demand Strategy will identify the optimum mix of long-term water demand and supply management measures, including the development of alternative water resources, to ensure that Melbourne's water-use needs continue to be met. (Government of Victoria 2004, p. 149)

This action was incorporated in legislation and subsequently in the statement of obligations for the retailers. A draft study was completed in 2006, in a similar time frame to the *Central region sustainable water strategy* (CRSWS), which was co-ordinated by the Department of Sustainability and Environment. This reflected a growing concern that the long-term trends in inflows to reservoirs might not accurately reflect the future:

It is important to plan for the possibility that low inflows to reservoirs may continue and be ready to take immediate action to secure out water supplies. The immediate actions for each sub-region are based on the assumption that low inflows conditions will continue. This approach is less risky than assuming inflows will soon return to average conditions, when there is no evidence to suggest that this is about to occur. The consequences of managing our water supplies for average inflows, if they do not eventuate, are unacceptable. In addition, investments made on the basis of continued low inflows are unlikely to be wasted. They will certainly be needed in the long-term to provide for population growth and climate change.

Annual reviews of water availability and actual use compared to the forecast will be undertaken. If the reviews show that inflows have returned to more average conditions, the volumes of water required will be reconsidered. If actions can be safely deferred, they will be. (Government of Victoria 2006a, p. 18)

In 2007 the Government released *Our water, our future, the next stage of the Government's water plan*, which highlighted the consequences of the significant reduction in inflows to reservoirs and introduced a third scenario to the forecast Melbourne storage levels used in the CRSWS (100 year and 10 year average inflows); namely the inflows for the past three years, including 2006, when inflows were 30 per cent lower than the previous driest year (Government of Victoria 2007b, p. 20). The Government announced that:

To manage the risk of very low inflows, new water supply projects will be brought forward immediately. (Government of Victoria 2007b, p. 22)

As noted in chapter 1, these projects were the Tarago reconnection, the Sugar Loaf interconnector, the desalination plant, and the Eastern Treatment Plant upgrade (recycled water).

The effect of these decisions is that responsibility for planning for an uncertain future of water supply/demand has effectively moved from Melbourne Water and the retailers to the Department of Sustainability and Environment. This is appropriate as both the risk issue associated with significantly reduced water inflows and the policy choices for managing them are ones for which the Government will be regarded as accountable.

The retailers' current statements of obligations include an obligation to develop a joint supply-demand strategy. However, in the period until the supply augmentation projects are completed, it seems more appropriate that the Office of Water should coordinate the annual review of the supply-demand situation envisaged by the CRSWS, taking account of progress with the supply augmentations and their operating arrangements. This would require an amendment to the statements of obligations.

The annual review process should also make it less likely that the retailers would adopt different approaches to demand forecasting and to demand management outcomes in future Water Plans.

An annual supply-demand planning process should improve the retailers' understanding not only of likely demand management outcomes, but also of the scale of capital expenditure required to augment supply. The recent draft water plans indicate that bunching capital expenditures can result in substantial and 'lumpy' increases in aggregate costs, which then flow through as price increases to customers. In future the corporate planning process and/or interaction with the ESC, informed by the supply-demand forecasts, should ensure that a consolidated view is taken of capital expenditure proposals.

In the longer term, the possible movement of the planning role from the Office of Water to a system planner (which body could eventually become the water grid manager discussed in chapter 8) could be considered. Such a move would potentially also encompass a greater role for other industry participants. The evolutionary development of VENCORP (especially in regards to gas) could be a useful precedent in this regard (box 7.5).

Draft recommendation 7.5: That the Office of Water, with input from Melbourne Water and the retailers, coordinate the annual review of water availability and use in the metropolitan area envisaged in the *Central region sustainable water strategy*. This review should be linked to the supply augmentation projects and their operating arrangements. The retailers' statement of obligations should be amended accordingly.

Box 7.5 VENCORP'S role in the gas sector

VENCORP is a statutory organisation established under the Gas Industry Act. In the gas sector, it is the:

- independent system operator for the Victorian gas transmission network (but not the transmission system owner)
- manager and developer of the Victorian wholesale gas market
- facilitator for gas full retail contestability functions
- transmission infrastructure planner.

As part of its planning responsibilities, VENCORP publishes a Gas Annual Planning Report which presents information including:

- demand forecasts for high, medium and low economic growth scenarios
- forecasts of gas supply and storage
- a review of supply and demand
- the adequacy of transmission system capacity and the supply-demand balancing outlook
- monthly planning analysis for the year ahead
- update on previously identified major system augmentations
- a long term network development outlook.

This planning report provides information to the market about augmentation opportunities. VENCORP would only step in as a last resort to develop augmentations in the event that the market does not react.

Sources: VENCORP 2007, VENCORP (nd).

7.6 Economic regulation

Independent economic regulation is a crucial part of the institutional framework. The approach that is used in Victoria is incentive regulation, the effectiveness of which depends on whether the regulated businesses are commercially motivated and on whether the businesses have operational autonomy for their corporate objectives. Generally, the Commission believes that to the extent that the measures to enhance governance arrangements outlined above strengthen these features, they will simultaneously strengthen the effectiveness of incentive regulation.

7.6.1 Length of the regulatory period

The inquiry's terms of reference require the Commission to consider the appropriate length for the regulatory period for which prices are to be set.

In March 2007, the ESC outlined the advantages and disadvantages of a longer regulatory period (box 7.6), and concluded that the water plans should cover a

five year period from March 2007. It noted that while it would not normally change prices within the regulatory period, there is flexibility to adjust in response to events that are outside the control of the water businesses.

Box 7.6 Advantages and disadvantages of longer regulatory periods.

Advantages:

- Reduced administration costs for the Commission, water businesses and ultimately consumers
- Greater certainty for customers about the outcomes to be delivered over a longer period and the future direction of prices
- Greater opportunity for the incentive properties of the regulatory framework to work
- Strengthened incentives for businesses to develop proposals with a longer planning horizon
- Encouraging regulators to take a long term approach to identifying and imposing obligations on the businesses.

Disadvantages:

- Ability of businesses to provide robust forecasts for later years
- Dealing with the impact of uncertain or unforeseen events that may have significant impacts for revenue
- Ensuring that all the obligations and outcomes to be delivered are identified at the outset of the regulatory period.

Source: ESC 2007b, p. 6.

Since the time of the ESC's determination, there have been significant changes which now suggest that a shorter regulatory period may be more appropriate than the five year period foreshadowed by the ESC in March 2007.

As noted in earlier chapters, the announced augmentations have changed the cost structures of the retailers, as is indicated by the fact that the augmentations are the major contributor to the foreshadowed doubling in water prices, which is itself an unprecedented variation. While the projects are known, their timing and cost will not be finally determined until procurement processes are complete, and variations in both of these parameters could impact on the retailers' revenue requirement.

In addition, as noted earlier in this chapter, the augmentations will substantially affect the supply-demand balance. Until augmentations are in place, the volume of water sold by retailers will be constrained by restrictions and other conservation measures. Once supply is no longer so constrained, demand should return to more normal levels and may also warrant consideration of some

adjustments to the policy targets for water conservation. The uncertainties associated with such variations in demand suggest that there should be a delineation in the regulatory process between the periods when supply is constrained and when it is non-constrained.

The experience of the current regulatory period demonstrates that changes in parameter values within a period can have large impacts on the prices in the subsequent period. In discussions, Yarra Valley Water, for example, indicated that if prices had been set at the start of the current regulatory period based on information that is known today, the regulated price increase would have been 7.7 per cent per annum, rather than the 1.7 per cent per annum that the ESC granted. With a higher starting price, the required price increase in the next regulatory period would have been 15.6 per cent per annum, well below the 21.8 per cent per annum increase that Yarra Valley water requested (Yarra Valley Water 2007b).¹⁰

The Australian Water Association also noted that there is an interplay between the period for which prices are set and the large variations in demand for water during a period of severe drought, with uncertainty about future rainfall and runoff recovery. The Association suggested that:

There is much to be said for a return to annual pricing based on a real understanding of what is happening in each retailer's or authority's region. (sub. 26, p. 6)

Finally, as well as the uncertainties associated with augmenting supply, the Commission cannot predict the Government's response to the recommendations in this report. Should the recommendations be accepted, they would lead to some significant changes in the environment within which the retailers are operating.

In the light of these issues, the Commission believes that the next pricing period should be shorter than the five years envisaged by the ESC before the augmentations were announced. The Commission does not support a return to annual reviews, as such short periods in themselves create uncertainties, which may divert the retailers (and Melbourne Water's) attention from their core business tasks and could increase the costs of undertaking the reviews themselves. On balance, the Commission believes that the pricing period for the next term should be for three years, from mid 2009 until mid 2012, by which time the uncertainties around the augmentations outlined above will largely have been resolved.

¹⁰ Five percentage points of the 6 percentage point discrepancy is due to customer demand being lower than projected.

Draft recommendation 7.6: That the Essential Services Commission's revenue determination period beginning in July 2009, be for a period of three years.

7.6.2 Other regulatory initiatives

Performance reporting

As noted, the ESC has long had a role in monitoring and reporting on the performance of the metropolitan retail water sector. The contribution of performance reporting to accountability and the adjustment of programs to achieve intended outcomes was also discussed in section 7.1, where it was suggested that retailers could be required to report on their progress in achieving outcomes that should be specified in the statement of obligations.

The ESC (sub.56, p.12) argued that:

...regular publication of independently verified information increases the transparency and public accountability of utility businesses and forced businesses to improve performance or address worse served customers.

The Consumer Utilities Advocacy Centre (CUAC) also noted that performance reporting and transparency contributes to:

...informed consumer advocacy, which in turn enhances the regulator's decision-making processes. Robust performance reporting and regulatory audits are crucial tools to detect and highlight service deficiencies. (sub. 45, p. 3)

The CUAC (sub.45) and other participants argued that in addition to the indicators already reported to the ESC, the retailers should report:

- innovations (Yarra Valley Water, sub. 36, p. 3)
- indicators to demonstrate compliance with Customer Service Codes and other regulatory requirements (sub. 45, p. 3)
- indicators that enable performance assessments of hardship policies and programs (sub. 45, p. 3)
- indicators that highlight the ability of the retailers to meet environmental objectives (sub. 45, p. 3).

While there are examples of the retailers' reporting in these areas occurring in annual, sustainability and other reports, and some of these areas are monitored by the ESC, there does not appear to be a comprehensive report of their performance in relation to the statement of obligations. The Commission believes that it would be a significant improvement if the retailers submitted such

a report to the Minister for Water. This would cover many of the areas mentioned in submissions.¹¹

Draft recommendation 7.7: That the retailers report to the Minister for Water their performance in achieving the outcomes specified in their statements of obligations.

The Commission believes that, in addition to this approach, there may possibly be scope for the ESC to increase its scrutiny of the retailers' performance through overseeing some enhanced use of cost-based benchmarking. Chapter 4 outlined areas in which there is scope for the retailers to reduce costs through shared provision of services. In areas where shared provision is not feasible, benchmarking could be used to encourage cost reduction and service enhancement.

For example, the ESC could, in consultation with the retailers, identify processes that each retailer undertakes and then expose them to open-book benchmarking. Examples might be billing, meter reading, recruitment, training, maintenance, managing occupational health and safety, and processes for managing new developments. Performance indicators could be specified in each area, such as the cost per meter read, the cost of applications pertaining to new applications, the cost per kilometre of main laid, training costs per employee and so on. Such measures could be reported regularly and subject to independent audit to provide assurance of data integrity. The benchmarking could be undertaken by an independent entity funded by the retailers. An option would be for a joint steering committee (with shareholder representation) to oversee the process.

Benchmarking against such indicators would reveal differences in performance and approach. Without becoming involved in business decisions, the ESC could use the information learnt from benchmarking to question the retailers about the reasons for the differences, which would both stimulate innovation and opportunities for learning from the experience of others.

Possible benefits of this process include:

- open and transparent measurement and reporting will reveal the areas that provide the greatest opportunities for further efficiency and cost reduction
- it could identify functions that may be undertaken on a shared services basis
- strengthened scrutiny could promote further efficiency improvements
- efficiencies could be passed through to customers in the form of lower prices.

¹¹ City West Water's statements of obligations, for example, has provisions relating to innovations (S6(g)), Customer Service Code (S14.1(b)(i)), hardship policies (S31(d)) and the environment (S6 (c)) and S22.1).

Draft recommendation 7.8: That the Essential Services Commission introduce, on a trial basis, a rolling program of benchmarking of the retailers' processes and activities.

8 Longer term issues for the Melbourne metropolitan retail water sector

In identifying structural and non-structural reforms for the metropolitan retail water sector, the Commission has been mindful to propose recommendations that do not close off or make more difficult options for further reforming the water sector in the longer term.

The purpose of this chapter is to outline the range of longer term issues and potential reforms which the Commission has considered may be relevant for the Melbourne metropolitan water sector going forward. The Commission does not put forward a view as to which—if any—of these reform options should be pursued. However, given the focus of this inquiry on structural reform of the retail water sector, it has considered the implications of each of these options for the structure of the industry in the longer term.

It is in this context that this chapter examines:

- key long term issues under centralised management of the metropolitan water sector (section 8.1)
- possible steps towards greater contestability (section 8.2)
- the potential development of urban water markets (section 8.3)
- the structural implications of potential reform options (section 8.4)
- future work required to develop these reform options to a stage that they can be properly evaluated (section 8.5).

8.1 Centralised management

At present, the metropolitan water sector operates largely within a centralised management framework. The Bulk Entitlement Management Committee, comprising representatives from the three retailers, Melbourne Water and a representative from other bulk entitlement holders in the Melbourne headworks system, is the decision making body in respect of a number of issues relating to the bulk entitlements.¹ As the storage operator and operator of the bulk water supply infrastructure, Melbourne Water makes the operational decisions on water releases from different storages within the overall guidelines set out in the annual operating plan² subject to constraints in relation to environmental flows, flood mitigation,

¹ Only the retailers have voting rights (BEMC 2006, clause 2.2).

² The operating plan outlines the proposed storage management strategy consistent with storage management rules. These rules and the operating plan are both developed by Melbourne Water in consultation with entitlement holders. The operating plan would include forward-looking scenarios based on a range of

water quality considerations and bulk transfer capacity constraints during peak periods. As noted in chapter 1, major augmentation projects have been chosen and approved by the Government, based on input from Melbourne Water.

It is possible for the Melbourne metropolitan water sector to continue to be operated in this manner into the future. However, one consequence of the planned augmentations for Melbourne is that the water supply system will become substantially more complicated, with a much wider range of choices (and costs and risks) in relation to which source or combination of sources of bulk water can be accessed, and increased interconnection with neighbouring water corporations.

As a result, centralised decision making processes will find it increasingly difficult to marshal the growing amount of information required for efficient decisions. Moreover, these augmentations give rise to a range of additional issues that will need to be managed, including:

- determining how Melbourne storages will be operated to optimise reliability of water supply and cost efficiencies
- the future operation of the Melbourne water supply system as it relates to the expanded water grid
- options to amend bulk water entitlements to incorporate the additional inflows to the system from the desalination plant and the Sugarloaf Interconnector
- how to allocate the costs of operating the Melbourne supply system to existing and new bulk entitlement holders
- how to allocate costs associated with the Foodbowl Modernisation Project, including developing appropriate price signals and other incentives to deliver required water savings.

The Commission believes that the most important of these issues is the means by which the metropolitan system will be optimised, having regard to the new supply sources which will become available as a result of the Government's augmentation plans. Consideration of this issue is required in a timely manner, given its relationship with the procurement process for the desalination plant. For example, the nature of the optimisation arrangements may differ depending upon whether the procurement arrangements are structured as:

- a take or pay contract
- a capacity contract, with full flexibility as to the volume of water produced from time to time

possible climatic conditions, and a multi-year outlook consistent with the planning cycle for preparation of authorities' water plans (Government of Victoria 2007b, p. 92).

- some hybrid arrangement, in which a certain proportion of water is available on a take or pay basis, and the remainder is subject to more flexible arrangements.

In this respect, the potential for large water user retailer contestability as envisaged in chapter 5 (section 5.3) may be one relevant factor in determining the structure of these arrangements as, more broadly, will be the manner in which risks associated with the project are allocated.

Continuing the current centralised management approach in the metropolitan retail water sector does not have any substantial implications for the structure of the retail sector beyond those previously considered in chapters 4, 5 and 7. The increased complexity of the potential management task suggests, however, that greater emphasis may be placed on the task of water grid management. Alternative approaches to how this task may best be undertaken are considered in section 8.4.2.

8.2 Steps towards greater contestability

While continued centralised management of the Melbourne metropolitan water sector is feasible, there is also the potential for various reforms that could result in greater contestability in the water sector—in particular, with respect to competitive sourcing and tariff reform.

8.2.1 Competitive sourcing

Competitive sourcing refers to contestability in the wholesale market rather than reform of urban water markets as a whole. Under competitive sourcing, a monopoly purchaser with responsibility for securing bulk supply for a group of customers uses a form of competitive tendering to source the defined bulk water services. In the Victorian context, the purchasing entity could be a water corporation (e.g. Melbourne Water) or a water grid manager (section 8.4.2). Tender requirements could be specified in terms of defined projects or defined outputs. The tender process could allow any technological solution to be proposed or could place limitations on what would be considered.

The advantages of this approach are that, while leaving decisions about timing, sizing and sequencing of options with a central body, it can promote innovation and lower cost in new bulk supply. The benefits of this approach depend on how effectively future requirements are developed and communicated, and how well the procurement process is run. It is also important that the terms negotiated with the provider for delivery of water do not undermine the capacity for optimising supply from the range of providers in the network.

The Economic Regulation Authority of Western Australia commented on competitive sourcing in its recent draft report on that state's water and wastewater services sector (Economic Regulation Authority, 2007, pp. v-ix).

8.2.2 Tariff reform

Simultaneously with this inquiry, the Essential Services Commission (ESC) is reviewing water tariff reforms, including:

- increasing reliance on volumetric as distinct from fixed charging for water consumption
- combining volumetric charging for residential and non-residential water and sewerage services
- moving from three to four tier block volumetric charging for residential water customers—including the scope for the introduction of special reduced tariffs for larger households; i.e. six or more occupants
- the proposed shift in charging to increase the share paid by non-residential customers
- other tariff proposals including meter based charging; trade waste tariff reforms; higher increases in the first year (i.e. P0 adjustments); and new customer contributions and the associated treatment of shared assets (ESC 2007, p.79).

The ESC's draft report for this review points out that there is no ideal tariff structure that suits all circumstances and customer preferences (ESC 2007, pp. 23-25). While its focus is on proposals that could be implemented in the short term, in the medium to longer term, tariff reform could aim to improve price signalling through developing incentive-based tariffs (initially for large users, but potentially, for all customers) so that prices include a component that reflects the scarcity value of water. Initially, such tariff reform could be implemented without urban water markets, using a centrally determined economic water value model that would need to be developed in an attempt to replicate the operation of an actual competitive water market. The model would incorporate the production of a centrally determined 'spot price'.

Farrier Swier Consulting described how this model might operate in a report on the large user water market, prepared for the Bulk Entitlement Management Committee (sub. 53, pp. 42–5). For example, retailers might offer a choice of two types of tariffs to customers:

- an unlimited volume tariff
- a new spot tariff option which would permit customers to choose a fixed volume of water at a known price; and a variable quantity of water at the

centrally determined ‘spot price’ (reflecting the value of water in storage as calculated by the water value model).

With respect to the spot tariff option, Farrier Swier Consulting noted:

The prices for the fixed volume would be set by the retailers at a discount to the uncapped volume tariff so as to ‘reward’ large users that choose to be exposed to the spot price [for additional volumes above the fixed level]. If the spot price is high (due to relative water scarcity) then users would either conserve water and/or pay the spot price for any volumes in excess of the fixed volume. If the spot price was low [because storages are relatively full], then users would have less incentive to conserve water. (sub. 53, p. 43)

That is, this option allows users to take a view on future water prices and to make decisions consistent with their capacity to make water savings. Thus, a water user with little capacity to conserve water at anticipated prices would elect to pay the higher unlimited volume tariff, while firms that could conserve water may choose the spot tariff option.

This option would provide incentives for water conservation that would vary with the state of the water storages, and consequently has the potential to improve allocative efficiency. It may also be seen as equitable, as users would share in the burden of water restrictions unless they were willing to pay a higher price. Developing and operating this option could also provide a learning opportunity which could assist the development of a water trading market, should a decision be made to do so.

One limitation of this option is that a water value model would be based in part on assumptions about customers’ valuation of reliability and responsiveness to price. It would be difficult for such a model to produce accurate water value estimates, given the uncertainties around these parameter assumptions. This limitation suggests that this option would probably best be regarded as an interim step rather than an end point.

8.3 Urban water markets

As the complexity of the metropolitan water market increases, the capacity of a centralised management approach to deliver optimal decision making diminishes and the opportunity for decentralised, competitive approaches increases. These factors point to the potential for the development of competitive urban water markets.

The benefits of competition can include:

- improvements in resource allocation facilitated by more efficient price signals, particularly for capital investment decisions

- gains in productive efficiency as competitive pressures reward good performers and penalise inefficient firms
- more dynamic efficiency, through enhanced innovation.

Facilitating competition in regulated industries, however, also entails costs; for example, in establishing the regulatory arrangements under which a competitive market may operate. Further, some significant pre-conditions would need to be satisfied before a more decentralised approach to water markets is likely to be acceptable.

First, given the Government's sustainability objectives, water resource and environmental obligations would need to be clearly specified before market structures are developed. In this regard, the Commission notes for example that while moves have been made to enhance environmental flows for the Yarra in recent years, their application has been delayed as the Government has sought to deal with the effect of drought conditions on consumptive supply.

Secondly, participants in an urban water market would need to be subject to appropriately specified obligations with respect to issues such as environmental outcomes, public health and drinking water quality. These obligations could be set out in specified instruments, such as water resource management legislation and community service obligations. Indeed, a benefit of pursuing competition reforms is that it requires the Government to specify clearly the water resource management and other framework constraints within which competition would be allowed to operate.

Thirdly, markets work more effectively when rights and obligations to water, wastewater and infrastructure are clear. Some work has been undertaken on different types of water rights, but there is debate about what form these arrangements should take (section 5.4) and their relationship to potential market design.

A review of the prospects for a large user water market, undertaken for the Bulk Entitlement Management Committee by Farrier Swier Consulting (sub.53) suggests that potential reform is still at a formative stage.³ There are significant differences between water and gas and electricity markets; for example, water can be stored while electricity cannot, and transmission costs for water are relatively high in relation to the value of the product. Such differences imply that the reforms in the gas and electricity markets may not be as readily applicable to water, and there is little published information available about the implementation of urban water markets. The review by Farrier Swier Consulting,

³ For example, Farrier Swier Consulting conclude that considerable work would be required to develop the implementation details of a delivery entitlement model (sub. 53, p. 48) and that much more work would be needed to develop the details of a physical trading, forward contracting market (sub 53, p. 70)

as well as other recent reviews by the New South Wales Independent Pricing and Regulatory Tribunal (IPART) and the Economic Regulation Authority of Western Australia, did not identify examples of effective urban water markets in other jurisdictions. However, to facilitate understanding of the scope of options, the following sections outline a range of potential approaches to establishing urban water markets and some of the challenges involved in developing them further.

Current market-based systems for allocating water are under-pinned by a system of transferable water rights. If water rights are clearly specified, not influenced by the actions of others and enforceable, they can be traded or underpin the basis of trade, which enables a market to develop. Trade results in the value of water being determined by the willingness to pay of water users, which enables decentralised decisions to reallocate water from low to high value uses. The market price of water reflects its most highly valued uses, and so provides efficient signals to users as to whether they should seek to purchase more water or spend money on conservation. If the overarching rights framework extends to groundwater, wastewater and stormwater, as discussed in chapter 5, market prices could in principle signal efficient choices between these different water sources.

Broadly, two urban water market options are outlined below. The first—drawing on the approach that has been implemented in northern Victoria (box 8.1)—is based around trade in water entitlements themselves. The second is based around a contract model for the supply of water, rather than transfers of the underlying entitlements.

8.3.1 Entitlement-based water markets

Entitlements to water are defined either as source entitlements to a share of the water in each storage⁴, or delivery entitlements. A delivery entitlement is the right to take water from a specified source for a defined period, with the volumes subject to periodic adjustment to reflect the varying availability of the water resource. Delivery entitlements have two key elements:

- the right to receive a defined quantity of water, with a corresponding obligation to pay for storage services related to that water
- the right to delivery services through bulk transfer and retailer distribution systems, with an obligation to pay for such services.

⁴ Currently the retailers hold pooled source entitlements.

Delivery entitlements could be made available to large users, although Young (2007) proposes that they be available to all customers. Trading in entitlements has developed strongly in northern Victoria (box 8.1).

Box 8.1 Water trading in northern Victoria

According to the Department of Sustainability and Environment (DSE), Victoria and its two neighbouring States have pioneered the development of a trading market for irrigation water. Victoria's water market enables both permanent trade (transfer of the on-going right to allocated water) and temporary trade (where some or all of the water available under a right in only the current season is transferred). DSE estimates that each year's permanent trade to high-value enterprises is valued at over \$100 million (DSE 2007c). During droughts, temporary trade makes up as much as 15 per cent of total water use—offering income to those choosing to sell, while enabling high-value plantings and stock to survive (DSE 2007c). Modelling by the Productivity Commission found that water trading could reduce the overall impact of drought by as much as 50 per cent (PC 2004).

In rural Victoria, water authorities play a number of roles in relation to water trading: they register trades between parties; set rules that limit some trades; monitor compliance with allocations and account balances, so that users only use what they have paid for; and provide information about the availability of water. Watermove (a business unit operating out of Goulburn Murray Water) conducts water exchanges in water trading zones in Victoria where trading rules have been defined. Traders may submit offers by mail, facsimile or on-line, and eligible offers will be included in an exchange for the relevant trading zone. The Watermove exchange is conducted weekly on a Thursday and is designed to determine a 'pool price', where successful sellers receive a price greater than or equal to their offer price and successful buyers pay less than or equal to their offer price. That is, the 'pool price' for the trading zone will be less than or equal to the buy price offered by successful buyers. A Water Exchange Controller, who is selected by tender and independent of Watermove, is assigned to supervise the integrity of the exchange.

Source: VCEC 2007.

While the details of how trading in entitlements might occur in urban markets remain to be settled, potential benefits of an approach based around trading in some form of entitlement include:

- retailers with bulk source entitlements would have an enhanced incentive to conserve water, using both demand and supply side measures, up to the point at which the marginal cost of conservation is equal to the expected marginal cost of the alternative way of securing the same amount of water, by buying it from another retailer
- dispatch decisions would be made on the basis of the views of a number of market participants, rather than just Melbourne Water

- retailers would also have incentives to invest in supply augmentations, when this was less costly than water conservation
- consumers would have improved access to additional sources of water.

There are, however, significant issues to be resolved before trading in entitlements could be implemented, including:

- the legal specification of entitlements, which will be complicated by the introduction of new sources of water from the desalination plant, the north-south interconnection, and recycling
- specification and operation of environmental entitlements
- additional regulatory oversight of retailers' security of supply obligations
- development of the skills within the retailers to take on the additional obligations imposed on them by this model
- working out the basis for allocating delivery or source entitlements between market participants.

While trade in entitlements has been successful in northern Victoria, there are substantial differences between the existing rural water market and the urban water sector, which would need to be taken into account in any assessment of market design. These are summarised in table 8.1 below.

8.3.2 Physical trading market with forward contracting

This option, developed as a concept by Farrier Swier Consulting (sub. 53, pp. 48–9) involves:

- a physical (spot) trading market
- a wholesale forward contracting market
- a retail market
- financial hedging markets.

The physical trading market would balance injections and withdrawals of water within the system over a defined period. A spot price would balance supply and demand. A wholesale forward contracting market would develop between the wholesale participants including water retailers and other owners of bulk entitlements, and the owners of manufactured water. The retail market would involve negotiated contracts between water retailers and most customers, largely replacing the current regulated tariff arrangements. Financial hedging markets could develop to facilitate wholesale trading.

Table 8.1 **Differences between rural and urban water**

	<i>Urban water industry</i>	<i>Rural water industry</i>
Availability	<p>Water availability in the urban environment not subject to economic limits</p> <ul style="list-style-type: none"> • Where desalination is an option, desalinated water is available, presumably at a price that is less than users are willing to pay for much of their demand. Desalination cost caps the cost of maintaining security of supply 	<p>Water availability in the rural environment is subject to economic limits</p> <ul style="list-style-type: none"> • Scope for investment in infrastructure to shift water to areas of higher value • Scope for efficiency gains to produce more water • But irrigated agriculture at the margin generally cannot support manufactured water costs (desalination, recycling)
User perspective	<p>Water management not core business for most users</p> <ul style="list-style-type: none"> • Generally a low proportion of industrial business costs • Water price not generally critical to production decisions 	<p>Water management is core business for irrigators</p> <ul style="list-style-type: none"> • Water management is an integral part of production decisions
Security of supply/ responsiveness to price	<p>High level of security of supply</p> <ul style="list-style-type: none"> • Security of supply standard (e.g. 95% reliability of supply; restrictions to last no longer than 12 months) • Historically required investment in very large storages 	<p>Different security products. At the margin, demand adjusts to available supply</p> <ul style="list-style-type: none"> • Demand from agricultural production subject to lower security entitlements, adjusts to available water supply.
Flexibility of ordering/ dispatch	<p>Water supplied on demand</p> <ul style="list-style-type: none"> • System designed with appropriate storages, pumping to meet predicted demand • No concept of water ordering by end users • Unlimited supply on demand, at regulated prices 	<p>Flexibility for timing of ordering</p> <ul style="list-style-type: none"> • Water ordering processes required to manage storages, river systems etc

Source: sub. 53, p. 20.

Farrier Swier Consulting argue that this model would encourage allocative efficiency, as spot prices would reflect willingness to pay (rather than being centrally determined). Contracts should encourage risks to be allocated efficiently and could be adjusted (more easily than could entitlements) in the light of more information and experience. Large users could choose whether to remain in the retail markets and their level of exposure to short run pricing signals or they could participate in the wholesale market and negotiate access to long term water supply. This model could also facilitate entry into competitive parts of the market, including water supply, water retailing and perhaps wastewater treatment. Sibly and Tooth (2007) propose a conceptually similar arrangement, which decouples infrastructure control and ownership of water. Their proposal involves periodical allocation (for example, by an auction) of existing water held in urban storages to ‘virtual suppliers’, who then compete in providing bulk water. Sibly and Tooth argue that this change, when combined with effective third party access and retail competition, would lead to a competitive market for the provision of urban water.

Farrier Swier Consulting do not, however, recommend that a contracting model be established at this time, as much more work is needed to understand the implementation and transaction costs, and how potential participants might operate and interact (sub. 53, p. 71).

8.3.3 Full retail contestability

In the electricity and gas markets, the development of markets has encompassed full retail contestability, the features of which have included:

- allowing customers the right to choose their retailer or to enter into the wholesale market
- allowing incumbent retailers to sell outside their licence area
- allowing new participants to enter the market
- customers who do not exercise choice are supplied on a regulated default contract.

The Commission believes that the potential for development of full retail contestability in the water sector is limited in the short to medium term because of the range of implementation issues that need to be resolved, including determining how new entrants purchase rights to water sources and any impediments to entry created by access arrangements to pipeline capacity. Moreover, a comprehensive cost-benefit analysis would be required, given the costs associated with implementing new billing and metering systems. Large customers are more likely than small customers to benefit from any deregulation of this type, since the incremental transaction costs relative to the value of water used are likely to be relatively low for them.

8.4 Structural implications

Longer term developments in the Melbourne metropolitan water sector can be expected to have implications for the structure of the retail water sector. The introduction of competition into network industries, for example, has typically involved separation of competitive functions from monopoly infrastructure functions, combined with the application of third party access price/service regulatory arrangements to monopoly water transport infrastructure.

8.4.1 The number of retailers

The key issue for the inquiry is the implications of any of these longer term issues with respect to the number of retailers and their functional responsibilities.

In this context, it is important to recall that while the term ‘retailer’ is commonly used (and has been used throughout this report) to describe City West Water, Yarra Valley Water and South East Water, they have both distribution and retail functions. It is essential to distinguish between these two functions when considering the structural implications of longer term reform options.

With respect to the distribution function, under any of the options outlined in this chapter there would be no duplication of distribution within any particular licence area, given its natural monopoly characteristics. Whether there should be one or more distributors across Melbourne as a whole remains to be determined. As detailed in chapter 4, under the current centralised management approach, it is possible to have single or multiple distributors within the metropolitan region. Similarly, reforms to establish an urban water market could be implemented with one or more distributors across the metropolitan area. A key determinant of whether an urban market would develop under a reform scenario is the nature of the access arrangements to the distribution network.

With respect to the retail function, as noted above urban water markets with retail contestability require that the retail function be separated from the distribution function—either structurally or through ‘ring-fencing’, that there is an effective access regime and that there are multiple retailers. If the retailers were instead merged into one business, this could mean that should the government contemplate setting up the various suppliers of bulk water as separate businesses, they would need to negotiate with a single purchaser. Moreover, if it created a single retailer now, the Government would then face a second set of transition costs in disaggregating the single retailer should it decide in the future to develop more competitive water market arrangements. While the requirement for multiple retailers under a centralised approach is less substantial, creating a single retailer now could be an impediment to future reform options.

8.4.2 Water grid manager

Whether a centralised approach is adopted or there is a move to urban water markets, a critical role in an increasingly integrated network is to optimise all sources of bulk water and manage a process to direct the transfer of bulk water across the grid. The announced major augmentations will make optimising the operation of the metropolitan grid on a whole of system basis substantially more complex.

Currently, the task of operating the network is undertaken by Melbourne Water working, as noted above, within an operational plan that is agreed with the retailers. An option for operating the expanded network in the future would be to consolidate in one organisation ownership of the existing and new bulk water sources and the transfer assets (largely, pipelines) between them. This would remove any conflicts of interest that the owner might have in favouring one supply source over another, and allow coordination of decisions through internal decision-making processes. This option would, however, have significant disadvantages:

- It would require the development of governance arrangements through which there would be adequate oversight of a much larger and potentially less transparent organisation.
- Consolidation of all relevant assets into one organisation may prevent others from coming forward with innovative proposals, if the assets are likely to be handed over to another organisation.
- The entity could have a conflict in managing bulk water sources for both environmental and consumptive uses.
- Consolidation of the bulk and retail suppliers would effectively rule out the scope for contestability in bulk supply.

Alternatively, it may be possible for ownership of bulk water supplies to remain with different entities, and a new body be given responsibility for determining system operations. Yarra Valley Water suggested that a new function of water grid manager be established, whose tasks would include:

- integration and optimisation of all sources of water
- managing the transfer of bulk water within the grid
- creating the mechanisms for the efficient transfer of water between users
- managing the entry of third parties
- optimising the transfer of water to produce the lowest overall community cost of supplying water (sub. 36, p. 20).

If such an entity were established, in the short term it would need to take a centralised approach to this task. As noted above, however, the entity responsible for the centralised approach to system operation has to estimate costs and willingness to pay without access to genuine market valuations. In the long term, if a freer market became more viable, perhaps through one of the approaches identified in this chapter, the water grid manager's task could become one of managing bids from market agents, despatching water from lowest to highest bids to meet demand.

Issues that would need to be considered when establishing a water grid manager include:

- whether to set up a framework for a centralised approach in the short term that leaves open the option of a transition to a decentralised approach
- how to establish the water grid manager so that it has no conflicts of interest in its operation of the network
- clarity around the allocation of responsibilities for managing the commodity (water) and for managing the transfer of that commodity (pipelines etc)
- pricing and operational arrangements
- how the water grid manager should interact with water corporations and users on the boundaries of the metropolitan market (where there is scope for interconnectedness).

It is possible that the water grid manager could evolve from a corporate planning body if this were to be established at some point (see chapter 7).

8.5 Implications for future work

It has been noted throughout this chapter that considerable work remains to be done to determine which options are most promising and to develop them to a stage where they could be implemented. While the Commission's focus when reviewing these options has been on their implications for the structure of the retailers in the shorter term, it is evident that the augmentation projects themselves open up a range of issues for consideration. While the Commission has not considered these issues in this inquiry, this possibility should inform the development of any work program about future reform options.

Matters that could usefully be considered in such a work program include:

- the arrangements to optimise system management of the expanded water grid and new water sources
- whether a centrally determined economic water value model could be developed that attempts to replicate the operation of an actual competitive water market, and whether tariff reforms along the lines outlined in section 8.2 would be a useful interim step

- amendments to bulk entitlements, to reflect the new water sources
- whether a market mechanism can contribute to system management
- roles and responsibilities in the new system; for example, whether a grid manager should be established
- how implementation of the new arrangements—for example, with the supplier of the desalination plant—could affect further reforms and, if so, how to avoid adverse outcomes.

Appendix A: Consultation

A.1 Introduction

In keeping with its charter to conduct public inquiries, the Victorian Competition and Efficiency Commission advertised the inquiry into reform of the metropolitan retail water sector in the major metropolitan and regional newspapers in August 2007. Following the Treasurer's announcement of the terms of reference on 21 August 2007, the Commission published an issues paper in August 2007, which outlined:

- the scope of the inquiry
- how to make a submission
- the Commission's consultation processes
- the inquiry timetable.

The issues paper invited inquiry participants to make submissions and the Commission held a workshop in October 2007 for participants from several agencies as well as contractors with expertise in the water sector (section A.3).

The Commission has appointed consultants and contractors to assist with aspects of the inquiry:

- Farrier Swier was engaged to review relevant experience and the 'state of play' of thinking on promoting greater competition in urban water markets
- ACIL Tasman was engaged to advise on economies of scale in the water sector and review the Commission's analysis of retail sector structural reform options
- PricewaterhouseCooper prepared a report reviewing the financial performance of Melbourne's retail water sector
- NERA Economic Consulting was engaged to provide advice on aspects of the inquiry, including approaches to promoting greater competition in urban water markets.

A.2 Submissions

The Commission received 56 submissions before the release of the draft report (table A.2). The submissions can be viewed on the Commission's website.

Table A.1 Submissions received

<i>Participant</i>	<i>Submission no.</i>
Business Council of Australia	1
Monash Geoscope	2
City West Water	3
St Vincent de Paul Society Victoria	4
Peter Hall, MLC	5
Yarra Valley Call Customer Consultative Committee	6
Infrastructure Reform Pty Ltd	7
Dr. Kein Gan	8
Alistair Watson	9
Victorian Water Industry Association Inc	10
Civil Contractors Association	11
Watermark Australia	12
Dynamic Horizons	13
Council of the Ageing Victoria	14
City West Water	15
Alistair G Munro	16
East Bay Municipal Utility District	17
Millward Brown	18
Savewater Alliance Inc	19
Western Water	20
Interface Councils	21
City of Whittlesea	22
Municipal Association of Victoria	23
City West Water Community Liaison Committee	24
ASU Victorian Authorities and Services Branch	25
Australian Water Association	26
Australian Vinyls Corporation Pty Ltd	27

Table A.1 Submissions received (continued)

<i>Participant</i>	<i>Submission no.</i>
Stormwater Industry Association Victoria	28
Maribyrnong City Council	29
Melbourne Water	30
The Master Plumbers and Mechanical Services Association of Australia	31
Tenix Alliance	32
ICLEI Oceania	33
South East Water	34
Monash University	35
Yarra Valley Water	36
Mornington Peninsula Shire Council	37
Institute of Public Affairs	38
Western Region Councils	39
Victorian Local Governance Association	40
Melbourne Water Research Centre – Melbourne University	41
Kildonan Uniting Care	42
Victorian Council of Social Services	43
Institute of Public Works Engineering Australia – Victoria Division Limited	44
Consumer Utilities Advocacy Centre	45
Institute for Sustainability and Innovation – Victoria University	46
Foster’s Group	47
Refrigerated Warehousing and Transport Association of Victoria	48
Hume City Council	49
Southern Metropolitan Regional Management Forum	50
Frankston City Council	51
Manningham City Council	52
Bulk Entitlement Management Committee	53

Table A.1 Submissions received (continued)

<i>Participant</i>	<i>Submission no.</i>
Thiess Services Pty Ltd	54
Australian Industry Group	55
Essential Services Commission	56

A.3 Workshop and consultation

The Commission held a workshop in October 2007 to identify feasible options for further reforms that can be undertaken in the short, medium, and long-term. In addition, further consultations were held with various employees, businesses, industry associations, Victorian Government departments and agencies. Table A.2 outlines the various participants in the workshop as well participants in the consultation process.

Table A.2 Workshop participants

<i>Organisation</i>
Farrier Swier Consulting Pty Ltd
NERA Economic Consulting
Essential Services Commission
Department of Sustainability and Environment
Department of Treasury and Finance
Environment Protection Authority

Table A.3 Consultation participants

<i>Organisation</i>
Auditor General Victoria
Australian Industry Group
City West Water
Economic Regulation Authority (Western Australia)
Energy and Water Ombudsman of Victoria
Essential Services Commission

Table A.3 **Consultation Participants** (continued)

Organisation

Department of Premier and Cabinet
Department of Primary Industries
Department of Sustainability and Environment
Department of Treasury and Finance
Growth Solutions Group
Melbourne Water Corporation
Melbourne University
Monash University
Municipal Association of Victoria
Property Council of Australia
Queensland Water Commission
Richard Tooth (Dr.)
South East Water
Thiess Services Pty Ltd
VENCorp
Vicwater
Water Services Association of Australia
Western Water
Yarra Valley Water

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