

# Pricing Structures for Urban Water Supplies

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# Water Pricing Structures

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## Introduction

- ▼ Purpose of my talk today is to discuss:
  - ▼ Structuring urban water prices to maximise sustainability
  - ▼ Integrated approaches to setting prices
  - ▼ Prices that balance the needs of customers and water agencies



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I will seek to cover

- ▼ Demand and Supply imbalances
  - ▼ Cost Recovery and the Building Block approach to revenue requirements
  - ▼ Long Run Marginal Cost of water
  - ▼ Externalities
  - ▼ The role of developer charges
  - ▼ New area for private participation and access
  - ▼ Managing social outcomes
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## Water Demand/Supply Imbalance

- ▼ There is a water demand and supply imbalance in many parts of the country
- ▼ In Sydney the safe sustainable yield of the traditional drinking water catchments is 600,000 ML p.a.
- ▼ Since the beginning of the century the 10 year average consumption has hovered around this level
- ▼ There is very little excess capacity and alternatives need to be found

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## Water Demand/Supply Imbalance

- ▼ Climate change and the current drought will put downward pressure on current estimates of sustainable yields
- ▼ Some estimates suggest that river flows on the eastern seaboard are set to fall to 15% below previous expectations
- ▼ Lower flows may mean a higher proportion has to stay in rivers as environmental flows to protect environmental amenity

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## Water Demand/Supply Imbalance

- ▼ The easy to access sources of water have already been accessed
- ▼ Integrated water resource planning will send us on the search for the least cost solution recognising various political constraints
- ▼ We now face the prospect of tapping different types of water, including:
  - ▼ Groundwater
  - ▼ Augmented storage and transfer systems
  - ▼ Recycled water
  - ▼ Desalinated water
  - ▼ On site collection
  - ▼ Water savings and water efficiency measures

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Water and sewerage prices meet two needs

- ▼ They allow water agencies to recover the efficient cost of service provision

AND

- ▼ They signal to users the cost consequences of their current consumption habits



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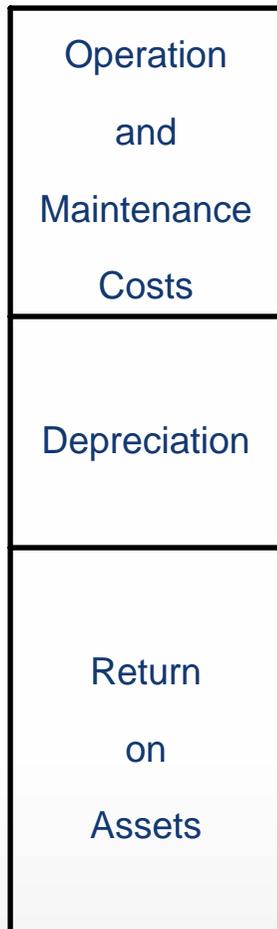
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In terms of cost recovery revenues are set to cover:

- ▼ Efficient Operating, Maintenance and Administration costs
- ▼ A Return of Capital (Depreciation generally 1% per annum)
- ▼ A Return on Capital used to cover:
  - ▼ Costs of debt (interest)
  - ▼ Income Tax
  - ▼ Dividends
  - ▼ Provide retained earnings for future activities.
- ▼ There is no need for revenues to over recover costs

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IPART adopted a Regulatory Asset Base (RAB) approach a number of years ago. This effectively:

- ▼ Drew a “line in the sand” by revaluing assets for pricing purposes to reflect their income earning capacity at the time
- ▼ Provided a means for new and replacement assets to enter the RAB and for costs to be fully recovered through a return on and of capital
- ▼ The price increases that support these new and replacement assets are sufficient to financially justify investments by water utilities when the need arises

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- ▼ Water Usage Prices should be equated to the Long Run Marginal Cost of supply
- ▼ Periodic charges can be used to generate the remainder of the revenue requirement

## Why is Long Run Marginal Cost important

- ▼ LRMC reflects the cost of the next increment of supply
- ▼ LRMC signals to users the cost consequences of current consumption
- ▼ If consumption grows prices will increase
- ▼ If consumers continue to use water at the prevailing price it signals to suppliers to augment supply. If consumers unwilling to pay augmentation can be deferred

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## Long Run Marginal Cost

- ▼ In 2005 the Tribunal estimated the LRMC of water in Sydney at between \$1.20 and \$1.50 per kilolitre
- ▼ Malcolm Turnbull is on record as saying  
“we can desalinate anywhere on the coast for a cost of between \$1.00 and \$1.50 a kilolitre at the factory gate”
- ▼ This is a benchmark against which to test other water supply options
- ▼ Sydney Water’s current water usage price is \$1.264 per kL.
- ▼ This implies that the usage price is about right, based on available information

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## Externalities and IPART

- ▼ Externalities are costs imposed on third parties. Desalination uses a lot of energy which in turn emits a lot of CO<sub>2</sub>.
- ▼ The traditional economic solution is to impose a tax.
- ▼ However, it is the role of the Government's to set taxes, not price regulators.
- ▼ IPART ensures that agencies can recover efficient costs, including EPA licence fees and the costs of mitigating environmental harm.

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## Developer Charges

- ▼ Water and Sewerage charges are levied on a postage stamp basis. That is all users pay the same price in the same utility service area

**BUT**

- ▼ The costs of servicing different areas are different. Some areas are high cost and others are not as expensive
- ▼ Developer charges are used as a means of capturing any cost of service provision above average cost in an upfront payment on a location specific basis
- ▼ Developer charges signal to land developers and ultimately home buyers the cost consequences of locating in particular areas
- ▼ Developer charges ensure that the cost of new investment is fully recovered through a combination of developer charges and periodic charges

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## Recycled Water

- ▼ In 2006, IPART completed a review of the pricing of recycled water services
- ▼ The Tribunal subdivided recycled water services into:
  - ▼ Areas where the use of recycled water will be mandated
  - ▼ Areas where the use of recycled water will be voluntary
  - ▼ Sewer mining schemes

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## Mandated Schemes

- ▼ Use of recycled water will be mandated in some large new greenfield development areas. A third pipe will be installed in these areas.
- ▼ For these schemes the Tribunal will not set prices but water agencies will be required to set prices in conformity with pricing guidelines developed by the Tribunal.
- ▼ Many of these schemes have yet to be built. There was not sufficient information available for the Tribunal to determine prices.
- ▼ The Tribunal will monitor water utility compliance with the guidelines.

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The guidelines provide for:

- ▼ As a general rule costs of recycled water schemes should be recovered from the users of the scheme
- ▼ Prices should be set to reflect costs on a scheme by scheme basis
- ▼ Where a recycled water scheme results in costs being avoided elsewhere in water and sewerage systems the value of these avoided costs can be recovered from water and sewerage customers
- ▼ Recycled water prices are to include a usage component which is not to exceed the cost of potable water without the Tribunal's approval being obtained
- ▼ If potable water top-up exceeds more than 10% of the volume used prices are to be linked to the potable water price. Where potable water top-up is expected to exceed 20% the recycled water price is to be set equal to the potable water price.

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## Voluntary Recycled Water Schemes

- ▼ Prices will be the subject of negotiation between the water agency and potential customers
- ▼ As customers have a choice of whether to connect or not, prices will not be regulated by the Tribunal. However, the Tribunal has developed principles to assist negotiations.
- ▼ Again the target is full cost recovery with the exception of any avoided costs, subsidies etc.
- ▼ Prices should be structured in such a way as to send appropriate price signals to users

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## Sewer Mining Schemes

- ▼ These schemes will be undertaken by the private sector
- ▼ Because scheme proposals are not known and are expected to vary significantly the Tribunal will not determine prices
- ▼ Prices are to be negotiated between the parties. Access prices are expected to cover the incremental cost of making that access available. The sewage itself will be free.
- ▼ The Tribunal will have an arbitration role where disputes arise between the parties

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## Rouse Hill Development Area

- ▼ There is a mandatory recycling scheme at Rouse Hill
- ▼ Initially recycled water prices were set at a lower level to develop the market
- ▼ The stage has been reached where demand for recycled water exceeds supply and costs are not being recovered
- ▼ The Tribunal decided to:
  - ▼ Set revenues to better recover costs
  - ▼ Set the usage price at 80% of the potable water price by 2008/09
  - ▼ Reduce the fixed service charge over the same period

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## Third Party Access

- ▼ A *Water Industry Competition Act* has been enacted by the NSW Parliament
- ▼ This Bill allows for private sector service providers to gain access to incumbent water authorities' infrastructure to compete in upstream and downstream markets
- ▼ Under the Bill new network operators and retail suppliers (the private sector) will be required to be licensed to provide water and sewerage services
- ▼ The Tribunal will have roles in:
  - ▼ Licensing
  - ▼ Access coverage
  - ▼ Access undertakings
  - ▼ Pricing Principles
  - ▼ Cost allocation

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## Third Party Access – some implications

- ▼ The brave new world of access will have implications for:
  - ▼ Negotiation and arbitration of access applications and potential disputes
  - ▼ Postage stamp pricing and the threat of cherry picking the most profitable customers
  - ▼ Balancing equity and efficiency while encouraging competition
  - ▼ Protecting small retail customer and issues such as the Supplier of Last Resort



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