Independent Pricing and Regulatory Tribunal

IPART New South Wales

NSW Water Facts 3

Pricing arrangements for recycled water and sewer mining

Sydney Water Corporation, Hunter Water Corporation, Gosford City Council and Wyong Shire Council

From 1 January 2007 to 30 June 2009 for HWC and GCC

From 1 July 2007 to 30 June 2009 for SWC and WSC

Inside this Fact Sheet

Welcome to NSW Water Facts

A series of Fact Sheets on issues relating to water pricing and licensing of NSW Water Businesses.

In all its work, IPART aims to be transparent and provide information to all stakeholders. As part of this information provision, we are publishing a series of fact sheets on the NSW water businesses.

The fact sheets aim to summarise and highlight major initiatives and changes impacting on the water businesses and their customers in compact, user friendly documents. More information is available in the reports or investigations published from time to time by the Tribunal. These reports are available, in full, on the Tribunal's website.

I hope that you find these fact sheets useful, and invite you to make suggestions on how we might improve them in the future.

James P. Cox
Chief Executive Officer and Full Time Member

Overview

On 22 September 2006, IPART released its final report on pricing arrangements for recycled water and sewer mining. Determinations were made for Recycled Water Developer Charges and Rouse Hill Recycled Water Charges. While it has not made price determinations for other recycled water schemes or for sewer mining, it has developed a pricing framework that divides recycled water projects into two groups:

- mandated schemes
- voluntary schemes.

This distinction reflects the degree of choice that customers have when connecting to recycled water schemes, which influences the relative market power of recycled water suppliers and customers. The Tribunal's pricing framework outlines pricing arrangements for these customers and for sewer mining. The Tribunal has also made a series of decisions to facilitate the implementation of these arrangements, including developing guidelines on the calculation and treatment of avoided or deferred costs associated with recycled water schemes.

This fact sheet provides a short summary of the report and associated determinations. The full report and determinations are available on IPART's website.

Determination for Recycled Water Developer Charges

In general, developer charges are charges that water agencies levy developers for the provision, or upgrading, of water supply, sewerage and drainage facilities for new developments. Developer charges are upfront charges paid by developers and are levied to recover part of the infrastructure cost incurred in servicing new developments.

The same pricing principles apply to both the new recycled water developer charges determination and the existing developer charges determination for potable-water, sewerage and drainage services (September 2000). However, the recycled water developer charges may be lower than otherwise to allow for avoided or deferred costs; direct cost subsidies; and a Government directive. The Government (as part of its policy to encourage recycled water use) may direct IPART to allow water agencies to recover a portion of the efficient costs of a recycled water scheme from general water, sewerage and drainage customers.

The recycled water developer charges formula[1]

The total recycled water developer contribution (DC_{RW}) per property is calculated as:

$$DC_{RW} = \frac{K - PV_r(R_i - C_i)}{PV_r(ET)} - \frac{PV_r(CO_i)}{PV_r(ET)} \quad \text{for i years 1,….n; n = 30}$$

Where

K = the present value of capital costs recoverable from recycled water schemes discounted at rate r

R_i = the revenue expected to be recovered in year i from recycled water customers in the scheme

C_i = the operating, maintenance and administration costs expected to be spent in servicing customers in the area in each year i

r = the cost of capital, which is to be equivalent to the WACC used to calculate the return on capital for water and sewerage prices

n = the forecast horizon for the assessment of future revenues and costs and is to be equal to 30 years

CO_i = the value of any avoided costs, subsidies, or government directives received. Avoided costs are to be calculated according to the Guidelines for Calculation and Treatment of Recycled Water Avoided Costs and approved by the Tribunal

ET = the number of equivalent tenements in the development

1 Based on IPART Determination No. 9, *Developer charges from 1 October 2000.*

The determination not only requires agencies to calculate a charge, but in the interest of transparency the agencies must also:

- produce a supporting document called a Development Servicing Plan (DSP) explaining the charge, along with data and assumptions used in its calculation
- publicly exhibit the DSP for at least 30 days before adopting it, advertise the occurrence of the exhibition period and receive and make responses to any public submissions arising from the exhibition
- forward the revised DSPs to IPART for registration along with any public submissions and agency responses following public exhibition and before adoption of the DSPs.

This determination will apply to all developments that incorporate recycled water services, including the existing scheme in Sydney's Rouse Hill. The determination will apply to Hunter Water and Gosford Council from 1 January 2007, and to Sydney Water and Wyong Council from 1 July 2007.

Determination for Rouse Hill Recycled Water Charges

The Rouse Hill Development Area in Sydney's North West includes a recycled water system, owned and operated by Sydney Water Corporation. Here wastewater is recycled and delivered to customers through a separate pipe system for toilet flushing and external uses.

Prices for recycled water at Rouse Hill were first set by the Tribunal in 1993 and have remained almost the same in real terms since then. The charges were initially set, and have remained, well below the scheme's operating cost to encourage development and use of the recycled water. For this determination, the Tribunal has decided to gradually increase the usage charge and reduce the annual fixed charge for a number of reasons including:

- Revenues at current prices are approximately $1.57m less than the expected operating costs of the scheme over the two years of the determination.
- Overuse of recycled water during peak times causes excessive use of potable water to 'top-up' the Rouse Hill system. Although the potable water price is $1.26/kL Rouse Hill users effectively pay only $0.30/kL for it.

Under the new determination the usage price for recycled water will rise in real terms from its current $0.30/kL to reach $1.08/kL by 1 July 2008. The annual service charges for an average residential property will decrease in real terms from the current $26.03 to reach $10.28 by 1 July 2008. Assuming annual inflation continues at 2.8 per cent the average[2] annual recycled water bill in Rouse Hill will increase from its present $57.66 to $130.41 in 2008/09. Further detail on the Rouse Hill pricing investigation is included in Appendix 1.

Guidelines and policies arising from the investigation

As mentioned above the investigation produced two determinations, however the report also contains:

- Pricing Guidelines for Mandated Recycled Water Schemes.
- The Tribunal's pricing approach for voluntary recycled water customers.
- The Tribunal's approach to sewer mining.
- Guidelines for the calculation and treatment of avoided and deferred costs of recycled water.

The pricing guidelines for mandated schemes are to be used by water agencies for setting usage and fixed service charges in new developments that are required to connect to recycled water services due to government policy[3].

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2 ` 20mm residential connection and 105kL consumption.

3 Such as BASIX or the Metropolitan Water Plan.

The Tribunal decided that it would only make a pricing determination where there is sufficient information for it to set efficient prices. At present only limited information and experience is available for recycled water schemes that are not yet operating. The pricing guidelines for mandated schemes therefore describe a pricing process to reach efficient prices whilst allowing greater flexibility for agencies to balance supply and demand through prices.

The Tribunal decided not to regulate the price of recycled water where use is voluntary (ie, not mandated). The availability of an alternative water source at a regulated price[4] should ensure customers have sufficient negotiating power to avoid exploitation by the agency. The Tribunal's pricing approach for voluntary recycled water customers does however include high level pricing principles to be used in pricing negotiations. Agencies are also required to ring-fence costs and revenues of voluntary schemes from their regulated businesses.

The Tribunal has also decided not to regulate sewer mining prices. The decision by the Tribunal not to regulate sewer mining prices is consistent with the NSW Government's Water Industry Competition Bill 2006, and Sydney Water's published policy on sewer mining[5]. The Bill provides for the Tribunal to arbitrate sewer mining disputes.

The guidelines for the calculation and treatment of avoided and deferred costs will assist agencies who own recycled water schemes to set prices. Recycled water schemes may enable a water and sewerage service provider to avoid and/or defer costs. For example, where capital infrastructure upgrades to service growth or regulatory requirements are cancelled or deferred by building the recycled water scheme. These costs, if approved by the Tribunal at the next potable-water and sewerage services pricing investigation, can then be recovered from potable-water and sewerage customers. In this way, the cost to users of the recycled water scheme can be reduced and adoption of new schemes may be encouraged.

4 Such as potable water for industry or low-cost irrigation water for agriculture.

5 Sydney Water, *Sewer mining: How to establish a sewer mining operation*, May 2006.

Appendix 1 – Charges for recycled water at Rouse Hill

Rouse Hill recycled water charges until 30 June 2009 ($2006/07)

	Current $		
Financial year	2006/07	2007/08	2008/09
Usage charge ($/kL)	0.30	0.69	1.08
Service charge ($ per annum)	26.03	18.15	10.28

- The above service charges are based on the average (20mm) residential connection. Larger connections attract a larger service charge.
- Charges are in current (2006/07) dollars and will be adjusted each year for inflation.

Recycled water bills for different levels of use (dollars of the day)

	2006/07	2007/08		2008/09	
kL	Bills	Bills	Increase	Bills	Increase
50	41.09	54.09	13.00	67.79	13.70
75	48.62	71.81	23.19	96.25	24.45
105	57.66	93.06	35.41	130.41	37.35
150	71.21	124.95	53.74	181.64	56.69
250	101.33	195.81	94.48	295.49	99.69

- Bills for 2007/08 and 2008/09 assume annual inflation of 2.8 per cent.
- Average annual residential use in Rouse Hill is 105kL.

Total bills for average water consumption of 300 kilolitres per year – water, sewerage and recycled water (dollars of the day)

	2006/07	2007/08	2008/09
Bill for customer not connected to recycled water	833.20	860.75	911.43
Rouse Hill total bills (assuming no change in demand)	758.09	814.00	892.41
Bill saving due to recycled water use	75.11	46.75	19.02

- Bills for 2007/08 and 2008/09 assume annual inflation of 2.8 per cent.
- Recycled water demand is assumed to be 105kL of a total water demand of 300kL per year.