

Sewerage and Trade Waste Pricing

Best-practice sewerage pricing involves cost-reflective pricing, the removal of land value from sewerage access charges, a two-part tariff for non-residential customers and cost-reflective fees and charges for liquid trade wastes.

Appropriate pricing is essential to provide relevant pricing signals to non-residential and liquid trade waste customers, enabling them to make informed decisions on their indoor water use and resulting sewerage and trade waste discharges.

This will encourage such customers to use water efficiently and minimise wastage of our valuable water resources and associated sewerage infrastructure.

The NSW sewerage and trade waste pricing software will enable each utility to examine a range of best-practice options and determine appropriate sewerage and liquid trade waste fees and charges for its customers.

Historically, water utilities in Australia have used a sewerage tariff based on land value. Many utilities also have an additional charge per WC or urinal. These do not provide an appropriate pricing signal. Basing access charges on land value is inequitable and leads to inefficient allocation of resources and WC and urinal charges are less cost-reflective than a two-part tariff for non-residential customers.

Sewerage Pricing Structure

Residential sewerage bills should be independent of land value and based on a cost-reflective uniform sewerage charge per property. The IPART Pricing Principles indicate that pay-for-use sewerage pricing was not warranted for residential customers due to a lack of net benefits from such pricing. The costs of sewage collection and transfer are largely driven by hydraulic capacity which is dependent on wet weather flows and the cost of treatment works is driven by biological and suspended solids loads which relate to the number of people serviced.

Non-Residential bills should be independent of land value and based on a cost-reflective two-part tariff comprising an access charge and a sewer usage charge/kL for the estimated total volume discharged to the sewer. The access charge should be proportional to the square of the size of the water supply service connection to reflect the load that can be placed on the sewerage system. The sewer usage charge should be broadly based on the long-run marginal cost. Typical values for non-metropolitan NSW range from 80c/kL to \$1.50/kL (see box at bottom of facing page).

Sewerage and trade waste tariffs should be set to achieve long-term financial sustainability of the sewerage business.

Non-residential sewerage bills should be based on a two-part tariff.

Sewerage and Trade Waste Compliance

For NSW water utilities to comply with best-practice sewerage and liquid trade waste pricing:

- 25% of utilities need to remove present property value based tariffs (rates)
- 90% of utilities need an appropriate two-part tariff for non-residential customers
- 70% of utilities need to introduce trade waste fees and charges.

Financial Sustainability

In introducing a new sewerage tariff structure (eg. replacing a uniform access charge with a two-part tariff for non-residential customers), removal of the present cross-subsidies will generate additional income. However, in setting their tariffs the 30% of NSW water utilities with a negative real rate of return (RRR) should increase their RRR to at least -0.5, which has been found to be the minimum required for long-term financial sustainability for a utility with little growth. For utilities with significant growth and associated major capital works programs, it has been found that a RRR of 1 to 1.5 is required for long-term financial sustainability.

To assist NSW water utilities, DLWC has developed Sewerage and Trade Waste Pricing software. The model enables the utility to examine the merits of a range of pricing options.

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Trade Waste Pricing Structure

All NSW utilities responsible for sewerage should implement appropriate trade waste fees and charges for their liquid trade waste dischargers as part of their next annual management plan. Utilities should levy cost-reflective annual trade waste licence fees and reinspection fees for all liquid trade waste dischargers. These fees are in addition to the non-residential sewerage charges. Trade waste usage charges should be as follows:

- (1) No trade waste usage charges for dischargers requiring nil or minimal pre-treatment.
- (2) For trade waste dischargers with prescribed pre-treatment, a trade waste usage charge/kL should be set for the estimated trade waste volume.
- (3) For large dischargers (over about 20kL/d) and industrial wastes, Council should set excess mass charges for wastes exceeding the normal acceptance limits in Schedule A of the "Concurrence Guideline for Liquid Trade Waste Discharges to the Sewerage System", DLWC 2002 or any **lower limits** specified in Council's trade waste policy.

Typically, over 50% of non-residential customers are also trade waste dischargers. Where dischargers with prescribed pre-treatment have appropriate pre-treatment (eg. a properly maintained

Cross-subsidies – Sewerage and Trade Waste

Where a new sewerage tariff eliminates significant existing cross-subsidies, it is inevitable that the beneficiaries of these cross-subsidies will receive a significant increase in their charges eg. replacing existing uniform access charges for non-residential customers with a cost-reflective two-part tariff and introducing cost-reflective trade waste fees and charges. Where large increases in charges are required, these should be phased in over a period of 3 years.

grease trap) the trade waste usage charge should be the same value as the non-residential sewer usage charge. However, if a discharger does not provide adequate pre-treatment, the utility would face a much higher cost for treating such wastes. It is therefore recommended that a trade waste usage charge/kL of at least five times that of the sewer usage charge be set for such dischargers. This charge would reflect only about half of the cost to the utility and would provide an incentive for dischargers to install appropriate pre-treatment.

All water utilities responsible for sewerage should move to develop a trade waste agreement (or service contract) with each liquid trade waste discharger connected to their sewerage system. The agreement should set out the utility's requirements for pre-treatment of wastes where appropriate, the conditions of discharge to the utility's sewers, including the maximum concentrations of pollutants and maximum discharge rates in accordance with the Schedule A of the DLWC Concurrence Guideline or the utility's trade waste policy.

Sewerage and Trade Waste Pricing Model

Pricing software has been prepared to assist NSW utilities to develop best-practice sewerage and trade waste tariff structures which yield the required income from annual charges and to analyse their impact (percentage real increase in the sewerage bill) on a range of residential, non-residential, trade waste and non-rateable customers (ie. incidence analysis).

The model has been developed in MS Excel 97 and enables the water utility to examine the merits of a range of sewerage and trade waste pricing options.

As an example of the use of the sewerage and trade waste pricing model, analysis of sewerage and trade waste pricing in Bombala was undertaken as a case study and is shown overleaf.

All utilities should levy best-practice non-residential sewerage charges and liquid trade waste fees and charges for each trade waste discharger as part of their next annual management plan.

Non-Residential Sewerage Bill	=	Access Charge (proportional to square of water connection size)	+	Customer's Water Consumption	x	Sewer Usage Charge	x	Sewer Discharge Factor
Trade Waste Bill*	=	Annual Licence and Reinspection Fees	+	Customer's Water Consumption	x	Trade Waste Usage Charge	x	Trade Waste Discharge Factor

*Applies to trade waste dischargers with prescribed pre-treatment (see (2) above). The trade waste bill for large dischargers and industrial waste comprises a licence fee and reinspection fee and the excess mass charges indicated in (3) above. **Trade waste customers pay both a non-residential sewerage bill and a trade waste bill.**

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EXAMPLE OF SEWERAGE AND TRADE WASTE PRICING MODEL - Bombala

In this example, Council is replacing uniform annual sewerage charges with a best-practice sewerage and trade waste tariff. Under such a tariff, access charges are proportional to the square of the water service connection size, sewer usage charges apply to non-residential customers and liquid trade waste annual licence fees and trade waste usage charges are introduced for all trade waste dischargers.

The case study and options 1 to 3 are revenue-neutral as they all raise the same total income per assessment from annual sewerage rates and charges and trade waste fees and charges as the current tariff, after accounting for the 3% inflation rate (excluding GST).

The analysis shows that for the Bombala case study:

- (1) Pensioners would receive a real reduction of 13%.
- (2) Residential customers and small commercial users would receive a real reduction of 10%. In total, residential customers would provide 78% of the required income from annual rates and charges, compared with 87% under the current tariff. For the case study, the remaining 22% of income would be provided by non-residential (16%), trade waste (4%) and non-rateable customers (2%).
- (3) Larger commercial customers would receive large increases due to removal of the present cross-subsidy. Eg. the hotel and caravan park (with a current bill of \$306/a) would receive real increases of 220% and 490% respectively. The annual sewerage bill for such a caravan park in Sydney or Newcastle would be \$2500 and \$2000 respectively.
- (4) As Council does not presently have trade waste charging for other than large trade waste dischargers, there are significant real increases in the total payment by these dischargers. The real increases are relatively modest for small dischargers (beautician (20%) and butcher (40%)) and very large for large dischargers with prescribed pre-treatment (motel (580%)).

CURRENT TARIFF			NEW TARIFF OPTIONS			
			Existing	Case Study Option 1	Option 2	Option 3
RESIDENTIAL	Sewerage Bill (\$/assessment)	306	283	283	284	284
NON-RESIDENTIAL	Access Charge (\$/assessment) (20mm connection)	306	161	120	80	39
	Sewer Usage Charge (c/kL)	Nil	60	80	100	120
	Trade Waste Usage Charge (c/kL) (for dischargers with prescribed pre-treatment)	Nil	60	80	100	120
			% of Income from Each Customer Group			
	RESIDENTIAL	87	78	78	78	78
	NON-RESIDENTIAL	12	16	15	14	13
	TRADE WASTE	0.4	4	5	6	6
	NON-RATEABLE	0.5	2	2	2	2
	Total	100	100	100	100	100

Water Connection Size (mm)	Description of Service	New Sewage Volume (kL/a)	Real Increase in New Bill per Assessment (%)			
			Case Study Option 1	Option 2	Option 3	
TOTAL INCOME			0	0	0	0
RESIDENTIAL						
1	20 Pensioner	40	-13	-13	-13	-13
	20 Pensioner	60	-13	-13	-13	-13
2	20 Non-pensioner	96	-10	-10	-10	-10
	20 Non-pensioner	192	-10	-10	-10	-10
3	20 High User	240	-10	-10	-10	-10
	20 High User	320	-10	-10	-10	-10
NON-RESIDENTIAL						
1	20 Beautician	51	-10	-10	-10	-10
	20 Butcher	102	-10	-10	-10	-10
2	25	95	-2	-17	-30	-45
3	40 Hotel	617	220	210	200	190
4	50 Motel	1033	420	400	390	370
	50 Factory	2676	730	820	910	1000
	50 Caravan Park	1400	490	490	500	510
TRADE WASTE DISCHARGERS (for total payment ie. sum of non-residential sewerage bill and trade waste fees and charges)						
		(New Trade Waste Volume (kL/a))				
1	20 Beautician	51	20	20	20	20
2	20 Butcher	102	40	40	40	40
3	50 Motel	608	580	610	610	630
4	50 Factory	1574	170	190	210	230

The current sewerage bill for all of the above customers is \$306. The factory (a large trade waste discharger) pays an additional \$1,020 in trade waste charges.

Results

- 10% reduction in bills for residential customers and small non-residential users
- Moderate increases for small trade waste dischargers
- Large increases for larger commercial customers and trade waste dischargers due to removal of present cross-subsidies.

Benefits

- The pricing signals provided enable non-residential customers and trade waste dischargers to determine what discharge volumes are cost-effective for their operations
- More efficient use of water resources and the sewerage system.

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LWUs should adopt the following pricing principles when setting water supply tariffs:

1. Usage charges should be set to reflect the long-run marginal cost of water supply.
2. Residential water usage charges must be set to recover at least 75% of residential revenue.
Non-residential water usage charges should be set to recover at least 50% of non-residential revenue.
3. To encourage water conservation, high water consuming residential customers should be subjected to a step price increase (expressed as an "excess water charge") of at least 50% for incremental usage above a specified threshold. This threshold should not exceed 450 kL/a per household.
4. LWUs must bill at least three times each year (and preferably every quarter) to improve the effectiveness of pricing signals.
5. In situations where large cross-subsidies for non-residential customers currently exist, LWUs should develop pricing strategies that target the removal of these cross-subsidies over a 5 year period.

With a higher proportion of water supply revenue obtained from usage charges, LWUs' revenue will be more greatly affected by annual weather variations. LWUs may therefore establish a revenue fluctuation reserve of up to 10% of turnover. LWUs can draw on this reserve to assist them to cope with wet years or drought water restrictions where water sales are lower than predicted. Dry years will result in a corresponding increase in demand and revenue.

For guidance in developing and implementing best-practice pricing tariffs refer to Appendix B.

b) Sewerage Pricing

Best-practice **sewerage** pricing involves a uniform annual sewerage bill for residential customers. For non-residential customers an appropriate sewer usage charge is required for the estimated volume discharged to the sewerage system, together with an access charge based on the capacity requirements that their loads place on the system relative to residential customers.

For guidance in developing and implementing best-practice pricing tariffs refer to Appendix B.

c) Liquid Trade Waste Pricing & Approvals

Best-practice **liquid trade waste** pricing requires appropriate annual trade waste fees and re-inspection fees for all liquid trade waste dischargers. These fees are in addition to the non-residential sewerage bill.

The LWU must also levy an appropriate trade waste usage charge for trade waste dischargers with prescribed pre-treatment³, and appropriate excess mass charges for large trade waste dischargers (> about 20 kL/d) and for dischargers of industrial waste.

³ Prescribed pre-treatment comprises the equipment shown in Table 4.1 of 'Concurrence Guideline for Discharge of Liquid Trade Waste to the Sewerage System', DLWC 2002, or any pre-treatment facilities deemed appropriate by the LWU.

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- 12. VALUER GENERAL NOTIFICATIONS (16.00004) - Cr Knowles** advised that the Valuer General will be releasing property valuations in January. Cr Knowles requested that Council publicise this release.

Cr Hosemans arrived.

DISCUSSION FORUM - DEVELOPMENT APPLICATION SUBMISSIONS

13. USER PAYS SEWER PRICING (26.00010)

The City Treasurer 's Department gave an introduction into the User Pays Sewer Pricing System and the directions received from the State Government.

Lachlan Sullivan (Chamber of Commerce) - stated that from a business point of view need to ensure that any business charges set are reviewed on an ongoing basis. This will cater to businesses developing best practices to reduce usage.

Helen Wilson - Commercial properties/businesses eg schools, units etc have lots of toilets it would appear residential properties are subsidising industry under current system.

Lachlan Sullivan - Should be easy to sell as most residential people will pay less.

A resident of Eleven Mile Drive area raised the question of whether terrain come into pricing structure. Bathurst has varied weather conditions and this will effect septic. It was noted that Eleven Mile Drive is a high risk area.

GENERAL BUSINESS (CONTINUED)

- 14. SALEYARDS (21.00086) - Cr Crisp** requested residents be given full details of any proposals as he had received concerns expressed by residents about noise and odour, etc.

The General Manager advised that a Development Application will go on public exhibition, so full consultation can occur.

- 15. SALEYARDS (21.00086) - Cr Crisp** requested that any report to Council contains all costs of any proposed upgrade.

The Mayor advised that the report will detail costings.

- 16. SALEYARDS (21.00086) - Cr Crisp** queried if the report will detail any fee increases proposed to fund operations.

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TO THE POLICY COMMITTEE MEETING
HELD ON WEDNESDAY, 26 NOVEMBER 2003

General Manager
BATHURST NSW 2795

1 USER PAYS SEWER PRICING (26.00010) - Item prepared by Toni Dwyer

Recommendation:

Report: Councillors are aware that Council has received advice from the Department of Local Government that all Councils must consider the introduction of a user pays sewer system by 1 July 2004.

Council has received a preliminary report at its meeting held 20 August 2003. Council resolved that it would introduce this change.

Council staff are currently working on applying State Government guidelines to sewer pricing. This involves carrying out research on obtaining the best way of determining the Sewerage Discharge Factors to non-residential properties.

Councillors will be shown a complete Powerpoint presentation of the options available with the exception of non-residential properties as Council has been unable to collect all relevant information to determine the sewerage discharge factor (SDF) prior to the presentation of this report.

When this is completed, a full best practice model will be presented to Council for assessment of the implications and to make the necessary modifications if required. It is expected that this will be completed in time for the February Policy Committee meeting.

Yours faithfully

R Roach
CITY TREASURER

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