



INQUIRY INTO SEWERAGE AND
TRADE WASTE CHARGING

ISSUES PAPER

FEBRUARY 2023

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INVITATION FOR SUBMISSIONS

The Tasmanian Economic Regulator is seeking written submissions on this Issues Paper from all interested parties by close of business Friday 28 April 2023.

Submissions can be as short or as long as the author prefers and do not need to address all of the issues referred to, or questions raised, in the Issues Paper.

It is the Regulator's policy to publish all submissions on the Office of the Tasmanian Economic Regulator's (OTTER) website unless the author requests all or parts of the submission be kept confidential. Those parts of a submission requested to be kept confidential should be submitted as an attachment to the parts suitable for publication.

The Regulator will not publish submissions which contain material that the Regulator believes is, or could be viewed as, derogatory or defamatory.

To make it easier to publish submissions on OTTER's website, submissions by email are preferred.

Submissions and enquiries may be made to: office@economicregulator.tas.gov.au

If any assistance is required in preparing a submission, please contact OTTER at the above email address or by phone: (03) 6145 5899.

LIST OF QUESTIONS

Below is the full list of questions contained in this Issues Paper.

1. Does the equivalent tenement method remain appropriate for calculating sewerage charges?
2. Is it appropriate to have different sewerage charging methodologies for different types of non-residential customers?
3. Should the use of the discharge factor methodology be extended beyond offices and caravan parks?
4. Do you consider that the application of trade waste charges in addition to sewerage charges for some non-residential customers results in 'double dipping'?
5. Do you consider the current trade waste customer categories to be appropriate?
6. Do you consider any particular approach applied in other jurisdictions in relation to sewerage and / or trade waste charging would be more appropriate for Tasmania?
7. Do you have a preference as to how sewerage and / or trade waste charging should be applied? If so, please explain your reasons.
8. Do you consider that TasWater's high proportion of fixed sewerage costs should influence the sewerage charging approach?
9. Are there charging approaches other than those set out in Table 8 that you think the Regulator should consider? If so, please provide details.

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1 INTRODUCTION

The Tasmanian Economic Regulator is conducting an inquiry into TasWater’s approach to sewerage and trade waste charging.

TasWater owns, controls and operates water supply and sewerage systems in Tasmania. It manages all aspects of the water supply chain from dams and reservoirs to customer property connections and from customer sewer connections to wastewater (ie sewage and trade waste) treatment and disposal. The Regulator is responsible for the economic regulation of TasWater’s water and sewerage services.

Sewerage charging applies to all properties connected to TasWater’s sewerage system. There are a number of different methods for charging for sewerage, and each method has its own advantages and disadvantages.

Trade waste charges apply to certain non-residential customers whose discharges impact on the sewerage system to a greater extent than the sewage discharged from residential dwellings.

The inquiry is examining approaches to sewerage and trade waste charging, with any changes to the current approaches to be implemented for the regulatory period commencing from 1 July 2026.

This Issues Paper sets out the scope of the inquiry, context for the inquiry and the issues the Regulator seeks comments from interested parties on.

The Regulator invites all interested parties to make a submission during the inquiry, with submissions on this Paper closing on Friday 28 April 2023. The Regulator will release a draft report by 31 August 2023 and provide interested parties with a further opportunity to comment at that time. A final report will be released by 1 December 2023.

1.1 Background to the inquiry

The Regulator periodically conducts price determination investigations and makes price determinations in respect to TasWater’s prices and services. The most recent investigation was completed, and the consequential price determination made, in May 2022. The price determination applies for the four-year period from 1 July 2022 to 30 June 2026 (the current regulatory period).

The price determination sets out the maximum prices TasWater can charge for regulated services for each year of the current regulatory period and approves TasWater’s methodology for sewerage and trade waste charging over the period.

Customer feedback was received during the most recent price determination investigation in relation to TasWater’s proposed approach to calculating sewerage and trade waste charges for the current regulatory period. In response to this feedback, in its final report, the Regulator decided to conduct an inquiry, commencing after 1 July 2022, into TasWater’s sewerage and trade waste charging methodologies. A copy of the Investigation Final Report can be found [here](#).

1.1.1 Sewerage charging

TasWater currently uses an equivalent tenement (ET) methodology to calculate sewerage prices for properties connected to its sewerage system.¹ An ET is a measure of the potential load a property places on the sewerage system and represents the sewage discharge from an average single residential house (and therefore one family or household), under dry weather flows.

For standalone residential properties, the actual sewage load will vary significantly depending on, for example, how many people live (or visit) there and how much water is used for washing, cooking and bathing.

TasWater has proposed, and the Regulator has approved, TasWater applying the use of the ET methodology for sewerage pricing since TasWater commenced operations in 2013.

During the 2018 Water and Sewerage Price Investigation, TasWater indicated it would conduct a review of alternative sewerage charging methodologies, and in 2019, engaged Jacobs Australia to review TasWater's approaches to sewerage and commercial trade waste charging. Jacobs analysed charging approaches used in other Australian jurisdictions and sought customer feedback on alternative methods.

Jacobs' review found there is a lack of support for the ET methodology. In its report², Jacobs recommended TasWater undertake further work in relation to its approach to charging for sewerage services. The steps to be undertaken included:

- developing a program to gain a further understanding of flows, loads and cost allocations for the wastewater system and the cost imposition by the different customer groups;
- refining bill impacts following a detailed cost allocation breakdown;
- considering costs and benefits of various options; and
- developing an implementation plan if a new method is to be introduced.

Jacobs also recommended TasWater carry out further investigation with respect to alternative charging methodologies. Appendix A of this Paper contains a link to Jacobs' report with respect to sewerage charging.

In its proposed Price and Service Plan for the fourth regulatory period commencing on 1 July 2022, TasWater proposed the continuation of the ET methodology to cover the costs of sewerage services, with some relatively minor adjustments for certain residential and non-residential property uses.

During consultation on the Regulator's 2022 Water and Sewerage Price Investigation Draft Report, a number of submissions from stakeholders and customers recommended the Regulator require TasWater to calculate sewerage charges based on a different approach.

After considering the issues raised in submissions, the Regulator considered there was insufficient information available to form a view about whether a different approach would provide outcomes that were superior to those achieved under the current approach and there was insufficient time to fully assess what the price impacts of a changed approach would be for customers. The Regulator also considered there was insufficient time for TasWater to implement an entirely different pricing approach prior to the start of the fourth regulatory period on 1 July 2022.

¹ Excluding properties used as offices and caravan parks, which have a different methodology applied to the calculation of sewerage charges.

² Jacobs, *Review of Sewerage and Commercial Trade Waste Charges*, 2019.

1.1.2 Trade waste charging

Trade waste refers to liquid waste discharged from non-residential properties that is more variable and diverse in volume and quality than typical household wastewater. Trade waste impacts the sewerage system to a greater extent than that imposed by sewage discharged from residential dwellings and increases the risks to the community and the environment. TasWater's costs of treating and returning treated trade waste to the environment are also higher than for residential wastewater.

TasWater categorises trade waste customers based on the types and volumes of trade waste discharged, with customers assessed as discharging trade waste of very low volume or strength not paying any trade waste charges. However, customers assessed as discharging a higher volume or strength of trade waste are required to pay trade waste charges. TasWater also imposes non-compliance charges where the type of trade waste or the volume of trade waste differs from TasWater's assessment.

As noted, Jacobs also reviewed TasWater's approach to trade waste charging. Jacobs analysed trade waste charges, treatment requirements, incentive structures and costs. Jacobs found that TasWater's approach was broadly in line with those of interstate utilities, though there was opportunity to refine the cost allocation between sewerage, commercial trade waste and industrial trade waste customers. Appendix A of this Paper contains a link to Jacobs' report with respect to trade waste charging.

In its proposed Price and Service Plan for the fourth regulatory period, TasWater proposed retaining the existing categories of trade waste and including two new categories; one for customers posing a relatively lower risk to TasWater's sewerage infrastructure and a second, new category for tankered waste customers.

The Regulator considered further information and analysis was required to assess whether TasWater's current approach to trade waste charging was appropriate. The Regulator did, however, note the relatively small number of trade waste categories and that businesses with quite different types and volumes of trade waste may be paying similar or identical charges.

As for sewerage charging, the Regulator did not consider there was sufficient time to conduct the necessary analysis and assess the customer impacts of any changes from the current approach within the constraints of the timeframes available under the price investigation.

1.2 Scope of the inquiry

In conducting the inquiry, the Regulator intends to:

- assess the rationale for TasWater's current approach to sewerage and trade waste charging;
- review sewerage and trade waste charging approaches applied by utilities in other Australian jurisdictions;
- examine the information provided during the 2022 Water and Sewerage Price Investigation, including the outcomes from the consultancy work Jacobs conducted for TasWater and issues raised in past submissions from stakeholders and customers in relation to sewerage and trade waste charging;
- identify and develop options for sewerage and trade waste charging, including the advantages and disadvantages of each option and the estimated customer impacts relating to each option;

- assess options in the context of the pricing principles set out in the *Water and Sewerage Industry Act 2008* and the *Water and Sewerage Industry (Pricing and Related Matters) Regulations 2021*;³
- assess whether a pricing transition period may be required depending on the preferred option and the customer impacts of implementing the preferred option; and
- take into account any other matters the Regulator considers relevant.

Prices for unregulated sewerage and trade waste services are outside the scope of this inquiry.

Additionally, while the services TasWater provides to trade waste customers that produce higher volumes of trade waste or types of trade waste that have a relatively higher impact on TasWater's sewerage infrastructure (Category 3 and 4 trade waste customers) are regulated, the prices charged for those services are unregulated.⁴ TasWater's charging approach for the services provided to these customers is therefore outside the scope of this inquiry.

In conducting the inquiry, the Regulator will carry out public consultation, liaise with TasWater and with customers and stakeholders who have raised concerns in the past in relation to sewerage and trade waste charging.

The Terms of Reference for the inquiry are attached in Appendix B.

1.3 Context of the inquiry

TasWater must cover the costs of operating and maintaining the sewerage system. These costs are recouped through charges imposed on residential and non-residential customers. This inquiry will not examine TasWater's costs of providing sewerage and trade waste services, but instead is focussed on the methodologies used to calculate the charges applied to each customer. Should the inquiry result in a change in charging approaches, there will be changes in the amount of revenue TasWater can recover from different classes of customers, such as residential customers compared to non-residential customers, and from different types of businesses.

For 2022-23, the Regulator estimated that approximately \$166 million or 47 per cent of TasWater's notional allowable revenue⁵ relates to its recovery of the costs of collecting, transporting, treating and discharging wastewater to the environment with respect to sewerage and trade waste customers (excluding Category 3 and 4 trade waste customers).

In its 2019 report, Jacobs estimated that approximately 76 per cent of TasWater's wastewater costs were fixed costs. That is, the costs are fixed regardless of the volume of wastewater collected, transported, treated and discharged. The remaining 24 per cent of these costs were estimated to

³ Section 68 of the Industry Act sets out the pricing principles, including that the price charged to a particular customer or class of customers is to reflect at least the costs that relate directly to providing the regulated service to that customer or class of customers to the extent that it is commercially and technically reasonable to do so.

⁴ Under Section 61 of the Industry Act, TasWater can enter into a contract with a customer for the provision of sewerage services with the price for those services negotiated between the parties.

⁵ TasWater's Notional Allowable Revenue or NAR is the Regulator's annual assessment of the amount of revenue TasWater requires to provide water and sewerage services to its regulated customers. The NAR is calculated by adding up the efficient costs of the activities TasWater carries out in providing water and sewerage services. The NAR is used only to calculate the maximum prices TasWater can charge for each service and is not the same as, nor reconcilable to, TasWater's actual revenue.

be variable costs.⁶ As discussed further in Chapter 4, the high proportion of fixed wastewater costs has potential implications for determining sewerage charges.

The Regulator accepts that, in practice, there is no perfect approach to charging for sewerage and trade waste services. That said, the objective of the inquiry is to identify a workable and practical solution given the circumstances and information available that best meets the pricing principles and also takes into account assessment criteria including simplicity, fairness, ease of implementation and affordability.

Any changes to the approaches to calculating sewerage and trade waste charging arising out of the inquiry will be accounted for and set out in the Regulator's Price and Service Plan Guideline for the fifth regulatory period commencing on 1 July 2026.

To ensure compliance with the obligations set out in the Guideline, TasWater's proposed price and service plan for the fifth regulatory period will be required to incorporate the inquiry's findings with respect to sewerage and trade waste charging.

⁶ Jacobs, *Review of Sewerage and Commercial Trade Waste Charges*, 2019, page 9.

2 TASWATER'S CURRENT APPROACH TO SETTING SEWERAGE AND TRADE WASTE CHARGES

This chapter provides a high-level summary of TasWater's current approach to setting sewerage and trade waste charges for properties in Tasmania. It seeks stakeholders' responses to the listed questions and asks stakeholders to raise any other matters or questions not listed in the chapter.

2.1 Sewerage charges

There is no metering of sewage, and therefore, it is not possible to measure the volume of sewage discharged from any particular property. Furthermore, the costs of sewage treatment depend, in part, on the content of the sewage.

Given these limitations, TasWater has adopted an ET method for setting sewerage charges for the majority of properties connected to its sewerage system.

2.1.1 Equivalent tenement methodology

TasWater's ET methodology is based on Section 64 of the *Determination of Equivalent Tenements Guideline of the NSW Water Directorate* (Guideline). TasWater has adjusted the ET approach from the Guideline to suit Tasmanian conditions.

The Guideline was designed to be used as an input into the process of proportioning developer charges between different land use categories across NSW. The Guideline considered the ET methodology for water consumption as well as for sewage discharge. Under the Guideline, the ET method for sewerage charging in NSW was considered appropriate because the variability in sewage loadings for single domestic dwellings is significantly less than the variability exhibited in water demand, as sewage loadings are unlikely to be influenced by climate factors and seasonality.

For the purposes of calculating sewerage charges, TasWater undertakes an ET assessment process to determine how many ETs are attributable to each property. For residential properties, which account for approximately 93 per cent of sewerage connections, the sewerage charge is based on one ET which equates to \$705.04 for 2022-23.

For non-residential properties, TasWater has grouped the properties by type into a number of different categories. If the property is connected to TasWater's sewerage infrastructure, the minimum sewerage charge is one ET.

For each category of property type, the number of ETs is the product of the number of a particular attribute and the ET per unit of that attribute. The following steps are undertaken to determine the sewerage charge:

- ascertain the ET units, such as the number of beds or rooms, number of staff and students, gross building floor area and / or applicable amenities;
- determine the unit price, based on the property type, as a proportion of one ET; and
- apply the unit price to the ET number to get the total price.

TasWater’s full list of ETs per unit and the attributes for the different types of properties is set out in its *Schedule of ETs for property types* (Schedule) which is available [here](#).

As an example of the ET calculation for a hospital, the ET assessment depends on the number of beds in the hospital. For 2022-23, each bed in the hospital has been assessed at 0.971 ET. For a hospital with 100 beds, the annual sewerage charge for 2022-23 would equate to 97.1 ETs or \$68 459.38.

2.1.2 Discharge factor methodology

In TasWater’s Price and Service Plan for the period from 1 July 2015 to 30 June 2018, the Regulator approved TasWater introducing a discharge factor method to determine sewerage charges for caravan parks. In TasWater’s Price and Service Plan for the period from 1 July 2018 to 30 June 2021, the Regulator approved the introduction of a discharge factor method for offices.

The discharge factor method for caravan parks and offices was introduced in response to concerns raised by caravan park operators about the validity and accuracy of applying TasWater’s ET methodology to caravan parks due to the diverse range of facilities and services offered and by owners of properties used as offices about the lack of a relationship between the gross floor area of an office and the actual and potential demand the property placed on the sewerage network. The Regulator acknowledges that having two different methodologies for non-residential customers could have potential equity issues.

The discharge factor method is a consumption-based charging method, where the sewerage charge depends on the annual water consumption multiplied by a discharge factor. The discharge factor method assumes a linear relationship between the demand a property’s sewage discharges place on the sewerage network and its water consumption. The discharge factor for a property is therefore the estimated percentage of the water consumed at the property, as measured by the water meter, that is discharged to the sewerage system.

As set out in TasWater’s approved Schedule, the main method for calculating the sewerage charges for caravan / cabin / camping sites, including long term sites, uses the following discharge factor method:

$$\frac{\text{Annual water consumption (Q3 previous year to Q3 current year)} \times \text{discharge factor (0.75)}}{\text{Average annual residential water consumption (179 kL/annum)}} \times \text{Cost of 1 ET}$$

As an example, a caravan park in 2022-23 with an annual water consumption of 400 kilolitres would be subject to the sewerage charge below:

$$\frac{400 \times 0.75}{179} \times 705.04 = 1.6 \times 705.04 = \$1\,128.06$$

The method for determining sewerage charges for offices is the same as with caravan parks except that a different discharge factor is used:

$$\frac{\text{Annual water consumption (Q3 previous year to Q3 current year)} \times \text{discharge factor (0.95)}}{\text{Average annual residential water consumption (179 kL/annum)}} \times \text{Cost of 1 ET}$$

Using a water of consumption of 100 kilolitres per annum, an office would receive the following sewerage charge:

$$\frac{100 \times 0.95}{179} \times 705.04 = 0.5307^7 \times 705.04 = \$705.04$$

When annual water consumption cannot be determined for caravan parks or offices, TasWater uses alternative methods to calculate these sewerage charges.

1. Does the ET method remain appropriate for calculating sewerage charges?
2. Is it appropriate to have different sewerage charging methodologies for different types of non-residential customers?
3. Should the use of the discharge factor methodology be extended beyond offices and caravan parks?

2.2 Trade waste charges

As previously noted, trade waste places additional impacts on TasWater's sewerage system over and above that imposed by sewage discharged from residential and non-residential properties. TasWater's higher cost of collecting, treating and returning treated trade waste to the environment is the rationale for charging trade waste customers a separate trade waste charge in addition to the sewerage charge.

TasWater separated trade waste charges from sewerage charges in 2015-16 to increase customers' awareness of the costs of collecting and treating waste discharged by customers and returning that waste to the environment.

It has been suggested that TasWater is 'double dipping' by imposing trade waste charges in addition to sewerage charges for some non-residential customers. This suggestion has been made on the basis that trade waste is transported through the same pipes and to the same holding tanks as sewerage for treatment and that TasWater is therefore charging twice for the same service.

TasWater's current trade waste charges are determined based on a risk assessment that considers the volumes and types of trade waste typically discharged by different types of businesses.

TasWater groups trade waste customers into five categories based on the types and volumes of trade waste discharged. The table below describes each of these categories.

⁷ If the result of dividing the *(Annual water consumption x discharge factor)* by the *Average residential water usage* is less than 1, the result is rounded up to 1.

Table 1: Trade waste categories

Category number	Description
0	Customers assessed as discharging trade waste of very low volume or strength equivalent to or less than that of a standard residential dwelling
1	Customers assessed as discharging low volume and low impact trade waste which poses minimal risk to the sewerage infrastructure and can be managed through simple pre-treatment devices such as screens or tanks with minimal maintenance requirements
2	Customers assessed as discharging trade waste to the sewerage infrastructure that can be managed through the installation of pre-treatment devices such as grease arrestors and oil water separators to make it acceptable for discharge. These customers are split into three subcategories - 2A, 2B and 2C.
3	Customers assessed as discharging trade waste which through volume, composition or quality, individually or combined, poses a medium risk to the operation of the sewerage infrastructure.
4	Customers assessed as discharging trade waste which through volume, composition or quality, individually or combined, poses a high risk to the operation of the sewerage infrastructure.

As previously discussed, the prices charged by TasWater for services provided to Category 3 and 4 trade waste customers are unregulated and are therefore outside the scope of this inquiry.

For customers in Categories 0, 1 and 2, TasWater charges a trade waste application fee for the assessment of an application and deciding to accept trade waste discharges into its sewerage infrastructure. In 2022-23, the trade waste application fee is \$157.90.

Customers in Category 0 do not pay any trade waste charges, but customers in Categories 1 and 2 are liable to pay trade waste charges.

TasWater imposes a fixed annual management fee for customers in Categories 1 and 2. The fee varies depending on the category.

TasWater also imposes non-compliance charges on customers in Categories 1 and 2 where the type of trade waste or the volume of trade waste differs from TasWater's assessment.

Other trade waste charges, which were introduced by TasWater in 2018-19, are catchment management fees (applies to trade waste customers unable to comply with their trade waste requirements due to heritage or other site constraints at their properties) and trade waste macerator charges (applies to aged care facilities for the discharge of shredded disposable paper bedpans).

TasWater has a range of risk scores for customers in each trade waste category. A trade waste customer's total risk score is based on four elements:

- business activity (A);
- substance of most concern (S);

- pre-treatment equipment required (P); and
- trade waste volume (V).

The lower and upper limits for Categories 0, 1, 2A, 2B and 2C are presented in Table 2.

Table 2: Lower and upper limits for risk categories

Risk Category	Lower Limit	Upper Limit
0	0	15
1	16	39
2A	40	49
2B	50	59
2C	60+	

Different risk scores are assigned to different business activities, substances, pre-treatment equipment and trade waste volumes as set out in TasWater's *Trade Waste Customer Category Guideline*.

TasWater determines a customer's trade waste volume using a number of factors, including:

- the customer's previous financial year water consumption (previous FY water consumption);
- domestic residence (DR): an allowance of 200 kilolitres will be subtracted from water consumption if a domestic residence is connected to the same meter as the trade waste customer, and if there is no domestic residence connected to the same meter, the allowance is 0;
- base volume (BV): equivalent to 80 per cent of the annual potable water meter consumption for the property receiving the trade waste service; and
- trade waste discharge factor (DF): the percentage of the base volume which is considered to be trade waste discharged to the sewer and is dependent on the type of business activity conducted by the customer.

TasWater uses the following formula:

$$\text{Trade Waste Volume} = (\text{previous FY water consumption} - \text{DR}) \times \text{BV} \times \text{DF}$$

As an example, the total risk score and resultant trade waste category for a beauty salon that consumed 130 kilolitres of water during the previous financial year, with no domestic residence connected and without the required pre-treatment device having been installed, would be as set out in Table 3.

Table 3: Risk score for a beauty salon without pre-treatment systems

Criteria	Description	Risk Score
Business activity (A)	Hair Salon	5
Substance of concern (S)	Total solids	5
Pre-treatment (P)	Bottle Trap not installed	5
Trade Waste Volume (V)	(previous FYR water consumption - DR) x BV x DF (130 - 0) x 0.80 x 0.75 = 78kL	5
Total Risk Score	A+S+P+V	20 (Category 1)

In 2022-23, the beauty salon's trade waste charge would be \$610.04, in accordance with Taswater's approved charge for Category 1 customers.

However, if the same beauty salon installed the required bottle trap, the total risk score and trade waste category would be as set out in Table 4.

Table 4: Risk score for a beauty salon with pre-treatment systems

Criteria	Description	Risk Score
Business activity (A)	Hair Salon	5
Substance of concern (S)	Total solids	5
Pre-treatment (P)	Bottle Trap installed	0
Trade Waste Volume (V)	130 x 0.80 x 0.75 = 78kL	5
Total Risk Score	A+S+P+V	15 (Category 0)

In this case, the beauty salon's trade waste charge would be \$0 in 2022-23.

The risk score and category for a car yard that consumed 400kL of water in the previous financial year using a manually operated pressure sprayer, would be as shown in Table 5.

Table 5: Risk score for a car yard

Criteria	Description	Risk Score
Business activity (A)	Car Wash/Wash bay (wand/hand)	10
Substance of concern (S)	Total petroleum hydrocarbons	15
Pre-treatment (P)	Oil/Water Separator	18
Trade Waste Volume (V)	400 x 0.80 x 0.80 = 256kL	10
Total Risk Score	A+S+P+V	53 (Category 2B)

In 2022-23, the car yard's trade waste charge would be \$1 403.26 in accordance with TasWater's approved charge for Category 2B customers.

4. Do you consider that the application of trade waste charges in addition to sewerage charges for some non-residential customers results in 'double dipping'?
5. Do you consider the current trade waste customer categories to be appropriate?

3 OTHER WATER AND SEWERAGE UTILITIES' APPROACHES

This chapter provides a summary of the methodologies applied by utilities in other Australian jurisdictions for sewerage charging for residential customers and sewerage and trade waste charging for non-residential customers.

3.1 Sewerage charges

Across Australia, a range of different approaches are adopted for charging residential and non-residential customers for the discharge of sewage.

Jacobs' 2019 *Review of Sewerage and Commercial Trade Waste Charges* analysed the sewerage charging methods of 14 interstate utilities. Jacobs' findings are presented in the table below (the findings have been modified to reflect changes utilities have made since 2019).

Table 6: Sewerage charging approaches used by utilities in other Australian jurisdictions

Utility	Residential customer charging method	Non-residential customer charging method
SA Water (SA)	Fixed charge based on property value.	Fixed charge based on property value.
Barwon Water (VIC)	Fixed charge. Fixed service charge.	Fixed and variable charge with discharge factor based on property type.
Greater Western Water (VIC)	Fixed and variable charge with discharge and seasonal factor.	Fixed and variable charge with discharge factor based on property type.
South East Water (VIC)	Fixed (service) and variable charge with discharge factor.	Fixed (service) and variable charge with discharge factor based on property type.
Yarra Valley Water (VIC)	Fixed and variable charge with discharge and seasonal factor.	Fixed and variable charge where volume of trade waste is subtracted with the remainder being multiplied by a discharge factor based on property type.
Sydney Water (NSW)	Fixed charge. Fixed charge of three components: to cover the cost of operation and maintenance of the sewerage system; a deemed charge for sewage output; an amount to fund infrastructure projects.	Fixed charge based on meter size, number of meters and discharge factor, and variable charge with discharge factor based on property type.

Hunter Water (NSW)	Fixed charge based on property type.	Fixed charge based on meter size and variable charge with discharge factor based on property type.
Central Coast Council (NSW)	Fixed charge based on property type.	Fixed charge based on meter size and number of meters, and variable charge with discharge factor based on property type.
Dubbo Regional Council (NSW)	Fixed charge. Fixed charge based on the estimated volume of sewage discharged by residential customers.	Variable charge determined by multiplying water usage by a usage charge which is added to an access charge based on meter size, of which the total sum is multiplied by a discharge factor based on property type. Charge (\$) = SDF * (AC + C * UC) Where: <ul style="list-style-type: none"> • SDF = sewerage discharge factor; • AC = access charge; • C = annual water consumption (kL); and • UC = usage charge.
Icon Water (ACT)	Fixed charge. Fixed supply charge based on an approximation of residential sewage discharge.	Fixed charge and variable charge for each flushing fixture in excess of two flushing fixtures.
Water Corporation (WA)	Fixed charge based on gross rental value of property.	Fixed charge based on number of major sewerage fixtures and variable charge applied on discharge over 200kL with discharge factor.
Power and Water Corporation (NT)	Fixed charge. Fixed service charge.	Fixed charge and variable charge based on number of major sewerage fixtures.
Unity Water (QLD)	Fixed charge and variable charge with a 90 per cent discharge factor and a cap of 740 litres per day.	Fixed and variable charge with a discharge factor.
Urban Utilities (QLD)	Fixed charge. Fixed service charge that contributes to the operation and maintenance of the sewerage system.	Fixed charge based on size of water meter and variable charge with discharge factor based on property type.

Notes: Property type refers to the activities carried out at the property.

A fixed charge for residential customers is the most common approach used in other jurisdictions, whilst almost all selected utilities apply a combination of fixed and variable charges for non-residential customers. The variable portion of these charges tends to be based on water usage, with a discharge factor applied to create a proxy for the volume of sewage that is discharged to the sewerage system.

3.2 Trade waste charges

Trade waste charging in other Australian jurisdictions tends to follow the common theme of user pays pricing, where non-residential customers are divided into categories according to their volume of trade waste and the risk that their trade waste poses to the sewerage system. This means that customers discharging relatively higher volumes and relatively higher risk trade waste pay higher trade waste charges than customers discharging relatively lower volumes and relatively lower risk trade waste.

The table below sets out the approaches to trade waste charging applied by utilities in other Australian jurisdictions.

Table 7: Trade waste charging approaches applied by utilities in other Australian jurisdictions

Utility	Trade waste charging methodology
SA Water (SA)	Five risk-based categories with escalating fixed charges and variable charges for the discharge of various high-risk chemicals.
Barwon Water (VIC)	Three risk-based categories with escalating fixed charges and variable charges for the discharge of various high-risk chemicals.
Sydney Water (NSW)	10 and seven risk-based categories for commercial and industrial customers respectively with escalating fixed charges and variable charges for industrial customers for the discharge of various high-risk chemicals.
Icon Water (ACT)	Does not currently charge for the discharge of trade waste, though has committed to developing a scheme in consultation with the public.
Water Corporation (WA)	Fixed permit charge with variable charges for the discharge of high-risk chemicals. Specific industries pay an additional fixed charge for the discharge of various high-risk chemicals instead of a variable charge.
Power and Water Corporation (NT)	Four categories (includes deemed customers, who are not required to pay a trade waste charge due to discharge being less than 1 000kL/annum).
Urban Utilities (QLD)	Three categories (Category 1 does not incur trade waste charges as their discharges are deemed to be at or below 'domestic strength') with escalating variable charges. The variable charge for Category 2 customers is based on water usage, while the variable charge for Category 3 customers is based on the per kilogram discharge of various high-risk chemicals.

Of the utilities that charge for trade waste discharges, methods of charging tend to be similar. The key differences between approaches are the number of categories and whether there is extra separation between industrial and non-industrial customers. Urban Utilities was the only selected utility to apply a variable charge for trade waste.

6. Do you consider that any particular approach in other jurisdictions in relation to sewerage and / or trade waste charging would be more appropriate for Tasmania?

4 POTENTIAL APPROACHES

This chapter describes some potential approaches for determining sewerage and trade waste charges. It is not an exhaustive list and the Regulator is interested in receiving views on these approaches and / or on any other approaches.

4.1 Sewerage charges

As discussed previously, there is a broad range of approaches for determining sewerage charges and, in practice, no approach is perfect.

Broadly speaking, there are three potential approaches to sewerage charging:

- fixed charge (either the ET methodology, or another fixed charge approach);
- variable charge; and
- a combination of fixed and variable charges.

As part of its review, Jacobs examined these approaches. Table 8 presents Jacobs' assessment, including the pros and cons of each approach.

Table 8: List of potential approaches for sewerage charging

Option	Description	Pros	Cons
1) Fixed charge	All customers pay the same fixed rate or groups of different fixed rates between residential and non-residential. ET methodology or other fixed charging method.	Most of TasWater's sewerage costs are fixed - therefore broadly cost reflective. Administratively efficient and cost effective. Different fixed rates for non-residential would reflect the variation in discharge to the system between business types	Does not take into account load on the system and cost of treatment which varies between customers. Does not consider different uses within a single property. Challenges with applying to multi-use properties.
2) Variable charge	Variable charge based on water supplied	Water use is a good proxy for demand placed on TasWater's infrastructure. Consistent with user pays principle. Encourages water conservation	Most of TasWater's sewerage costs are fixed - revenue risk for TasWater if variable demand estimates are not accurate, leading to under recovery of costs. Discharge categories would need to be established.

3) Fixed and variable charges	Fixed charge plus volumetric charge based on water supplied to the property.	Cost-reflective. Consistent with water pricing method.	Burdensome for charging residential customers - minimal variable costs to recover from a large customer base. Any efficiencies may be offset by costs to administer.
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Source: Jacobs, 2019, pp 26-28.

Other approaches include a combination of the approaches described above. For example, maintaining the status quo involves the application of the ET method and a discharge factor approach for some non-residential customers.

4.2 Trade waste charges

Based on the arrangements in other jurisdictions, there are a number of approaches to determining trade waste charges. These approaches could include abolishing trade waste charges and only having sewerage charges for regulated customers or retaining the existing risk-based system but altering and/or expanding the number of trade waste categories.

7. Do you have a preference as to how sewerage and / or trade waste charging should be applied? If so, please explain your reasons.
8. Do you consider that TasWater’s high proportion of fixed sewerage costs should influence the sewerage charging approach?
9. Are there charging approaches other than those set out in Table 8 that you think the Regulator should consider? If so, please provide details.

APPENDIX A: JACOBS' REPORTS ON SEWERAGE AND TRADE WASTE CHARGING

- Jacobs' Review of Sewerage and Commercial Trade Waste Charges (November 2019) can be found [here](#).
- Jacobs' Commercial and Trade Waste Charging Pricing Report (October 2019) can be found [here](#).

APPENDIX B: TERMS OF REFERENCE

The Tasmanian Economic Regulator is conducting an inquiry under Section 12(j) of the *Water and Sewerage Industry Act 2008* into TasWater’s approach to sewerage and trade waste charging.

Background

Sewerage charging

It is not practical or cost-effective to install, maintain and read sewage meters on each property that TasWater services. As a result, TasWater currently uses an Equivalent Tenement (ET) method to calculate sewerage prices for the majority of the properties connected to its sewerage system (TasWater currently applies a different approach for offices and caravan parks as explained below).

One ET is the estimate of the potential demand an average residential dwelling, in dry weather flow conditions, places on TasWater’s sewerage system. ET rates vary according to property use. For example, if TasWater estimates that a property has the potential to result in the demand on the system being double that of a single residential dwelling, it will be assessed as two ETs and the customer will pay double the sewerage charge applying to the residential dwelling.

For offices and caravan parks, a charge based on the estimated number of kilolitres of wastewater discharged into TasWater’s infrastructure is applied, based on a pre-determined percentage of the volume of water used by the customer (referred to as a discharge factor approach).

In its 2022 Water and Sewerage Price Investigation Final Report, the Regulator decided to conduct an inquiry into TasWater’s approach to sewerage charging.

Trade waste charging

Trade waste refers to liquid waste discharged from non-residential properties that is more variable and diverse in volume and quality than typical household wastewater. Trade waste places additional impacts on the sewerage system over and above that imposed by sewage discharged from residential dwellings. Trade waste increases the risks to the community and the environment. TasWater’s costs of treating and returning treated trade waste to the environment are also higher than for residential wastewater.

TasWater categorises trade waste customers based on the types of trade waste and the volumes discharged. For example, customers assessed as discharging trade waste of very low volume or strength equivalent to or less than that of a standard residential dwelling are categorised as “Category 0” trade waste customers and do not pay any trade waste charges. However, customers assessed as discharging low volume and low impact trade waste which is minimal risk to the sewerage infrastructure and can be managed through cleaner production methods are categorised as “Category 1” trade waste customers and are liable to pay trade waste charges. TasWater also imposes non-compliance charges where the type of trade waste or the volume of trade waste differs from the assessment.

In its 2022 Water and Sewerage Price Investigation Final Report, the Regulator decided to conduct an inquiry into trade waste charges in conjunction with the inquiry into sewerage charges.

Scope of Inquiry

In conducting the inquiry, the Regulator will:

- assess the rationale for TasWater’s current approach to sewerage and trade waste charging;
- review sewerage and trade waste charging approaches applied by utilities in other Australian jurisdictions;
- examine the information provided during the 2022 Water and Sewerage Price Investigation, including the outcomes from the consultancy work Jacobs Australia conducted for TasWater and issues raised in past submissions from stakeholders and customers in relation to sewerage and trade waste charging;
- identify and develop options for sewerage and trade waste charging, including the advantages and disadvantages of each option and the estimated customer impacts relating to each option;
- assess options in the context of the pricing principles set out in the *Water and Sewerage Industry Act 2008* and the *Water and Sewerage Industry (Pricing and Related Matters) Regulations 2021*;
- assess whether a pricing transition period may be required depending on the preferred option and the customer impacts of implementing the preferred option; and
- take into account any other matters the Regulator considers relevant.

In conducting the inquiry, the Regulator will carry out public consultation and liaise with TasWater and with customers and stakeholders who have raised concerns in the past in relation to sewerage and trade waste charging.

Outputs

An Issues Paper setting out the Regulator’s assessment of the key issues for the inquiry and a Draft Report setting out the Regulator’s draft findings on the approach to sewerage and trade waste charging.

A Final Report setting out the Regulator’s findings on the approach to sewerage and trade waste charging.

The Regulator expects TasWater to implement any revised sewerage and trade waste charging arrangements from the start of the fifth regulatory period on 1 July 2026.

Timelines

The proposed timelines for the inquiry are as follows:

Milestone	Target dates
Regulator releases terms of reference	21 September 2022
Regulator conducts research and liaises with TasWater and other state and territory regulators	September 2022 - February 2023
Regulator releases Issues Paper	28 February 2023
Consultation on Issues Paper	1 March 2023 - 30 April 2023
Regulator releases Draft Report	31 August 2023

Milestone	Target dates
Consultation on Draft Report	1 September 2023 - 15 October 2023
Regulator releases Final Report	1 December 2023

APPENDIX C: GLOSSARY

Term	Meaning in this Paper
Category 0, Category 1, Category 2A, Category 2B and Category 2C trade waste customers	Trade waste customers assessed as having low grade or low to medium volumes of trade waste. Prices paid by Category 0, Category 1, Category 2A, Category 2B and Category 2C trade waste customers are regulated.
Category 3 and Category 4 trade waste customers	Trade waste customers, other than Category 0, Category 1, Category 2A, Category 2B and Category 2C trade waste customers, who produce trade waste assessed as being higher risk with respect to impact on the sewerage network. Prices paid by Category 3 and Category 4 trade waste customers are not regulated.
Customer	<p>As defined in the Industry Act:</p> <ul style="list-style-type: none"> • an owner or, owner and occupier, of a property that is connected to a regulated entity's water or sewerage infrastructure (including strata title lot owners); or • an occupier of a property that is connected to a regulated entity's water or sewerage infrastructure who is liable for water and sewerage charges; or • an owner or occupier of a property that is not connected to a regulated entity's water or sewerage infrastructure but where a regulated service is available and a regulated entity imposes a service charge for that service; or • an occupier of a property that is connected to a regulated entity's water infrastructure or sewerage infrastructure and is liable for service charges.
Economic Regulator	The Tasmanian Economic Regulator as appointed under the <i>Economic Regulator Act 2009</i> (referred to as the Regulator in this Draft Report).

Equivalent Tenement (ET)	A measure of the potential demand a property places on the sewerage system with one ET representing the estimated sewage discharge from an average single residential house under dry weather flows.
Fixed charge	A recurrent charge for the provision of a regulated service to a customer but not including a variable charge.
Fifth regulatory period	Commences 1 July 2026.
Fourth regulatory period	1 July 2022 to 30 June 2026.
Industry Act	<i>Water and Sewerage Industry Act 2008.</i>
Kilolitre (kL)	A metric unit of volume or capacity equal to 1 000 litres.
Price and Service Plan	A regulated entity's Price and Service Plan approved by the Economic Regulator under section 65 of the Industry Act.
Price Determination	A determination made by the Economic Regulator under section 66 of the Industry Act. A determination sets out, for a regulatory period, the maximum prices a regulated entity can charge for its regulated services.
Price Determination Investigation	An investigation conducted to gather information required by the Economic Regulator before making a Price Determination in respect of a regulated service.
Pricing principles	The principles set out in sections 68 and 68AA of the Industry Act and in the Pricing Regulations.
Pricing Regulations	<i>Water and Sewerage Industry (Pricing and Related Matters) Regulations 2021.</i>
Proposed Price and Service Plan	A Price and Service Plan submitted by a regulated entity under section 65 of the Industry Act.
Regulated services	Services or activities for which a licence is required under section 30 of the Industry Act.
Regulatory period	A period covered by a Price Determination.
Tankered waste	Trade waste accepted at TasWater's discretion directly at designated receiving facilities that is

	<p>not otherwise permitted to be discharged at the source into TasWater’s sewerage infrastructure.</p>
Tariffs	<p>Prices charged by a regulated entity for the provision of regulated services made up of fixed charges, variable charges and miscellaneous fees and charges.</p>
TasWater	<p>Tasmanian Water and Sewerage Corporation Pty Ltd.</p>
Trade waste	<p>As defined in the Industry Act, trade waste is liquid waste generated other than in the course of domestic activities and includes liquid waste generated by any trade, industrial, commercial, educational, medical, dental, veterinary, agricultural, horticultural, scientific research or experimental activities.</p>
Variable charge	<p>A charge based on the volume, as measured by a meter, of water delivered to, or sewage removed from, the property to which the charge relates.</p>