



INQUIRY INTO SEWERAGE
CHARGING

DRAFT REPORT

DECEMBER 2023

CONTACT DETAILS

Office of the Tasmanian Economic Regulator

Website:	www.economicregulator.tas.gov.au
Email:	office@economicregulator.tas.gov.au
Office hours:	8.45am to 5.00pm, Monday to Friday (except public holidays)
Street address:	Level 3, 21 Murray Street, Hobart, Tasmania 7000
Postal address:	GPO Box 770, Hobart, Tasmania 7001
Telephone:	(03) 6145 5899 or international +61 3 6145 5899

December 2023

Office of the Tasmanian Economic Regulator
Level 3, 21 Murray Street, Hobart TAS 7000
GPO Box 770, Hobart TAS 7001
Phone: (03) 6145 5899

Copyright

© Office of the Tasmanian Economic Regulator

TABLE OF CONTENTS

INVITATION TO MAKE SUBMISSIONS	I
ISSUES FOR COMMENT	II
EXECUTIVE SUMMARY	1
MATTERS WHERE FURTHER INFORMATION AND ANALYSIS IS REQUIRED.....	6
1 INTRODUCTION	7
1.1 BACKGROUND	7
1.2 SCOPE AND APPROACH TO THE INQUIRY	8
1.3 NEXT STEPS`	9
2 COSTS, REVENUE AND THE PRICING PRINCIPLES	10
2.1 TASWATER'S SEWERAGE COSTS AND REVENUE	10
2.2 PRICING PRINCIPLES.....	11
3 TASWATER'S CURRENT APPROACH	12
3.1 EQUIVALENT TENEMENT METHODOLOGY	12
3.2 DISCHARGE FACTOR METHODOLOGY.....	13
4 OTHER WATER AND SEWERAGE UTILITIES' APPROACHES.....	15
5 ISSUES RAISED BY CUSTOMERS AND STAKEHOLDERS	18
5.1 FEEDBACK RECEIVED DURING JACOBS AUSTRALIA'S 2019 SEWERAGE CHARGING CONSULTANCY	18
5.2 SUBMISSIONS ON THE REGULATOR'S 2022 INVESTIGATION DRAFT REPORT	18
5.3 SUBMISSIONS ON THE REGULATOR'S 2023 ISSUES PAPER	19
6 CHARGING OPTIONS.....	20
6.1 MODELLING PROCESS AND ASSUMPTIONS.....	20
6.2 FIXED CHARGE FOR RESIDENTIAL CUSTOMERS.....	22
6.3 FIXED AND VARIABLE CHARGE FOR RESIDENTIAL CUSTOMERS	23

6.4	FIXED AND VARIABLE CHARGE FOR NON-RESIDENTIAL CUSTOMERS	24
7	DRAFT ASSESSMENT OF THE OPTIONS	28
7.1	ADVANTAGES AND DISADVANTAGES OF A FIXED CHARGE FOR RESIDENTIAL CUSTOMERS	28
7.2	ADVANTAGES AND DISADVANTAGES OF A FIXED AND VARIABLE CHARGE FOR RESIDENTIAL CUSTOMERS	28
7.3	ADVANTAGES AND DISADVANTAGES OF A FIXED AND VARIABLE CHARGE FOR NON-RESIDENTIAL CUSTOMERS	29
7.4	OTHER CONSIDERATIONS	29
7.5	DRAFT ASSESSMENT	30
8	OTHER MATTERS	31
8.1	IMPLEMENTATION OF ACTIVITY-BASED COSTING	31
8.2	DISCHARGE FACTORS	31
8.3	TREATMENT OF CATEGORY 3 AND 4 TRADE WASTE CUSTOMERS	32
8.4	POTENTIAL CROSS-SUBSIDIES	32
8.5	DATA INTEGRITY	33
8.6	AUDIT OF THE MODEL	33
8.7	CUSTOMER IMPACT ASSESSMENT TOOL	33
	APPENDIX A: TERMS OF REFERENCE	34
	APPENDIX B: LEGISLATIVE FRAMEWORK	37
	APPENDIX C: SUMMARY OF SUBMISSIONS	39
	APPENDIX D: PREDICTED BILL IMPACTS FOR NON-RESIDENTIAL CUSTOMERS	44
	APPENDIX E: GLOSSARY	51

INVITATION TO MAKE SUBMISSIONS

The Regulator invites written submissions from interested parties on the matters set out in this Report.

It is the Regulator's policy to publish all submissions on the Office of the Tasmanian Economic Regulator's (OTTER) website unless the author of the submission requests confidentiality in relation to the submission (or any part of the submission). Those parts of a submission requested to be kept confidential should be submitted as a separate attachment to the parts to be published.

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

Submissions must be received by close of business on **9 February 2024**.

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

or to:

David Richardson
Specialist Policy Advisor
Office of the Tasmanian Economic Regulator
GPO Box 770
Hobart 7001
Telephone: 03 6145 5899

A copy of this Report can be found on OTTER's website: [Approach to sewerage and trade waste charging](#). If any assistance is required in preparing a submission, please contact OTTER at the above email address or phone number.

ISSUES FOR COMMENT

The Regulator seeks interested parties' comments on the following matters:

Residential customers

The Regulator is seeking comments on implementing a fixed charging approach for residential customers.

The Regulator is seeking comments on implementing a fixed and variable charging approach for residential customers.

Non-residential customers

The Regulator is seeking comments on implementing a fixed and variable charging approach for non-residential customers.

Discharge factors

The Regulator seeks comments on TasWater's proposed discharge factors and on alternative approaches to determining discharge factors.

EXECUTIVE SUMMARY

The Tasmanian Economic Regulator is conducting an inquiry into TasWater's approach to sewerage charging. Sewerage charging applies to all properties connected to TasWater's sewerage system.

TasWater currently uses an equivalent tenement (ET) method for calculating sewerage charges for the majority of properties connected to its sewerage system.

An ET is a measure of the potential demand a property places on the sewerage system and estimates the sewage discharge from an average single residential house under dry weather flows. For residential properties, the actual sewage demand will vary significantly depending on, for example, how many people live there and how much water is used for washing, cooking, bathing and gardening purposes. For non-residential properties, the actual sewage demand will vary depending on the type of business, opening hours and the facilities available at the property.

In response to customer feedback received during the 2022 price determination investigation and a lack of time to adequately consider alternative charging options and the customer impacts of those options in its final report, the Regulator decided to conduct an inquiry into TasWater's sewerage charging methodologies.

On 24 February 2023, the Regulator released an Issues Paper which set out a series of questions and invited comments from interested parties. None of the submissions received, including TasWater's submission, supported the current ET charging approach. The submissions referred to the current approach as not being cost reflective, unfair and difficult to understand. Most submissions supported a variable or a fixed and variable approach to sewerage charging.

Across Australia, water and sewerage utilities use a range of different approaches to calculate sewerage charges for residential and non-residential customers. A fixed charge for residential customers is the most common approach used in other jurisdictions, while most 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 as a proxy for the volume of sewage that is discharged to the sewerage system.

Relevant to this inquiry and the approach to calculating sewerage charges, the statutory pricing principles require that charges reflect:

- the costs that are reasonably attributable to providing a sewerage service to a property (the fixed charge); and
- the costs that are reasonably attributable to removing sewage from a property (the variable charge).

The Regulator has applied these principles when assessing the sewerage charging options set out in this report. That is, the application of the charging approach should result in charges that reflect, to the extent practicable, the costs of providing those services.

After considering the issues raised in submissions in response to the Regulator's 2022 Investigation Draft Report and the Regulator's Issues Paper, arrangements in other jurisdictions and the statutory pricing principles, the Regulator has identified the following options:

- for residential customers:
 - a fixed charge; or
 - a fixed and variable charge; and
- for non-residential customers:
 - a fixed and variable charge.

Each of these options are discussed further below. In examining the options, it is important to note that the charges and customer impacts included in this report are preliminary and are based on TasWater recovering the same amount of revenue from sewerage customers as it recovered during 2021-22.¹ That is, all of the modelling undertaken to date has assumed revenue neutrality with respect to the recovery of sewerage costs. This may change once more accurate and detailed cost data becomes available.

It is also important to note that all indicative customer impacts relate to the charges applied by TasWater in 2021-22 and are, therefore, expressed in 2021-22 dollars.

Fixed charge for residential customers

Under this approach, the fixed charge is based on the number of dwellings per connection. For example, if there are four units in a strata-titled complex, the owner of each unit would be billed a fixed charge. For a stand-alone house, the owner would be billed for one fixed charge.

The predicted annual bills for customers under a fixed charge approach are the same as under the current ET charging approach. That is, if the fixed charging approach had been applied in 2021-22, the fixed charge for all connected residential customers would have been \$681 per year which is the same charge that was applied under the ET approach in 2021-22.

The main advantage of the proposed fixed charge for residential customers is that it is easier for customers to understand. This is because the fixed sewerage charge would no longer be expressed as the number of ETs, but as a dollar amount based on the number of dwellings at the property address. Another advantage of this approach is that no residential customers would be worse off compared to their current situation.

However, the main disadvantage of this option is that residential properties are charged on the same basis regardless of the demand they place on the sewerage system. For example, a large family household is likely to place a higher demand on the sewerage system compared to a single person household, yet both households would pay the same amount under a fixed charge approach.

¹ 2021-22 data was used as this was the latest full year of data available at the time the inquiry commenced.

Fixed and variable charge for residential customers

Under this approach, the fixed charge component is also based on the number of dwellings per connection, with a variable charge component based on the volume of water consumed at a property and a discharge factor, as an estimate of the demand placed on the sewerage system.

The annual fixed charge for a residential customer is predicted to be \$511 and the variable charge is predicted to be \$1.06 per kL in 2021-22.

If the fixed and variable charging approach had been applied in 2021-22, approximately 61 per cent of all residential customers are predicted to pay less than they paid in 2021-22 and approximately 39 per cent of residential customers are predicted to pay more than they paid in 2021-22.

In contrast to a fixed charge approach, the main advantage of a fixed and variable charge is that residential properties that place similar demands on the sewerage system are charged similar amounts. As raised in a number of submissions on the Issues Paper, water use appears to be a reasonable proxy for demand placed on the sewerage system. Therefore, if, as expected, a large family household uses more water than a single person household, their sewerage charges would be higher under a fixed and variable charging approach.

However, it is predicted that over 11 000 residential customers would pay over \$200 more each year than they paid in 2021-22. Of these 11 000 customers, over 1 600 are customers that currently receive a concession.

Another disadvantage of the fixed and variable charging approach is that while water use appears to be a reasonable proxy for demand placed on the sewerage system, this is not true for all residential customers. For example, a residential customer that uses a significant amount of water in maintaining their garden may not be discharging as much water into the sewerage system as the application of the relevant discharge factor would indicate. Therefore, the water use in this situation may not be a good proxy for the demand placed on the sewerage system. In this example, the residential customer may be paying more than they should for sewerage services.

There may be implementation costs associated with transitioning to a new charging methodology. These costs include any changes to TasWater's billing system, an education campaign to explain the new system to customers and a potential increase, at least initially, in call centre costs.

Fixed and variable charge for non-residential customers

For non-residential customers, the fixed charge component is based on the size of the property's water connection. That is, the larger the connection size, the higher the fixed charge component. The variable charge component is based on the volume of water consumed at a property and a discharge factor.

The annual fixed charge is predicted to be \$441 (for a standard 20mm water connection, noting that approximately 40 per cent of non-residential customers have connection sizes larger than 20mm and the annual fixed charge increases in proportion to the increase in the connection size) and the variable charge is predicted to be \$0.99 per kL in 2021-22.

If the fixed and variable charging approach had been applied in 2021-22, approximately 67 per cent of non-residential customers are predicted to pay less under this option than they paid in 2021-22 and approximately 33 per cent of these customers are predicted to pay more than they paid in 2021-22.

As raised by a number of stakeholders, the ET charging method does not take into account seasonal demand and that businesses are not always operating at full capacity. This can mean that the number of ETs does not necessarily represent the demand placed on the sewerage system. A fixed and variable approach, which incorporates water use as a proxy for demand on the sewerage system, is more likely to better represent the demand a business places on the sewerage system. Therefore, as per the fixed and variable approach for residential customers, the main advantage of a fixed and variable approach for non-residential customers is that properties that place similar demands on the system are charged similar amounts.

However, as previously noted, approximately 33 per cent of non-residential customers are predicted to pay more under a fixed and variable charging approach than they paid in 2021-22. In particular, the aged care and accommodation customer categories are predicted to pay more on average than they paid in 2021-22.

Further, the implementation of a new approach for sewerage charging for non-residential customers may also result in additional costs.

Other considerations

As is the case under the current charging approach, a change in approach will necessarily be based on a range of assumptions, estimation and judgement. Therefore, the Regulator considers that it will be important for TasWater to continue to offer customers the opportunity to seek a re-assessment if they consider their bill does not accurately reflect the costs associated with providing the sewerage services they receive.

If the Regulator ultimately decides that a charging approach that differs from the current approach is to be implemented, the Regulator will also consider whether a price transition may be required for customers who face material changes in their bills due to the implementation of the preferred option.

While the discharge factors TasWater has applied in its modelling are broadly consistent with the discharge factors used by other utilities, the Regulator has identified several alternative approaches to applying discharge factors.

Draft assessment and next steps

While the Regulator considers that there may be merit in applying a fixed and variable charging approach for residential customers, there is currently insufficient information available for the Regulator to determine whether changing to such an approach is appropriate.

Prior to finalising this inquiry, the Regulator therefore intends seeking further information from TasWater and other stakeholders about the potential impact of a fixed and variable charging approach on residential customers with a particular focus on residential customers that currently receive a concession.

Further, as set out in the draft price and service plan guideline released for public consultation on 8 December 2023, the Regulator also intends requiring TasWater to engage with residential

customers with respect to sewerage charging approaches during the development of its proposed price and service plan.²

Once this information has been obtained, the Regulator will further assess the appropriateness of a fixed charging approach or a fixed and variable charging approach for residential customers before a final decision is made on this issue in May 2026 in relation to pricing of these services for the fifth regulatory period commencing on 1 July 2026.

In relation to non-residential customers, the Regulator's draft assessment is that a fixed and variable charging approach for non-residential customers is appropriate having regard to feedback from stakeholders and customers, interjurisdictional practices and the pricing principles.

However, as is the case with residential customers, the Regulator intends seeking further information from TasWater and other stakeholders prior to finalising this inquiry and also intends requiring TasWater to engage with non-residential customers with respect to sewerage charging approaches during the development of its proposed price and service plan so that more details are available to the Regulator before a final decision is made on this issue in May 2026.

² As set out in the Regulator's draft price and service plan guideline, the Regulator intends requiring TasWater to lodge its proposed price and service plan by 30 June 2025.

MATTERS WHERE FURTHER INFORMATION AND ANALYSIS IS REQUIRED

Impact on residential customers

Under a fixed and variable charging approach, 39 per cent of residential customers (ie 71 492 customers) are predicted to pay more than they paid in 2021-22. Further, over 7 886 residential customers that receive a concession are predicted to pay over \$50 per year than they paid in 2021-22 (over 1 600 of these customers are predicted to pay \$200 or more than they paid in 2021-22).

The Regulator Intends seeking further information from TasWater to gain a better understanding of the likely impact of a fixed and variable charging approach on these customers.

Impact on non-residential customers

Under a fixed and variable charging approach, 33 per cent of non-residential customers (4 428) are predicted to pay more than they paid in 2021-22.

The Regulator intends seeking further information from TasWater to gain a better understanding of the likely impact of a fixed and variable charging approach on these customers.

Treatment of Category 3 and 4 trade waste customers

The predicted customer outcomes contained in this report exclude modelling of sewerage charges for TasWater's Category 3 and 4 trade waste customers. This approach has been taken because these customers tend to have very high water usage, which would skew the modelling results if TasWater's proposed discharge factors were applied to their water use along with other non-residential customers.

To determine the accuracy of potentially applying TasWater's proposed discharge factors to these customers, the Regulator intends seeking further information from TasWater to ascertain how much of the water supplied to these customers is used in their respective manufacturing processes and how much is discharged to the sewerage network.

1 INTRODUCTION

1.1 Background

In carrying out the economic regulation of TasWater's activities, the Regulator periodically conducts price determination investigations and makes price determinations in respect to TasWater's prices and services.

Relevant to this inquiry, the Regulator's 2018 Price Determination Investigation Final Report supported TasWater's proposed review of alternative sewerage charging methods operating in Australia.³

In response, in 2019, TasWater engaged Jacobs Australia (Jacobs) to:

"... assist in reviewing sewerage charging approaches in other jurisdictions, including fixed flat charges, consumption-only charges, and a mixture of consumption and fixed charges based on property values. To inform this work, issues raised by customers were identified, either directly or through the staff who have ongoing contact with them. The charging approaches in other jurisdictions informed the development of potential options."⁴

Jacobs made a number of findings and recommendations which TasWater considered when preparing its proposed price and service plan for the fourth regulatory period from 1 July 2022 to 30 June 2026 (the current regulatory period).

The Regulator's completed its investigation into TasWater's proposed price and service plan for the current regulatory period and made the consequential price determination in May 2022. The 2022 price determination applies for the current regulatory period.

As set out in the Regulator's 2022 investigation final report, the Regulator approved TasWater's proposal to continue to apply, with some minor variations, the equivalent tenement (ET) methodology in calculating sewerage charges for the current regulatory period. The Regulator's associated 2022 price determination set out the approved prices for regulated sewerage services for the current regulatory period.

However, in response to customer feedback received during the 2022 price determination investigation and a lack of time to adequately consider alternative charging options and the customer impacts of those options, in its final report, the Regulator decided to conduct an inquiry into TasWater's sewerage (and trade waste⁵) charging methodologies.

The inquiry did not intend to, and therefore has not, examined the costs TasWater incurs providing sewerage services. At the time of writing, detailed and current information with respect to these costs was not available. However, based on the latest advice from TasWater, it is expected that this information will become available from 1 July 2024 onwards after

³ Tasmanian Economic Regulator, Final Report, page 204.

⁴ TasWater, *Draft Price and Service Plan 1 July 2022 to 30 June 2026*, June 2021, page 192.

⁵ The trade waste component is being dealt with as a separate inquiry.

TasWater implements activity-based costing across its business.⁶ For this reason, the outcomes set out in this report in terms of charges and customer impacts are preliminary and are based on the assumption that TasWater recovers the same amount of revenue from sewerage customers as it recovered during 2021-22. This assumption may change once clearer and more accurate cost data becomes available.

On 24 February 2023, the Regulator released an [Issues Paper](#) which sought responses from interested parties on a series of questions.

After reviewing the submissions, it became apparent to the Regulator that the complexity of trade waste charging was greater than originally anticipated and further work would need to be done to fully understand the charging options and the impacts any changes to trade waste charging may have on customers. Given this, the Regulator decided that the review of trade waste charging should be dealt with as a separate inquiry. The updated timeframes for the trade waste inquiry can be found here: [Approach to sewerage and trade waste charging](#).

1.2 Scope and approach to the inquiry

In conducting the inquiry to date, the Regulator has:

- assessed the rationale for TasWater’s current approach to sewerage charging;
- reviewed sewerage charging approaches applied by utilities in other Australian jurisdictions;
- examined 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 charging;
- identified and developed options for sewerage charging, including the advantages and disadvantages of each option and the predicted customer impacts relating to each option;
- assessed 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*; and
- taken into account other matters the Regulator considers relevant.

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

⁶ Activity-based costing is an accounting costing method that traces indirect costs (commonly called “overhead” costs) to products, services, and customers by identifying resources (for example, in TasWater’s case, salaries, chemicals and power) and their costs, the consumption of these resources by activities, and the performance of activities to produce outputs (Institute of Management Accountants, *Implementing Activity-based Costing*, 2006, page 3).

1.3 Next steps

The Regulator invites all interested parties to make a submission on the matters set out in this report. Submissions close on 9 February 2024.

Staff from the Regulator's office also intend meeting with interested parties during the consultation period.

The Regulator's Final Report on sewerage charging is scheduled for release by 31 May 2024. The Final Report will take into account the feedback received on this report.

The outcomes from the inquiry will be considered by the Regulator prior to finalising its price and service plan guideline with respect to TasWater's proposed price and service plan for the fifth regulatory period which commences on 1 July 2026.

2 COSTS, REVENUE AND THE PRICING PRINCIPLES

This chapter examines the aggregate costs TasWater incurs providing sewerage services, how those costs are recovered and the Regulator's approach to assessing the recovery of those costs in accordance with legislated pricing principles.

2.1 TasWater's sewerage costs and revenue

This inquiry has not examined the costs TasWater incurs providing sewerage services. Instead, the focus is on the approach to calculating the charges applied to each customer that allow TasWater to recover those costs. Should the inquiry result in a change in charging approach, there may be changes in the amount of revenue TasWater recovers from residential and non-residential customers individually. This means that some customers may pay more and some may pay less than they paid in 2021-22.

For 2021-22, approximately \$167 million or almost half of TasWater's revenue was related to the costs of collecting, transporting, treating and discharging sewage to the environment.

As noted in Section 1.1, in 2019 TasWater engaged Jacobs Australia to review its approaches to sewerage (and commercial trade waste) charging. In its 2019 report, Jacobs estimated that approximately 76 per cent of TasWater's wastewater costs were fixed costs. That is, these costs are fixed regardless of the volume of sewage collected, transported, treated and discharged. The remaining 24 per cent of TasWater's wastewater costs were estimated to be variable costs.⁷

As set out in its submission on the Regulator's Issues Paper, TasWater is currently implementing activity-based costing. Once implemented, it is expected that there will be increased clarity and accuracy in the allocation of the fixed and variable components of TasWater's costs.

⁷ Jacobs, [Review of Sewerage and Commercial Trade Waste Charges, November 2019](#), page 9.

2.2 Pricing principles

Relevant to this inquiry and the approach to calculating sewerage charges, the pricing principles set out in the *Water and Sewerage Industry Act 2008* and in the *Water and Sewerage Industry (Pricing and Related Matters) Regulations 2021* require that charges reflect:

- the costs that are reasonably attributable to providing a sewerage service to a property (the fixed charge); and
- the costs that are reasonably attributable to removing sewage from a property (the variable charge).

That is, the application of the charging approach should result in charges that reflect, to the extent practicable, the costs of providing those services.

In making the preliminary assessment set out in Chapter 7 of this report, the Regulator has applied these principles to its assessment of the sewerage charging options set out in Chapter 6.

The pricing principles are set out in full in Appendix B.

3 TASWATER'S CURRENT APPROACH

This chapter summarises TasWater's current approach to sewerage charging.

It is not practical or cost-effective to install, maintain and read sewage meters on each property. Therefore, it is not possible to measure the volume of sewage discharged from any particular property.

Given these limitations, since the commencement of economic regulation on 1 July 2012, TasWater has adopted an ET method for calculating sewerage charges for the majority of properties connected to its sewerage system.

An ET is a measure of the potential demand a property places on the sewerage system and estimates the sewage discharge from an average single residential house under dry weather flows. For standalone residential properties, the actual sewage demand will vary significantly depending on, for example, how many people live there (or visit) and how much water is used for washing, cooking, bathing and gardening purposes.

For non-residential properties, the actual sewage demand will vary depending on the type of business, opening hours and the facilities available at the property.

3.1 Equivalent tenement methodology

TasWater's ET methodology is based on NSW's *Section 64 Determinations of Equivalent Tenements Guidelines* (Guidelines).⁸ TasWater has adjusted the ET approach set out in the Guidelines to suit Tasmanian conditions.

For the purposes of calculating sewerage charges, TasWater assesses 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 equated to \$681 in 2021-22.

For non-residential properties, TasWater groups properties into various types and applies an end use code (for example, retail shops are grouped together as are hairdressers and beauty salons). If the property is connected to TasWater's sewerage infrastructure, the minimum sewerage charge is one ET.

⁸ NSW Water Directorate, *Section 64 Determinations of Equivalent Tenements Guidelines*, 2017.

The following steps are undertaken to determine the sewerage charge for a non-residential property:

- ascertain the ET units, such as the number of beds or rooms, number of staff and students, or gross building floor area;
- determine the unit price, based on the property's end use code, as a proportion of one ET; and
- multiply the unit price by the number of ETs to get the sewerage charge.

TasWater's full list of ET rates is set out in its [Schedule of ETs by property type](#).

3.2 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. Subsequently, in TasWater's Price and Service Plan for the period from 1 July 2018 to 30 June 2022 the Regulator approved the introduction of a discharge factor method for offices.

The discharge factor method is a consumption-based charging method, where the sewerage charge depends on annual water consumption multiplied by a discharge factor. The discharge factor method assumes a linear relationship between water consumption and the demand a property's sewage discharges place on the sewerage network. 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 subsequently discharged to the sewerage system.

The discharge factor method for caravan parks 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 at different caravan parks. The discharge factor method for offices was introduced in response to concerns 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.⁹

As set out in TasWater's approved Schedule, the following formula is used, where possible,¹⁰ for calculating the sewerage charges for caravan / cabin / camping sites, including long term sites:

⁹ The discharge factor method used for caravan parks and offices currently calculates ETs on an annual basis. However, should the Regulator decide that a fixed and variable charging approach is appropriate for non-residential customers, including caravan parks and offices, it is anticipated that sewerage charges would be calculated on a quarterly basis using water usage as a proxy for the variable component of these charges.

¹⁰ When annual water consumption cannot be determined or is unavailable for a caravan park or office, TasWater uses alternative methods, also approved by the Regulator, to calculate sewerage charges.

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

As an example, a caravan park in 2021-22 with an annual water consumption of 400 kilolitres would be subject to the following sewerage charge:

$$\frac{400 \times 0.75}{179} \times 681 = 1.6 \times 681 = \$1\,090$$

The formula for determining sewerage charges for offices is the same as for caravan parks apart from using a discharge factor of 0.95 instead of 0.75.

4 OTHER WATER AND SEWERAGE UTILITIES' APPROACHES

Across Australia, water and sewerage utilities use a range of different approaches to calculate sewerage charges for residential and non-residential customers.

Jacobs' 2019 Review analysed the sewerage charging methods of 14 interstate utilities. For this inquiry, the Regulator reviewed and updated Jacobs' findings to reflect changes utilities have made since 2019. The results are set out in Table 1.

As the table shows, 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 as a proxy for the volume of sewage that is discharged to the sewerage system.

Table 1: Sewerage charging approaches used by utilities in other Australian jurisdictions

Utility (jurisdiction)	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 typical sewage volumes for a residential customer and their costs on the sewerage system.	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.
-----------------------	---	---

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

5 ISSUES RAISED BY CUSTOMERS AND STAKEHOLDERS

Jacobs Australia obtained feedback from customers on TasWater's ET charging during the consultancy work it carried out for TasWater during 2019. The Regulator has also received submissions in relation to TasWater's current approach to sewerage charging during public consultation on the 2022 Investigation Draft Report and in response to the Issues Paper the Regulator released in February 2023.

5.1 Feedback received during Jacobs Australia's 2019 sewerage charging consultancy

Jacobs' engagement with TasWater and TasWater's customers found:

- there was a lack of support for the ET methodology;
- the ET methodology was poorly understood by customers; and
- that charges under the ET methodology were not reflective of customers' usage of TasWater's sewerage services.¹¹

5.2 Submissions on the Regulator's 2022 Investigation Draft Report

Nine submissions were received during public consultation on the 2022 Investigation Draft Report in relation to sewerage charging. The submissions were from:

- TasWater;
- Tasmanian Labor Party;
- Malcolm Eastley;
- Cricket Tasmania;
- Nekon Pty Ltd;
- Rachel Koo;
- Local Government Association of Tasmania;
- Federal Group; and;
- Property Council of Australia.

¹¹ Jacobs, 2019, pages 11-13.

Five of these submissions (Cricket Tasmania, Federal Group, Mr Malcom Eastley, Nekon Pty Ltd and the Property Council of Australia) raised concerns about the Regulator's draft decision to approve TasWater's proposed to continue to use the ET methodology for sewerage charging purposes for non-residential customers. A further submission, from Rachel Koo, raised concerns about TasWater continuing to apply the ET methodology to a single building on a Torrens title that contained multiple residential dwellings.

5.3 Submissions on the Regulator's 2023 Issues Paper

Seven submissions were received on the Issues Paper. The submissions were from:

- TasWater;
- Nekon Pty Ltd;
- Property Council of Australia;
- Central Coast Cricket Club and East Ulverstone Football Club;
- Central Coast Council;
- Malcolm Eastley; and
- Rachel Koo.

None of the submissions, including TasWater's submission, supported the ET sewerage charging approach. The submissions referred to the current approach as not being cost reflective, unfair and difficult to understand. Most submissions supported a variable or a fixed and variable approach to sewerage charging.

All submissions have been published on the Regulator's website and the key points raised in each submission in relation to sewerage charging are summarised in Appendix C.

6 CHARGING OPTIONS

After considering the findings set out in Jacobs' 2019 report, the issues raised in submissions in response to the Regulator's 2022 Investigation Draft Report and the Regulator's Issues Paper, the statutory pricing principles and arrangements in other jurisdictions, the Regulator has identified the following options:

- for residential customers:
 - a fixed charge; or
 - a fixed and variable charge; and
- for non-residential customers:
 - a fixed and variable charge.

Given that TasWater's billing system contains the relevant customer data, the Regulator requested that TasWater carry out modelling with respect to these options.

6.1 Modelling process and assumptions

The Regulator has provided significant input into the underlying assumptions used by TasWater in the modelling process to ensure the assumptions adhered to the pricing principles. The Regulator's input included reviewing initial drafts of the modelling and identifying any inconsistencies in the data and the modelling results.

A number of assumptions were made in modelling the predicted impacts on customers. The key assumptions are as follows:

- The customer data used for modelling purposes is 2021-22 data, the last complete year of customer data available at the time the inquiry commenced.
- The total amount of revenue collected from residential customers and the total amount of revenue from non-residential customers has been assumed to remain constant ie the size of the regulated sewerage revenue 'pie' is unchanged but, depending on the approach, the amount paid by individual customers may be more or less than they paid in 2021-22.
- As they relate to sewerage charging, the pricing principles state that the charges are to reflect the costs that are reasonably attributable to providing a sewerage service to a property (the fixed charge) and removing sewage from a property (the variable charge). In its 2019 report, Jacobs estimated that approximately 76 per cent of TasWater's sewerage costs were fixed costs. For the purposes of the modelling and pending the outcomes from TasWater implementation of activity-based costing, a 76:24 split between fixed and variable costs has been assumed for both residential and non-residential customers.

- For residential customers, the fixed charge component is based on the number of dwellings per connection; for example, if there are four units in a strata-titled complex, the owner of each unit would be billed a fixed charge. For non-residential customers, the fixed charge component is based on the size of the property's water connection ie the larger the connection size the higher the fixed charge component (water supply charges have been set on the same basis since independent economic regulation commenced on 1 July 2012). The water pipe connection size multipliers are set out in Table 8.1 on page 43 of TasWater's [Price and Service Plan](#) for the current regulatory period.
- The variable charge component is based on the volume of water consumed at a property and a discharge factor. A discharge factor is an estimate of the percentage of the water supplied to a property, as measured by a water meter, which is subsequently discharged to the sewerage system. Discharge factors differ depending on property type. Table 2 sets out the discharge factors TasWater has applied in its modelling which are broadly based on the discharge factors used by other water utilities. Further discussion on the discharge factors used and possible other options are discussed in section 8.2 of this report.

Table 2: Discharge factors for each customer category

Customer category	Customer examples	Discharge factor
Residential	Houses, units (freestanding and conjoined), apartments	0.9
Medical	Hospitals, medical centres, dentists	0.9
Aged care	Retirement homes, supported living	0.9
Retail - indoor	Retail stores, supermarkets	0.9
Retail - outdoor	Nurseries, car washes, racetracks	0.5
Business	Offices	0.9
Community - indoor	Churches, community halls, libraries	0.9
Community - outdoor	Parks, recreational areas, marinas	0.7
Commercial - fabrication and manufacturing	Factories, workshops, metal processing	0.9
Childcare centres		0.8
Educational	Schools	0.7
Services	Police stations, fire stations	0.9
Hospitality	Restaurants, pubs	0.9
Accommodation	Hotels, motels, resorts, caravan parks	0.9
Sporting clubs	Bowling greens, golf clubs, tennis clubs	0.7
Undefined ¹²		0.9

¹² The Regulator has requested TasWater investigate all customers who are currently categorised as "undefined" and allocate these customers to one of the specific customer categories.

- At this stage, non-residential customers who are classified as Category 3 and 4 trade waste customers have been excluded from the modelling.¹³ If these customers were included in the modelling, the results would become skewed because these customers tend to be high water users (this matter is discussed further in Chapter 8).
- Under a fixed charging approach for residential customers, the service charge for unconnected residential land is assumed to be 60 per cent of the total charge (which is the current percentage).
- Under a fixed and variable charging approach for residential and non-residential customers, the service charge for unconnected residential and non-residential land is assumed for modelling purposes and at this stage, to remain at 60 per cent of a total bill using average consumption (this results in approximately the same charge as is applied under the current ET charging approach). For further discussion about services charges, refer to the Regulator's [Inquiry into the level of TasWater's Service Charges Final Report](#).

The Regulator notes that while the modelling results provide a preliminary indication of the likely impacts on customers, the results need to be treated with caution. This is because the charges and therefore the customer impacts may differ between now and when the Regulator approves the sewerage charges to apply from 1 July 2026. This will be due to more accurate details becoming available about the allocation of sewerage costs between:

- residential and non-residential customers; and
- non-residential customers and Category 3 and 4 trade waste customers.

The separation of sewerage costs into fixed and variable components may also differ from Jacobs' 76:24 split that has been relied in in this report. Further, as the base year annual bills used in the modelling relate to 2021-22, annual bills for later years may differ.

As set out in its submission on the Regulator's Issues Paper, TasWater is currently implementing activity-based costing. Once implemented, it is expected that there will be increased clarity and accuracy in the allocation of the fixed and variable components of TasWater's costs.

The following sections summarise the predicted customer impacts arising under each option.

It is also important to note that all indicative customer impacts relate to the charges applied by TasWater in 2021-22 and are expressed in 2021-22 dollars.

6.2 Fixed charge for residential customers

Under a fixed charging approach for residential customers, the predicted annual bills for customers are the same as under the current ET charging approach. That is, if the fixed charging approach was applied in 2021-22, the fixed charge for all connected residential

¹³ Category 3 and 4 trade waste customers are customers who produce trade waste assessed as being higher risk with respect to the impact on TasWater's sewerage network. Trade waste charges paid by these customers are not regulated while water and sewerage charges paid by these customers are regulated.

customers would have been \$681 per year which is the same charge that was applied under the ET approach in 2021-22.

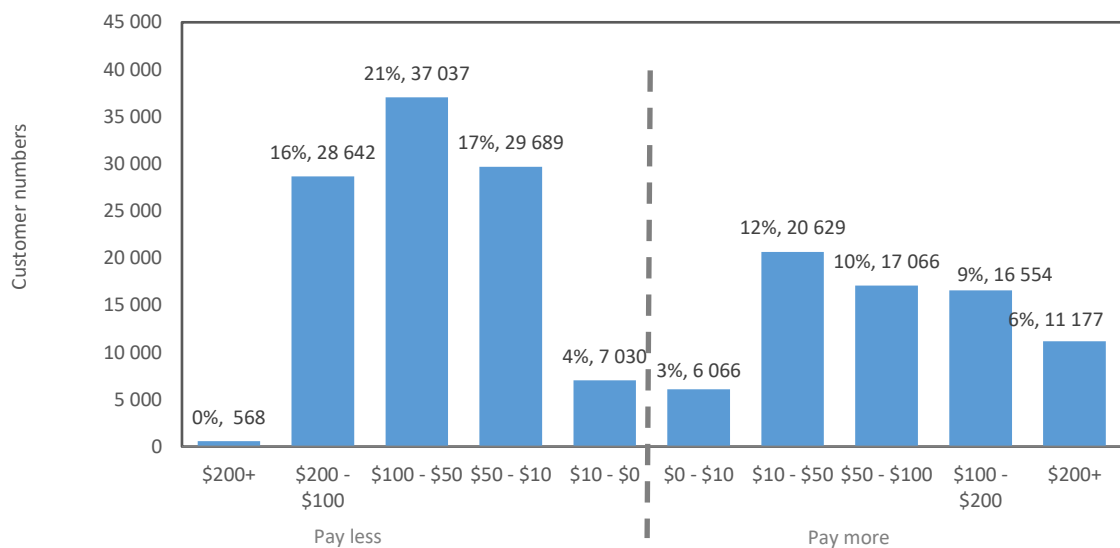
A guiding principle for the treatment of residential properties that has been applied in the modelling is that regardless of the type of ownership or whether a dwelling is, for example, a stand-alone house or a strata title unit, customers with residential properties should be treated consistently for sewerage charging purposes.

6.3 Fixed and variable charge for residential customers

Under a fixed and variable charging approach, the annual fixed charge for a residential customer is predicted to be \$511 and the variable charge is predicted to be \$1.06 per kL in 2021-22.

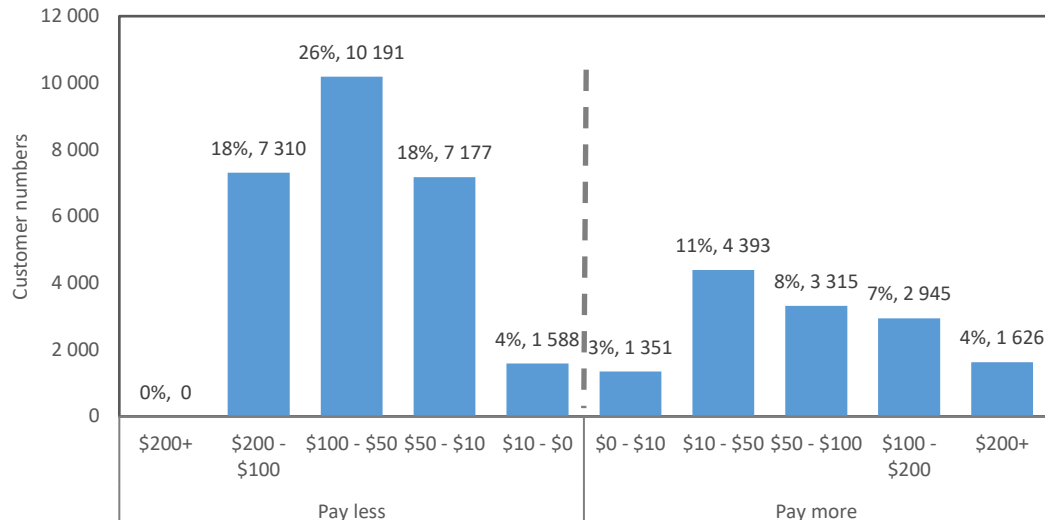
If the fixed and variable charging approach had been applied in 2021-22, approximately 61 per cent of all residential customers are predicted to pay less than they than they paid in 2021-22 and approximately 39 per cent of these customers are predicted to pay more than they paid in 2021-22. Figure 1 provides further details of the predicted impact on residential customers’ bills.

Figure 1: Predicted impact on residential customers’ annual bills, \$2021-22



In relation to residential customers that receive a concession, approximately 66 per cent of these customers are predicted to pay less than they paid in 2021-22 and approximately 34 per cent of these customers are predicted to pay more than they paid in 2021-22. Figure 2 provides further details of the predicted impact on annual bills for these customers.

Figure 2: Predicted impact on the annual bills of residential customers that receive a concession, \$2021-22



As set out in Figures 1 and 2, it is predicted that some residential customers will pay more than they paid in 2021-22. In particular, over 1 600 residential customers that receive a concession are predicted to pay over \$200 per year more than they paid in 2021-22. Further analysis is required to allow the Regulator to better understand the impacts for these customers.

6.4 Fixed and variable charge for non-residential customers

Under a fixed and variable approach for non-residential customers, the annual fixed charge is predicted to be \$441 (for a standard 20mm water connection¹⁴) and the variable charge is predicted to be \$0.99 per kL in 2021-22.

If the fixed and variable charging approach had been applied in 2021-22, approximately 67 per cent of non-residential customers are predicted to pay less than they than they paid in 2021-22 and approximately 33 per cent of these customers are predicted to pay more than they paid in 2021-22. Table 3 provides further details on the predicted impacts for different customer categories.¹⁵

¹⁴ The standard residential customer connection size is 20mm. Approximately 40 per cent of non-residential customers have connection sizes that are larger than 20mm resulting in a fixed charge that will be higher than \$441 per annum.

¹⁵ TasWater has reduced the number of end-use codes that it currently uses into various customer categories by grouping similar businesses together and reviewing the categories used by other water and sewerage utilities.

Table 3: Predicted annual bill impact by customer category

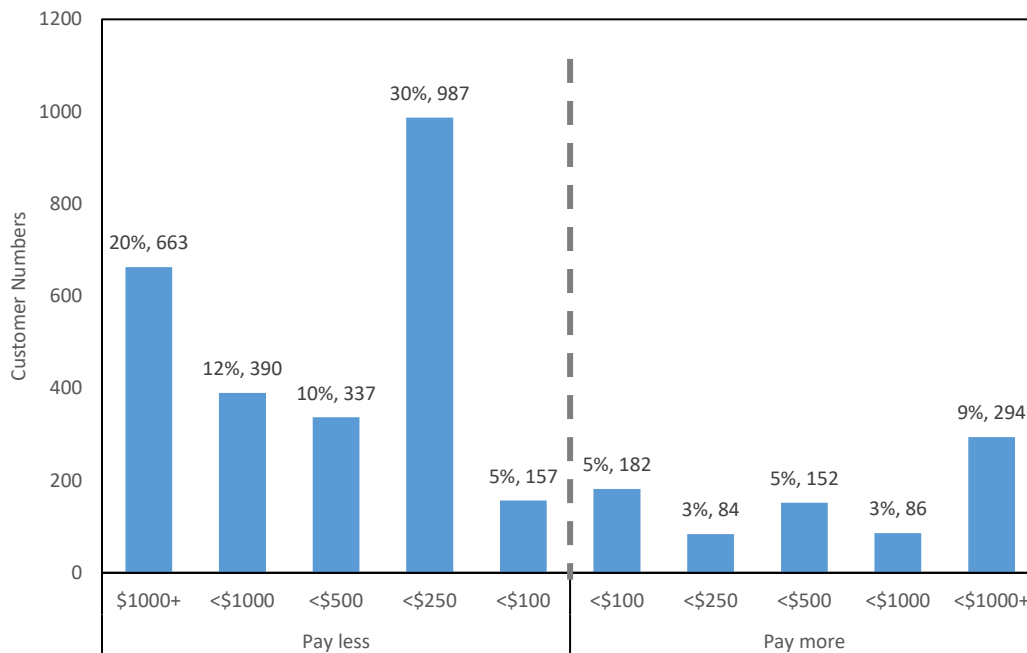
Customer Category	Number and percentage of customers predicted to pay less		Number and percentage of customers predicted to pay more		Average annual bill impact compared to bills for 2021-22
	Number	%	Number	%	
Retail - indoor	2 534	76	798	24	-\$363
Commercial - fabrication and manufacturing	2 059	66	1 051	34	\$67
Business (eg offices)	1 194	70	507	30	-\$303
Community - indoor	778	71	318	29	-\$200
Hospitality	482	69	221	31	-\$29
Accommodation	707	53	627	47	\$1 339
Medical	457	85	82	15	-\$742
Educational	181	63	105	37	-\$332
Community - outdoor	73	29	180	71	\$150
Services	137	63	79	37	-\$424
Aged Care	98	52	92	48	\$3 291
Sporting Clubs	45	48	48	52	-\$1 930
Retail - outdoor	68	53	60	47	-\$358
Child Care Centres	73	78	21	22	-\$1 086

As set out in Table 3:

- annual bills for customers with properties used for the following three purposes are predicted to decrease by the most, on average, compared to the average amount paid in 2021-22:
 - sporting clubs (- \$1 930);
 - child care centres (- \$1 086); and
 - medical (- \$742).
- annual bills for customers with properties used for the following three purposes are predicted to increase by the most, on average, compared to the average amount paid in 2021-22:
 - aged care (+ \$3 291);
 - accommodation (+ \$1 339); and
 - community - outdoor (+ \$150).

Within each customer category, there are businesses that are predicted to pay less and businesses that are predicted to pay more. For example, within the 'Retail - indoor' customer category, 2 534 business are predicted to pay less than they paid in 2021-22 and 798 businesses are predicted to pay more than they paid in 2021-22 (see Figure 3). On average, businesses within this customer category are predicted to pay \$363 less per year than they paid in 2021-22.

Figure 3: Predicted bill impacts for customers in the 'Retail - indoor' customer category



Refer to Appendix D for further details on the predicted bill impacts for each non-residential customer category.

At a more disaggregated level, customers with properties used for the following purposes are predicted to pay significantly more on average than they paid in 2021-22:

- self-care retirement units / villas;
- serviced and unserviced apartments;
- single accommodation rooms with an ensuite or shared facilities;
- car washes;
- nurseries;
- swimming pools;
- sports grounds with irrigated areas;
- airports;
- parks, gardens and reserves;
- public amenities; and
- concrete product manufacturers.

However, as occurs between customer categories, the impacts are predicted to vary between businesses involved in each of the activities listed above.

For example, the impacts would be less if the business recycles some of the water it draws from the reticulated water network (for example, car washes or nurseries) or if some of the

water is discharged into the stormwater system instead of the sewerage system. Similarly, the bill impacts would be less if other information is available to demonstrate that the volume of water discharged is less than the volume estimated to be discharged through the application of the relevant discharge factor set out in Table 2.

7 DRAFT ASSESSMENT OF THE OPTIONS

This chapter discusses the advantages and disadvantages of each option, primarily from a customer impact perspective but also in terms of whether, and to what extent, each option satisfies the pricing principles.

The chapter also sets out other considerations and provides the Regulator's draft assessment of the options.

7.1 Advantages and disadvantages of a fixed charge for residential customers

The main advantage of the proposed fixed charge for residential customers is that it is easier for customers to understand. This is because the fixed sewerage charge would no longer be expressed as the number of ETs, but as a dollar amount based on the number of dwellings at the property address.

Another advantage of this approach is that no residential customers would be worse off compared to the situation they were in during 2021-22. That is, residential customers would pay the same charge as they paid in 2021-22 under the ET charging approach. This is in contrast to the fixed and variable charging approach discussed in section 7.2, with some residential customers better off and some worse off.

The main disadvantage of this option is that residential properties are charged on the same basis regardless of the demand they place on the sewerage system. For example, a large family household is likely to place a higher demand on the sewerage system compared to a single person household, yet these households would pay the same amount under a fixed charge approach.

This option does not satisfy the pricing principles to the same extent as a fixed and variable charging approach as a fixed charge only approach does not account for some of TasWater's sewerage costs being variable costs.

7.2 Advantages and disadvantages of a fixed and variable charge for residential customers

In contrast to a fixed charge approach, the main advantage of a fixed and variable charge is that residential properties that place similar demands on the sewerage system are charged similar amounts. As raised in a number of submissions to the Issues Paper, water use appears to be a reasonable proxy for demand placed on the sewerage system. Therefore, if a large family household uses a lot more water than a single person household, their sewerage charges would be higher under a fixed and variable charging approach.

Further, as discussed in Chapter 6, it is predicted that approximately 39 per cent of residential customers would pay more under a fixed and variable charging approach than they paid in 2021-22. In particular, it is predicted that over 11 000 residential customers would pay over

\$200 more each year than they paid in 2021-22. Of these 11 000 customers, over 1 600 are customers that were receiving a concession in 2021-22.

Another disadvantage is that while water use appears to be a reasonable proxy for demand placed on the sewerage system, this is not true for all residential customers. For example, a residential customer that uses a significant amount of water in maintaining their garden may not be discharging as much water into the sewerage system as the application of the relevant discharge factor would indicate. Therefore, the water use in this situation may not be a good proxy for the demand placed on the sewerage system. In this example, the residential customer may be paying more than they should for sewerage services.

A further disadvantage is that there may be implementation costs associated with transitioning to a new charging methodology. These costs include any changes to TasWater's billing system, an education campaign to explain the new system to customers and a potential increase, at least initially, in call centre costs.

This option satisfies the pricing principles as a fixed and variable charging approach reflects that some of TasWater's sewerage costs are fixed costs and some of those costs are variable costs.

7.3 Advantages and disadvantages of a fixed and variable charge for non-residential customers

As raised by a number of stakeholders, the ET charging method does not take into account seasonal demand and that businesses are not always operating at full capacity. This can mean that the number of ETs does not necessarily represent the sewerage demand placed on the sewerage system. A fixed and variable approach, which incorporates water use as a proxy for demand on the sewerage system, is more likely to better represent the demand a business places on the sewerage system. Therefore, as per the fixed and variable approach for residential customers, the main advantage of a fixed and variable approach for non-residential customers is that properties that place similar demands on the system are charged similar amounts.

However, as discussed in Chapter 6, approximately 33 per cent of non-residential customers are predicted to pay more under a fixed and variable charging approach than they paid in 2021-22.

As previously identified, the implementation of a new approach for sewerage charging may result in additional costs. Having said that, the Regulator notes that TasWater has demonstrated that it has been able to implement a discharge factor approach for properties used as caravan parks and offices.

This option satisfies the pricing principles as a fixed and variable charging approach reflects that some of TasWater's sewerage costs are fixed costs and some of those costs are variable costs.

7.4 Other considerations

The Regulator accepts that, as is the case under the current approach, a change in charging approach will necessarily be based on a range of assumptions, estimation and judgement. Therefore, the Regulator considers that it will be important for TasWater to continue to offer

customers the opportunity to seek a re-assessment of their bill if they consider it does not accurately reflect the costs associated with providing the sewerage services they receive.

If the Regulator ultimately decides that a charging approach that differs from the current approach is to be implemented, the Regulator will also consider whether a price transition may be required for customers who face material changes in their bills due to the implementation of the preferred option.

7.5 Draft Assessment

After considering the advantages and disadvantages of each option, the Regulator's draft assessment of the charging options is set out below.

7.5.1 Residential customers

While the Regulator considers that there may be merit in applying a fixed and variable charging approach for residential customers, there is currently insufficient information available for the Regulator to determine whether changing to such an approach is appropriate.

Prior to finalising this inquiry, the Regulator therefore intends seeking further information from TasWater and other stakeholders about the potential impact of a fixed and variable charging approach on residential customers with a particular focus on residential customers that receive a concession.

Further, as set out in the [Draft Price and Service Plan Guideline](#) released for public consultation on 8 December 2023, the Regulator also intends requiring TasWater to engage with residential customers with respect to sewerage charging approaches during the development of its proposed price and service plan.

Once this information has been obtained, the Regulator will further assess the appropriateness of a fixed charging approach or a fixed and variable charging approach for residential customers before a final decision is made on this issue in May 2026 in relation to pricing of these services for the fifth regulatory period commencing on 1 July 2026.

7.5.2 Non-residential customers

In relation to non-residential customers, the Regulator's draft assessment is that a fixed and variable charging approach for non-residential customers is appropriate having regard to feedback from stakeholders and customers, interjurisdictional practices and the pricing principles.

However, as is the case with residential customers, the Regulator intends seeking further information from TasWater and other stakeholders prior to finalising this inquiry and intends requiring TasWater to engage with non-residential customers with respect to sewerage charging approaches during the development of its proposed price and service plan so that more details are available to the Regulator before a final decision is made on this issue in May 2026.

These matters are discussed further in Chapter 8.

8 OTHER MATTERS

As set out in this report, there are a number of matters yet to be resolved. These matters are discussed below.

8.1 Implementation of activity-based costing

TasWater is in the process of implementing activity-based costing across its business. This is expected to provide more detailed data on the costs TasWater incurs providing sewerage services. Based on recent advice from TasWater, the Regulator anticipates this information will become available from 1 July 2024 onwards, resulting in more detailed costing information being available for the 2024-25 financial year.

8.2 Discharge factors

The discharge factors TasWater has applied in its modelling are broadly consistent with the discharge factors used by other utilities (see Table 4).

Table 4: Comparison of the discharge factors proposed by TasWater and used by other utilities

Customer category	TasWater	Unity Water ¹⁶	South East Water ¹⁷	East Gippsland Water ¹⁸
Medical	0.9	0.9	0.9	0.9 / 0.95
Aged care	0.9	0.9	0.9	0.9
Retail- indoor	0.9	0.9	0.9	0.75 / 0.9 / 0.95
Business	0.9	0.9	0.9	0.95
Retail - outdoor	0.5	0.2	0.1	0.25
Community - indoor	0.9	0.9	0.75 / 0.9	0.75 / 0.9 / 0.95
Commercial - fabrication and manufacturing	0.9	0.9	0.9	0.9 / 0.95
Community - outdoor	0.7	0.2	0.1	0.25 / 0.75
Childcare centres	0.8	0.8	0.5	0.75 / 0.95
Educational	0.7	0.7	0.5	0.75 / 0.9
Services	0.9	0.9	0.5 / 0.9	0.75 / 0.9
Hospitality	0.9	0.9	0.9	0.9 / 0.95
Accommodation	0.9	0.9	0.9	0.75 / 0.9
Sporting Clubs	0.7	0.7	0.1 / 0.25 / 0.5	0.25 / 0.5 / 0.75 / 0.9

However, the Regulator has identified several alternative approaches to applying discharge factors. For example, as set out in Table 4, South East Water and East Gippsland Water use multiple discharge factors within some customer categories based on the particular characteristics of a property. Alternatively, discharge factors could be based on a business'

¹⁶ www.unitywater.com/business/accounts-and-billing/pricing-fees-and-charges/sewerage-usage-percentages

¹⁷ www.southeastwater.com.au/content/dam/business/trade-waste/Prices%20and%20charges%20manual%202022-23.pdf

¹⁸ www.egwater.vic.gov.au/wp-content/uploads/2021/04/Waste-Water-Pricing-Methodology-Principles.pdf

water usage rather than by customer category. For example, Hunter Water has five bands of discharge factors based on a customer's water usage ranging from no water being discharged to the sewerage system to most of the water being discharged to the sewerage system.¹⁹

The Regulator seeks comments on TasWater's proposed discharge factors and on alternative approaches to determining discharge factors.

8.3 Treatment of Category 3 and 4 trade waste customers

The estimated customer outcomes included in this report exclude modelling of TasWater's Category 3 and 4 trade waste customers. There are currently 69 trade waste customers that contribute a relatively minor amount of sewerage revenue (approximately 4 per cent of the total non-residential revenue). However, due to the nature of their activities, these customers are generally high water users and, according to TasWater, use approximately half of the water consumed by all non-residential customers.

Under a fixed and variable charging approach, if Category 3 and 4 trade waste customers were included in TasWater's modelling and treated in the same manner as other non-residential customers, the modelling results would change. In particular, the variable charge for non-residential customers would reduce significantly and be well below the variable charge for residential customers. This is because variable sewerage charges are based on water usage which means that the more water used, the lower the variable charge needs to be to collect the same amount of revenue. However, under this approach, the sewerage charges of most Category 3 and 4 trade waste customers are predicted to be higher than what they paid in 2021-22.

To determine the accuracy of potentially applying TasWater's proposed discharge factors to these customers, the Regulator intends seeking further information from TasWater to ascertain how much of the water supplied to these customers is used in their respective manufacturing processes and how much is discharged to the sewerage network.

Obtaining this information might necessitate TasWater installing flow meters for all Category 3 and 4 trade waste customers (where such meters have not been installed to date) so as details of the actual demand these customers place on the sewerage system is available. For example, Hunter Water requires large industrial customers to have such meters.²⁰

Further, the Regulator intends requiring TasWater to engage with these customers during the development of its proposed price and service plan so that more details are available to the Regulator before a final decision is made on this issue in May 2026.

8.4 Potential cross-subsidies

For the purposes of this Report, the Regulator has not considered whether there are any cross subsidies between residential and non-residential customers. Until clearer and more accurate

¹⁹ [Business pricing, fees and charges - Hunter Water](#)

²⁰ Ibid.

information about sewerage costs is available from TasWater, the Regulator is unable to consider this matter.

8.5 Data integrity

In reviewing the modelling results, the Regulator has identified some data issues.²¹ For example:

- a significant number of non-residential customers are recorded as having zero water usage; and
- based on the Regulator's knowledge of their respective business activities, some non-residential customers appear to have been incorrectly categorised.

The Regulator has raised these issues with TasWater and has requested that TasWater carry out further data integrity checks.

8.6 Audit of the model

In addition to the data integrity issues raised above, TasWater has engaged a third-party consultant to audit the model and verify the calculations it contains. Therefore, the Regulator expects that the modelling relied on in the inquiry final report will be audited.

8.7 Customer impact assessment tool

The Regulator intends discussing with TasWater the timing and feasibility of developing an on-line assessment tool to allow customers to assess the impact on individual sewerage bills of changing to a fixed and variable charging approach. In the event that an on-line assessment tool is feasible, it is expected that it would be developed during TasWater's preparation of its proposed price and service plan. The assessment tool would then be available for customers to use during public consultation on the Regulator's 2026 Water and Sewerage Price Determination Draft Report, if, in that report, the Regulator's draft decision is to require TasWater to apply a new sewerage charging approach for the regulatory period commencing on 1 July 2026.

²¹ This is not unexpected given the large number of entries in TasWater's customer database.

APPENDIX A: 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

On 23 August 2023, the Regulator decided to revise the timeframes for the sewerage charging inquiry. The Regulator made this decision because of delays in receiving the initial modelling results from TasWater. On 28 November 2023, the Regulator further revised the timeframes so as the sewerage charging final report was released at the same time as the final report from the trade waste inquiry.

The revised timelines for the inquiry are as follows:

Milestone	Target dates
Regulator releases Draft Report	8 December 2023
Consultation on Draft Report	8 December 2023 to 9 February 2024
Regulator releases Final Report	31 May 2024

APPENDIX B: LEGISLATIVE FRAMEWORK

The *Water and Sewerage Industry Act 2008* is the primary legislative instrument governing the economic regulation of the water and sewerage industry in Tasmania.

In relation to pricing, the Industry Act provides for:

- an independent regulator (the Regulator) for the industry with clear accountabilities and responsibilities to ensure effective and efficient outcomes for the sector and the protection of customers;
- independent pricing regulation with a regulated entity (TasWater) required to submit a proposed Price and Service Plan to the Regulator which outlines the services, revenue requirements and operational requirements of the regulated entity. The Regulator bases its price determination on an assessment of the proposed Price and Service Plan submitted by the regulated entity; and
- the Regulator to be guided by legislated pricing principles when making a price determination.

The pricing principles in section 68 of the Industry Act are as follows:

- a regulated entity is to be given a reasonable opportunity to recover the efficient costs it incurs in:
 - providing a regulated service; and
 - complying with a regulatory obligation; or
 - complying with a requirement to make a regulatory payment under the Industry Act (except where the Industry Act provides otherwise);
- the price is to provide for efficient pricing by:
 - applying two-part pricing for water services based on the recovery of fixed costs and variable costs by way of a fixed charge and a variable charge (with the variable charge determined by the volume of water used as measured by a water meter); and
 - reflecting the costs of servicing particular customers or classes of customers in different locations, regions or schemes;
- the price is to provide effective incentives, with respect to a regulated service to:
 - promote economic efficiency;
 - reduce costs; or
 - otherwise improve productivity;
- the price is to allow a regulated entity to receive a return on assets used in providing the regulated service; and

- 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.

In addition to the pricing principles set out in the Industry Act, the *Water and Sewerage Industry (Pricing and Related Matters) Regulations 2021* contain additional pricing principles in relation to the basis for setting fixed and variable charges.

Part 3 of the Pricing Regulations provides for:

- a fixed charge for a regulated service is to reflect the costs to the regulated entity that are reasonably attributable to providing the service to the property to which the charge relates;
- the rate of a variable charge to be charged by a regulated entity must not be less than the cost of delivering water to, or removing sewage from, the property to which the charge relates; and
- a variable charge for a regulated service is to reflect the costs, to the regulated entity, that are reasonably attributable to the volume of water delivered to, or sewage removed from, the property to which the charge relates.

APPENDIX C: SUMMARY OF SUBMISSIONS

Issues Paper

Seven submissions were received on the Issues Paper. The submissions were from:

- TasWater;
- Nekon Pty Ltd;
- Property Council of Australia;
- Central Coast Cricket Club and East Ulverstone Football Club;
- Central Coast Council;
- Malcolm Eastley; and
- Rachel Koo.

The key points raised in each submission in relation to sewerage charging are summarised below.

TasWater

TasWater considers that the ET methodology is outdated and no longer fit for purpose for charging sewerage services in Tasmania. It states that it is the only water utility in Australia that uses the ET methodology. Specifically, it considers that:

- the methodology is not cost reflective and does not fairly reflect the different residential and non-residential loads on the sewerage system;
- the application of the ET methodology across different customer groups is complex;
- it is onerous to continually update customer data where there has been a change in property use; and
- it is difficult for customers to understand the ET methodology.

TasWater's preferred pricing approach is a fixed and variable pricing structure for both residential and non-residential customers that utilises a discharge factor. It notes that the 2019 Jacobs report concluded that a small number of discharge factor categories (between four and six) would best reflect customers' discharge and that the benefits to customers would outweigh any additional administrative and implementation costs.

TasWater also considers that any new charging approach must recover a proportion of fixed costs to provide TasWater with revenue certainty. It considers recovering fixed costs in this way is necessary to ensure that the business can recover both the capital and operating costs required to maintain current levels of sewerage services now and into the future.

If there was a change to the current approach to charging for sewerage, TasWater considers that further work would be required to:

- model customer impacts;
- determine the level of investment required to change existing processes and systems; and
- provide a customer education program.

Nekon Pty Ltd

Nekon considers that the ET methodology is not appropriate and that the vast majority of Tasmanians, if they fully understood the current approach, would oppose this methodology. It also cites the 2019 Jacobs report which indicates that survey participants did not agree with the ET method.

Nekon considers that TasWater should not be allowed to charge customers for waste that they are not producing. For example, Nekon considers that retail stores may only have a single fixture but are being assessed as two to three ETs because of their gross building area.

For the majority of non-residential customers, Nekon considers that the “water in equals water out methodology” is fair and equitable. It also considers that the discharge factor for each category has already been formulated by other water corporations.

Nekon considers that it would be easy for TasWater to implement a new system across its non-residential customers because it already has the data and information in its possession. It notes also that TasWater has already implemented a discharge method for offices and there is no evidence that this was a costly or difficult exercise.

Nekon considers that fixed costs should not be a determining factor to charge high fixed costs to its customers. It considers that fixed costs can be incorporated easily into a variable charging formula and that this is a common practice in other industries with high fixed costs, such as energy.

Property Council of Australia

The Property Council of Australia considers ETs are inaccurate and are not used by a majority of water utilities within Australia. It considers there is no excuse to not implement a new system and move away from ETs to ensure greater fairness and equity for businesses.

The Property Council of Australia notes that the current ET methodology assumes businesses are operating at full capacity 365 days a year resulting in gross overcharging for unused services. It considers that the feedback provided as part of the 2019 Jacobs review highlighted that the seasonal nature of some businesses meant that ET calculations do not reflect demand placed on TasWater’s infrastructure.

The Property Council of Australia urges the Regulator in the first instance to require TasWater to determine charges for the categories of hotels, pubs, licensed clubs and accommodation on the basis of a standard discharge factor. It considers that this change would result in a fairer and more accurate reflection of the demand being placed on TasWater’s infrastructure.

Central Coast Cricket Club and East Ulverstone Football Club

The Central Coast Cricket Club and East Ulverstone Football Club state that its sewerage charges have increased significantly in recent years. However, the club claims that its total water usage for any year has never reached 200kl and its water usage includes a ground

watering component. Therefore, the club claims that the percentage of water usage going into the sewerage system is very small and that the current sewerage charge system is an unfair and inconsistent method. The club also refers to the 2019 Jacobs report which indicates that survey participants did not agree with the ET method.

Central Coast Council

The Central Coast Council states there are widespread concerns that the ET system is an unfair, 'one-size-fits-all' pricing method that does not accurately reflect usage. In particular, it considers that the application of the ET methodology to sporting clubs has led to substantial and unreasonable pricing variations.

As an example, the Council refers to a property in Ulverstone where the sewerage charge was 2.8 ETs (\$1 974.11). However, following a TasWater audit, charges have been revised based on 36.4 ETs (\$25 663.45). It considers that there was very limited consultation, especially around sporting grounds and clubs, prior to the commencement of the latest pricing arrangements on 1 July 2022.

The Council considers that the criteria for assessing water and sewerage charges should be based on affordability, fairness, simplicity (transparency) and be cost reflective. It considers that these criteria for assessing charges are not reflected in the ET methodology, which has already started to unfairly impact on sporting communities. Further, it considers that the gradual phase-in of this system across the State, as audits are undertaken, is creating further disparities.

Malcolm Eastley

Mr Eastley considers that TasWater's pricing policy should be commercially competitive and claims that sewerage prices in other jurisdictions such as Victoria are lower than TasWater's charges.

Mr Eastley considers that there are significant errors in TasWater's calculations of volume of waste in each ET and in the number of ETs attributed to customers. For example, he claims that using 200kl per annum as the basis of each ET is not correct because it does not exclude the leakage in volume. Mr Eastley also considers the actual average household use is in the order of 150kl per annum. Further, Mr Eastley considers that the ET calculation for small businesses assumes that the volume of sewerage produced is at the full seating capacity every day and is very inaccurate when compared to using the water supplied as recorded by the water meter.

Instead, Mr Eastley considers that the adoption of pricing based on water volume supplied will solve most of the problems with the present system. He considers that a connection charge that covers the fixed costs of administration and a treatment charge per kL used as measured by the water used would be fairer to all parties. He considers that the connection fee, or service charge to cover fixed costs, should be set according to the size of the connection. Mr Eastley considers that it would be simple and cheap to implement as the basic reading of the meter already appears on the bill, and above all else, the customer will find it easy to follow the reasoning.

Mr Eastley also considers that issues which affect TasWater costs should be considered as part of this inquiry. He considers that TasWater's profits are excessive and that the ideal budget is a balanced one.

Rachel Koo

Ms Koo does not support the ET methodology for sewerage charging and considers that the ET methodology is not reflective of the actual load on the sewerage system by the property and therefore should be discontinued.

Instead, Ms Koo considers that a fixed sewerage charge that is based on the average water supplied to a residential dwelling would be more appropriate. Ms Koo also considers that if there is only one water supply to one property, then there should only be one proportional sewerage charge - not six ETs on a single Torrens title property that has just one water supply and no new sewerage infrastructure required.

2022 Investigation Draft Report

Of the nine submissions received on the 2022 Investigation Draft Report, five submissions (Cricket Tasmania, Federal Group, Malcolm Eastley, Nekon Pty Ltd and Property Council of Australia) raised concerns about the Regulator's draft decision to approve TasWater's proposal to continue to use the ET methodology for sewerage charging purposes for non-residential customers. A further submission, from Rachel Koo, raised concerns about the ET methodology continuing to be applied for residential customers with a single Torrens title containing multiple residential dwellings.

Cricket Tasmania

Cricket Tasmania is concerned that the ET methodology does not reflect the load that Blundstone Arena in particular could be placing on TasWater's sewerage system, particularly given the seasonal / irregular use of the facility and provided its support for determining charges based on a standard discharge factor. Data was provided from the arena's on-site watering system supporting the amount of water that remains on site (via the watering of the ground) with the remainder discharged to sewer to demonstrate that the charges levied do not reflect the demand placed on TasWater's sewerage system.

Federal Group

Federal Group submitted that TasWater should be required to determine charges for the categories of hotels, pubs, licensed clubs and accommodation on the basis of a standard discharge factor rather than on the basis of the current ET methodology. The Federal Group also requested that the findings of the review into sewerage charging, completed by consultants Jacobs in 2019, be progressed and recommendations implemented during the fourth regulatory period. Federal Group also provided data to TasWater and to the Regulator relating to its properties to demonstrate that the charges levied based on the ET methodology do not reflect the demand those properties could potentially place on TasWater's sewerage system.

Malcolm Eastley

The submission from Malcolm Eastley stated that the ET methodology produces a very inaccurate measure of the load placed on TasWater's system. Mr Eastley supports the use of a connection fee in conjunction with volume treatment charges and believes this practice

would result in a price structure that is affordable, fair in comparison with other providers and transparent to customers.

Nekon Pty Ltd

Nekon's submission raises concerns that the ET methodology does not represent industry best practice. The submission stated that a 'user pays' system such as one utilising a standard discharge factor to calculate sewerage charges would result in a more equitable allocation of costs to customers, as has been implemented by other Australian jurisdictions. Further, the submission states that the current ETs assessed for non-residential customers should be assessed immediately for accuracy and where the costs are inaccurate, those categories are moved to a standard discharge factor assessment.

Property Council of Australia

The Property Council of Australia submitted that TasWater should be required to determine charges for the categories of hotels, pubs, licensed clubs and accommodation on the basis of a standard discharge factor. It also stated that Jacobs' Review of Sewerage Charging recommended further investigation be carried out with respect to charging options while observing that that work does not appear to have occurred.

Rachel Koo

In relation to residential sewerage charging, Rachel Koo raised concerns about the Regulator's draft decision to approve TasWater's proposal to continue to use the ET methodology for residential properties. Ms Koo raised these concerns as the owner of a single Torrens title property with multiple units but a single water connection where TasWater has assessed each unit in the complex as equivalent to 1 ET for sewerage charging purposes.

APPENDIX D: PREDICTED BILL IMPACTS FOR NON-RESIDENTIAL CUSTOMERS

This appendix sets out the predicted bill impacts for non-residential customer categories.

Figure D.1: Predicted bill impacts for customers in the 'Commercial - fabrication and manufacturing' customer category

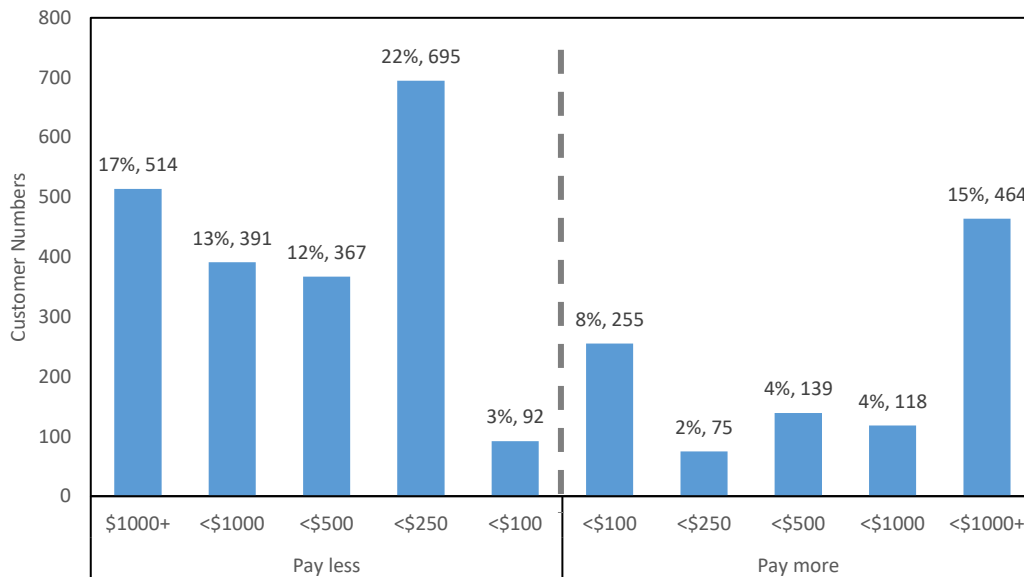


Figure D.2: Predicted bill impacts for customers in the 'Business' customer category

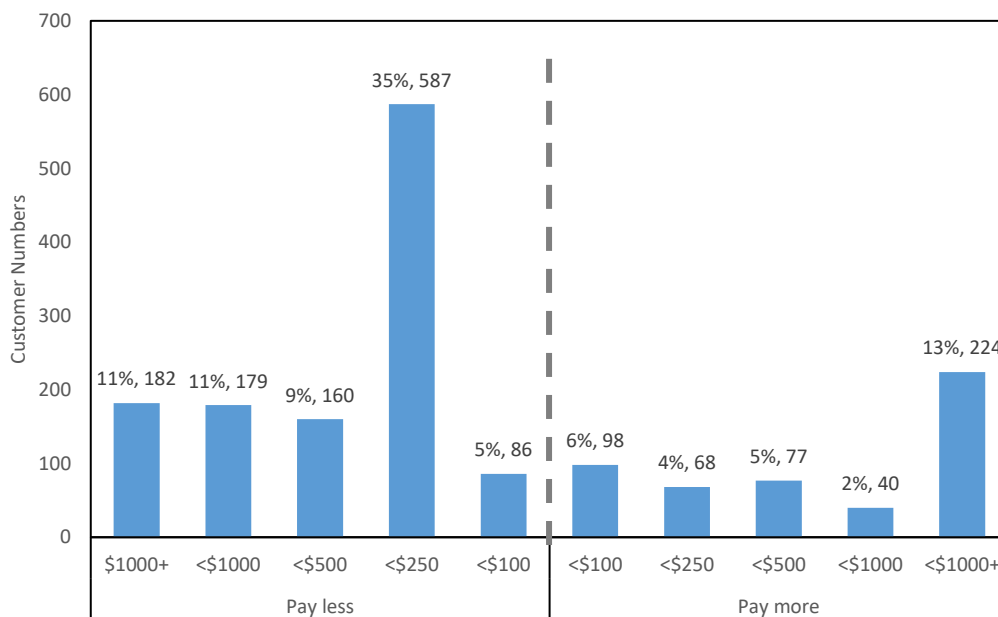


Figure D.3: Predicted bill impacts for customers in the 'Community - indoor' customer category

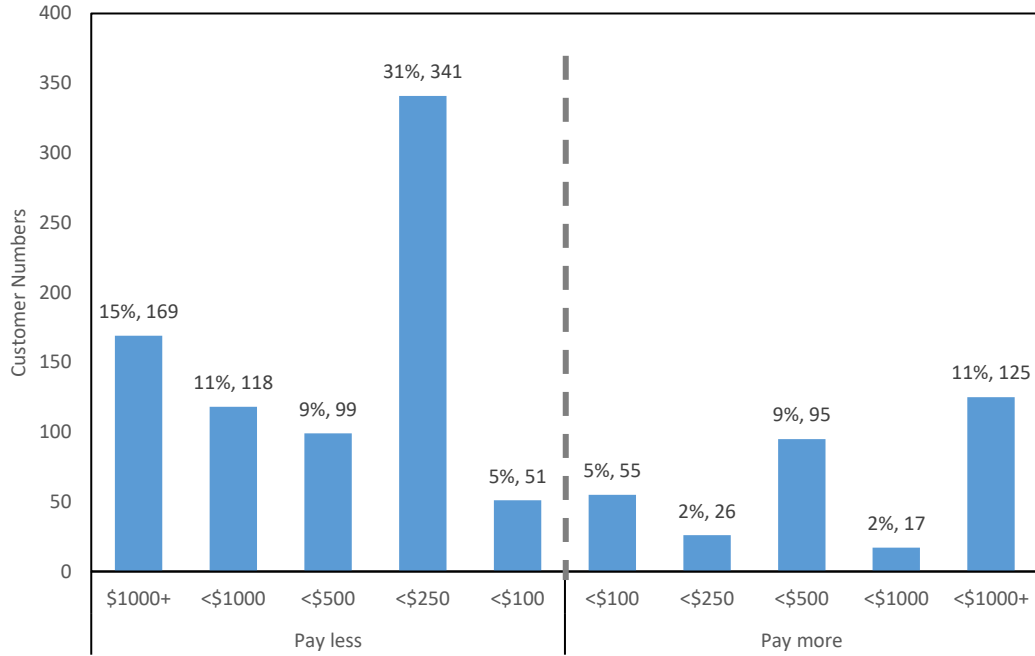


Figure D.4: Predicted bill impacts for customers in the 'Hospitality' customer category

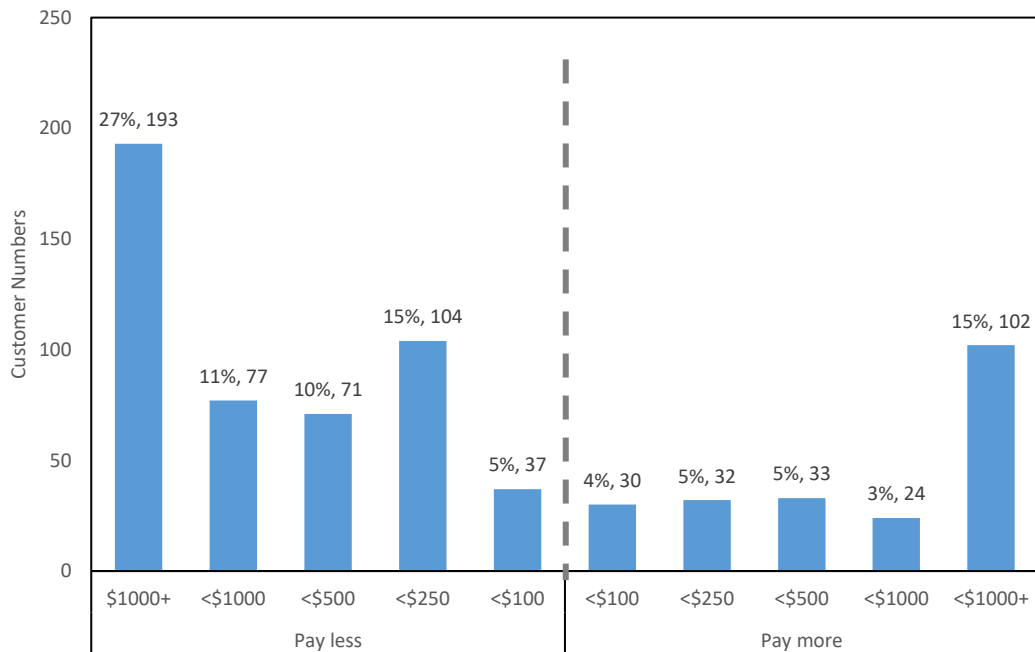


Figure D.5: Predicted bill impacts for customers in the 'Accommodation' customer category

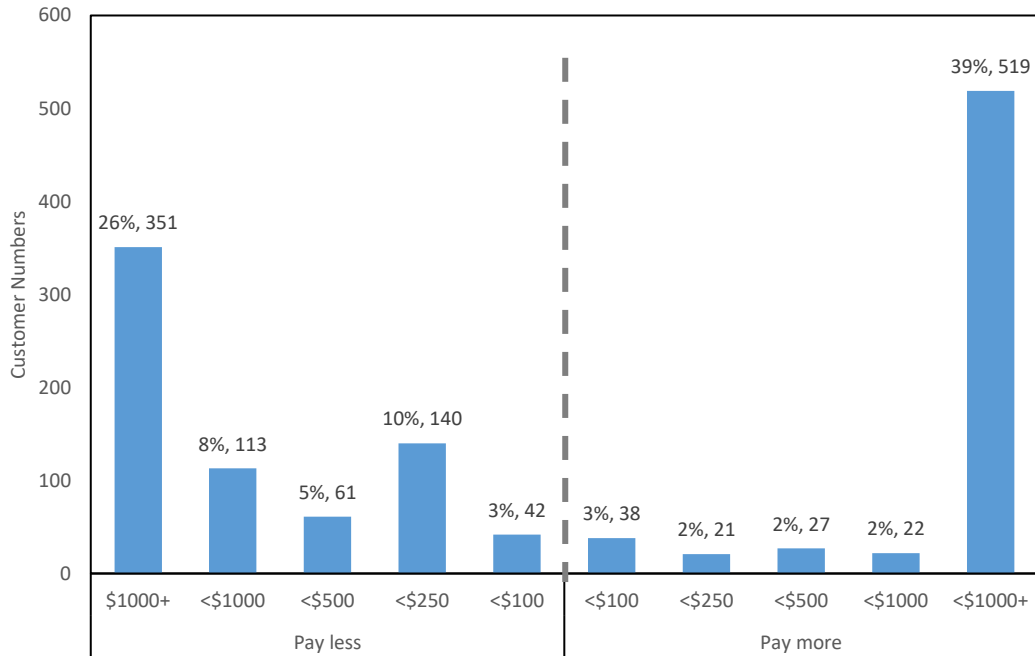


Figure D.6: Predicted bill impacts for customers in the 'Medical' customer category

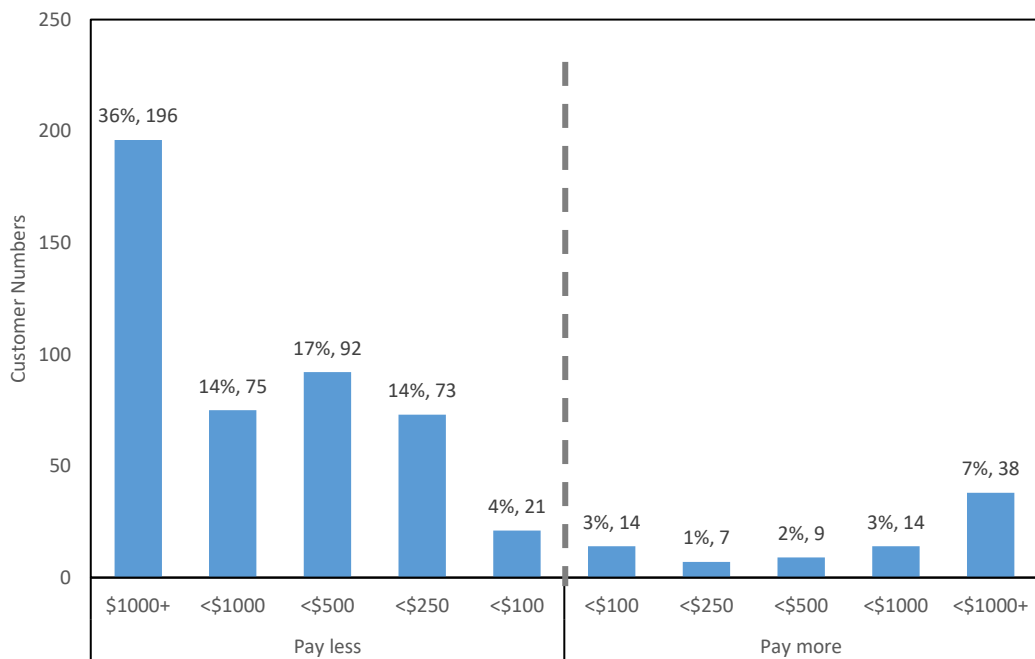


Figure D.7: Predicted bill impacts for customers in the 'Educational' customer category

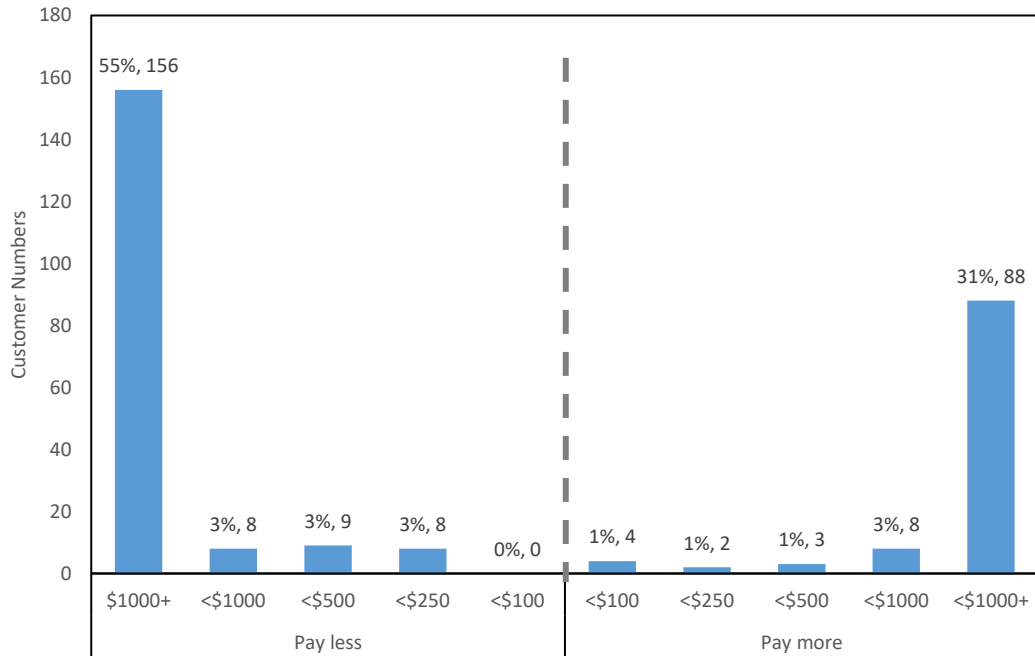


Figure D.8: Predicted bill impacts for customers in the 'Community - outdoors' customer category

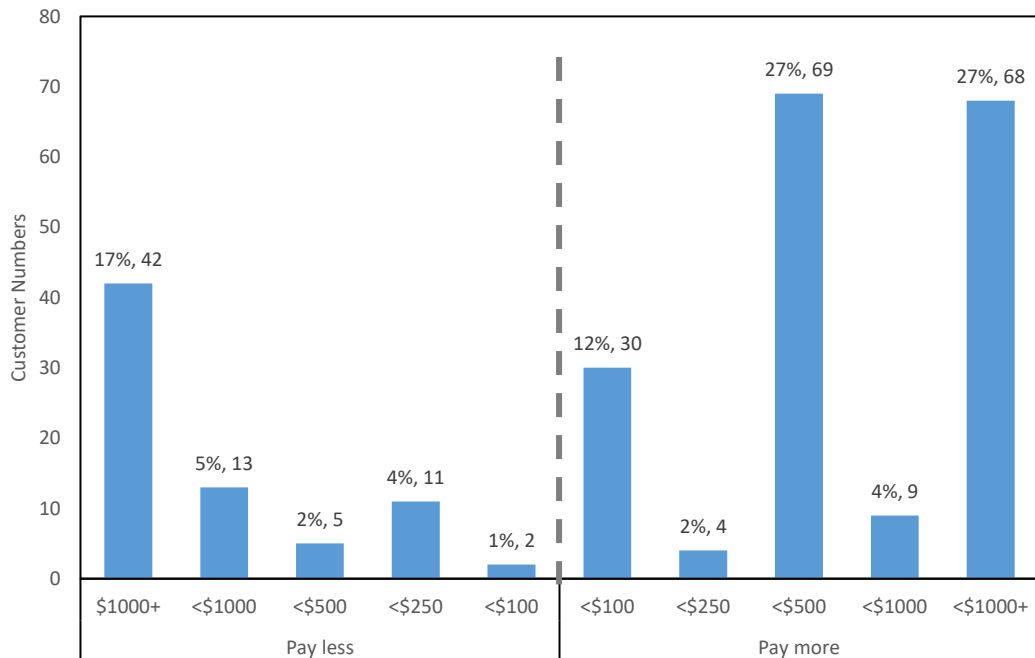


Figure D.9: Predicted bill impacts for customers in the 'Services' customer category

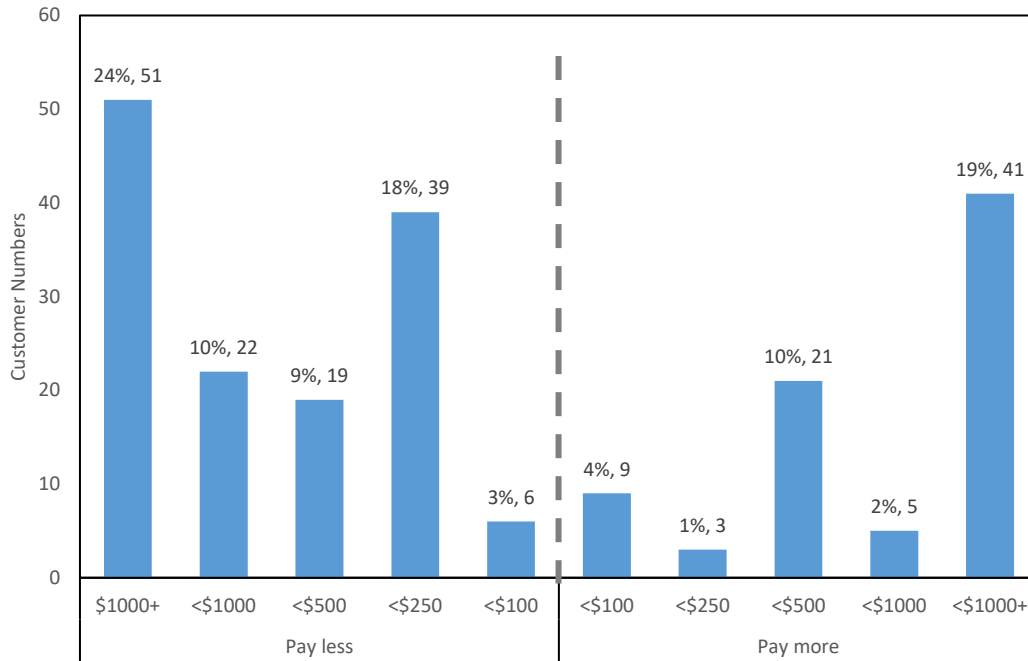


Figure D.10: Predicted bill impacts for customers in the 'Aged care' customer category

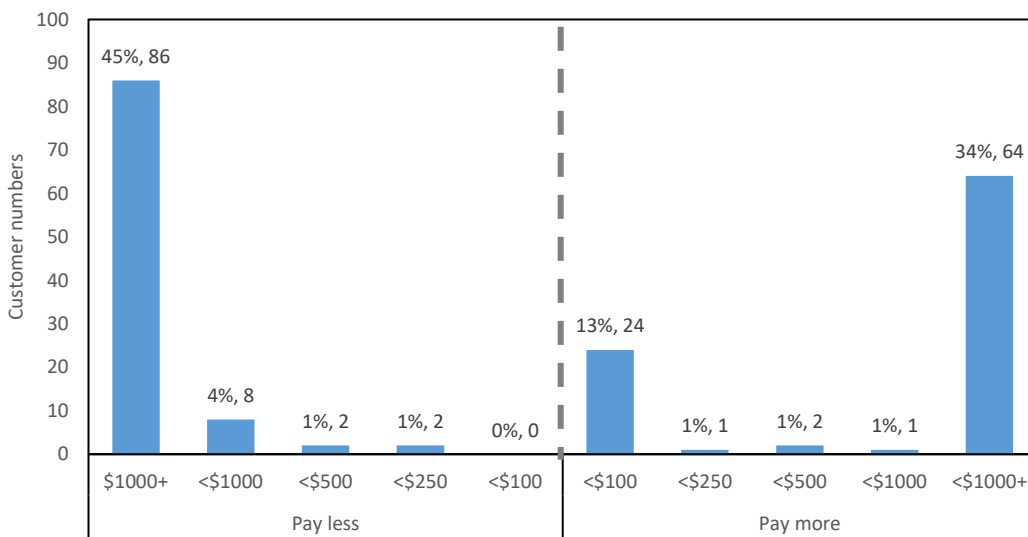


Figure D.11: Predicted bill impacts for customers in the 'Sporting clubs' customer category

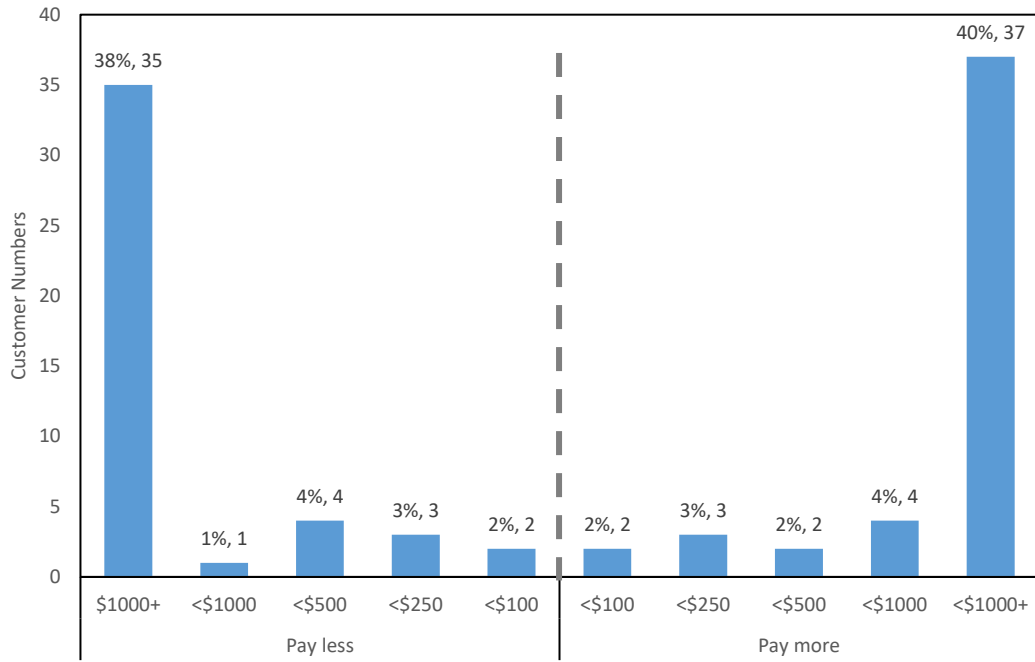


Figure D.12: Predicted bill impacts for customers in the 'Retail - outdoor' customer category

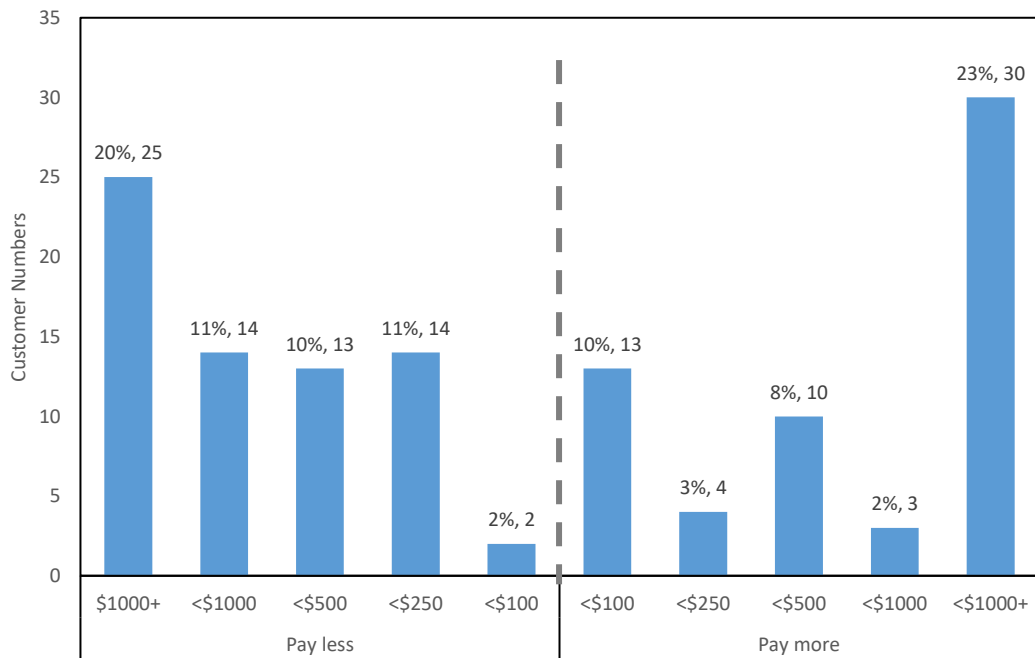
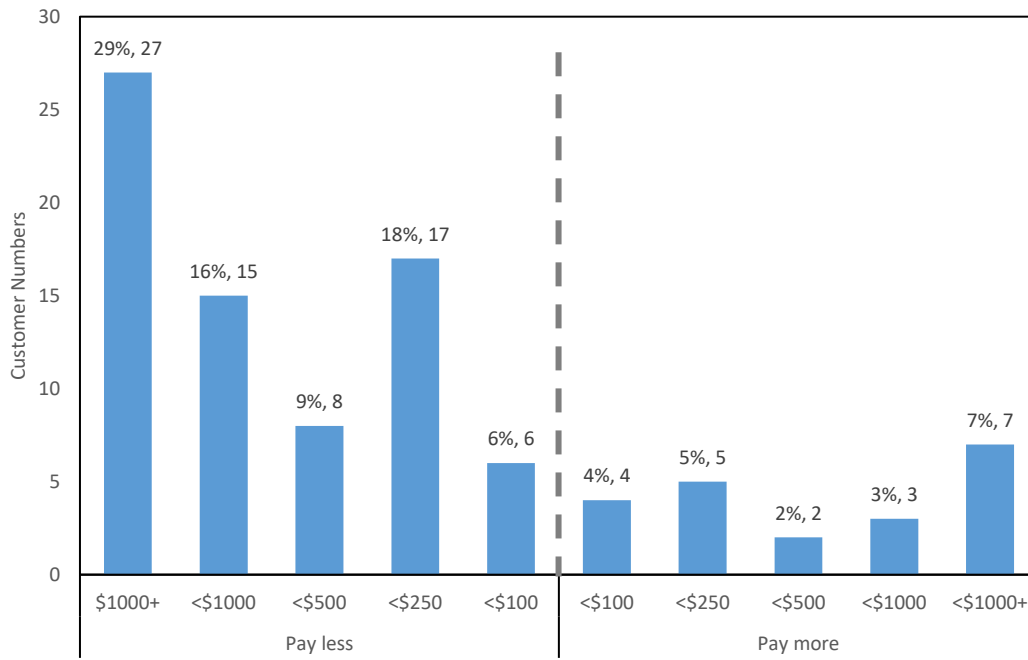


Figure D.13: Predicted bill impacts for customers in the 'Child care centres' customer category



APPENDIX E: GLOSSARY

Term	Meaning in this Draft Report
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.
Discharge factor	<p>A discharge factor is an estimate of the percentage of the water supplied to a property, as measured by a water meter, which is discharged to the sewerage system.</p>
Dry weather flows	<p>Dry weather flows refers to the flow of sewage in the sewerage system during a period without rain or other sources of runoff.</p>
Economic Regulator	<p>The Tasmanian Economic Regulator as appointed under the <i>Economic Regulator Act 2009</i> (referred to as the Regulator in this Draft Report).</p>
Equivalent Tenement (ET)	<p>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.</p>

Term	Meaning in this Draft Report
Fixed charge	A recurrent charge for the provision of a regulated service to a customer but not including a variable charge.
Fifth regulatory period	The regulatory period commencing 1 July 2026.
Fourth regulatory period	The regulatory period from 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.

Term	Meaning in this Draft Report
TasWater	Tasmanian Water and Sewerage Corporation Pty Ltd.
Trade waste	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.
Variable charge	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.