



INQUIRY INTO SEWERAGE
CHARGING

FINAL REPORT

AUGUST 2024

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TABLE OF CONTENTS

1	INTRODUCTION	5
1.1	BACKGROUND.....	5
1.2	SCOPE AND APPROACH TO THE INQUIRY	5
1.3	NEXT STEPS	6
2	SEWERAGE CHARGING APPROACHES	7
2.1	EQUIVALENT TENEMENT METHODOLOGY	7
2.2	DISCHARGE FACTOR METHODOLOGY	7
2.3	FIXED AND VARIABLE METHODOLOGY	8
3	SUBMISSIONS ON THE DRAFT REPORT	9
4	REGULATOR’S FINDINGS AND DECISIONS	11
4.1	FIXED AND VARIABLE APPROACH FOR ALL REGULATED SEWERAGE CUSTOMERS	11
4.2	SINGLE SET OF FIXED AND VARIABLE CHARGES	12
4.3	TREATMENT OF CATEGORY 3 AND 4 TRADE WASTE CUSTOMERS.....	12
4.4	INDICATIVE CHARGES AND CUSTOMER IMPACTS	13
5	OTHER MATTERS	17
5.1	REVIEW PROCESS.....	17
5.2	IMPLEMENTATION OF ACTIVITY-BASED COSTING.....	17
5.3	DATA INTEGRITY	18
	APPENDIX A: LEGISLATIVE FRAMEWORK.....	19
	APPENDIX B: MODELLING ASSUMPTIONS	21
	APPENDIX C: GLOSSARY	24

1 INTRODUCTION

1.1 Background

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.

In response to customer feedback received during the 2022 price determination investigation, the Regulator decided to conduct an inquiry into TasWater's sewerage (and trade waste¹) charging methodologies.

As part of the inquiry process, the Regulator released an [Issues Paper](#) and a [Draft Report](#) for public consultation that discussed a range of options. Submissions received from stakeholders during consultation indicated that there is no support for the current ET method, with most stakeholders preferring a sewerage charging approach with fixed and variable components.

1.2 Scope and approach to the inquiry

In conducting the inquiry, 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 Australia conducted for TasWater² 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 relevant matters, including the impact on residential customers that currently receive a concession.

¹ The trade waste component is being dealt with as a separate inquiry.

² In 2019, TasWater engaged Jacobs to assist in reviewing sewerage charging approaches in other jurisdictions and develop potential options.

This inquiry has not examined the costs TasWater incurs providing sewerage services, but rather focussed on the approach to calculating the charges applied to each customer that allow TasWater to recover its costs.

1.3 Next steps

The findings and decisions from this inquiry will be used by TasWater to determine its proposed sewerage charges for the fifth regulatory period commencing on 1 July 2026.

2 SEWERAGE CHARGING APPROACHES

It is not practical or cost-effective to install, maintain and read sewage meters on each property. Given these limitations, 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.

2.1 Equivalent tenement methodology

For the purposes of calculating sewerage charges, TasWater currently 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 2021-22.³

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). The minimum sewerage charge applied to a property is one ET.

The following steps are undertaken to determine the annual 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](#).

2.2 Discharge factor methodology

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

³ 2021-22 data was used as this was the latest full year of data available at the time the inquiry commenced.

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 2015 in response to caravan park operators' concerns about the validity and accuracy of applying TasWater's ET methodology across different parks with a diverse range of facilities and services offered. The discharge factor method for offices was introduced in 2018 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.⁴

2.3 Fixed and variable methodology

Under a fixed and variable charge approach, there is both a fixed and a variable charge component. The fixed charge component is reflective of the fixed costs that TasWater bears in providing sewerage services whereas the variable charge component reflects usage. A customer's usage is estimated based on the volume of water consumed at a property, as measured by a meter, and a discharge factor. Discharge factors differ depending on the property type.

⁴ The discharge factor method used for caravan parks and offices currently calculates ETs on an annual basis. However, under a fixed and variable charging approach for non-residential customers, 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.

3 SUBMISSIONS ON THE DRAFT REPORT

Submissions on the Draft Report were received from:

- TasWater;
- Nekon Pty Ltd;
- Blakes Manor; and
- Malcolm Eastley.

All of the submissions supported moving away from the current ET methodology. Several submissions stated the ET method is difficult to understand and not cost-reflective.

All submissions have been published on the Regulator's [website](#) and the key points raised in each submission are summarised below.

TasWater

TasWater considers that the ET methodology is no longer fit for purpose for charging sewerage services in Tasmania. Instead, TasWater's view is that charging based on fixed and variable prices is easier to explain to customers, has less complexity in its application and is more cost reflective.

In relation to residential customers, TasWater considers that fixed and variable pricing better reflects the load different customer categories place on the sewerage system. It also considers that a fixed and variable method using water consumption as a proxy for demand placed on the sewerage system is a more cost effective, equitable approach.

In relation to non-residential customers, TasWater considers that the implementation of fixed and variable pricing is a more cost-reflective approach that accounts for the seasonal demand of businesses. It also considers that discharge factors based on customer categories allow prices to be tailored to reflect different business activities. Prior to implementing discharge factors, TasWater stated that it intended undertaking further work to ensure that non-residential customers are assigned a discharge factor that accurately represents their business activity.

Nekon Pty Ltd

Nekon supports a move towards a user pays methodology for sewerage charging. It considers that a user pays approach is industry best practice and it supports other goals. For example, it considers that customers, particularly commercial customers, can be financially incentivised to be water wise and prudent in their water use management.

In relation to discharge factors, Nekon considers that TasWater needs to ensure that it is accurate in its charging. In particular, it considers that high-use customers need to be investigated to understand the burden they place on the system to ensure pricing is accurate and appropriate.

Nekon also considers that the Regulator's focus should be to continually reduce fixed costs, increase variable costs and penalise TasWater for loss factors that are beyond customers' control.

Blakes Manor

Blakes Manor considers that using 'rule of thumb' approaches such as the ET method is unfair, unreasonable, inaccurate and can overestimate business impacts on the sewerage infrastructure. It considers that the ET method assumes that each accommodation business is similar and operates in similar ways. However, it considers that this is an incorrect assumption as each business is very different.

Blakes Manor supports a transition from the current ET method to a fixed and variable charge approach. It considers that in doing so it will encourage a more sustainable use of TasWater's water and wastewater infrastructure; ensure that those who use more of the infrastructure pay for it ('user pays principle') and will allow TasWater to reduce its long-term operating costs.

Malcolm Eastley

Mr Eastley considers that, given the findings contained in Jacobs' 2019 report, TasWater's submission and other submissions to this inquiry, the only fair approach to sewerage charging is to change to a volume-based system.

Mr Eastley considers that a volume-based system will differ substantially from the current ET method. Mr Eastley cites examples of where he considers that Cricket Tasmania and the Central Coast Cricket Club and East Ulverstone Football Club have been over-charged under the ET method.

Under a volume-based system, Mr Eastley considers that the suggested discharge factor of 90 per cent for residential customers is correct. However, Mr Eastley considers that any concerns from customers that have a significant garden use could be managed through a variation of the discharge factor upon request to TasWater.

Previous feedback on TasWater's sewerage charging approach

The submissions on the Draft Report were broadly consistent with feedback that the Regulator has received in the past on TasWater's sewerage charging approach. During public consultation on the 2022 Investigation Draft Report and in response to the Issues Paper the Regulator released in February 2023, none of the submissions supported the current ET method and most submissions supported a variable or a fixed and variable approach to sewerage charging.

4 REGULATOR'S FINDINGS AND DECISIONS

Summary

The Regulator has decided to require TasWater to:

- introduce, for the fifth regulatory period, a fixed and variable charge approach for all regulated sewerage customers (including Category 3 and 4 trade waste customers);
- introduce a single set of fixed and variable charges for all regulated sewerage customers; and
- undertake further analysis and consultation on its proposed discharge factors for non-residential customers including Category 3 and 4 trade waste customers.

The Regulator also notes that:

- subject to TasWater's further analysis and consultation on its proposed discharge factors, in the event that Category 3 and 4 trade waste customers face material changes in their bills due to the implementation of a fixed and variable charging approach, the Regulator will consider whether a price transition may be required;
- TasWater may want to assess other ways, such as providing information and advice on water saving measures, to assist customers who receive a concession; and
- consideration will be given to reviewing the provisions that relate to payment difficulties, payment plans and financial hardship policies in the Customer Service Code to ensure that sufficient protection is offered to customers who receive a concession.

4.1 Fixed and variable approach for all regulated sewerage customers

The Regulator accepts that in practice there is no perfect sewerage charging approach. That said, the objective of the inquiry is to identify a workable and practical solution given the circumstances and information available.

Having considered feedback from stakeholders, arrangements in other jurisdictions and the statutory pricing principles, which require that sewerage charges should reflect the costs of providing those services⁵, the Regulator has decided to require TasWater to introduce, for the fifth regulatory period, a fixed and variable charging approach for all regulated sewerage customers.

⁵ The pricing principles are set out in full in Appendix A.

The main advantages of this approach are that it is easier to understand compared to the ET charging methodology and properties that place similar demands on the sewerage system are charged similar amounts.

This approach also 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.

4.2 Single set of fixed and variable charges

Considering the pricing principles set out in the Industry Act and in the Pricing Regulations, as well as the charging approaches set out in previous price determinations and Price and Service plans, the Regulator has decided that there should be a single set of fixed and variable charges for all regulated sewerage customers for the following reasons:

- Applying the same charge for the same service is generally seen as leading to equitable outcomes.
- The pricing principles set out in the Industry Act require prices to reflect the costs of providing a regulated (sewerage) service to a particular customer or class of customers. To date, residential and non-residential customers have not been treated as separate customer classes and, in any case, there is no data available that indicates that the costs of providing services to residential and non-residential customers differ. Therefore, under this principle, the Regulator considers the same charge should be applied to residential and non-residential customers for regulated sewerage services.
- A single set of fixed and variable charges for sewerage is consistent with how TasWater charges for full service regulated water services.
- A single set of fixed and variable charges is simpler for TasWater to administer and for customers to understand.

Importantly, while there will be a single fixed and variable charge for customers, the actual bills for customers will differ depending on:

- the size of the water connection and therefore the volume of water supplied to a property;
- the customer's water usage; and
- the discharge factor that is applied.

4.3 Treatment of Category 3 and 4 trade waste customers

TasWater refers to its industrial customers as Category 3 and 4 trade waste customers. In 2021-22, there were approximately 70 Category 3 and 4 trade waste customers that collectively contributed a relatively minor amount of sewerage revenue (around four per

cent)⁶. However, according to TasWater, these customers used approximately half of the water used by all non-residential customers.

These customers were excluded from the modelling included in the Draft Report. However, the Regulator notes that these customers pay regulated sewerage charges and considers that, in principle, the same charging approach should apply to all regulated sewerage customers. Therefore, the Regulator has decided that a fixed and variable charging approach should also apply to Category 3 and 4 trade waste customers.

4.4 Indicative charges and customer impacts

In estimating the indicative charges and customer impacts of moving to a fixed and variable approach to sewerage charging, the Regulator has applied a single set of fixed and variable charges for all regulated sewerage customers, including Category 3 and 4 trade waste customers. As a result, the indicative charges set out in this section differ from those presented in the Draft Report.

The detailed modelling process and assumptions can be found in Appendix B.

Under a fixed and variable charging approach for all regulated sewerage customers, the indicative single set of fixed and variable charges are set out Table 1.

Table 1: Indicative fixed and variable charges for all regulated sewerage customers, including Category 3 and 4 trade waste customers

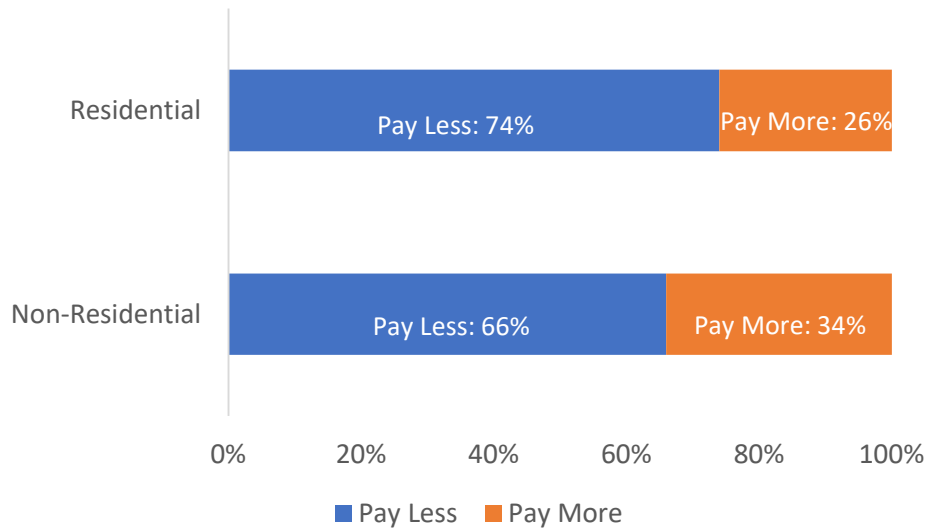
Customer group	Indicative charges (\$2021-22)
Residential and non-residential	Fixed: \$494 (annual) ⁷ Variable: \$0.91/kL

As a result of applying a fixed and variable charging approach across all regulated sewerage customers, it is estimated that approximately 74 per cent of residential and approximately 66 per cent of non-residential customers would have paid less in 2021-22 than they did under the current ET methodology (Figure 1).

⁶ 2021-22 data was used as this was the latest full year of data available at the time the inquiry commenced.

⁷ The standard residential customer connection size is 20mm. Approximately 43 per cent of non-residential customers have connection sizes that are larger than 20mm, resulting in a fixed charge that will be higher than \$494 per annum.

Figure 1: Impact of indicative fixed and variable charges on all regulated sewerage customers, including Category 3 and 4 trade waste customers



The Regulator notes that while the modelling results provide an 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 the split that has been relied on in this report. Further, as the annual bills used in the modelling are based on 2021-22 data, annual bills for later years will differ.

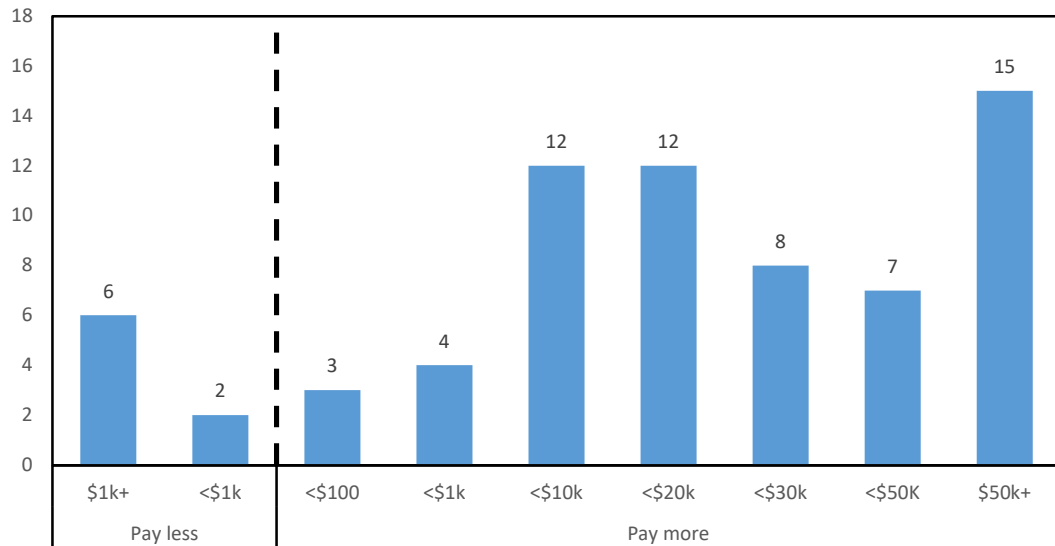
As set out in Appendix B, the modelling relies on indicative discharge factors prepared by TasWater. However, the Regulator considers that TasWater needs to carry out further work to ensure those factors reflect the volume of sewage discharged into the sewerage system.

TasWater is currently implementing activity-based costing across the business (see Section 5.2 of this report). 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 and in the allocation of costs between water, sewerage and trade waste services.

4.4.1 Impact on Category 3 and 4 trade waste customers

Under a fixed and variable charging approach for all regulated sewerage customers, the majority of Category 3 and 4 trade waste customers are predicted to be worse-off because they tend to be large water users. In particular, it is estimated that 15 of these customers would have had an annual bill of over \$50 000 more in 2021-22 than they did under the current ET methodology (Figure 2).

Figure 2: Breakdown of indicative changes in annual sewerage charges for Category 3 and 4 trade waste customers under a fixed and variable charging approach (\$2021-22)



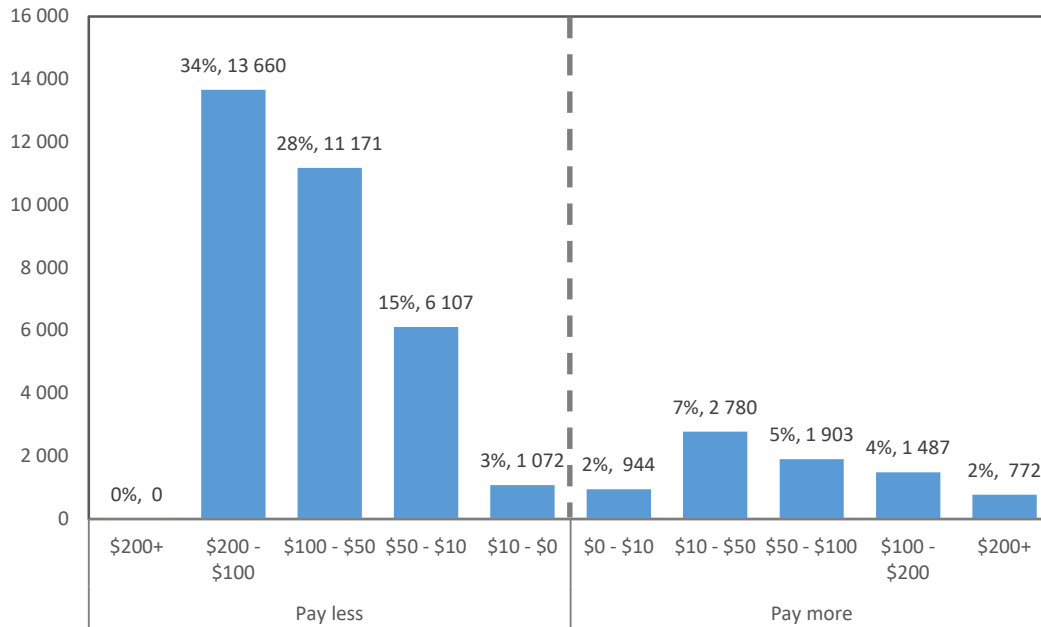
As discussed, TasWater is required to carry out further work to ensure that discharge factors reflect the volume of sewage discharged into the sewerage system. For some Category 3 and 4 trade waste customers, this may necessitate TasWater installing meters.

Once TasWater has carried out this further work, the Regulator expects that the impact on some of the Category 3 and 4 trade waste customers who are supplied with a large volume of water is likely to be reduced. This is because these customers may, for example, use a significant amount of this water in their various manufacturing processes that is not then discharged to the sewerage system. However, if these customers continue to face material changes in their bills due to the implementation of a fixed and variable charging approach after the additional information has been taken into account, the Regulator will consider whether a price transition is required.

4.4.2 Impact on residential customers who receive a concession

Under a fixed and variable charging approach for all regulated sewerage customers, it is predicted that approximately 89 per cent of customers who receive a concession would have either paid less or up to \$50 more in 2021-22 than they paid under the current ET methodology. However, 11 per cent of customers who receive a concession (just over 4 100 customers) would have had paid \$50 or more in 2021-22 than they paid under the current ET methodology (Figure 3).

Figure 3: Breakdown of indicative changes in annual sewerage charges for residential customers who receive a concession under a fixed and variable charging approach (\$2021-22)



The reason these customers would have paid \$50 or more in 2021-22 than they paid under the current ET methodology is due to the water usage of these customers. In 2021-22, the average water usage of this group of concession customers was 372 kL which was much higher than the average water usage for all concession customers at 146 kL.

The Regulator is therefore concerned about the potential impact a fixed and variable charging approach may have on this group of customers.

The Regulator notes that TasWater intends to consult with residential customers and consumer advocacy groups during the development of its proposed Price and Service Plan for the next regulatory period. As part of this work, the Regulator considers that TasWater may want to assess other ways, such as providing information and advice on water saving measures, to assist customers who receive a concession.

The Regulator also notes that eligible TasWater customers receive a concession from the State Government.⁸ The combined water and sewerage concession for 2023-24 was \$226.66.

As is required by the Regulator’s Water and Sewerage Industry Customer Service Code, TasWater has a financial hardship policy⁹ to assist customers experiencing payment difficulties. The Regulator will consider reviewing the provisions in the Customer Service Code that relate to payment difficulties, payment plans and financial hardship policies to ensure that they offer sufficient protection to this cohort of customers.

⁸ <https://www.taswater.com.au/accounts-and-billing/my-account/apply-for-concession-or-rebate>

⁹ <https://www.taswater.com.au/accounts-and-billing/my-account/taswater-assist/taswaterassist>

5 OTHER MATTERS

Summary

The Regulator has decided to require TasWater to:

- formalise its review process and promote its availability prior to the implementation of the fixed and variable approach for the fifth regulatory period; and
- carry out further data integrity checks.

The Regulator also notes that TasWater is still in the process of implementing activity-based costing across its business.

5.1 Review process

TasWater has a review process in place should a customer query the ET calculation used for their sewerage bill. Under this process, a customer can request TasWater to conduct an assessment, at no additional cost to the customer, to review the application of the ET calculation to their property.

This review process does not appear to be formalised or publicised.

With the implementation of a fixed and variable approach that relies on discharge factors to calculate sewerage charges, a formal review process will be important. This may particularly be the case for Category 3 and 4 trade waste customers, where it is unclear how much of the water supplied to these customers is ultimately discharged to the sewerage network.

Therefore, the Regulator requires TasWater to formalise its review process and promote its availability prior to the implementation of the fixed and variable approach for the fifth regulatory period.

5.2 Implementation of activity-based costing

In its final report from the 2022 water and sewerage pricing investigation, the Regulator required TasWater to implement an activity-based costing approach across its whole business so that it could more accurately allocate costs between regulated and unregulated services, as well as between fixed and variable costs for each regulated service.

TasWater commenced the implementation of activity-based costing in 2022-23 and had intended to finalise the project by 30 June 2024. However, the project has been delayed. One consequence of this delay is that the Regulator has had to rely on the fixed and variable cost split (76:24) from Jacob's 2019 report in both the Draft Report and this report.

Once TasWater has implemented activity-based costing, it is expected that there will be increased clarity and accuracy in the allocation of the fixed and variable components of TasWater's costs. As a result, it is possible that the fixed and variable cost allocations used to calculate the fixed and variable components of a sewerage charge could differ from those used in this report.

5.3 Data integrity

The Regulator identified some data issues during the inquiry process.¹⁰ For example:

- a significant number of residential customers in TasWater’s model are recorded as having very high water usage;
- a significant number of non-residential customers in TasWater’s model are recorded as having zero water usage; and
- based on the Regulator’s knowledge of their respective business activities, some non-residential customers, including Category 3 and 4 trade waste 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.

¹⁰ This is not unexpected given the large number of entries in TasWater’s customer database.

APPENDIX A: 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 variations in 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 B: MODELLING 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 and inputs 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 both residential customers and non-residential customers (including Category 3 and 4 trade waste customers) has been assumed to remain constant i.e. 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, meaning 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. While the model relies on indicative discharge factors prepared by TasWater, the Regulator

considers that TasWater needs to carry out further work to ensure those factors reflect the volume of sewage discharged into the sewerage system.

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 ¹¹		0.9

- Under a fixed and variable charging approach for residential and non-residential customers, the service charge for customers with unconnected residential and non-residential land is assumed, for modelling purposes, to be similar to the charge that was applied in 2021-22 under the ET method. 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 calculation of sewerage costs arising from:

- increased accuracy of discharge factors for customers under different category; and
- increased accuracy in the calculation of the total amount of sewerage service revenue and the allocation of the fixed and variable components of TasWater's costs by implementing activity-based costing.

¹¹ 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.

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.

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.

APPENDIX C: GLOSSARY

Term	Meaning in this 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 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 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.
