

5 OPERATING EXPENDITURE

Operating expenditure (opex) refers to TasWater’s costs of operating and maintaining its water and sewerage systems, including associated administrative costs. Opex is a key building block component in the calculation of TasWater’s Notional Allowable Revenue (NAR) for the fourth regulatory period.

The Regulator allows opex that is prudent and efficient for providing regulated services. The Regulator, therefore, must assess whether TasWater’s proposed opex for the fourth regulatory period is prudent and efficient, in the circumstances existing at the time of the Regulator’s review.

Proposed opex is assessed as prudent if:

- it could be reasonably expected/required by an operator exercising good industry practice; and
- it is consistent with delivering the required service levels, outputs and obligations over the relevant regulatory period.

Proposed opex is assessed as efficient if it is considered to be the minimum level of expenditure that is required to deliver a desired outcome or result consistent with an operator exercising good industry practices. That is, opex is efficient if it represents the most cost effective way of providing services.

5.1 Regulator’s draft decisions

The Regulator has made the following draft decisions:

1. Approve an opex allowance \$46.46 million lower than TasWater proposed at a total of \$793.92 million for the fourth regulatory period as set out in Table 5.1.
2. Accept, subject to an analysis of information submitted by TasWater in relation to the costs of providing the services for Category 3 and 4 Trade Waste, irrigation and tankered waste customers, TasWater’s cost allocations as presented in its proposed PSP for the fourth regulatory period.
3. Accept CCGUS’ proposed escalation rates for the fourth regulatory period and changes to TasWater’s opex.
4. Exclude, at this stage, capex-driven opex relating to capex assessed, by CCGUS, as “at risk”.
5. Require TasWater to implement an activity-based costing approach during the fourth regulatory period.
6. Require TasWater to provide details of the costs associated with providing services for Category 3 and 4 trade waste, irrigation and tankered waste.
7. Require TasWater use the Regulator’s final inflation assumptions for the fourth regulatory period.
8. Apply TasWater’s water connection annual growth rate (0.85 per cent) as the growth factor to 50 per cent of TasWater’s regulated opex over the fourth regulatory period.
9. Impose an annual compounding productivity target on TasWater of 1.5 per cent over the fourth regulatory period.

Table 5.1: Regulator’s assessment of TasWater’s regulated opex for the fourth regulatory period (\$’000, nominal)

	2022-23	2023-24	2024-25	2025-26	Total
TasWater’s proposed opex	200 066	206 064	213 532	220 722	840 385
CCGUS’ recommended opex adjustments with “at risk” opex also removed	-8 241	-10 700	-13 635	-15 027	-47 603
CCGUS’ recommended opex	191 825	195 364	199 897	205 695	792 781
Regulator’s inflation adjustment	3 642	4 708	5 819	6 998	21 168
Regulator’s growth rate adjustment	-1 624	-2 502	-3 422	-4 388	-11 936
Regulator’s productivity adjustment	-775	-1 584	-2 427	-3 306	-8 092
Regulator’s draft opex	193 068	195 986	199 867	204 999	793 921
Regulator’s draft opex reductions from TasWater’s proposed opex	-6 998	-10 078	-13 665	-15 723	-46 463

5.2 Approach to the review of TasWater’s opex

The Regulator has reviewed TasWater’s actual, budgeted and proposed opex and engaged CCGUS to independently assess TasWater’s opex.

With respect to opex, CCGUS was required to assess and report to the Regulator on the adequacy, appropriateness and efficiency of opex incurred by TasWater during the third regulatory period, as well as TasWater’s budgeted and proposed opex.

This involved reviewing the efficiency and prudence of:

- the actual opex incurred by TasWater for the period 1 July 2018 to 30 June 2021;
- TasWater’s budgeted opex for the period from 1 July 2021 to 30 June 2022; and
- TasWater’s proposed opex for the period from 1 July 2022 to 30 June 2026.

5.3 Review of TasWater’s opex for the third regulatory period

TasWater stated that its opex in some areas is heavily influenced by unique characteristics such as the profile and geographical dispersion of its customer base and the number of its assets and the number of systems it operates compared with its industry peers.³¹

In each of the first three financial years of the current regulatory period, TasWater’s opex was greater than the allowance approved by the Regulator by between five and six per cent in nominal terms. TasWater stated that the increased opex during the third regulatory period was due to increased costs relating to new service connections, insurance, information systems and facility management.³²

As shown in Table 5.2 below, TasWater’s actual opex exceeded the Regulator’s allowance by \$9.3 million in 2018-19, by \$9.1 million in 2019-20 and by \$11.3 million in 2020-21.

³¹ TasWater’s proposed PSP, page 131.

³² Ibid, page 132.

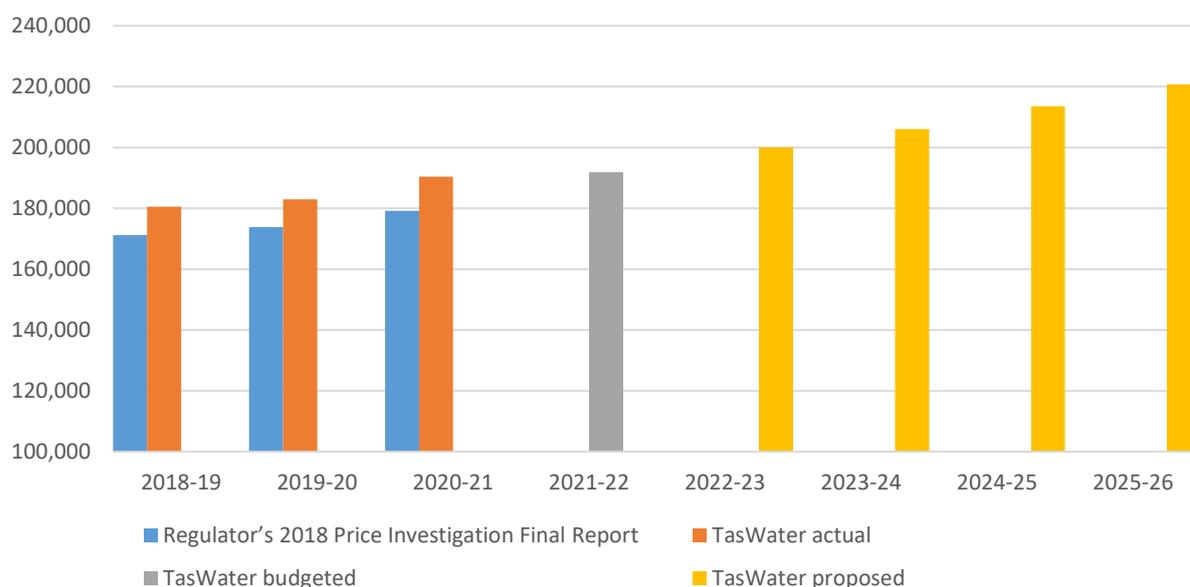
Table 5.2 TasWater's regulated opex (nominal \$'000s)

	Third regulatory period				Fourth regulatory period			
	2018-19 Actual	2019-20 Actual	2020-21 Actual	2021-22 Budgeted	2022-23 Proposed	2023-24 Proposed	2024-25 Proposed	2025-26 Proposed
Regulator's 2018 Price Investigation Final Report	171 153	173 855	179 160	n.a. ¹				
TasWater actual / budgeted	180 487	182 910	190 428	191 665				
Variation	9 334	9 055	11 268					
TasWater proposed					200 066	206 064	213 532	220 722

1. As 2021-22 was not originally part of the third regulatory period, the Regulator did not determine an opex allowance for that year.

Table 5.2 and Figure 5.1 compare TasWater's actual opex for 2018-19, 2019-20 and 2020-21, budgeted opex for the third regulatory period extension year 2021-22 and proposed opex for the fourth regulatory period, with the Regulator's approved opex for the first three years of the third regulatory period.

Figure 5.1 Comparison of TasWater's regulated opex for the third and fourth regulatory period (\$'000)



Under the current regulatory framework and following past practice, the Regulator does not make ex post adjustments to TasWater's opex. In this regard, TasWater is incentivised to not spend more than its allowance as, if it does, these costs are not recovered from its customers.

5.4 Opex forecasting approaches and cost allocation

The PSP Guideline does not prescribe a particular approach for TasWater to follow in forecasting its opex. There are a number of different opex forecasting approaches and this section of the Report provides a high level summary of these different approaches.

5.4.1 Bottom-up approach

There is no clear definition as to what constitutes a bottom-up approach. In general, a bottom-up approach for forecasting opex involves a detailed review that assesses discrete opex projects, items or categories of opex, involving reliance on engineering and managerial expertise, economic analysis, or more granular forms of benchmarking.³³ The objective is to identify all necessary costs, which may start from a zero base.

A bottom-up approach can be costly and resource-intensive.³⁴ It has the advantage, however, that the level of opex forecast is not based on previous actual opex levels, which may include some opex that is not efficient or prudent. While the base step trend approach is designed to eliminate this opex, it may, in practice, be difficult to identify some of these opex components.

5.4.2 Base step trend approach

A base step trend (BST) approach for forecasting opex seeks to establish an efficient level of baseline expenditure based on the latest available full year of actual expenditure. That base year expenditure is then adjusted for one-off changes that are due to new requirements or new ways of doing things (or removing activities no longer required) and also adjusted each year for changes in input prices, population/demand growth and productivity improvements.

This approach can account for scale/scope efficiencies at the higher level and avoid the risk of double-counting in forecasting.³⁵

This approach has been implemented across several other Australian jurisdictions including Victoria, Queensland and South Australia in the water and sewerage sector and has also been adopted by the AER in the electricity and gas sectors in recent years.

5.4.3 Allocating costs

Under either of the forecasting approaches, costs may be allocated using various methods including activity-based costing or a direct cost method.

Under an activity-based costing approach, activities are identified and costs are traced and allocated to those activities. This approach allow for more accurate allocation of costs to unregulated services, as well as between fixed and variable costs for any particular regulated service. While activity-based costing provides benefits over other approaches it also requires more time and resources to collect and analyse data. A benefit of the activity-based costing approach is that it is easier to compare the performance of TasWater with equivalent utilities in mainland Australia.

Under a direct cost approach, costs that vary closely with the quantity of goods or services produced, such as many labour costs and chemical, fuel and electricity costs, are treated as direct costs. All other costs are indirect costs and are allocated to the key outputs based on internally determined criteria. For TasWater, the two outputs are water services and sewerage services.

³³ AER - Issues Paper: Remitted decisions for NSW/ACT 2014–19 electricity distribution determinations Operating Expenditure, October 2017, page 21.

³⁴ AER - Issues Paper: Remitted decisions for NSW/ACT 2014–19 electricity distribution determinations Operating Expenditure, October 2017, page 21.

³⁵ CCGUS' Draft Report, page 220.

5.5 TasWater's approach

TasWater's approach to forecasting its opex for the fourth regulatory period was a hybrid approach, involving steps in the following order:

- forecasting total opex for a base year;
- removing the proportion of its forecast base year opex allocated to unregulated services;
- preparing opex forecasts for 2021-22 and each year of the fourth regulatory period (2022-23 to 2025-26).

5.5.1 Calculation of base year opex

TasWater has set 2020-21 as the base year for its opex forecasting. When it submitted its proposed PSP for the fourth regulatory period on 1 July 2021, actual opex figures for 2020-21 year were not available. TasWater, therefore, established its base year 2020-21 opex values by adjusting actual 2019-20 opex for 2020-21 forecast expenditure.

Table 5.3 TasWater's proposed base year total regulated and unregulated opex³⁶ (\$'000s)

Opex category	2019-20 actual	One-off Adjustments	Productivity improvement	Change in demand	Capex driven	Escalation	2020-21 base year
Salaries	83 223	1 345	-	309	-	2 546	87 423
Materials and services	38 474	-864	-	283	200	686	38 779
Chemicals	8 832	-	-	110	35	179	9 156
Electricity	15 020	-2 199	-	156	-	-86	12 891
Royalties	2 734	-	-	-	-	-	2 734
Facility management	8 771	-	-	5	-	140	8 916
Information systems	6 397	-	-	4	1 034	98	7 533
Administration other	4 841	-	-	3	-	78	4 922
Motor vehicle	3 318	-	-	8	-	55	3 381
Water sampling	2 572	-	-	2	-	41	2 615
Consultancy	5 427	1 112	-	7	-	141	6 687
Regulatory costs	2 701	-405	-	-	-	-	2 296
Customer collection	2 794	-	-	28	-	46	2 868
Insurance	2 333	62	-	-	-	216	2 611
Governance	963	15	-	1	-	15	994
Community relations	225	445	-	-	-	11	681
Unspecified	-	-	-3 562	-	-	-	-3 562
Strategic Investment	-	5 467	-	-	-	-	5 467
Total	188 625	4 978	-3 562	916	1 296	4 166	196 392

³⁶ Total opex comprises regulated opex plus unregulated opex.

TasWater used a similar method to establish its base year opex value for the fourth regulatory period as it used for its proposed PSP for the third regulatory period.

Table 5.3 above summarises TasWater's calculation of its base year opex for the fourth regulatory period, estimated at \$196.4 million in nominal terms as presented in TasWater's proposed PSP.³⁷

Proposed allocation of costs

TasWater has continued to directly allocate opex to either water or sewerage services and to either regulated or unregulated services by consumption, wherever possible, for the fourth regulatory period.

Some of TasWater's opex is incurred providing unregulated services. The Regulator requires TasWater to deduct opex relating to unregulated services from its total opex, so that only regulated opex is included when calculating TasWater's NAR.

For the upcoming regulatory period, as for past periods, TasWater has used the percentage of unregulated revenue to TasWater's total revenue in determining the percentage of total opex that relates to unregulated opex. In this regard, TasWater provided details of the revenue it received during 2019-20 from the provision of unregulated services, as set out in Table 5.4 below.

Table 5.4: TasWater's unregulated revenue for 2019-20 (\$'000s)³⁸

Revenue item	Revenue collected
Trade Waste Categories 3 and 4 – Volumetric	9 076
Trade Waste Categories 3 and 4 – Fixed	606
Irrigation – Volumetric	1 314
Irrigation – Fixed	104
Tankered Waste	1 116
Rent	505
Total	12 721

TasWater's estimate of unregulated revenue total of \$12.7 million was roughly 3.6 per cent of its total revenue for 2019-20 (\$351 million). TasWater has used this percentage in estimating the share of opex incurred providing unregulated services for most cost categories.³⁹

Different shares were applied for some cost categories, such as power and chemicals. Overall the share of all opex allocated to providing unregulated services was estimated by TasWater at three per cent.

For 2019-20, TasWater identified \$92.6 million of opex directly attributable to providing regulated services (51.9 per cent to water and 48.1 per cent to sewerage services). For allocating the remaining opex between regulated water services and sewerage services, TasWater applied different shares for the different cost categories. The overall split was 46.8 per cent to water and 53.2 per cent to sewerage services.

The overall split of all regulated opex was 50.7 per cent for water services and 49.3 per cent for sewerage services.

³⁷ TasWater's proposed PSP, pages 133-134.

³⁸ TasWater's proposed PSP, page 164.

³⁹ TasWater, Annual Report 2019-20, page 61.

TasWater applied the above cost allocations to its forecast 2020-21 base year opex as well as for 2021-22 and for its proposed opex for the fourth regulatory period.

5.5.2 TasWater's forecasts for 2021-22 and for the fourth regulatory period

To prepare forecasts for 2021-22 and for the fourth regulatory period, TasWater applied the following steps to the forecast base year opex for 2020-21:

- removing any one-off or non-recurring opex from base year, but including any one-off or new opex for the forecast years;
- reducing opex to reflect productivity improvements;
- increasing those costs in line with growth in demand for water and sewerage services;
- adjusting opex to account for capex-driven changes; and
- applying cost escalation rates to each component of the opex after applying the adjustments detailed above.

TasWater forecasts that its regulated opex will increase from \$190.4 million in 2020-21 to \$220.7 million in 2025-26, the final year of the fourth regulatory period. TasWater notes that this equates to an average annual increase in regulated opex of around three per cent.

Table 5.5 below shows TasWater's actual and budgeted regulated opex for the third regulatory period and proposed regulated opex, from these forecasts, for the fourth regulatory period.

Table 5.5 TasWater's regulated opex for the third and fourth regulatory periods (\$'000s)⁴⁰

Opex category	Third regulatory period				Fourth regulatory period			
	2018-19 Actual	2019-20 Actual	2020-21 Budgeted	2021-22 Budgeted	2022-23 Proposed	2023-24 Proposed	2024-25 Proposed	2025-26 Proposed
Salaries	78 913	80 301	84 355	90 066	94 489	97 621	100 463	104 014
Materials and services	36 837	37 320	37 615	31 787	33 321	33 954	35 929	36 956
Chemicals	8 752	8 832	9 157	9 527	10 237	11 389	12 510	13 301
Power	15 115	14 870	12 762	12 055	14 196	15 777	17 807	19 890
Royalties	2 734	2 734	2 734	2 769	2 810	2 859	2 916	2 982
Facility management	8 288	8 418	8 558	8 619	8 762	8 919	9 101	9 310
Information systems	6 088	6 167	7 262	8 390	9 322	10 158	10 446	10 720
Administration other	4 595	4 667	4 745	4 806	4 885	4 973	5 075	5 191
Motor vehicle	3 151	3 198	3 259	3 284	3 324	3 349	3 375	3 401
Water sampling	2 441	2 479	2 520	2 553	2 595	2 642	2 696	2 757
Consultancy	5 123	5 231	6 446	6 342	6 370	6 484	7 114	6 858
Regulatory costs	2 604	2 604	2 213	3 101	2 275	2 315	2 361	3 426
Customer collection	2 671	2 694	2 764	2 816	2 927	2 997	3 077	3 166
Insurance	2 046	2 249	2 517	2 703	2 903	3 118	3 348	3 596
Governance	914	928	959	1 001	989	1 038	1 028	1 052
Community relations	214	217	657	665	676	688	702	719
Strategic Investment ¹	-	-	5 467	7 000	8 000	8 000	8 000	8 000
Productivity improvement	-	-	-3 562	-5 816	-8 016	-10 216	-12 416	-14 616
Total	180 487	182 911	190 428	191 665	200 066	206 065	213 532	220 722

Note: 1. new opex category proposed by TasWater for the fourth regulatory period.

For the fourth regulatory period, TasWater introduced a new opex category, Strategic Investment, which is intended to improve TasWater's performance in a range of areas.

⁴⁰ Table 5.5 is sourced from TasWater's Financial Model. The values may differ from TasWater's proposed PSP due to rounding.

These include:⁴¹

- improving customer outcomes and customer satisfaction;
- delivering productivity savings through the Productivity Improvement Program;
- improving water security in Tasmania and resilience to the changing climate; and
- quantifying and beginning to reduce TasWater's impact on the environment.

5.6 CCGUS' review of TasWater's proposed opex

CCGUS assessed the efficiency of TasWater's proposed regulated base year opex for 2020-21 through benchmarking it against TasWater's past performance as well as against the performance of other utilities.⁴²

The results show that TasWater's:

- power expenditure for water treatment is materially higher than the median;
- power expenditure for network and sewerage treatment, is below the median;
- chemicals expenditure is above the median across both water and sewerage treatment. TasWater has not provided detailed supporting documentation outlining the drivers for its chemical benchmark outcomes;
- information technology expenditure is below the median when measured on a per IT user basis; and
- insurance premiums are above the median when measured on a per utility basis.⁴³

CCGUS' has identified the following concerns with TasWater's approach to opex forecasting:⁴⁴

- TasWater's use of forecast expenditure for 2020-21 was based on an extrapolation of actual opex for 2019-20 to establish the base year rather than on actual expenditure;
- TasWater's proposed method accounts for growth escalation over the regulatory period through opex that varies with water use (variable opex) only;
- the productivity improvement was applied in absolute dollar terms for each year of the regulatory period rather than the typical compounding target rate approach used in other jurisdictions;
- TasWater applied separate price escalators across many different cost categories, which also varied year on year;
- TasWater's approach creates the risk of double counting;
- there was a relatively large number of capex-driven adjustments to its proposed base year expenditure. These adjustments ranged from \$3 000 per annum to \$3.2 million per annum.

⁴¹ TasWater's proposed PSP, page 156.

⁴² CCGUS' Draft Report, page 258.

⁴³ CCGUS notes that interpreting the outcomes of benchmarking for insurance costs needs to recognise that insurance outcomes reflect the individual risks that businesses face. CCGUS also notes that TasWater adopts a market-based procurement approach for insurance.

⁴⁴ CCGUS' Draft Report, pages 243-244.

This detailed approach to baseline adjustments is not consistent with good practice BST and is also indicative of a bottom-up costing approach; and

- TasWater had not separately forecast controllable (costs that TasWater has the capacity to influence) and non-controllable expenditure (costs that TasWater has no capacity to influence) and it is not clear from its proposed PSP if its proposed productivity improvements relate to non-controllable expenditure.

5.6.1 CCGUS' opex estimates

CCGUS developed separate opex estimates based on a BST approach.

In developing its alternative forecasts, CCGUS adopted the approach that where TasWater's total forecast opex is materially different from CCGUS' alternative forecast, CCGUS considers TasWater's forecast to have not reasonably met the Regulator's prudence and efficiency criteria.

In its Draft Report, CCGUS has presented its opex estimates forecast in nominal dollars to allow for direct comparison with TasWater's proposal.

5.6.1.1 *Setting the base year*

Similar to TasWater, CCGUS has used 2020-21 as the base year for its forecast.⁴⁵ However, unlike TasWater, which estimated the 2020-21 expenditure based on 2019-20 actual expenditure, CCGUS used actual 2020-21 expenditure, which became available prior to CCGUS completing its review, when determining its base year. The Regulator notes that this option was not available to TasWater at the time it prepared its proposed PSP, which was during the 2020-21 financial year.

CCGUS then reviewed TasWater's actual opex for 2020-21 and identified and removed a number of one-off expenditures from its recommended base year opex.⁴⁶ CCGUS' base year opex, not including these one-off expenditures is approximately 1.9 per cent or \$3.7 million below TasWater's proposed base year opex in real 2021-22 dollars.

While CCGUS used TasWater's actual 2020-21 expenditure for its base year, the lack of a comprehensive activity-based costing approach of TasWater's costs meant that CCGUS was unable to determine whether TasWater has accurately accounted for one-off COVID-19 related costs. CCGUS noted that TasWater has captured the direct costs of COVID-19 through a separate cost code in its financial system and that, compared to other Australian jurisdictions, Tasmania was not materially impacted by the COVID-19 pandemic during 2020-21.⁴⁷

5.6.1.2 *Setting the baseline forecast*

CCGUS applied price and non-price trends to grow TasWater's baseline opex in each year of the next regulatory period. These trends include the following:

- the cost impacts of growth;
- increases in the costs of inputs;
- productivity/efficiency savings; and
- inflation.

⁴⁵ CCGUS' Draft Report, page 261.

⁴⁶ Ibid, page 262.

⁴⁷ Ibid, page 253.

Growth impact modelling

CCGUS observed that TasWater's opex forecasting method accounted for growth exclusively through its forecasting of variable costs by applying water usage growth to each component of variable opex and assumed the variable cost allocations in water are an appropriate proxy for variable cost allocations in sewerage.⁴⁸

CCGUS was concerned that TasWater's methodology did not capture potential changes in costs that can result from growth in the number of new connections. As these costs are related to specific capital costs and not business as usual connection growth, CCGUS considered these costs are likely not captured in TasWater's capex-driven opex adjustments.⁴⁹

CCGUS adopted a growth rate based on TasWater's proposed growth forecast between 2020-21 and 2025-26 for all size water connections (0.85 per cent). This growth rate was applied to all opex and compounding annually in CCGUS' forecasts.

Cost escalation assumptions

The majority of the cost escalation rates used by TasWater are CPI-based, including CPI measures for specific categories such as for transport.

TasWater developed separate cost escalation rates for seven of the 16 opex categories. CCGUS has reviewed these escalation rates and applied two that it considered to be prudent and efficient, for salaries and insurance, in forecasting cost changes other than inflation.⁵⁰

For the other five categories, CCGUS considered that category-specific cost escalators are not required and that costs should be increased by CPI growth.

Table 5.6: TasWater's CPI inflation assumptions

	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26
Inflation	1.60%	1.25%	1.50%	1.75%	2.00%	2.25%

Productivity modelling

For the fourth regulatory period, CCGUS found that TasWater adopted a bottom-up approach to estimating productivity improvements, and expressed its forecast productivity improvement in absolute dollar terms rather than as a percentage of total controllable opex. TasWater has presented these productivity improvements in nominal terms, as shown in Table 5.7.

⁴⁸ CCGUS' Draft Report, page 236.

⁴⁹ Ibid, page 236.

⁵⁰ Ibid, pages 248-249.

Table 5.7: TasWater's estimated opex productivity improvement (\$'000, nominal)

	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26
Estimated value of additional productivity improvements	3 562	2 254	2 200	2 200	2 200	2 200
Productivity improvement (% of controllable costs)	1.9%	1.2%	1.1%	1.1%	1.0%	1.0%

A controllable cost is for activities or payments where it has some discretion or choice as to whether the activity is undertaken. The opposite true for uncontrollable costs where there may a stator requirement to undertake the activity or make a payment. TasWater has not provided detail information on the categories of opex considered to be controllable or uncontrollable costs in its proposed PSP. TasWater's identified uncontrollable cost accounts for between 1.1 to 1.7 per cent of its regulated opex from 2019-20 to 2025-26.⁵¹

CCGUS notes that the value of TasWater's proposed productivity improvement for the fourth regulatory period is materially less than the productivity improvement delivered in the previous four years as a proportion of controllable opex, which ranged from 2.3 per cent to 6.1 per cent, as shown in Table 5.8 below. TasWater has not explained in its proposed PSP how such high productivity improvements were achieved in some years, such as 2017-18, or the basis or supporting documentation why productivity improvement is expected to decline over the fourth regulatory period relative to historical levels.

Table 5.8: TasWater's reported opex productivity improvement (\$'000, nominal)⁵²

	2016-17	2017-18	2018-19	2019-20
Value of additional productivity improvements (nominal)	3 625	10 119	4 593	4 133
Productivity improvement as a % of controllable costs	2.3%	6.1%	2.6%	2.3%

TasWater's proposed productivity improvement target for the fourth regulatory period is between 1 and 1.1 per cent. This is at the lower end of the Victorian water businesses considered by Deloitte for the ESC in 2018 where productivity improvement targets ranged from 1 per cent to 3.1 per cent.⁵³

The median productivity improvement target from these 15 listed water businesses is 1.5 per cent, below the range of productivity improvements delivered by TasWater during the same period.

CCGUS has analysed TasWater's opex categories and has classed all categories other than royalties and regulatory costs to be controllable opex for its opex forecast (together these costs account for around \$5 million or 2.6 per cent of CCGUS' regulated base year opex).

In determining its forecast, CCGUS has adopted a productivity improvement target of 1.1 per cent and applied it to its identified controllable opex and compounding annually. This productivity improvement target is the midpoint of TasWater's proposed productivity improvement target for the fourth regulatory period and applies to TasWater's controllable opex.

⁵¹ TasWater's proposed PSP, page 157.

⁵² Ibid, Opex Justification Paper, page 103.

⁵³ CCGUS' Draft report, pages 262-263.

Capex-driven opex

CCGUS reviewed TasWater’s opex related to new capital projects and recommended changes to TasWater’s opex based on the prudence and efficiency criteria and also whether opex levels were material. The results are shown in Table 5.9.

Table 5.9: CCGUS’ recommended amendments to TasWater’s proposed capex-driven opex estimates (\$’000s, \$2021-22)

Description	2021-22	2022-23	2023-24	2024-25	2025-26	Total
TasWater’s proposed adjustments	1 384	4 952	7 594	9 898	11 294	35 121
Adjustments after capex assessment – IT business initiatives	-704	-1 523	-2 232	-2 366	-2 470	-9 295
Adjustments after applying materiality threshold	-21	-24	-205	-725	-860	-1 835
Adjustments after sample project review	-289	-289	-289	-547	-547	-1 961
Recommended (including “at risk” expenditures)	370	3 116	4 868	6 260	7 417	22 030
At risk expenditure	-207	-2 945	-4 698	-6 089	-6 358	-20 294
Recommended (excluding “at risk” expenditure)	163	171	170	171	1 059	1 736

5.7 Regulator’s analysis

Regulator considers TasWater’s approach for establishing a forecast 2020-21 base year opex values by adjusting its actual 2019-20 opex is reasonable and noted that TasWater’s forecast and actual total opex for 2020-21 were very similar.

TasWater made a number of changes to its 2019-20 actual opex to establish its 2020-21 forecast opex. As these changes form part of the regulated base year, these changes will flow through the fourth regulatory period if the 2020-21 forecast opex is used as the regulated base year. This introduces inaccuracies that can be eliminated by using actual opex rather than forecast opex.

CCGUS has produced its alternative regulated base year opex using TasWater’s actual total opex for 2020-21, removing one-off expenditures CCGUS or TasWater had identified and also removing costs for unregulated services. Some of the variations in the base year expenditure made by CCGUS were made by applying the prudence criterion.

The Regulator has converted CCGUS’ alternative regulated base year in CCGUS’ draft report⁵⁴ into nominal values that show that CCGUS’ alternative regulated opex in the base year is \$186.7 million, which is \$3.6 million less than TasWater’s proposed regulated base year opex of \$190.4 million.

⁵⁴ CCGUS’ Draft Report, page 261.

Table 5.10: Regulated opex for the base year - CCGUS estimates and TasWater forecasts (\$'000s nominal)

Opex category	CCGUS	TasWater (Forecast)
Salaries	82 754	84 355
Materials and services	37 053	37 615
Chemicals	8 729	9 157
Power	12 423	12 762
Royalties	2 632	2 734
Facility Management	8 600	8 558
Information systems	7 243	7 262
Administration other	3 853	4 745
Motor vehicle	2 903	3 259
Water sampling	2 514	2 520
Consultancy	6 864	6 446
Regulatory costs	2 305	2 213
Customer collection	2 556	2 764
Insurance	2 565	2 517
Governance	1 110	959
Community relations	172	657
Strategic investment	2 468	5 467
Productivity improvement		-3 562
Total	186 742	190 428

The Regulator has reviewed TasWater's actual opex for 2020-21 and CCGUS' one-off expenditure changes to TasWater's actual opex for 2020-21 and accepts CCGUS' recommended base year opex presented in Table 5.10 as the regulated base year opex for the fourth regulatory period.

The costs for the different categories in the base year are important as the opex in each of the four years are estimated based on these initial cost levels.

5.7.1 Cost allocations

The Regulator has reviewed TasWater's approach to allocating opex for unregulated services.

TasWater's approach to determining its unregulated opex was to apply its proportion of unregulated revenue to total revenue (3.6 per cent) to its total opex. Of the 18 opex cost categories, TasWater has applied the 3.6 per cent unregulated revenue proportion to 10 of those categories. For four of the other eight cost categories, TasWater considers 100 per cent of the expenditure to be regulated opex. For the remaining four opex categories (salaries, materials and services, power, and facility management which account for almost 70 per cent of all costs) TasWater's financial model shows separate unregulated proportions ranging from 1 per cent to 4.02 per cent.

TasWater's approach for determining unregulated opex is based on the assumption that its unregulated prices are set to recover costs or are continuing to move towards full cost recovery.⁵⁵

⁵⁵ TasWater's proposed PSP, page 164.

With full cost recovery, the revenue it receives for unregulated services should closely mirror the costs involved in providing the services.

The Regulator notes that TasWater has not provided any justification for why it has applied different unregulated proportions to different opex categories for the fourth regulatory period.

TasWater removed \$6.0 million unregulated opex from its forecast total base year opex for 2020-21 or three per cent of its forecast total base year opex, which is different from the 3.6 per cent stated in its proposed PSP. CCGUS also removed \$6.0 million unregulated opex from its alternative total base year opex for 2020-21.

The removal of unregulated opex from the NAR is intended to ensure that the prices faced by customers for regulated services do not include the recovery of TasWater's costs in providing unregulated services, so that customers receiving regulated services are not cross-subsidising TasWater's other customers.

The unregulated revenue proportion used cannot be verified in the absence of an activity-based costing approach.

The Regulator sought information from TasWater on the costs associated with providing services for Category 3 and 4 Trade Waste, irrigation and tankered waste together with the expected timeframes for when the prices for these services will be fully cost reflective. At the time of writing TasWater had not provided a response.

The Regulator intends to require TasWater to move to a more comprehensive activity-based costing approach during the fourth regulatory period. One benefit of this approach is that more accurate information is available on the costs of providing unregulated services for future price investigations.

Subject to an analysis of information submitted by TasWater in relation to the costs of providing the services for Category 3 and 4 trade waste, irrigation and tankered waste customers and for TasWater to implement an activity-based costing approach during the fourth regulatory period, the Regulator intends to accept TasWater's cost allocations as presented in its proposed PSP for the fourth regulatory period.

5.7.2 Forecast opex for the fourth regulatory period

TasWater's approach to determining its forecast opex for the fourth regulatory period was to establish a forecast base year for 2020-21, then make one-off expenditure and capex-driven changes to the base year, then apply an escalation rates, productivity improvements and demand growth.

An issue identified by both the Regulator and CCGUS is how TasWater incorporated the escalation rates and demand growth into its forecast approach.

Under TasWater's approach, the annual expenditure adjustments, made up of the one-off and capex-driven changes to opex, were indexed by both the escalation rates and demand growth. It is unclear from the information provided by TasWater whether these annual expenditure adjustments were estimated after factoring in escalation rate and demand growth. The Regulator is concerned that this approach may result in double counting.

The Regulator, therefore, considers CCGUS' approach of applying escalation rates and demand growth before incorporating annual adjustment expenditures to be appropriate.

5.7.2.1 Growth rate

TasWater has used a detailed approach to incorporating the demand growth into its forecast opex that includes historical water usage and historical variable costs. The Regulator considers this approach is unnecessarily complex with the inclusion of multiple years' water usage and also limits

the impact of growth to proportions of opex in each categories. These proportions varies across the categories.

With regard to demand growth, TasWater has explained how demand growth impacts on various opex categories in Table 7.16 of its proposed PSP. These explanations are the basis of the growth proportion used by TasWater in incorporating demand growth. In the absence of an activity-based accounting approach, the Regulator considers TasWater's analysis to be sound.

The Regulator concurs with TasWater's assessment that not all of its opex is impact by growth. For opex in categories such as salaries, royalties, facility management, information systems, consultancy, regulatory costs, insurance and governance, costs largely do not vary by water usage or customer growth.

In Table 7.16 of TasWater's proposed PSP, TasWater estimated that 44 per cent of its regulated opex would vary by water usage with the rest unaffected. In its explanation, TasWater stated that some opex categories would vary by customer growth.

As an alternative, CCGUS has adopting a growth rate based on changes on customer numbers and applying that growth rate (0.85 per cent annually) to all opex.⁵⁶

The Regulator agrees that, over a four year period, opex is likely to be closely associated with growth in customer numbers (for equivalent 20mm water connections) than growth in water supply. However, the Regulator considers it unlikely that all opex will adjust in line with changes in customer numbers as this implies scale economies are not available to TasWater.

The Regulator intends to apply a growth rate factor to TasWater's opex that covers of 50 per cent of TasWater's regulated opex for 2021-22 and for the fourth regulatory period.

The Regulator has reviewed TasWater's growth forecast for equivalent 20mm water connections and is concerned that TasWater is underestimating its growth rate for the fourth regulatory period. By comparison, between 2015-16 and 2020-21 the equivalent 20mm water connection growth rate averaged 1.62 per cent per annum, almost double the TasWater's forecast growth rate in connections of around 0.8 per cent per year over the fourth regulatory period.

TasWater's forecast water connection annual growth rate, which has been adopted by CCGUS as the growth rate in CCGUS' forecast, is based on the same method for forecasting the equivalent 20mm water connections.

In the absence of more information from TasWater, the Regulator intends accepting TasWater's forecast water connection numbers for 2021-22 and for the fourth regulatory period as discussed in Chapter 3.

The Regulator intends to apply TasWater's water connection annual growth rate for all connection size to 50 per cent of TasWater's regulated opex for the fourth regulatory period.

5.7.2.2 *Inflation and escalation rates*

The Regulator's PSP Guideline requires TasWater to provide its forecast opex in nominal dollars, and did not specify how and whether inflation was to be used in the forecasting process.

TasWater has incorporated inflation or industry-specific inflation figures into its forecast by proposing them as escalation rates in the majority of its opex categories. TasWater has therefore used a different method to that specified in the PSP Guideline and the Regulator therefore concurs

⁵⁶ CCGUS' Draft Report, pages 264-265.

with CCGUS that TasWater did not correctly apply inflation as specified in the Regulated Revenue section of the Guideline.

The Regulator has reviewed CCGUS' proposed inflation assumption as discussed in Section 5.6.1.2, and intends to adopt a different set of inflation assumptions.

The Regulator's inflation assumptions are made up of the actual inflation of June 2021 for 2020-21, the forecast inflation of June 2022 for 2021-22, the forecast inflation of June 2023 for 2022-23 and the forecast inflation of December 2023 for 2023-24 to 2025-26. These inflation rates are from the RBA's *Quarterly Statement on Monetary Policy*, with the forecast values based on the report published on 4 November 2021.⁵⁷

The Regulator's current inflation assumptions are presented in Table 5.11 and will be applied to all regulated opex in this Draft Report.

Table 5.11: Regulator's current inflation assumptions

	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26
Inflation	3.8%	2.75%	2.44%	2.44%	2.44%	2.44%

The Regulator considers that TasWater's proposed escalation rates for salaries and insurance, separate from CPI growth, to be appropriate.

The Regulator's final inflation assumptions may differ from those in the Draft Report.

5.7.2.3 Productivity improvements

TasWater has proposed annual productivity improvements in absolute dollar terms instead of as a percentage of its total controllable opex. Given that TasWater's proposed regulated opex for the fourth regulatory period increases year on year, a constant productivity improvement in absolute dollar values means, over the regulatory period, productivity improvements are declining marginally as a percentage of forecast regulated opex, from 1.1 per cent in 2022-23 to 1.0 per cent in 2025-26, as shown in Table 5.9. This is in contrast to the claimed productivity improvements reported by TasWater between 1 July 2016 and 30 June 2020, which ranged from 2.3 per cent to 6.1 per cent as shown in Table 5.10.

The proposed 1.0 per cent to 1.1 per cent productivity improvement for the fourth regulatory period is, however, consistent with the productivity improvement delivered in 2020-21, which, as calculated by the Regulator, was 1.0 per cent of TasWater's regulated controllable opex.

The Regulator has analysed TasWater's actual opex for 2020-21 and found that it has counted the reduction in electricity expenditure as a productivity improvement. This conflicts with TasWater's proposed PSP, which attributed the reduction to a one-off 2.32 cent/kWh decrease in the unit rate of electricity from 2019-20 to 2020-21. Removing this expenditure from productivity improvement would halve the value of the productivity improvement delivered in 2020-21 from \$3.7 million to \$1.8 million or 1.0 per cent of the regulated controllable opex, further reducing the savings from productivity improvement discussed above.

Given the past productivity improvements by the Victorian water utilities and claimed by TasWater, the Regulator considers TasWater's proposed productivity improvement target for the fourth

⁵⁷ <https://www.rba.gov.au/publications/smp/2021/nov/economic-outlook.html>

Geometric mean of June 2023 inflation forecast and December 2023 inflation forecast for periods two, three and four of the fourth regulatory period.

regulatory period should be higher and intends to set a higher productivity improvement target than the annual 1.1 per cent compounding productivity target recommended by CCGUS.

The Regulator intends to propose a productivity target of 1.5 per cent, which is the median productivity target amongst the benchmarks target for the Victorian water businesses considered by Deloitte for the ESC in 2018.

5.7.2.4 One-off costs and capex-driven changes to opex

The Regulator has reviewed TasWater's proposed one-off costs and capex-driven changes to opex for the fourth regulatory using TasWater's proposed PSP and financial model.

In addition to CCGUS' recommended opex, the Regulator has identified a number of capex-driven changes to opex as "at risk". These expenditures were assessed by CCGUS to be prudent. However, TasWater has been unable to demonstrate efficiency. In some cases, this was due to the lack of sufficient information from TasWater, as the capex projects are in an early stage. In other cases, this was due to inconsistency in expenditure in TasWater's proposed PSP and supporting documentation.

In light of the issues identified above, the Regulator's decision for the purpose of the draft determination is to exclude these "at risk" expenditures from the regulated opex for the fourth regulatory period. However, it is anticipated that this will be reviewed following the release of this Draft Report.