

7 OPERATING EXPENDITURE

Operating expenditure (opex) refers to TasWater's costs of operating and maintaining its water and sewerage systems, together with any associated administrative costs.

The Economic Regulator expects that TasWater's opex will be efficient and relevant to customer and regulatory requirements. Opex is a key building block component and the calculation of TasWater's statutory revenue limits for the third regulatory period will include an allowance for reasonable and efficient opex (see Chapter 11).

7.1 Economic Regulator's requirements

To allow the determination of appropriate opex values for the third regulatory period, the Economic Regulator required TasWater to report its actual and forecast opex during the second regulatory period, and its forecast opex for the third regulatory period, according to the framework set out in the Ring Fencing Guideline.

Relevant to opex, the Economic Regulator required TasWater's proposed Price and Service Plan for the third regulatory period to:

- report all opex in accordance with the framework outlined in the Ring Fencing Guideline;
- provide actual annual opex for past years and annual forecasts for opex for the third regulatory period;
- clearly identify and justify the basis for allocating opex between regulated water and sewerage services and between labour and non-labour components;
- detail the net savings derived from, or the net costs incurred in, providing re-use water to external parties;
- identify and justify the value of the proposed annual labour productivity factor;
- identify, quantify and justify any forecast significant changes in labour or non-labour opex (for example, due to additional facilities or functions) in the context of the drivers for those changes;
- outline the fixed and variable costs of delivering water to customers' properties;
- identify and justify the basis for excluding (unregulated assets) expenditure in determining the value of the assets excluded from the RAB;
- explain the trend in forecast opex having regard to:
 - historic opex;
 - changes in service obligations and targets;
 - scope for efficiency improvement;
 - changes in opex by cost category;
 - trends in input prices;

- forecast demand;
- proposed capital works; and
- highlight any other relevant factors including key assumptions underlying the opex forecasts, any risks to those forecasts and how these uncertainties have been addressed.

7.2 Approach to opex review

Following TasWater's submission of its proposed Price and Service Plan for the third regulatory period, the Economic Regulator analysed TasWater's actual and forecast opex to determine whether it was appropriate and efficient. The Economic Regulator engaged Arup to conduct an independent analysis and provide an opinion on the efficiency of TasWater's opex.

Arup reviewed TasWater's actual, forecast and proposed opex and decided to examine, by value, the top six opex items:

- Salaries;
- Materials and Services;
- Electricity;
- Chemicals;
- Facility Management; and
- Information Systems.

Together, these items make up almost 85 per cent of TasWater's annual opex.

Readers should note that the figures in Arup's Draft Report²⁵ relate to total opex (regulated opex plus unregulated opex) whereas the Economic Regulator's proposals relate only to regulated opex (regulated opex is 96 per cent of total opex).

7.3 Review of second regulatory period opex

Across the second regulatory period, TasWater is expected to have an opex overspend, relative to the Economic Regulator's calculation of TasWater's regulated opex, of between nine and 12 per cent. TasWater expected its second regulatory period opex to benefit from a number of productivity gains following the merger of the three regional water and sewerage corporations and completion of several additional projects aiming to improve TasWater's overall business efficiency. The primary reasons offered by TasWater for its second regulatory period opex overspend are unforeseen increases in staff numbers and chemical costs.

Table 7.1 and Figure 7.1 below compare TasWater's actual (2015-16) and forecast (2016-17 and 2017-18) opex for the second regulatory period with:

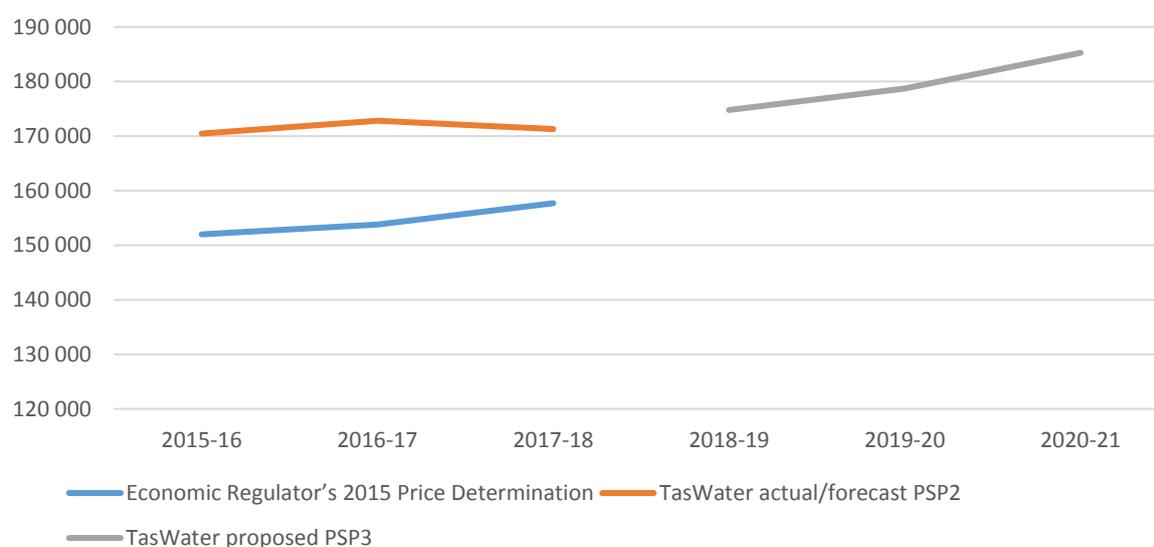
- the opex approved by the Economic Regulator for the second regulatory period; and
- TasWater's proposed opex for the third regulatory period.

²⁵ Arup's Draft Report is available on the Economic Regulator's website www.economicregulator.tas.gov.au.

Table 7.1 TasWater's regulated opex (\$'000s) (nominal)

Opex	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
	Second regulatory period			Third regulatory period		
Economic Regulator's 2015 Price Determination	151 992	153 820	157 700			
TasWater actual/forecast	170 462	172 816	171 268			
Overspend	18 470	18 996	13 568			
TasWater proposed				174 781	178 691	185 260

Figure 7.1 Comparison of TasWater's opex for the second and third regulatory period (\$'000s)



Arup's analysis concluded that the size of this overspend has fallen marginally in 2016-17 and will likely continue to fall in 2017-18. Arup suggests that the Economic Regulator treat these reductions in overspend as minimum levels of productivity improvement when calculating TasWater's opex for the third regulatory period.²⁶

Arup noted that the 2015 Water Services Association of Australia Benchmarking Report clearly indicates that TasWater's operating costs are significantly higher than those of its interstate counterparts. In this regard, Arup noted that:

²⁶ Based on the information contained in TasWater's Statutory Financial Statements, TasWater's regulated opex for 2016-17 was approximately \$171.5 million compared to a forecast of \$172.816 million. This indicates that TasWater was delivering productivity savings through to 30 June 2017 as suggested by Arup.

TasWater anticipates that its opex will increase as it tries to improve compliance levels, however this can have a magnified effect on opex if TasWater is seeking to improve compliance across the large number of assets it owns and operates. This poor performance in comparison to its counterparts as well as the necessity to improve compliance suggests that a consolidation of assets is essential to reduce TasWater's opex average costs and improve its benchmarks against its peers.²⁷

The need for TasWater to consolidate its assets is discussed further in Chapters 3 and 6 of this Draft Report.

Relevant to TasWater's opex overspend for the second regulatory period, Arup's Draft Report recognises that TasWater's approved opex was based on opex levels from the first regulatory period and factored in a number of productivity initiatives that were expected to arise from the merging of the regional water and sewerage corporations. Efficiencies were also expected to be realised from a range of other initiatives including processes and systems. In summary, numerous assumptions and judgement calls were made in deriving these past opex allowances and it could not be said that past opex allowances have been as robust as the Economic Regulator would have liked.

Arup concluded that TasWater's opex during the second regulatory period was prudent, noting TasWater's hiring of 17 temporary staff, rather than employing permanent staff, during implementation of the Maximo²⁸ system and contractor safety training during 2015-16 as an example. Arup views this as prudent opex because the temporary roles cease on completion of their particular tasks, leaving TasWater with a reduced salary burden as well as the benefits of increased productivity. Arup raised some concerns that TasWater's approach of hiring temporary staff to deliver key projects does not yet appear to be delivering the opex savings it should, but noted that many of the projects in question are ongoing or only recently completed. Evidence of continuing reductions in TasWater's temporary FTEs following the completion of productivity improvement projects would confirm the prudence of this approach.

Arup has not proposed any adjustments related to TasWater's second regulatory period opex and accepts the rebasing of opex for the third regulatory period based on TasWater's proposed Price and Service Plan.

Considering Arup's analysis and acknowledging the concerns about the robustness of past opex allowances as explained above, the Economic Regulator does not intend to adjust TasWater's proposed opex for the third regulatory period based on its opex during the second regulatory period.

The Economic Regulator intends to accept TasWater's rebasing of its opex for the third regulatory period. The Economic Regulator does however intend to propose reductions in TasWater's opex and to impose further opex efficiencies for the third regulatory period (see Sections 7.6 and 7.8 below).

The Economic Regulator does not intend to adjust TasWater's proposed opex for the third regulatory period based on its opex during the second regulatory period.

The Economic Regulator intends to accept TasWater's rebasing of its opex for the third regulatory period.

²⁷ Arup Pty Ltd, Review of the Tasmanian Water and Sewerage Corporation's Operating and Capital Expenditure, Draft Report, 27 October 2017, page 79.

²⁸ Maximo is a software package designed by IBM that businesses can use to track the operation, maintenance and disposal of assets.

7.4 Base year for third regulatory period opex forecasting

The establishment of TasWater's base year opex for the third regulatory period allows the Economic Regulator to assess the accuracy of TasWater's opex forecasting, and provides a reference point against which to measure any proposed changes to TasWater's future opex.

TasWater has used 2016-17 as the base year for its opex forecasting, as required by the PSP Guideline. At the time of submitting its proposed Price and Service Plan for the third regulatory period, TasWater did not have actual opex figures for the full 2016-17 year. TasWater has therefore established its base year opex values by taking actual opex from 2015-16 and applying it to 2016-17 opex spending patterns. This involved:

- removing any one-off or non-recurring opex from 2015-16, but including any one-off or new opex for 2016-17;
- removing any costs related to productivity improvements between 2015-16 and 2016-17;
- increasing those costs that tend to increase predictably in line with demand;
- adjusting opex to account for maintenance of any new assets added through the capex program; and
- applying appropriate escalation factors to each component of the 2015-16 opex.

At a high level, the Economic Regulator considers TasWater's approach to be sound.

Table 7.2 below summarises TasWater's calculation of its base year opex for the third regulatory period.

Table 7.2 TasWater's base year total opex²⁹ (\$'000s)

Opex category	2015-16 actuals	One-off Adjustments	Productivity savings	Change in demand	New capex	Escalation	2016-17 base year
Salaries	86 643	-	-991	158	-	1 716	87 526
Materials and services	31 371	-	-732	137	-	-576	30 200
Chemicals	7 890	700	-56	53	-	431	9 018
Power	11 908	-	-1 168	57	-	3 429	14 226
Royalties	2 527	-	-	-	-	32	2 559
Facility management	7 074	-	-	2	-	50	7 125
Information systems	4 426	89	-	1	-	-14	4 502
Administration other	5 063	-	-513	1	-	118	4 670
Motor vehicle	3 661	-	-	4	-	23	3 689
Water sampling	3 524	-754	-	1	-	19	2 790
Consultancy	5 465	-	-	2	-	38	5 505

²⁹ Total opex is comprised of regulated opex plus unregulated opex.

Opex category	2015-16 actuals	One-off Adjustments	Productivity savings	Change in demand	New capex	Escalation	2016-17 base year
Regulatory costs	2 573	-	-	-	-	45	2 618
Customer collection	2 750	-	-	17	-	19	2 787
Insurance	1 500	-	-	-	-	35	1 535
Governance	1 076	-41	-	1	-	7	1 044
Community relations	309	106	-	0	-	3	418
Total	177 762	100	-3 460	434	-	5 377	180 212

As Table 7.2 shows, TasWater's base year total opex is expected to be approximately \$180.2 million. The Economic Regulator has reviewed TasWater's 2016-17 Annual Report and notes that TasWater did incur this approximate level of opex. As TasWater's method of calculating its base year opex is similar to the method used by other Australian water and sewerage utility providers, and as TasWater's actual opex for 2016-17 was similar to its proposed base year opex, the Economic Regulator intends to accept TasWater's proposed base year opex.

The Economic Regulator intends to accept TasWater's proposed base year opex for the third regulatory period.

7.5 Forecast opex for the third regulatory period

Using 2016-17 as a base year, and applying similar adjustments for escalations, one-off costs, productivity improvements, changes in demand, capex changes and changes to service standards, TasWater forecasts that its regulated opex will increase from \$170.5 million in 2015-16 to \$185.3 million in 2020-21, the final year of the third regulatory period. TasWater notes that this equates to an average annual increase in opex of roughly 2.4 per cent, below the Reserve Bank of Australia (RBA) mid-range CPI target.

Table 7.3 below shows TasWater's actual and forecast total regulated opex for the second and third regulatory periods.

Table 7.3 TasWater's total regulated opex for the second and third regulatory periods (\$'000s)

Opex category	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
	Second regulatory period			Third regulatory period		
Salaries	83 068	83 914	82 651	82 552	84 273	86 279
Materials and services	30 059	28 937	26 990	28 865	30 258	32 108
Chemicals	7 574	8 657	9 146	9 726	10 274	10 853
Power	11 431	13 657	14 315	13 629	12 502	13 407
Royalties	2 426	2 456	2 506	2 562	2 620	2 685
Facility management	6 769	6 819	6 417	6 537	6 670	6 847
Information systems	4 249	4 322	4 395	4 468	4 540	4 611
Administration other	4 861	4 483	4 269	4 390	4 515	4 652
Motor vehicle	3 515	3 541	3 746	3 959	3 989	4 019

Opex category	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
	Second regulatory period			Third regulatory period		
Water sampling	3 383	2 678	2 421	2 466	2 517	2 583
Consultancy	5 247	5 285	5 355	5 454	5 565	5 713
Regulatory costs	2 470	2 514	3 170	2 628	2 687	3 397
Customer collection	2 640	2 675	2 528	2 606	2 674	2 760
Insurance	1 440	1 474	1 508	1 541	1 574	1,606
Governance	1 033	1 002	1 055	1 116	1 098	1,127
Community relations	296	401	797	775	768	782
Change in capex	-	-	-	1 507	2 170	1 831
Total	170 462	172 816	171 268	174 781	178 691	185 260

In general, Arup noted that TasWater's opex forecasts for the third regulatory period show positive signs of improving productivity and service delivery, although these improvements are very gradual.

7.6 Review of opex for the third regulatory period

In its review of TasWater's forecast opex for the third regulatory period, Arup concentrated on TasWater's major opex categories in terms of their respective contributions to TasWater's total opex. In addition to this analysis, the Economic Regulator has considered the likely impact of TasWater's capex program on its opex and has reviewed TasWater's allocation of costs.

In this section of the Draft Report, and in Arup's Draft Report, the Economic Regulator notes that there are minor variations between the figures in Table 54 of TasWater's proposed Price and Service Plan (reproduced in Table 7.3) and the result of multiplying TasWater's total opex by 96 per cent (which is TasWater's estimate of the regulated component of its opex, see Section 7.7 below

7.6.1 Salaries

TasWater is forecasting that its salary costs, its largest single expenditure item, will remain relatively constant in real terms throughout the third regulatory period. The primary driver for salary cost increases, according to TasWater's calculation method, is escalation of 2.25 per cent per annum based on the Wage Price Index and TasWater's Enterprise Bargaining Agreement (EBA). In TasWater's view, although changes in staff numbers obviously affect salary costs, they do not constitute the primary driver.

TasWater's forecast salary costs over the third regulatory period factor in a one-off adjustment saving of \$1.0 million in 2017-18 due to the cessation of several temporary staffing roles. The forecasts also account for actual and forecast productivity improvement savings of roughly \$5.5 million between 2016-17 and 2019-20 due to plant optimisation and better use of technology to improve business processes.

Arup suggests that TasWater could further reduce its forecast salary costs for the third regulatory period by adopting an escalation factor of 2 per cent per annum, rather than 2.25 per cent. This would mirror the annual fixed wage increase in TasWater's current EBA. Arup noted that, although this EBA is due to expire at the end of the second regulatory period, analysis done by Deloitte Access Economics forecasts that utilities' labour prices will continue to increase by roughly 2 per cent per annum during the third regulatory period.

Arup therefore recommends that TasWater adjust its forecast salary costs for the third regulatory period, as shown in Table 7.4. The Economic Regulator intends to accept Arup's recommendation.

Table 7.4 TasWater's and Arup's forecast salary costs for the third regulatory period (\$'000s)

Salaries	2018-19	2019-20	2020-21	Total
TasWater	82 662	84 385	86 394	253 441
Arup	81 088	82 714	84 667	248 468
Proposed adjustment	- 1 574	- 1 671	- 1 728	- 4 973

In relation to salaries and salary on-costs, Arup recommended that:

...the Regulator require the development of and delivery of a Labour Force Plan. This plan updated on a 3 yearly cycle, should have a 5-year horizon which spells out the management plan for the number and skill sets of the FTE's within TasWater. It should itemise the role and utilisation of insourced and outsourced FTE resources and plans for skill development and productivity improvements.

The Economic Regulator considers that such a plan would assist the Economic Regulator assess the appropriateness and efficiency of TasWater's actual and forecast salary opex. It would also help TasWater to better plan and manage the number of FTEs and the skillsets of its workforce, and identify opportunities for productivity improvements.

The Economic Regulator therefore intends to accept this recommendation and to require, from the fourth regulatory period onwards, that TasWater justify its salary opex in terms of its Labour Force Plan.

The Economic Regulator intends to require that TasWater adjust its forecast salary costs for the third regulatory period, as shown in Table 7.4.

The Economic Regulator intends to require that TasWater develop and deliver a five-year Labour Force Plan, to be reviewed and updated on a rolling three-yearly cycle.

The Economic Regulator intends to require that, in future Price and Service Plans, TasWater justify its salary opex in terms of its Labour Force Plan.

7.6.2 Materials and services

TasWater is forecasting that its overall materials and services costs will slowly increase over the third regulatory period. This forecast accounts for actual and forecast productivity improvement savings of \$0.7 million in 2016-17 and \$2.6 million in 2017-18. However, the primary driver of these costs is an escalation factor based on the Australian producer prices index (PPI) for engineering and construction. The Australian Bureau of Statistics has forecast that this index will roughly triple over the duration of the second and third regulatory periods, which will offset much of the productivity gains.

Arup noted that TasWater's actual and forecast materials and services costs indicate changes in the way the opex is spent, as TasWater improves its proactive maintenance practices based on more and better data. This suggests both ongoing improvements in service delivery and the potential for further efficiency gains. Arup therefore recommends that TasWater adopt a lower escalation rate than that prescribed by the PPI, unless TasWater can demonstrate a strong need and rationale for using the higher value. Arup suggests that TasWater use an escalation value that would result in a step change of 1.7 per cent between the second and third regulatory periods, rather than the 4.6 per cent currently forecast, and adjust its forecast materials and services costs, as shown in Table 7.5.

Table 7.5 TasWater's and Arup's forecast materials and services costs for the third regulatory period (\$'000s)

Materials & Services	2018-19	2019-20	2020-21	Total
TasWater	28 918	30 314	32 167	91 399
Arup	28 117	29 676	31 300	89 093
Proposed reduction	- 801	- 638	- 866	- 2 306

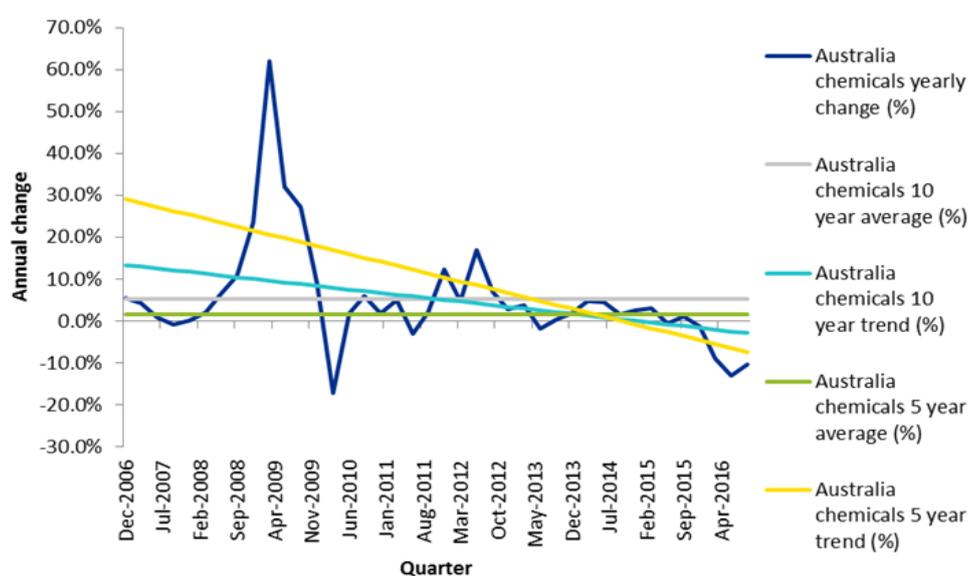
The Economic Regulator intends to accept Arup's recommendation, and to require that TasWater adjust its forecast materials and services costs for the third regulatory period, as outlined in Table 7.5.

The Economic Regulator intends to require that TasWater adjust its forecast materials and services costs for the third regulatory period, as shown in Table 7.5.

7.6.3 Chemicals

TasWater has steadily increased its expenditure on chemicals during the second regulatory period and is forecasting that this increase will continue through the third regulatory period. In particular, TasWater notes its increased expenditure on activated carbon, which it uses to address taste and odour issues in water caused by algal blooms in reservoirs producing geosmin and methylisoborneol. Arup noted that TasWater is obliged to treat water and sewerage to an appropriate standard through chemical treatment.

TasWater's opex forecasts for the third regulatory period, the primary driver for chemicals costs is an escalation factor based on the PPI for chemical manufacturing. Arup noted that TasWater has based the escalation figure used in its forecasts (5.02 per cent) on an historical ten-year average of chemicals prices in Australia, which includes a significant price spike in 2009, as shown in Figure 7.2.

Figure 7.2 Historical chemical price changes in Australia³⁰

³⁰ Arup, 2017, Review of the Tasmanian Water and Sewerage Corporation's Operating and Capital Expenditure, Draft Report, page 67.

Arup suggests that the chemical price spike in 2009 was likely due to the impacts of the global financial crisis (GFC), and noted that since that time, and especially since 2015, chemical prices have been trending down. Although Figure 7.2 shows evidence of a small price increase in 2016, there is no evidence that suggests a return to annual 5 per cent price increases in the near future. Arup's opinion is that it would be prudent for TasWater to lock in long-term chemical supply contracts while prices are relatively low to ensure price certainty. Arup therefore recommends that TasWater adopt an escalation factor based on the historical five-year average of Australian chemicals prices, rather than the ten-year average, which would reduce the escalation factor to roughly 1.5 per cent per annum. This would require TasWater to adjust its forecast chemical costs for the third regulatory period, as shown in Table 7.6.

The Economic Regulator intends to accept Arup's recommendation and require TasWater to adjust its chemical costs forecasts, as shown in Table 7.6.

Table 7.6 TasWater's and Arup's forecast chemicals costs for the third regulatory period (\$'000s)

Chemicals	2018-19	2019-20	2020-21	Total
TasWater	9 726	10 274	10 853	30 852
Arup	9 259	9 785	10 333	29 377
Proposed reduction	- 467	- 489	- 520	- 1 475

The Economic Regulator intends to require that TasWater adjust its forecast chemicals costs for the third regulatory period, as shown in Table 7.6.

7.6.4 Electricity

Electricity costs make up roughly 7.3 per cent of TasWater's proposed opex for the third regulatory period, the third largest component of overall opex. The majority of TasWater's electricity use relates to pumping and water treatment, therefore increases in customer demand will likely lead to increases in electricity costs.

Arup noted that despite a forecast increase in customer demand, TasWater has forecast that electricity costs will decrease during the third regulatory period, from almost \$14.5 million in 2017-18 to around \$13.5 million in 2020-21. TasWater is forecasting this decrease in electricity costs based on the continuing and expected benefits of its efficiency and productivity initiatives, particularly those that will monitor and optimise the timing of pumping and water treatment operations.

Although TasWater has forecast considerable year-to-year volatility in electricity costs during the third regulatory period, Arup considers that the proposed overall reduction in TasWater's electricity costs is a positive result and represents an efficient outcome.

Based on Arup's analysis, the Economic Regulator intends to accept TasWater's forecast electricity costs for the third regulatory period, as shown in Table 7.7.

Table 7.7 TasWater's and Arup's forecast electricity costs for the third regulatory period (\$'000s)

Electricity	2018-19	2019-20	2020-21	Total
TasWater	13 628	12 502	13 407	39 538
Arup	13 628	12 502	13 407	39 538
Proposed adjustment	-	-	-	-

The Economic Regulator intends to accept TasWater's forecast electricity costs for the third regulatory period, as shown in Table 7.7.

7.6.5 Facility management

Considering the age and number of facilities managed by TasWater, its spending on facility management is between 12 and 15 per cent lower than expected based on benchmarking against other Australian water and sewerage utilities. TasWater has stated that this does not necessarily indicate efficiency in its facility management practices, but is more to do with ongoing shortfalls in the funding required to conduct facility management opex (and capex).

Arup noted that TasWater forecasts a one-off productivity improvement saving of \$0.5 million in 2017-18 due to a move from having multiple site cleaning contracts to a single state-wide contract. TasWater is currently working to secure single state-wide contracts for facilities and grounds maintenance services as well. Despite the productivity improvement savings, TasWater forecasts its facility management costs to remain relatively constant during the third regulatory period, as shown in Table 7.8, due to a combination of factors including increased base spend, demand and general cost escalation.

Table 7.8 TasWater's and Arup's forecast facility management costs for the third regulatory period (\$'000s)

Facility Management	2018-19	2019-20	2020-21	Total
TasWater	6 557	6 690	6 869	20 116
Arup	6 557	6 690	6 869	20 116
Proposed adjustment	-	-	-	-

Based on Arup's analysis and recommendations, the Economic Regulator intends to accept TasWater's facility management costs forecasts for the third regulatory period.

The Economic Regulator intends to accept TasWater's forecast facility management costs for the third regulatory period, as shown in Table 7.8.

7.6.6 Information systems

Arup found that TasWater has significantly underinvested in its information systems since its formation in 2014, continuing a trend begun by the three regional water and sewerage corporations. Although TasWater more than doubled its opex relating to information systems during the second regulatory period, its level of investment is still very low compared to other Australian water and sewerage utility providers.³¹

For the third regulatory period, TasWater is forecasting that its information systems costs will increase at an annual rate of less than the CPI, resulting in a small reduction in real opex. Arup noted that while increased expenditure on information systems should typically lead to productivity gains, there are also costs to consider in terms of staff training and maintenance. As such, TasWater's past and forecast information systems costs are not necessarily inefficient or imprudent.

³¹ Water Services Association of Australia, *2014/15 Opex Benchmarking Study, Industry Report*, December 2015 (version 0.17).

Arup highlighted TasWater’s ongoing investment in supervisory control and data acquisition (SCADA) systems and cloud services with the aim of improving operational efficiency. This will likely lead to increases in the ratio of opex to capex information systems costs for TasWater in the future. In Arup’s opinion, there appears to be considerable scope for TasWater to increase its expenditure on information systems with the goal of increasing productivity and reducing opex (and capex) in other areas.

TasWater is forecasting a constant annual increase in its information systems costs of \$88 528 (2 per cent per annum) during the third regulatory period, to account for the increasing use of these systems and its historical underinvestment in IT. Arup has noted that “... while the base opex increase through the constant one-off adjustment is accepted for the PSP3 period, its continued existence cannot necessarily be accepted without robust justification.”³²

Noting Arup’s recommendation and the immaterial nature (in the context of TasWater’s opex) of TasWater’s annual increase in IT costs, the Economic Regulator but does intend to seek further justification from TasWater for its forecast annual increase in its information systems base cost.

The Economic Regulator therefore intends to accept TasWater’s information systems costs forecasts for the third regulatory period, as shown in Table 7.9.

Table 7.9 TasWater’s and Arup’s forecast information management costs for the third regulatory period (\$’000s)

Information systems	2018-19	2019-20	2020-21	Total
TasWater	4 468	4 540	4 611	13 619
Arup	4 468	4 540	4 611	13 619
Proposed adjustment	-	-	-	-

The Economic Regulator intends to accept TasWater’s forecast information management costs for the third regulatory period, as shown in Table 7.9.

7.6.7 Motor vehicle costs

As noted in Section 6.3.1.2, Arup recommended reductions in TasWater’s vehicle fleet capex. Flowing on from this recommendation, Arup has recommended reductions in TasWater’s motor vehicle costs, as outlined in Table 7.10.

Table 7.10 TasWater’s and Arup’s forecast motor vehicle costs for the third regulatory period (\$’000s)

Motor vehicle	2018-19	2019-20	2020-21	Total
TasWater	3 959	3 989	4 019	11 966
Arup	3 389	3 414	3 440	10 243
Proposed reduction	- 570	- 574	- 579	- 1 723

As discussed in Section 6.3.1.2, the Economic Regulator intends to accept Arup’s recommended reductions to TasWater’s vehicle fleet capex. The Economic Regulator therefore intends to accept Arup’s recommended reductions to TasWater’s motor vehicle costs, and to require that TasWater adjust its forecast motor vehicle costs, as shown in Table 7.10.

³² Arup, 2017, page 76.

The Economic Regulator intends to require that TasWater adjust its forecast motor vehicles costs for the third regulatory period, as shown in Table 7.10.

7.6.8 Impact of capex on opex

In its proposed Price and Service Plan for the third regulatory period, TasWater explains that new capex investment often results in opex changes. New assets commonly incur new operating and maintenance costs, particularly when those assets are necessary to improve compliance levels. Since TasWater has realigned its capex program during the second regulatory period to focus on compliance improvements, expenditure on new assets over the remaining years of the second regulatory period, and through the third regulatory period, will generally add to overall opex.

TasWater has reviewed the capex projects it expects to complete during the third regulatory period and determined how much its opex is likely to increase due to this expenditure. Although some capex projects will result in opex decreases due to productivity gains, TasWater estimates that its opex will increase by roughly \$2.7 million by 2020-21 due to new assets from its capex program. Table 7.11 below contains a selection of capex projects that TasWater forecasts will lead to increases in its opex during the third regulatory period.

Table 7.11 Impact of selected TasWater capex projects on opex during the third regulatory period (\$'000s)

Project name	2018-19	2019-20	2020-21
Kingborough Sewerage Strategy	-	-	500
Rosebery Water Treatment Plant	326	326	326
King Island Water Treatment Plant	-	278	278
Mathinna water supply system	175	175	175
Flinders Island water supply project	144	144	144
Bronte Park water supply system	123	123	123
Gladstone water supply system	120	120	120
Rossarden water supply system	100	100	100
Wayatinah water supply system	100	100	100
Cornwall water supply system	-	100	100
Colebrook water supply system	82	82	82
Gormanston water supply system	-	65	65
Judbury water supply upgrade	52	52	52
Gretna water supply system	40	40	40
Epping water supply system	-	28	28
Rocky Creek Water Treatment Plant	-	24	24
Conara water supply system	24	24	24
Herrick water supply system	-	13	13
TOTAL ^{Note}	1 507	2 170	2 720

Note: The total includes the impact on opex of several smaller capex projects not listed in Table 7.11.

Section 7.8 discusses the Economic Regulator's proposed treatment of TasWater's forecast opex increases due to capex.

7.7 Cost allocation

Not all of TasWater's opex goes towards maintaining regulated assets or providing regulated services, as a proportion of TasWater's business activities are unregulated. The Economic Regulator consequently requires TasWater to deduct its unregulated opex from its total opex to provide a regulated opex, which the Economic Regulator uses in calculating TasWater's Statutory Revenue Limit.

As noted in Section 1.9, the Economic Regulator requires TasWater to prepare and submit annual regulatory financial statements. Relevant to cost allocation, the Economic Regulator's Ring Fencing Guideline contains the following requirements:

Expenditure, assets, liabilities and revenue recorded in a regulated entity's statutory financial statements must be allocated (using the Allocation Principles set out in clause 4.3 of the Guidelines) into headings that correspond to:

- (a) operating expenditure activity areas set out in Appendix B.3
- (b) capital expenditure cost drivers and asset categories set out in Appendices C.4 and C.5
- (c) revenue sources set out in Appendix D.3.

The items referred to in clause 4.2.2 of the Guidelines must then be allocated using the relevant worksheet in Appendix A and by using the Allocation Principles set out in clause 4.3 between:

- (a) regulated water services
- (b) regulated sewerage services
- (c) unregulated services
- (d) other (ie not allocated to any of the services listed in clauses 4.2.3(a) to (c) inclusive of this Guideline, to provide disaggregated statements of income and financial position for each regulated and unregulated business segment.

The allocation of statutory account amounts to regulated business segments, cost drivers, asset categories, activity areas and revenue sources must be based on the principle that:

- (a) amounts which are directly attributable to a business segment, cost driver, asset category, activity area or revenue source are assigned to that business segment, cost driver, asset category, activity area or revenue source
- (b) amounts which are not directly attributable to a business segment, cost driver, asset category, activity area or revenue source must be allocated on a causation basis, except where a causal relationship cannot be reasonably established, for example, where the cost of deriving the causal allocation outweighs the benefits of allocating items on that basis, items may be allocated on a non-causal basis provided that:
 - (i) the regulated entity must provide a detailed justification that there is likely to be a strong positive correlation between the non-causal basis and the actual cause of resource or service consumption or utilisation that those expenditure represent
 - (ii) the aggregate of all amounts allocated on a non-causal basis is not material to the regulatory financial statements.

An account item must be either:

- (a) directly attributed; or
- (b) allocated using a single basis of allocation.³³

The audit of TasWater's Regulatory Financial Statements for 2015-16 identified concerns about TasWater's cost allocation approach. Specifically, the Tasmanian Audit Office (TAO) noted that:

From our review of the basis of, and justification for, the allocation of indirect costs we recommended that TasWater review its approach to the allocation of indirect costs and adopt a basis that meets the definition of 'causal'. This would require a move away from the use of revenue as an allocation base and the adoption of approaches that better reflect the most significant trigger of consumption or utilisation of the resources or services represented by the expenditure.³⁴

In response to this finding the Economic Regulator required TasWater to allocate indirect costs other than on the basis of revenue and address this issue in its 2016-17 Regulatory Financial Statements and, as relevant, in its proposed Price and Service Plan for the third regulatory period.

For the second regulatory period, after allocating its direct unregulated opex against individual assets wherever possible, and calculating its remaining unregulated opex based on the percentage of its total revenue that came from unregulated services, TasWater also allocated its regulated opex between water and sewerage services. Again, wherever possible TasWater directly budgeted regulated opex to individual assets. Where this was not possible, TasWater allocated its regulated opex based on its ratio of water revenue to sewerage revenue, 53 per cent to 47 per cent.

TasWater has indicated its preference to continue directly budgeting its opex to regulated and unregulated services, and to water and sewerage services, wherever possible in its proposed Price and Service Plan for the third regulatory period. The Economic Regulator agrees that this is an appropriate approach to cost allocation.

TasWater's Regulatory Financial Statements for 2015-16 showed \$77.4 million of regulated opex, split roughly 49.5 per cent to 50.5 per cent between water and sewerage services. The accounts showed a further \$0.189 million of unregulated opex assigned to sewerage services. This left \$100.2 million, or 56 per cent of TasWater's total opex for 2015-16, requiring allocation to either regulated or unregulated services, and water and sewerage services.

In its proposed Price and Service Plan for the third regulatory period, TasWater provided details of the revenue it received during 2015-16 that related to the provision of unregulated services. Table 7.12 reproduces those details.

TasWater noted that the unregulated revenue total of \$12.5 million comprises roughly 4 per cent of its total revenue for 2015-16 (\$313 million). TasWater has therefore assumed that it spent 4 per cent, or \$7.3 million, of its total opex during 2015-16 on unregulated services.

³³ Tasmanian Audit Office, Examination of the Tasmanian Water and Sewerage Corporation Pty Ltd's 2015-16 Regulatory Financial Statements, 17 March 2017, page 19.

³⁴ Ibid, page 25.

Table 7.12 TasWater's unregulated revenue for 2015-16 (\$'000s)

Revenue item	Revenue collected
Trade Waste Categories 3 and 4 – Volumetric	5 780
Trade Waste Categories 3 and 4 – Fixed	1 215
Biosolids Sales	1 713
Irrigation – Volumetric	1 081
Irrigation – Fixed	96
Consulting Income	1 427
Tankered Waste	693
Rent	445
Government Training Funding	70
Total	12 521

TasWater justifies this approach to cost allocation on the basis that, in general, the prices it charges for unregulated services are cost reflective, and therefore the revenue it receives for these services should closely mirror the costs involved in providing the services. The Economic Regulator notes that 4 per cent is similar to the percentage of opex excluded from TasWater's cost build up for the second regulatory period.

However, the Economic Regulator subsequently identified that TasWater received \$1.478 million from the Launceston City Council in 2016-17 in relation to services TasWater provided in operating the unregulated stormwater component of the Launceston Combined System. Including this revenue results in unregulated revenue of \$13.99 million and an unregulated revenue to total revenue percentage of 4.5 per cent (compared to TasWater's 4 per cent). Noting that changing this percentage would not have a material impact on TasWater's opex, the Economic Regulator intends to accept TasWater's apportionment of total opex between regulated and unregulated components.

Using a similar cost allocation method to the one it used for the second regulatory period, TasWater has directly attributed its regulated opex costs to individual assets wherever possible. This is not possible for all opex, as some of it goes towards supporting the operation of the entire business. TasWater considered allocating this remaining opex based on its revenue split between water and sewerage services, but noting the TAO's recommendations from its review of TasWater's 2015-16 Regulatory Financial Statements, concedes that its regulated revenues are not as cost reflective as its unregulated revenues so this method is not always appropriate. TasWater therefore investigated several alternative cost allocation methods in its proposed Price and Service Plan for the third regulatory period. For example, in instances where a large portion of a particular opex category was directly attributable, TasWater has allocated the balance of that opex category based on the same water to sewerage costs ratio as the attributable opex.

Applying its revised cost allocation method to its 2015-16 opex, TasWater arrived at a water: sewerage ratio for its regulated opex of 51.2 per cent: 48.8 per cent. TasWater notes that it expects its cost allocation accuracy to improve in the future as it collects more cost data through its asset management information system (AMIS).

TasWater's rationale for this methodology and the reasoning behind the cost allocation ratios it has adopted for each opex category appear sound and, subject to the outcomes of future audits of TasWater's regulatory financial statements, appear to address the concerns raised by the TAO about the basis for the allocation of TasWater's indirect costs. In particular, TasWater has allocated its indirect costs on a basis other than revenue with the exception of customer collection costs, which TasWater

has continued to allocate based on revenue. The Economic Regulator considers this to be appropriate given that the costs of recovering revenue vary in accordance with the amount of revenue collected.

Having reviewed TasWater's cost allocation methodology, the Economic Regulator intends to accept TasWater's cost allocations as presented in its proposed Price and Service Plan for the third regulatory period.

The Economic Regulator looks forward to TasWater being able to provide better quality data to support its cost allocations in future Price and Service Plans as a result of the implementation of its AMIS.

The Economic Regulator intends to accept TasWater's proposed cost allocations for the third regulatory period.

7.8 Productivity improvements/efficiencies

In addition to Arup's recommendations for specific reductions in a number of TasWater's opex categories, the Economic Regulator notes that Arup found:

- TasWater has identified significant productivity savings in a number of opex categories during both the second and third regulatory periods.
- TasWater's identified productivity savings are forecast to occur within the next two financial years with minimal savings forecast thereafter.

On the latter point the Economic Regulator notes that Table 44 of TasWater's proposed Price and Service Plan shows that TasWater expects to have implemented \$12 million of permanent annual opex reductions by 2020-21.

Table 7.13 Summary of TasWater's forecast productivity savings (\$'000s)

	2016-17	2017-18	2018-19	2019-20	2020-21
Incremental productivity savings	3 460	5 004	2 171	483	889
Cumulative annual savings	3 460	8 464	10 635	11 118	12 007

Arup observed that:

..... [it] would expect that consecutive regulatory years of opex overspend are reflected in improved compliance and benchmarked performance by the end of PSP2, and going forward, the spending levels must be rigidly maintained within the final regulated allowance in PSP3. Should this not occur during PSP3, the TER would likely be justified in imposing significant sanctions for non-compliance by TasWater.

The Economic Regulator shares Arup's concerns about TasWater's productivity savings falling away over the third regulatory period.

The Economic Regulator remains mindful of the fact that, under a building block approach, it is unable to clawback opex that is subsequently found to be inefficient (in contrast, imprudent or inefficient capex is removed from the asset base and TasWater does not receive a return on that expenditure).

The Economic Regulator therefore intends to require that TasWater achieve additional productivity savings for the third regulatory period by reducing its opex by the additional opex identified as flowing from the proposed capital program. This means that TasWater will be required to fund those additional costs through business efficiencies. As shown in Table 7.11, this would result in TasWater's annual opex reducing by between \$1.5 and \$2.7 million over the third regulatory period.

The Economic Regulator intends to investigate, during the third regulatory period, an opex efficiency incentive mechanism for implementation at the commencement of the fourth regulatory period on 1 July 2021.

The Economic Regulator intends to require TasWater to achieve productivity savings above those it has proposed for the third regulatory period by reducing TasWater's opex by its forecast of the impact of capex on opex.

7.9 Re-use water

As noted in Section 7.1, TasWater was required to provide details about the net savings derived from, or the net costs incurred in, providing re-use water to external parties. This information was omitted from TasWater's proposed Price and Service Plan and, in response to a request from the Economic Regulator, TasWater advised that:

Reuse and/or recycled water schemes vary between unregulated services and least cost waste water disposal solutions. We consider reuse on a case by case basis when developing possible solutions for addressing non-compliant systems or treatment plants. The EPA requires that an assessment be undertaken for all waste water treatment plant improvement plans of opportunities to divert water from treated effluent for beneficial purposes including irrigation of agricultural, forestry or public land. The sensitivity of receiving environments is an important consideration; however the underlying premise is one of identifying the least cost solution for customers.³⁵

TasWater advised that it cost \$0.634 million and \$0.837 million in 2014-15 and 2015-16 respectively to provide re-use water to external parties.

Table 7.14 TasWater's costs of providing re-use water to external parties (\$000s)

Revenue and expenditure	2014-15	2015-16
Revenue received	85	109
Depreciation	-502	-653
Operations and maintenance	-226	-293
Net savings derived/(costs incurred) in providing reuse water	-643	-837

7.10 Economic Regulator's draft proposals

The Economic Regulator intends to propose the adjustments set out in Table 7.11 to TasWater's opex for the third regulatory period.

Table 7.15 TasWater's opex for the third regulatory period (\$'000s)

	2018-19	2019-20	2020-21	Total
TasWater's proposed opex	174 781	178 691	185 260	538 732
Arup's adjustments	-3 412	-3 373	-3 692	- 10 477
Economic Regulator's efficiency adjustment	- 1 507	- 2 170	- 2 720	- 6 397
Economic Regulator's opex	169 862	173 149	178 848	521 858
Total opex reductions	- 4 919	- 5 543	- 6 412	- 16 874

³⁵ TasWater, *Response to OTTER questions received on 9 August 2017*, page 19.