

## 6 CAPITAL EXPENDITURE

Capex refers to the amount invested by TasWater in new regulated assets. Capex on unregulated assets is not taken into account for the purposes of calculating TasWater's maximum allowed regulated revenue.

Capex is a key building block component as it is an input into the calculation of both regulatory depreciation for New assets (see Chapter 8) and the RAB roll forward (see Chapter 10).

The Economic Regulator expects TasWater to develop and maintain a prudent and efficient capex program that allows it to cater for its customer base while improving its regulatory compliance and service delivery.

Although TasWater's proposed PSP refers to a 'capex allowance', the Economic Regulator does not impose a limit on TasWater's capex. Rather, based on its assessment of TasWater's proposed capex, the Economic Regulator arrives at an expected figure that it uses to calculate TasWater's MARR for each financial year of the regulatory period. Recognising commitments made to the industry regulators (see Chapter 3), it is therefore up to TasWater to decide how much it should spend and which projects it should invest in. If TasWater spends more than the amount that the Economic Regulator expects, so long as the expenditure is found to be prudent and efficient, the amount expended is included in TasWater's RAB in future price determination investigations and TasWater can then receive a return on that expenditure.

To help determine whether TasWater's proposed capex program for the third regulatory period is prudent and efficient, the Economic Regulator considered the reasons and evidence that TasWater provided in support of its capex priorities, and whether TasWater's proposed timeframes for delivery of its capex program are reasonable considering its past capex delivery. This required the Economic Regulator to examine aspects of TasWater's capex program for the second regulatory period, focussing on:

- whether there was a need for TasWater to spend the amounts it did (was its capex prudent?);
- whether TasWater followed the most cost effective approach to achieving its desired outcomes (was its capex efficient?); and
- whether TasWater was able to deliver its capex program consistent with expected timeframes.

To allow it to make an informed judgement on the efficiency and prudence of TasWater's proposed capex program for the third regulatory period, the Economic Regulator required TasWater's proposed PSP for the third regulatory period to provide information including:

- annual forecasts of capex for the third regulatory period;
- a breakdown of historical and forecast capex by cost driver;
- explanation and justification of the trend in forecast capex;
- the key assumptions underlying capex forecasts, including any risks; and
- identification of major capex projects proposed for the third regulatory period, providing for each:
  - the project name and scope (including specific outcomes to be delivered, number of customers impacted, and the risk/s being addressed);

- cost category and cost driver;
- estimated start and completion dates; and
- total capital cost and expenditure by year.

The Economic Regulator analysed TasWater's actual and forecast capex in its proposed PSP for the third regulatory period to determine whether it was prudent and efficient. The Economic Regulator also engaged Arup to conduct an independent analysis and provide an opinion on TasWater's actual and forecast capex for the second regulatory period and its proposed capex for the third regulatory period. Arup's Draft Report and Final Report are available on the Economic Regulator's website: [www.economicregulator.tas.gov.au](http://www.economicregulator.tas.gov.au) under Water>Pricing>Price Determination Investigations>2018 Water and Sewerage Price Determination Investigation.

## 6.1 TasWater's asset management practices

Arup noted in its Draft Report to the Economic Regulator that:

TasWater has made significant progress in the development of its Asset Management Systems in PSP2. The introduction of the AMIP [Asset Management Improvement Plan] in PSP2 provides the organisation with the next steps in its asset management journey.<sup>17</sup>

Sections 6.3.2.1 to 6.3.2.4 inclusive of TasWater's proposed PSP outline its asset management practices. Section 2.5 of Arup's Draft Report to the Economic Regulator provides a summary of this information.

Appendix 6 presents, in diagrammatic form, the various elements of TasWater's asset management system.

## 6.2 Review of capex for the second regulatory period

TasWater developed its capex program for the second regulatory period using a prioritisation process aligned with its project management framework. This was essentially a continuation of the capex planning practices used by the three regional water and sewerage corporations prior to the formation of TasWater.

Based on TasWater's proposed capex program, the Economic Regulator expected TasWater to spend capex of \$330 million during the second regulatory period. TasWater's actual and forecast<sup>18</sup> capex for this period indicates that it will spend \$386.4 million, approximately \$56.4 million, or 17 per cent, above expectations. TasWater's proposed PSP for the third regulatory period explains this additional spending as being due to an increasing need for renewal of assets to meet customer service standards and compliance requirements. Table 6.1 below shows TasWater's expected capex versus its actual and forecast capex for each of the three years of the second regulatory period.

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<sup>17</sup> Arup Draft Report, 2017, page 13.

<sup>18</sup> Forecast capex for 2017-18.

Table 6.1 TasWater's expected and actual/forecast capex for the second regulatory period (\$'000s)

	2015-16	2016-17	2017-18	Total for the second regulatory period
TER expectation	100 000	110 000	120 000	330 000
Actual/forecast	130 877	121 805	133 697	386 379
Change	30 877	11 805	13 697	56 379
Change (%)	31%	11%	11%	17%

TasWater also provided figures to the Economic Regulator demonstrating how the major cost drivers of its capex program changed during the second regulatory period and how its expected and actual capex programs related to its various service delivery areas, as shown in Table 6.2 and Table 6.3.

Table 6.2 TasWater's expected and actual/forecast capex for the second regulatory period by cost driver (\$'000s)

Cost driver	Expected capex	Actual/forecast capex	Change
Compliance	188 260	166 733	-21 527
Improvement	62 858	32 510	-30 348
Renewal	55 231	71 938	16 707
Growth	23 651	115 198	91 547
<b>Total</b>	<b>330 000</b>	<b>386 379</b>	<b>56 379</b>

Table 6.3 TasWater's expected and actual/forecast capex for the second regulatory period by category (\$'000s)

Category	Expected capex	Actual/forecast capex	Change
Water	122 073	168 562	46 489
Sewerage	167 718	116 913	-51 805
Dual function	40 208	100 904	60 696
<b>Total</b>	<b>330 000</b>	<b>386 379</b>	<b>56 379</b>

In its review of TasWater's capex for the second regulatory period, Arup noted that TasWater will spend a significant proportion (\$100.9 million, or 26 per cent) of its capex on 'dual function' assets, which is 2.5 times more than TasWater originally proposed to spend on these assets. This asset category includes various assets with relatively short lives, including vehicles, supervisory control and data acquisition (SCADA) software, and TasWater's asset management information system (AMIS).

In contrast, TasWater will spend \$116.9 million on sewerage assets during the second regulatory period, which is 31 per cent less than proposed. This is due to TasWater deferring \$50.8 million of sewerage capex in favour of drinking water projects and business systems improvements (including SCADA and AMIS).

In relation to TasWater's investment in SCADA and AMIS during the second regulatory period, while the Economic Regulator recognises that these assets will help to improve TasWater's internal processes and asset management practices, due to their relatively short lifespans they make a considerable impact on regulatory depreciation calculations. The Economic Regulator notes that sewerage assets generally have a much longer life than information technology systems, meaning that the outcome of TasWater's capex prioritisation decisions during the second regulatory period is a greater net increase in TasWater's regulatory depreciation allowance than would have been the case under TasWater's original capex allocation. Chapter 8 provides an analysis of TasWater's regulatory depreciation.

Appendix 7 provides a full list of TasWater's capex projects for the second regulatory period.

## 6.2.1 Arup's approach

To analyse TasWater's capex, Arup reviewed five major projects from TasWater's second regulatory period capex program to assess their prudence and efficiency.

The second regulatory period capex projects that Arup reviewed were:

- Cambridge Sewer Emergency Storage;
- Direct to asset opex to capex programs;
- Kingborough Sewerage System Strategy;
- Small Towns Water Supply Strategy; and
- Tolosa Dam Water Supply Upgrade.

Arup's Draft Report to the Economic Regulator contains descriptions of each of these projects in Sections 3.2.2 to 3.2.6 inclusive.

The following sections discuss the findings from Arup's Draft Report in relation to these projects.

### 6.2.1.1 Cambridge Sewer Emergency Storage

Arup concluded that this project is prudent, and that there is a genuine need for the work that TasWater is proposing. However, Arup noted the lack of any regional wastewater strategy that includes the Cambridge area, and highlighted the possibility that, if such a strategy existed, TasWater's proposed course of action on this project might appear less feasible and efficient. The Economic Regulator acknowledges this issue, while also noting Arup's aside that a regional wastewater strategy would not necessarily come to any different conclusion about how to proceed with the project.

Arup also noted that the timing of this project has changed since its inception, and that TasWater has deferred the proposed completion date for the project by three years.

### 6.2.1.2 Direct to asset opex to capex programs

Following its analysis of this project, Arup was satisfied that although the expenditure on these programs was relatively large, they have successfully achieved their intended outcomes. Arup noted that TasWater discontinued these programs after 2015-16, and stated that the issues they addressed are unlikely to occur again.

### 6.2.1.3 Kingborough Sewerage System Strategy

Arup's view is that the intention and rationale behind this project is sound, but noted ongoing delays in delivery of the project. TasWater inherited this project from the regional water and sewerage corporations, who first identified it as a priority in 2009. Arup noted that the preferred course of action for the project has remained essentially the same during both the first and second regulatory periods, apart from the addition of some minor works and regular increases in time and cost estimates.

Arup highlighted that certain aspects of this project have been met with significant community opposition, but that TasWater's proposed course of action appears both efficient and consistent with regulatory compliance expectations.

#### **6.2.1.4 Small Towns Water Supply Strategy**

This project is unquestionably important. Arup noted that TasWater needs to provide drinking water that meets relevant quality standards and guidelines in order to satisfy its minimum service obligations. Due to its urgency, TasWater has fast-tracked this project through its standard project planning processes. However, Arup noted that this urgency arises in part from TasWater's lack of investment and strategic planning in its water supply services prior to the second regulatory period.

Arup commented that there are significant variations in TasWater's cost estimates for this project, which could affect TasWater's expected capex for the third regulatory period. Given the obvious importance of the project though, Arup accepted the prudence and efficiency of TasWater's course of action, taking account of the project's overall urgency.

#### **6.2.1.5 Tolosa Dam Water Supply Upgrade**

Arup cited this project as a good example of TasWater identifying and implementing lower cost solutions than those proposed in its original project planning for the second regulatory period. TasWater's current expected total capex on this project is \$13.7 million, well below its original cost estimate of \$23.9 million.

Arup commented that it had difficulty determining how much of the work for this project TasWater has completed, due to contradictions between the documentation provided to them by TasWater and the information available on TasWater's public website. Arup suggested that TasWater take more care to keep its website up to date on major project progress to improve its public transparency. The Economic Regulator supports this suggestion.

#### **6.2.1.6 Arup's findings - second regulatory period**

Arup's Draft Report noted a number of capex governance improvements made by TasWater during the second regulatory period that led to prudent and efficient outcomes, including the development of its LTSP.

In general, Arup found that TasWater's capex during the second regulatory period appeared to be prudent, but that it was hard to judge the efficiency of the projects without a better understanding of how each project fits into TasWater's long-term strategic planning and any relevant regional water and sewerage strategies. In addition to this issue, Arup noted that a significant proportion of TasWater's capex projects during the second regulatory period experienced delays and cost overruns. This again draws attention to TasWater's project management practices. As outlined in Chapter 3, Tasmanian water and sewerage technical regulators are also concerned about TasWater's ability to deliver on its project commitments. In this regard, Arup noted that:

While [its] interview process identified a number of significant areas in which capex governance improvements during the early part of PSP2 have led to prudent and more efficient outcomes, improvements are needed by TasWater in timely project delivery, on budget and on time, and project status against targets needs to be clearly documented by TasWater to justify the ex-post review of actual capex outcomes for PSP3.<sup>19</sup>

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<sup>19</sup> Arup Draft Report, 2017, page 16.

As discussed in Chapter 3, the Economic Regulator therefore intends requiring TasWater to provide an annual report to all industry regulators detailing its progress and the expected completion dates for all current projects as a way of incentivising TasWater to improve its project delivery performance. For convenience, the Economic Regulator has decided to add this report to the annual *Tasmanian Water and Sewerage State of the Industry Report* and amend the *Tasmanian Water and Sewerage Industry Performance and Information Reporting Guideline* to include this reporting requirement.

**The Economic Regulator accepts that TasWater’s capex during the second regulatory period was prudent and efficient.**

### 6.3 Review of proposed capex for the third regulatory period

TasWater has based its proposed capex program for the third regulatory period on the outcomes from its customer and stakeholder consultation process (discussed in Chapter 2 of this Final Report) and the priorities identified in its LTSP. The Economic Regulator views this as a considerable improvement on the method and rationale that TasWater used to develop its capex program for the second regulatory period, noting that TasWater is making a greater effort to align its capex program with overall business priorities and customer expectations.

Figure 6.1 below summarises TasWater’s proposed capex program for the third regulatory period, and compares it with the second regulatory period.

**Figure 6.1** Comparison of TasWater’s capex for the second and third regulatory periods (\$ million)

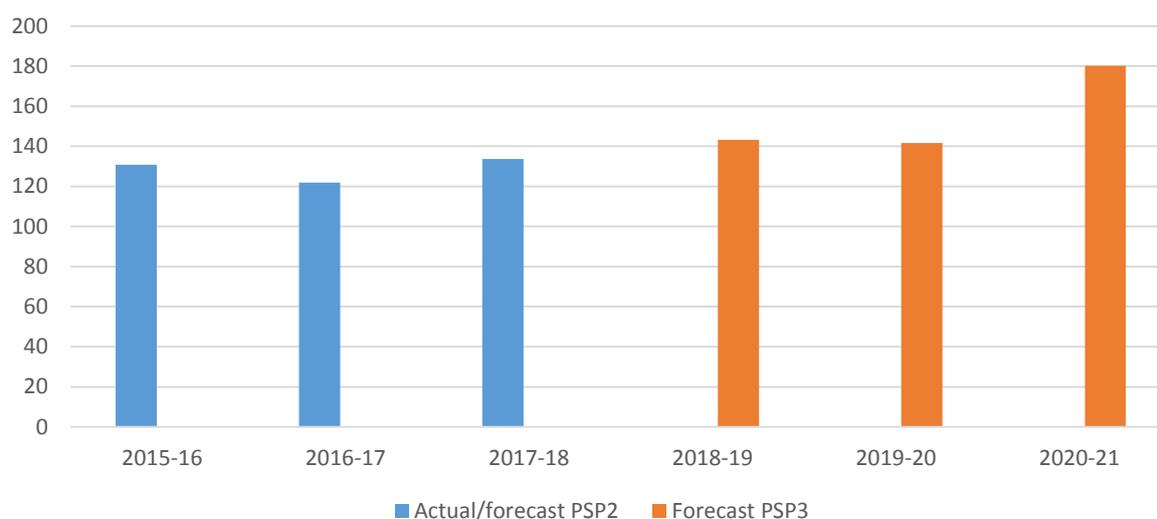


Table 6.4 provides a summary of TasWater’s proposed capex for the third regulatory period by primary cost driver.

**Table 6.4** TasWater’s forecast capex for the third regulatory period by cost driver (\$’000s)

Year	2018-19	2019-20	2020-21	Total
Growth	1 078	-	-	1 078
Renewal	23 328	21 739	22 869	67 936
Compliance	96 881	103 367	142 051	342 299
Improvement	22 074	17 630	16 156	55 861
<b>Capex total</b>	<b>143 362</b>	<b>142 736</b>	<b>181 076</b>	<b>467 175</b>

Appendix 8 provides a full list of TasWater's capex projects for the third regulatory period.

In its Draft Report to the Economic Regulator, Arup highlighted a significant change in TasWater's capex program focus between the second and third regulatory periods. This has led to a much greater focus on projects aimed at improving TasWater's regulatory compliance, particularly in relation to wastewater, and a reduction in focus on asset growth and renewal projects (compare Table 6.4 and Table 6.2). As part of this change, TasWater has reprioritised several of the projects identified through its LTSP Optimisation Model. Arup noted that some historically low priority projects that have recently become high priority projects do not currently have sufficient concept designs, options analysis and business case development to allow them to progress prudently and efficiently. In Arup's view, this reinforces the urgency for TasWater to further improve its project planning and management practices.

### **6.3.1 Arup's approach - third regulatory period**

Similar to its approach to analysing TasWater's capex for the second regulatory period, Arup reviewed nine major projects from TasWater's proposed third regulatory period capex program to assess their prudence and efficiency. The third regulatory period capex projects that Arup reviewed were:

- Bryn Estyn Water Treatment Plant Upgrade;
- Facility, Fleet and Plant Renewals;
- Forth Water Treatment Plant Upgrade;
- Non-network IT Upgrades;
- Pardoe Sewer;
- Pet Dam Upgrade;
- System Control and Data Acquisition Renewals Program;
- Sewage Treatment Plant Renewals Program; and
- Water Network Renewals Program.

Sections 3.3.2 to 3.3.10 inclusive of Arup's Draft Report to the Economic Regulator describe each of these projects.

The following sections discuss Arup's findings in relation to these projects.

#### **6.3.1.1 Bryn Estyn Water Treatment Plant Upgrade**

Arup noted that this project is at a relatively early stage of development, and that TasWater's progress on this project will depend on its long-term plans for water supply to the Greater Hobart area. Depending on TasWater's long-term strategic decisions, the current courses of action under consideration for the Bryn Estyn project could change considerably. The Economic Regulator notes that this is a very large project. TasWater estimates that it will cost over \$108 million, and it is not due for completion until the first year of the fourth regulatory period (2021-22). The size and timing of the project provide significant scope for TasWater to change its proposed course of action during the project's lifetime, lending strength to Arup's observation.

While acknowledging the level of uncertainty surrounding the timing and likely outcomes of this project, Arup concluded that it would be reasonable for the Economic Regulator to accept TasWater's current capex profile for the project, as outlined in its proposed PSP for the third regulatory period.

### 6.3.1.2 Facility, Fleet and Plant Renewals

The only one of TasWater's proposed capex projects for the third regulatory period that Arup raised significant concerns about was the Facility, Fleet and Plant Renewals project. In its Draft Report to the Economic Regulator, Arup noted that, according to information provided by TasWater, its fleet contained one vehicle for every 1.2 Full Time Equivalent (FTE) staff. The 2015 WSAA Benchmarking Study found that the average ratio of vehicles to staff in Australian water and sewerage utilities was 1:3.<sup>20</sup>

Arup therefore recommended that TasWater reduce its vehicle to staff ratio to at least 1:2 during the third regulatory period. Arup estimated that reducing the actual size of TasWater's fleet by 40 per cent (from 760 vehicles to 456 vehicles) would result in a reduction in capex of \$4.87 million during the period.

Table 6.5 shows Arup's recommended adjustments to TasWater's Facility, Fleet and Plant Renewals capex.<sup>21</sup>

Table 6.5 Summary of facility, fleet and plant renewals capex for the third regulatory period (\$'000s) - Draft Report

Facility, Fleet and Plant Renewals	2018-19	2019-20	2020-21	Total
TasWater	4 686	4 369	4 480	13 535
Arup	2 999	2 796	2 867	8 662
<b>Proposed adjustment</b>	<b>-1 687</b>	<b>-1 573</b>	<b>-1 613</b>	<b>-4 873</b>

#### 6.3.1.2.1 Economic Regulator's Draft Report proposals

In its Draft Report, the Economic Regulator accepted Arup's recommendation in relation to Facility, Fleet and Plant capex as shown in Table 6.5.

#### 6.3.1.2.2 Issues raised during consultation on the Economic Regulator's Draft Report

In its response to the Economic Regulator's Draft Report, TasWater pointed out that the data it had initially provided to Arup was incorrect, as the number of vehicles listed included other fleet assets (trailers, backhoes, forklifts etc) as well as motor vehicles. TasWater provided an updated breakdown of the number of vehicles in its fleet, showing that its ratio of vehicles to staff is already 1:2. Consequently, TasWater did not consider it necessary to reduce its vehicle numbers any further.

In its Final Report, Arup noted that it originally recommended a target vehicle to staff ratio of 1:2 as an interim step towards a 1:3 ratio, which would be consistent with the industry benchmark for water and sewerage utilities. As TasWater has already achieved this 1:2 ratio, Arup's view is that TasWater should continue moving towards the industry benchmark.

TasWater currently has 912 FTE staff; achieving the industry benchmark vehicle to staff ratio of 1:3 would therefore require TasWater to reduce its number of vehicles to 304. Arup points out that marginal savings generally become more difficult to achieve as an organisation approaches an efficient frontier, and consequently proposes that reducing the number of vehicles to 381, the midpoint between the current number of vehicles and the benchmark, would be an achievable target for TasWater to aim for during the third regulatory period. This would represent an overall 17 per cent reduction in the number of TasWater's vehicles, and a \$1.38 million reduction in its capex during the third regulatory period.

<sup>20</sup> Water Services Association of Australia, 2014/15 Opex Benchmarking Study, Industry Report, December 2015 (version 0.17).

<sup>21</sup> Arup Draft Report, 2017, page 43.

Table 6.6 shows Arup's revised adjustments to TasWater's Facility, Fleet and Plant Renewals capex.<sup>22</sup>

Table 6.6 Summary of facility, fleet and plant renewals capex for the third regulatory period (\$'000s) - Final

Facility, Fleet and Plant Renewals	2018-19	2019-20	2020-21	Total
TasWater (proposed PSP)	4 686	4 369	4 480	13 535
Arup/Economic Regulator (Draft Report)	2 999	2 796	2 867	8 662
TasWater (Draft Report submission)	4 686	4 369	4 480	13 535
Arup (Final Report)	4 686	3 679	3 790	12 155
<b>Change from Draft Report</b>	<b>1 687</b>	<b>883</b>	<b>923</b>	<b>3 493</b>

### 6.3.1.2.3 Economic Regulator's decision

The Economic Regulator accepts Arup's recommendation and agrees with its revised adjustments to TasWater's Facility, Fleet and Plant capex.

*The Economic Regulator requires TasWater to adjust its proposed Facility, Fleet and Plant Renewals capex for the third regulatory period, as set out in Table 6.6.*

### 6.3.1.3 Forth Water Treatment Plant Upgrade

Arup noted that this is a high priority project, and that although it is still in the planning stage TasWater has allocated significant resources to the project.

As with the Bryn Estyn project discussed in Section 6.3.1.1 of this Final Report, Arup is of the view that TasWater's progress on this project will depend on its long-term plans for water supply to the Greater Devonport and/or Greater Launceston areas. It is possible that once TasWater has decided on its strategic approach to water supply across the larger regions it will reassess the Forth project, which could lead to deferment of works or to changes in costs and timing. This in turn could potentially affect the prudence and efficiency assessment for this project.

### 6.3.1.4 Non-network IT Upgrades

This project has the goal of both supporting TasWater's existing business operations and improving efficiency and productivity.

Arup noted that this project does not receive a high priority rating under TasWater's LTSP-based prioritisation model, as the LTSP model focuses primarily on improving drinking water quality and overall compliance. Arup also noted that will be difficult to assess the prudence and efficiency of this project until the fourth regulatory period, when its outcomes can be compared against the objectives of an IT strategy that TasWater implemented in December 2017.

### 6.3.1.5 Pardoe Sewer

Arup noted that about 60 per cent of the effluent treated by the Pardoe plant comes from non-residential sources, including large trade waste customers, and that despite being in its early stages TasWater has given this project a high priority.

<sup>22</sup> Arup Final Report, 2018, page 5.

The project documentation that TasWater provided for this project is lacking in options analysis, with only one potential course of action properly assessed and costed. Arup commented that it is clear TasWater will need to conduct further options and costing analysis during the later stages of this project to refine the process and ensure that the capex is prudent and efficient.

#### **6.3.1.6 Pet Dam Upgrade**

The Pet Dam is a key component of the Burnie water supply system. Arup concluded that this project is essential to ensure that the dam meets legislated safety requirements, and that since TasWater has identified the dam as a high-risk asset this capex appears to be prudent.

Arup noted that the capex also appears efficient, as TasWater has decided to follow the lowest cost course of action to address the dam's safety issues.

#### **6.3.1.7 System Control and Data Acquisition Renewals Program**

Arup noted that TasWater has a long-term vision of creating a 'smart' water and sewerage network that is manageable using real-time data. TasWater's SCADA capex is an important component of realising this vision.

TasWater has prepared a thorough business case for this project that includes options and risk analyses as well as implementation strategies. Arup noted, however, that TasWater's current cost estimates for the project are unclear, as the figures in the business case do not match some of the figures that TasWater provided to Arup on request. Additionally, Arup noted that the business case includes cost breakdowns for the project but contains no information about the potential timing for TasWater's proposed capex delivery.

#### **6.3.1.8 Sewage Treatment Plant Renewals Program**

This project focuses on delivering ongoing environmental compliance improvements for TasWater and mitigating risks of customer service failure. Arup pointed to a problem in prioritising capex investment in this project, given that:

TasWater notes that its ability to identify projects based on LoS [Level of Service], asset criticality, asset condition or performance is limited by data accuracy and availability.<sup>23</sup>

The Economic Regulator therefore expects that TasWater's ability to identify capex priorities for this project will improve during the third regulatory period in line with the quantity and quality of data collected by its new AMIS and SCADA software.

#### **6.3.1.9 Water Network Renewals Program**

TasWater has developed a budget for the ongoing project of repairing and replacing its water mains that allocates:

- 70 per cent of the budget to proactive water main renewal (ie repairing or replacing old or damaged water mains before they fail);
- 25 per cent to reactive water main renewal (ie repairing or replacing water mains in response to failures); and

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<sup>23</sup> Arup Draft Report, 2017, page 57.

- 5 per cent to water main condition assessment (ie determining the risk of failure for particular water mains).

Arup raised concerns about how TasWater has calculated this budget, and questioned how closely TasWater can realistically adhere to the budget split given the minimal control it has over reactive maintenance capex.<sup>24</sup>

### 6.3.2 Arup's findings - third regulatory period

Arup found that TasWater's proposed capex for the third regulatory period largely appears prudent and mostly aligns with the priorities set out in TasWater's LTSP. However, Arup again commented on the difficulty of assessing the efficiency of certain projects without having any information about how they relate, or will relate, to TasWater's longer-term regional water and sewerage strategies. As discussed in Chapter 3, in response to the concerns of Arup and the Tasmanian water and sewerage technical regulators, the Economic Regulator will require TasWater to justify its proposed capex for the fourth regulatory period in the context of such long-term strategies that will allow it to achieve full regulatory compliance and operational efficiencies.

Arup also noted that much of TasWater's capex during the third regulatory period will be devoted to completing projects begun during the second regulatory period.<sup>25</sup>

To avoid repetition of this situation in future regulatory periods, Arup recommended that TasWater accelerate its capex project delivery through an intensive focus on its internal processes and project governance, and by engaging external contractors where appropriate to help reduce capex delivery times.

The Economic Regulator notes that TasWater has assigned 73 per cent of its proposed capex during the third regulatory period to compliance improvement projects, and therefore agrees it is critical that TasWater can deliver its capex program in a timely manner, with reference to long-term strategic planning and any related regional water and sewerage strategies.

## 6.4 Other matters

### 6.4.1 Capex constraints

In response to questions from the Economic Regulator, TasWater explained that, for the third regulatory period, it has placed a constraint on its capex based on the price increases that customers are willing to accept (according to its customer engagement activities) and its decision on its interest cover ratio (ICR).<sup>26</sup>

In relation to its ICR, TasWater commissioned Bancorp Corporate Finance Limited to conduct:

...a benchmarking study of the Australian water utilities industry to assist in determining an appropriate level of borrowing to support growth as set out in the Company's long term financial management plan.<sup>27</sup>

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24 Arup Draft Report, 2017, page 60.

25 Ibid, page 16.

26 An entity's ICR (Revenue less expenses divided by net interest expense) measures whether the entity can meet the interest expenses on its borrowings. All other things being equal, a relatively higher ICR means that the entity can meet its commitments.

27 Bancorp Corporate Finance Limited, TasWater Benchmarking Study, August 2015, page 2.

Bancorp found that relative to comparable water and sewerage utilities (that is, those with greater than \$1 billion equity), while TasWater has a relatively low debt to equity ratio, its revenue does not exceed its expenses by a large margin, resulting in a comparable ICR to other providers.

In particular, the Economic Regulator notes that, for the last four financial years, TasWater's expenses have consistently comprised about 80 per cent of its revenue. For comparison, Sydney Water's expenses comprised about 60 per cent of its revenue in 2013-14 (TasWater: 79 per cent for 2013-14).

A comparison of revenue, expenses, borrowings, interest expense and ICR for TasWater and a selection of mainland water and sewerage service providers is shown in Table 6.7.

Table 6.7 Comparison of utilities' revenue, expenses, borrowings, interest expense and ICR for 2013-14

Entity	Revenue \$m	Other Expenses \$m	Expenses to revenue %	Revenue less expenses \$m	Interest Expense \$m	Borrowings \$m	ICR
TasWater	274	215	79	59	20	247	2.9
Barwon	198	148	75	50	39	534	1.3
Sydney	2 615	1 561	60	1 054	414	6 233	2.5
SA Water	1 382	872	63	510	225	3 677	2.3
Yarra Valley	989	803	81	186	120	1702	1.5

TasWater has selected the median ICR (2.0) of the 29 utilities that Bancorp benchmarked in its study. However, the Economic Regulator notes that the median ICR for those utilities with more than \$1 billion in equity was 2.2. Understanding that TasWater's Board has decided that TasWater's ICR should be maintained above 2.0, the Economic Regulator notes that TasWater's ICR has ranged from 2.88 to 3.43 between 2013-14 and 2015-16 and, for 2016-17, was 2.79.<sup>28</sup> The Economic Regulator further notes that the outputs from TasWater's LTSP Optimisation Model have been based on a target ICR assumption of 2.0.

The Economic Regulator recognises that its role does not extend to recommending changes to TasWater's ICR. However, as noted in Chapter 3, the Economic Regulator considers that the development of a longer term plan that will deliver operational efficiencies through plant rationalisation (as well as improve regulatory compliance outcomes) is one way of putting downward pressure on TasWater's expenses. This action, all other things being equal, would result in the gap between TasWater's revenue and expenses increasing.

In its recent performance audit of TasWater, the Tasmanian Audit Office (TAO) found that:

- There has been an improved capacity to service debt and meet debt repayment requirements since 2009 as evidenced by:
  - a strong interest cover ratio exceeding the target set in corporate plans and the long-term ten year financial plan
  - low debt to total assets and debt to equity ratios demonstrating capacity to increase borrowings and fund infrastructure investment
- An appropriate level of debt funding has not been utilised since 2009 as more capital expenditure could have been funded by debt to improve compliance with environmental standards for wastewater as outlined in Section 1.2

<sup>28</sup> TasWater's 2016-17 Annual Report.

- There has been a better capacity to manage debt since 2013.<sup>29</sup>

The TAO recommended that ‘TasWater investigates the acceleration of infrastructure investment by utilising additional debt funding.’<sup>30</sup>

In its Draft Report to the Economic Regulator, Arup noted that:

During the interview process TasWater indicated that it sought to operate within a capital constraint limited by its approved budget. The budget limits appear to be set through Board consideration of a balance of issues including, the large investment required to catch up with prior under investment (particularly related to meeting technical compliance requirements), the potential for adverse impacts on service price increases on customers, and the “*commercially prudent level of debt*” supported on its balance sheet for operation of the business.<sup>31</sup>

and

While the prioritisation process is important in determining the range of projects that will be completed, the capital constraint adopted by the TasWater Board for the total capital expenditure level during the regulatory period, has more influence over the delivery of customer outcomes. Arup notes the Economic Regulator does not set a limit on the capital expenditure level during the regulatory period.<sup>32</sup>

The Economic Regulator acknowledges that the lending criteria set by TasCorp, as TasWater’s lender, ultimately determines how much TasWater is able to borrow. However, the internal constraint that TasWater’s Board places on TasWater’s borrowings via the ICR has an impact on TasWater’s capex and, ultimately, pricing. Capex that improves regulatory compliance has the potential to increase TasWater’s opex and decrease its ICR. If TasWater maintains its current levels of capex, this will place increased pressure on pricing.

The Economic Regulator’s view is that to minimise future price increases, maintain capex levels and achieve its target ICR, TasWater will need to achieve opex savings through operational efficiencies and plant rationalisation. This means that TasWater should be prioritising capex that achieves both regulatory compliance improvements and operational efficiencies, and will require long-term strategies that identify such capex opportunities.

## 6.4.2 Gifted assets

TasWater’s expected regulated capex in its proposed PSP for the third regulatory period is net of gifted assets.<sup>33</sup> TasWater confirmed that it does not expect to receive any gifted assets during the third regulatory period. The Economic Regulator queried the absence of gifted assets as, between 2013-14 and 2016-17, TasWater received gifted assets to the value of between \$9.1 and \$26.3 million a year. In response, TasWater explained that the value of gifted assets is highly variable from year to year and is therefore difficult to predict, and that TasWater’s promotion of infill development will put downward pressure on the number of gifted assets over time.

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29 Tasmanian Audit Office, *Water and sewerage in Tasmania: assessing the outcomes of industry reform*, 14 November 2017, page 87.

30 Ibid, page 87.

31 Arup Draft Report, 2017, page 4.

32 Ibid, page 12.

33 Gifted assets relate to assets constructed by developers that are then ‘gifted’ to TasWater once the development has been completed. TasWater is not permitted to receive a return on these assets as customers/developers have already paid for the asset.

### 6.4.2.1 Economic Regulator's Draft Report proposals

In its Draft Report, the Economic Regulator acknowledged that, while promoting infill development over new subdivisions will reduce the value of gifted assets, this will not remove gifted assets altogether as there will continue to be gifted assets relating to subdivisions.

Based on information provided by TasWater, the Economic Regulator considered that it would be appropriate to base the value of gifted assets for the third regulatory period on the value of those assets for 2016-17, approximately \$10 million per annum. The Economic Regulator therefore flagged its intention to require that TasWater reduce its proposed capex for the third regulatory period by \$10 million per annum to account for gifted assets.

### 6.4.2.2 Issues raised during consultation on the Economic Regulator's Draft Report

In its response to the Economic Regulator's Draft Report, TasWater agreed with the estimate of \$10 million worth of gifted assets per annum during the third regulatory period. However, TasWater pointed out that, as it had not included capital projects for gifted assets in the forecast capex for its proposed PSP, it was not appropriate for the Economic Regulator to deduct this amount from its proposed capex as that would effectively be removing something that was not there to begin with.

### 6.4.2.3 Economic Regulator's decisions

The Economic Regulator accepts TasWater's arguments regarding gifted asset values for the third regulatory period, and rescinds its Draft Report proposal to reduce its proposed capex for the third regulatory period by \$10 million per annum to account for gifted assets.

*The Economic Regulator reinstates gifted assets of \$10 million per annum to TasWater's expected capex for the third regulatory period.*

### 6.4.3 Recognition of capex in the RAB

Under the existing regulatory accounting arrangements, TasWater is able to add any new capex assets into its RAB as soon as construction of those assets begins. This means that TasWater could be receiving a return on those assets and claiming a regulatory depreciation allowance on an asset for some time before it becomes operational. This arrangement provides little incentive for TasWater to complete capex projects, which is particularly relevant since Arup has observed '...improvements are needed by TasWater in timely project delivery, on budget and on time...'<sup>34</sup>

To incentivise TasWater to complete its capex projects more quickly, in its Draft Report the Economic Regulator sought stakeholder feedback on the concept of new capex not being added to TasWater's RAB until the asset has been commissioned. This would be consistent with current practice in some other jurisdictions and the current treatment of capex for statutory accounting purposes.

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<sup>34</sup> Arup Draft Report, 2017, page 16.

### **6.4.3.1 Issues raised during consultation on the Economic Regulator's Draft Report**

In their respective submissions on the Economic Regulator's Draft Report, TasCOSS and TasWater supported the concept of new capex not being added to TasWater's RAB until the asset has been commissioned. The EPA's submission also expressed support for the intent of this concept, namely to incentivise TasWater's project completion. However, the EPA noted that delays in the delivery of TasWater's projects tend to occur during the project planning and approval stages rather than the construction and implementation stages. The EPA therefore felt that it was unclear whether the Economic Regulator's proposal would achieve its desired aim.

While TasWater provided in-principle support for the concept, it contended that the Economic Regulator had not properly consulted stakeholders on the concept. TasWater also considered both the PSP Guideline and the Accounting Ring Fencing Guideline would have to be amended to implement this concept and that any proposal should be discussed in the context of the draft PSP Guideline for the fourth regulatory period.

The Economic Regulator considers that TasWater's project delivery performance needs to be addressed sooner rather than later and should not be postponed until the fourth regulatory period.

As noted in the Draft Report, implementation of the proposed arrangements would require an interest during construction (IDC) allowance for projects under construction. The Economic Regulator considers the appropriate allowance for an IDC would be the debt cost component of the WACC. However, based on the WACC calculation in Chapter 9 of this Report, the Economic Regulator has concluded that the difference between an IDC and WACC is marginal. The Economic Regulator has therefore concluded that implementation of the concept, as consulted on, would not sufficiently encourage TasWater to commission assets any faster.

However, given the need for compliance outcomes to be improved and for TasWater to be incentivised to speed up its delivery of capital projects, the Economic Regulator has refined the concept and has decided that TasWater should be allowed to continue to add capex to the RAB as it is expended but not be permitted to claim regulatory depreciation on that expenditure until such time as the asset is commissioned. The capability to implement this refined concept has been made possible by the Economic Regulator's acceptance of TasWater's proposal to use line-by-line depreciation for New assets. The refined concept also aligns with regulatory depreciation being a return of capital.

Section 8.8.2 of this Final Report outlines the implementation of this approach together with the impact of implementing this approach on TasWater's MARR for the third regulatory period.

Following the release of the Final Report, the Economic Regulator will reissue its Accounting Ring Fencing Guideline to require TasWater's regulatory financial statements to account for these changes to the calculation of regulatory depreciation for the purpose of those statements.

### **6.4.4 Funding of remedial infrastructure work**

Two of the submissions received during public consultation on the Economic Regulator's Draft Report raised issues with TasWater's practice of recovering its remedial capex through the water and sewerage prices paid by its customers.

TasCOSS' submission contended that current Tasmanian households should not be responsible for providing funding, through their water and sewerage bills, to rectify the historic neglect of water and sewerage assets. Instead, TasCOSS suggested that local, State and Federal governments should make significant additional contributions to the repair and upgrade of Tasmania's water and sewerage infrastructure.

Mr John Marrone's submission raised the issue of TasWater's substantial financial resources and its ability to obtain interest free loans from councils as support for his view that TasWater should not be increasing customers' bills to the extent that it has to fund its infrastructure upgrades.

The Economic Regulator acknowledges the concerns expressed by TasCOSS and Mr Marrone. However, the Economic Regulator points out that it is responsible only for ensuring that TasWater's capex is prudent, efficient and able to generate sufficient revenue so that TasWater can operate in a financially sustainable manner. The matter of where TasWater obtains the funding for its remedial capex does not fall within the Economic Regulator's statutory authority.

## 6.5 Economic Regulator's decisions

In its Draft Report, the Economic Regulator proposed adjustments to TasWater's expected capex for the third regulatory period, as set out in Table 6.8.

Table 6.8 TasWater's capex for the third regulatory period (\$'000s) - Draft Report

	2018-19	2019-20	2020-21	Total
TasWater's proposed capex	143 362	142 367	180 886	466 616
Arup's adjustments	-1 687	-1 573	-1 613	-4 873
Economic Regulator's proposed adjustments	-10 000	-10 000	-10 000	-30 000
<b>Economic Regulator's expected capex</b>	<b>131 675</b>	<b>130 795</b>	<b>169 273</b>	<b>431 743</b>

Noting the discussion in Section 6.4 of this Final Report, the Economic Regulator's final adjustments to TasWater's capex for the third regulatory period are shown in Table 6.9.

Table 6.9 TasWater's capex for the third regulatory period (\$'000s) - Final Report

	2018-19	2019-20	2020-21	Total
TasWater's proposed capex (PSP)	143 362	142 367	180 886	466 616
Economic Regulator's capex (Draft Report)	131 675	130 795	169 273	431 743
TasWater's proposed capex (Submission on Draft Report)	143 262	142 367	180 886	466 516
Arup's adjustments (post Draft Report)	0	-690	-690	-1 380
Economic Regulator's capex (Final Report)	143 262	141 677	180 196	465 136
Change from Draft Report	11 587	10 882	10 923	33 393
<b>Total capex reductions</b>	<b>0</b>	<b>-690</b>	<b>-690</b>	<b>-1 380</b>

*The Economic Regulator requires TasWater's to adjust expected capex for the third regulatory period, by the amounts set out in Table 6.9.*

*The Economic Regulator will reissue its Accounting Ring Fencing Guideline to require TasWater's regulatory financial statements to only account for regulatory depreciation on New assets once the asset has been commissioned.*