



Gearing for a benchmark efficient water utility



Report prepared for Seqwater | 17 June 2021



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1 Executive Summary

1.1 Author of report

1. This report has been authored by Professor Stephen Gray, Professor of Finance at the UQ Business School, University of Queensland and Director of Frontier Economics, a specialist economics and corporate finance consultancy. I have Honours degrees in Commerce and Law from the University of Queensland and a PhD in Financial Economics from Stanford University. I teach a range of courses in finance, corporate valuation and econometrics. I have published widely in high-level academic journals, and I have more than 20 years of practical finance consulting experience.
2. My teaching, research and consulting experience extends to issues relating to statistical analysis and econometric modelling. I have published widely in the areas of financial econometrics and empirical finance, including papers in relation to the estimation of WACC parameters. I have also prepared numerous reports for firms and regulatory bodies relating to the estimation of regulatory WACC parameters.
3. A copy of my curriculum vitae has been provided with this report.
4. My opinions set out in this report are based on the specialist knowledge acquired from my training and experience set out above. I have been provided with a copy of Chapter 11 Part 5 of the Queensland Uniform Civil Procedure Rules 1999. I have read, understood and complied with the Rules.
5. I have been assisted in the preparation of this report by Dinesh Kumareswaran and James Key from Frontier Economics.

1.2 Summary of conclusions

6. I note that, in its 2018 Final Decision for Seqwater, the QCA agreed with all aspects of the Seqwater submission in relation to gearing. In particular, there was agreement that:
 - a A gearing figure of 60% has become the standard regulatory estimate for water businesses in Australia;
 - b The specific circumstances applicable to the Gladstone Area Water Board (GAWB) are not relevant to the case of Seqwater – the particular demand and weather risks that mean that a water business in the circumstances of GAWB would be unlikely to be able to maintain 60% debt financing do not apply to Seqwater; and
 - c A 60% gearing figure remains appropriate for Seqwater.
7. I demonstrate in the remainder of this report that the evidence continues to support the use of 60% gearing for setting the allowed return for Seqwater.



2 Gearing estimation

2.1 Basis of gearing estimate

8. In its 2018 Final Decision for Seqwater, the QCA stated that:

We have adopted a benchmark capital structure to determine the relative weights for the debt and equity components of the cost of capital. In doing so, our objective has been to estimate the WACC of a firm with an efficient benchmark capital structure.¹

9. I agree that the objective is to obtain an estimate of the efficient gearing that would be supported by an efficient water business operating in Australia. I note that this is the approach adopted by all Australian regulators.

2.2 Regulatory precedent

10. In its 2017 Submission to the QCA, Seqwater noted that every Australian regulator that considers water businesses had adopted a 60% gearing figure, such that 60% has become the standard regulatory estimate for water businesses, as set out in **Table 1** below.

Table 1: Regulatory estimates of gearing for Australian water businesses

Estimate	Business	Date	Gearing
IPART	Sydney Desalination Plant	2017	60%
ESC	Melbourne Water	2016	60%
IPART	Sydney Water	2016	60%
ESCOSA	SA Water	2016	60%
OTTER	TasWater	2015	60%
QCA	Seqwater	2013	60%

Source: Seqwater Submission Part B, 31 July 2017, Table 28, p. 55.

11. As part of its 2017-18 review of Seqwater, the QCA commissioned Incenta to consider, among other things, the appropriate gearing level to be applied. Incenta noted that the 60% gearing figure had become the standard regulatory estimate for water businesses:

¹ QCA, March 2018, Seqwater Final Decision, p. 59.



*We agree with Seqwater's view that Australian regulatory precedent for water utilities has generally been 60 per cent.*²

and the QCA noted that finding in its Final Decision:

*Incenta assessed Seqwater's submission and supporting documentation and agreed with Seqwater's view that the Australian regulatory precedent for water businesses is a benchmark capital structure of 60 per cent debt.*³

12. I note that Australian regulators have maintained the 60% gearing estimate in regulatory decisions for water businesses decisions in recent years, as summarised in **Table 2** below.

Table 2: Recent regulatory estimates of gearing for Australian water businesses

Estimate	Business	Date	Gearing
IPART	Hunter Water	2020	60%
ICRC	Icon Water	2020	60%
ESCOSA	SA Water	2020	60%
OTTER	TasWater	2018	60%

Source: Various regulatory determinations.

2.3 Distinguishing Seqwater from GAWB

13. In its 2017 Submission to the QCA, Seqwater noted that the QCA has applied a gearing estimate of 50% in its decisions for the Gladstone Area Water Board (GAWB) in 2010 and 2015. However, this lower gearing figure has been applied by the QCA due to special circumstances that relate to GAWB, but which do not apply to other water businesses, including Seqwater:

The Authority engaged consulting firm PwC to review the level of gearing and credit rating applicable to GAWB.

*PwC noted that the Australian regulatory norm for water businesses is a gearing level of 60%...PwC noted that, relative to most other water businesses, GAWB faces concentrated demand risks and weather risks. PwC considered that, taking these risks into account, a 50% gearing is the maximum that could be supported by a business with GAWB's risk profile. Therefore PwC recommended that GAWB's level of gearing (debt to total assets) should be set to 50%.*⁴

14. Seqwater has noted that the QCA has applied this lower level of gearing to GAWB to reflect particular circumstances pertaining to the concentrated demand and weather risks that are specific to GAWB:

² Incenta, November 2017, Estimating Seqwater's firm-specific WACC parameters for the 2018-21 bulk water price investigation, p. 28.

³ QCA, March 2018, Seqwater Final Decision, p. 59.

⁴ QCA, 2010, Gladstone Area Water Board: Investigation of Pricing Practices: Draft Report, March, p. 96.



We note that the QCA departed from the regulatory standard of 60% gearing for the Gladstone Area Water Board ("GAWB") in 2010 due to special circumstances. The QCA accepted its consultant's advice that GAWB, compared to most other water businesses, had particularly concentrated demand and weather risks which meant that it should not be geared more than 50%. This assumption was maintained for the most recent GAWB review in 2015.⁵

15. SeqWater has submitted that the particular circumstances that apply to GAWB are not relevant for Seqwater. Incenta agree with that view:

We also agree with Seqwater's view that the circumstances applying to the GAWB do not apply to it. A large proportion of the latter business' demand is dependent on a few businesses, and it is dependent on one relatively narrow catchment area. By contrast, a much smaller proportion of Seqwater's ultimate demand is dependent on businesses, which are many and varied. In addition, Seqwater has the security afforded by a large number of dams as well as a desalination plant.⁶

16. The QCA has stated that it also agrees that the particular circumstances that apply to GAWB are not relevant for Seqwater:

Incenta also agreed with Seqwater's view that the circumstances applying to GAWB do not apply to Seqwater.⁷

17. In summary, there is broad agreement that the lower allowed gearing for GAWB is not relevant to the Seqwater review.

2.4 Evidence from electricity network businesses

18. In its 2017 report for the QCA, Incenta noted that there are no water businesses listed on the ASX, in which case electricity and gas network businesses might be used as proxies, when estimating the appropriate level of benchmark gearing for Seqwater. Incenta concluded that these firms also support the use of a 60% gearing figure:

...the empirical underpinning of the 60 per cent benchmark regulatory gearing that has been widely applied in the Australian water industry is drawn from the regulated Australian energy industry. There are currently only three regulated Australian energy businesses that are listed on the stock market. While the current gearing of these firms is below 60 per cent, this is due to a recent spike in share prices, and their 10-year average gearing levels are closer to 60 per cent.⁸

19. In its 2018 Final Decision for Seqwater, the QCA noted the consistent regulatory precedent of adopting 60% gearing for energy network businesses:

This regulatory precedent for a benchmark capital structure of 60 per cent debt originated from the regulated Australian energy sector, as there are no publicly

⁵ Seqwater Submission Part B, 31 July 2017, p. 55.

⁶ Incenta, November 2017, Estimating Seqwater's firm-specific WACC parameters for the 2018-21 bulk water price investigation, p. 28.

⁷ QCA, March 2018, Seqwater Final Decision, p. 59.

⁸ Incenta, November 2017, Estimating Seqwater's firm-specific WACC parameters for the 2018-21 bulk water price investigation, p. 28.



listed, regulated water businesses in Australia. As a result, Incenta reviewed the energy sector to assess whether 60 per cent debt continues to remain appropriate for Seqwater. Incenta's analysis showed that the average capital structure of the three energy businesses that are listed, over 10 years, is close to 60 per cent debt.⁹

20. Subsequent to Incenta's 2017 report, the Australian Energy Regulator (AER) has re-estimated the gearing levels for Australian energy network businesses, concluding that the 60% figure remains the best estimate. The AER has shown that the 5-year and 10-year average gearing for Australian energy network businesses is 57% and 63%, respectively, as set out in **Figure 1** below.

Figure 1: AER gearing estimates for Australian energy network businesses

	ENV	APA	DUE	AST	SKI	AVE
2007	65%	59%	67%	55%	61%	61%
2008	77%	73%	76%	59%	72%	71%
2009	75%	68%	80%	70%	72%	73%
2010	74%	61%	80%	64%	67%	69%
2011	66%	53%	79%	64%	64%	65%
2012	63%	47%	72%	59%	61%	60%
2013	53%	46%	71%	57%	64%	58%
2014	47%	45%	64%	58%	57%	54%
2015	N/A	50%	62%	59%	58%	57%
2016	N/A	49%	51%	57%	N/A	52%
5 year average	54%	48%	64%	58%	60%	57%
10 year average	65%	55%	70%	60%	64%	63%

Source: AER, February 2018, Discussion Paper: Gearing, Table 3, p. 15.

21. This analysis led the AER to maintain the 60% gearing figure in its 2018 Rate of Return Guideline:

Our final decision is to adopt a gearing ratio of 60 per cent. We determine a benchmark gearing ratio from observed gearing ratios of listed Australian energy networks. We consider that the gearing ratios of Australian service providers will most closely reflect the regulatory and commercial risks involved in providing regulated services. Benchmarking against listed service providers allows us to consider market gearing values.¹⁰

⁹ QCA, March 2018, Seqwater Final Decision, p. 59.

¹⁰ AER, December 2018, Rate of Return Final Decision: Explanatory Statement, p. 64.



22. Indeed, the AER has now adopted a 60% gearing figure in every decision since its inception.

2.5 Evidence from international water businesses

23. In its 2017 report for the QCA, Incenta noted that:
- US-based water businesses had average gearing materially below 60%; and
 - UK-based water businesses had average gearing of approximately 50%.¹¹

24. Incenta concluded that:

We consider the gearing levels of UK water businesses to [sic] more instructive owing to more similarity between UK and Australian tax regimes and regulatory approaches.¹²

and the QCA noted that:

...for the UK firms, this figure [gearing] is close to 50 per cent debt. Incenta considered the UK firms' capital structures to be more relevant because of the similarity between the UK and Australian tax regimes and regulatory approaches.¹³

25. It is worth noting that even though the average actual gearing of water companies in the UK was close to 50%, the economic regulator in England and Wales, Ofwat, adopted a benchmark level of gearing of 60% for the latest, PR19 price controls — consistent with the standard benchmark gearing figure adopted in Australia. For example, Ofwat stated that:

We said in our draft methodology proposals that we considered that gearing would be no higher than the 62.5% assumption that underpinned PR14. Our early view sets 60% gearing for the notional company.¹⁴

26. Ofwat maintained a 60% benchmark gearing figure throughout its PR19 price control review process and adopted that figure in its final determinations.¹⁵

2.6 Evidence from UK energy networks

27. The energy regulator in Great Britain, Ofgem, has recently completed its RIIO-2 price control decisions for regulated gas and electricity networks. When determining its rate of return methodology for the RIIO-2 reviews, Ofgem found that the average actual level of gearing was approximately 50.8%.¹⁶

¹¹ Incenta, November 2017, Estimating Seqwater's firm-specific WACC parameters for the 2018-21 bulk water price investigation, p. 29.

¹² Incenta, November 2017, Estimating Seqwater's firm-specific WACC parameters for the 2018-21 bulk water price investigation, p. 29.

¹³ QCA, March 2018, Seqwater Final Decision, p. 59.

¹⁴ Ofwat, Delivering Water 2020: Our methodology for the 2019 price review Appendix 12: Aligning risk and return, 13 December 2017, p. 20 and Table 7.

¹⁵ <https://www.ofwat.gov.uk/wp-content/uploads/2019/12/PR19-final-determinations-Allowed-return-on-capital-technical-appendix.pdf>.

¹⁶ Ofgem, RIIO-2 Sector Specific Methodology Annex: Finance, Consultation, 18 December 2018, p. 39.



28. However, like Ofwat, Ofgem has adopted for the purposes of the price reviews a benchmark level of gearing of 60% for the majority of the businesses that it regulates (with 55% adopted for SHET, NGET and SPT due to the particular circumstances of those businesses).¹⁷

2.7 Conclusions about gearing

29. Having considered the range of evidence set out above, Incenta (2017) concluded that a 60% gearing figure would be appropriate when setting the allowed return for Seqwater:

*Seqwater's submission proposed a 60 per cent benchmark gearing level, which is consistent with Australian regulatory practice. We consider this benchmark to be appropriate for a benchmark regulated water business that has Seqwater's characteristics. While 60 per cent benchmark gearing is materially higher than the observed gearing of US water industry comparators, and 10 percentage points higher than observed among UK water industry comparators, it is consistent with observations for Australian regulated energy businesses. Our observations for the three remaining listed Australian regulated energy businesses indicates that while market gearing levels have recently dipped below 60 per cent due to spiking share prices, the 10 year average gearing level has continued to be close to 60 per cent. We consider the gearing levels of UK water businesses to more instructive owing to more similarity between UK and Australian tax regimes and regulatory approaches. Taking account of the UK water evidence, and Australian energy industry evidence, our view is that a 60 per cent benchmark gearing assumption is appropriate for Seqwater, and is consistent with the majority of Australian regulatory precedent.*¹⁸

30. In its 2018 Final Decision for Seqwater, the QCA followed Incenta's recommendation and maintained its 60% gearing figure for Seqwater:

Incenta said that while 60 per cent debt is materially higher than the observed capital structures of the US firms, and 10 per cent higher than the UK firms, it is consistent with its observation of the three remaining listed energy businesses. Taking into account the UK water evidence and the Australian energy sector evidence, Incenta recommended a benchmark capital structure of 60 per cent debt for Seqwater.

*On the basis of Incenta's advice, we accept Seqwater's proposal to apply a benchmark capital structure of 60 per cent debt.*¹⁹

31. For the reasons set out above, my view is that the evidence supports the maintenance of a 60% gearing figure for Seqwater.

¹⁷ https://www.ofgem.gov.uk/system/files/docs/2020/12/final_determinations_-_core_document.pdf.

¹⁸ Incenta, November 2017, Estimating Seqwater's firm-specific WACC parameters for the 2018-21 bulk water price investigation, p. 29.

¹⁹ QCA, March 2018, Seqwater Final Decision, p. 59.

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