



Attachment 10

Corporate income tax

30 June 2017

2018–23 Water and Sewerage Price Proposal



Quality
drinking water



Reliable
supply



Affordable
pricing



Customer
service



Environmental
sustainability

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1 Summary

In a post-tax framework, net tax expenses are included as one of the building blocks that make up Icon Water's total revenue requirement. To calculate tax expenses, a tax asset base (TAB) must be calculated. This is similar to the calculation of the regulatory asset base (RAB) with some exceptions. The TAB is used together with other inputs to calculate total tax expenses. Net tax expenses are calculated by reducing total tax expenses by the value of imputation credits.

This attachment sets out Icon Water's approach to calculating the TAB, total tax expenses, imputation credits and net tax expenses.

Box 1-1: Key points

The methodology for calculating total tax expenses mirrors that used in the 2015 Industry Panel decision. However, the value of imputation credits has been updated to reflect Icon Water's view of the appropriate estimate. The resulting net tax liabilities are presented below.

Net tax expenses 2018–19 to 2022–23 (\$million, nominal)

	2018–19	2019–20	2020–21	2021–22	2022–23
Water	\$1.82	\$1.57	\$1.48	\$1.25	\$1.53
Sewerage	\$3.46	\$2.93	\$2.64	\$2.02	\$1.99
Total	\$5.28	\$4.50	\$4.12	\$3.27	\$3.52

Source: Icon Water analysis.

2 Tax asset base

Tax depreciation is one of the inputs required to calculate tax expenses. This calculation is undertaken as part of the TAB. The TAB methodology mirrors that used to calculate the RAB with the following exceptions:

- the opening values used in the roll-forward calculation reflect TAB values, not RAB values
- depreciation in the roll-forward calculation is based on actual depreciation, not forecast depreciation
- tax asset lives, not economic asset lives, are used to calculate depreciation
- the TAB is not indexed for inflation, rather it is maintained in historical terms.

2.1 TAB roll-forward

As with the RAB, the TAB must be rolled forward from 2013–14 to the end of 2017–18 to establish an opening TAB value for 2018–19. This is done using the following calculation:

$$\text{Opening TAB}_{t+1} = \text{Opening TAB}_t + \text{Actual net capital expenditure}_t - \text{Actual asset disposals}_t - \text{Actual Depreciation}_t$$

The opening TAB value for 2013–14 is taken from the Industry Panel model, which contains a tax value of \$1,083.85 million for water and \$392.99 million for sewerage. The opening value is adjusted for the difference between actual and forecast net capex in the last year of the previous regulatory period (2012–13). This adjustment is necessary because at the time of the last regulatory decision, the actual capital expenditure for 2012–13 was not known and hence based on forecasts. Unlike the RAB adjustment, the TAB adjustment excludes a return on the difference between actual and forecast expenditure.

The TAB is rolled forward as shown in Table 2-1 and Table 2-2 below to arrive at a closing value for 2017–18.

Table 2-1: Water TAB roll-forward (\$million, nominal)

	2013–14	2014–15	2015–16	2016–17	2017–18
Opening TAB	\$1,086.83 ^a	\$1,089.62	\$1,080.27	\$1,078.14	\$1,044.39
Net capital expenditure	\$34.37	\$24.57	\$31.02	\$34.65	\$40.15
Asset disposals	\$0.00	\$1.55	\$0.00	\$34.25	\$0.00
Depreciation	\$31.58	\$32.37	\$33.15	\$34.15	\$36.23
Closing TAB	\$1,089.62	\$1,080.27	\$1,078.14	\$1,044.39	\$1,048.31

Note: (a) This figure is the sum of the Industry Panel opening TAB value (\$1,083.85 million) and the 2012–13 capex adjustment (\$2.99 million).

Table 2-2: Sewerage TAB roll-forward (\$million, nominal)

	2013–14	2014–15	2015–16	2016–17	2017–18
Opening TAB	\$392.23 ^a	\$394.40	\$400.23	\$429.29	\$469.11
Net capital expenditure	\$18.32	\$24.76	\$47.48	\$61.23	\$87.50
Asset disposals	\$0.00	\$2.00	\$0.00	\$0.00	\$0.00
Depreciation	\$16.15	\$16.93	\$18.42	\$21.41	\$25.98
Closing TAB	\$394.40	\$400.23	\$429.29	\$469.11	\$530.63

Note: (a) This figure is the sum of the Industry Panel opening TAB value (\$392.99 million) and the 2012–13 capex adjustment (-\$0.76 million).

2.2 TAB for 2018–19 to 2022–23

The closing value of the TAB for 2017/18 from the roll-forward calculation set out in section 2.1 above is applied as the opening value for the TAB for 2018/19. The opening value of the TAB for each subsequent year of the 2018–23 regulatory period is then calculated as follows:

$$\text{Opening TAB}_{t+1} = \text{Opening TAB}_t + \text{Forecast net capital expenditure}_t \\ - \text{Forecast asset disposals} - \text{Forecast depreciation}_t$$

The opening value of the TAB for 2018/19 is adjusted for forecast net capital expenditure¹, forecast asset disposals and forecast depreciation for 2018/19 to determine the opening value of the TAB for 2019/20. The calculation is repeated for each subsequent year of the 2018–23 regulatory period. The resulting TAB is presented below in Table 2-3 for water and in Table 2-4 for sewerage.

Table 2-3: Water TAB 2018–19 to 2022–23 (\$million, nominal)

	2018–19	2019–20	2020–21	2021–22	2022–23
Opening TAB	\$1,048.31	\$1,051.82	\$1,058.10	\$1,060.92	\$1,056.25
Net capital expenditure	\$38.38	\$43.76	\$42.48	\$36.82	\$28.28
Disposals	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Forecast depreciation	\$34.87	\$37.48	\$39.66	\$41.49	\$43.16
Closing TAB	\$1,051.82	\$1,058.10	\$1,060.92	\$1,056.25	\$1,041.37

Source: Icon Water analysis.

¹ Forecast net capital expenditure is total forecast capital expenditure net of capital contributions.

Table 2-4: Sewerage TAB 2018–19 to 2022–23 (\$million, nominal)

	2018–19	2019–20	2020–21	2021–22	2022–23
Opening TAB	\$530.63	\$574.43	\$594.42	\$611.88	\$625.44
Net capital expenditure	\$67.73	\$47.17	\$46.91	\$44.89	\$38.28
Disposals	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Forecast depreciation	\$23.93	\$27.18	\$29.46	\$31.33	\$32.80
Closing TAB	\$574.43	\$594.42	\$611.88	\$625.44	\$630.92

Source: Icon Water analysis.

3 Total tax expenses

Total tax expenses are calculated by multiplying taxable profit by the corporate tax rate. Consistent with the 2015 Industry Panel decision, the corporate tax rate is set at 30 per cent. The adoption of a corporate tax rate of 30 per cent is also consistent with the rate expected to be applicable in the 2018-23 period to the benchmark efficient entity that is applied in estimating the WACC and net tax liabilities (see [Attachment 9: Rate of return and forecast inflation](#)), being a private Australian firm providing water and sewerage services in the ACT. This is because annual revenues of the benchmark efficient entity from the provision of water and sewerage services in the ACT would be well in excess of the \$10 million threshold above which the corporate tax rate remains at 30 per cent.

Taxable profit is calculated following the same methodology as used in the 2015 Industry Panel decision as follows.

$$\text{Taxable profit} = \text{Forecast tariff revenue} + \text{Other income} - \text{Tax depreciation} - \text{Interest} \\ - \text{Operating expenses} - \text{Previous year losses}$$

Each of these inputs is determined as follows:

- Forecast tariff revenue is calculated by multiplying prices by forecast demand. The calculation of prices is set out in [Attachment 11: Revenue requirement and price path](#) and the demand forecasts are discussed in [Attachment 4: Demand forecasts](#).
- Other income is the sum of charges for bulk water provided to Queanbeyan Palerang Regional Council, special purpose (subvention) payments by the Commonwealth and miscellaneous charges and income from other sources.
- Tax depreciation is calculated within the TAB as discussed in section 2 above.
- Interest expenses are calculated by multiplying the RAB by the cost of debt, adjusted for the level of gearing (i.e. the share of debt funding).
- The approach used for estimating operating expenses is discussed in [Attachment 7: Operating expenditure](#).
- Previous year losses are the accumulated tax losses from previous years. If the taxable profit calculation above (excluding previous year losses) results in a loss then these losses are carried forward and tracked over time. The opening value of accumulated losses for 2018–19 is set at the closing value for 2017–18 as calculated by the Industry Panel, which was zero.

Application of the above calculation is presented below in Table 3-1 for water and Table 3-2 for sewerage.

Table 3-1: Taxable profit and total tax expenses for water, (\$million, nominal)

	2018–19	2019–20	2020–21	2021–22	2022–23
Forecast Tariff Revenue	\$170.39	\$175.34	\$180.89	\$187.18	\$193.60
plus Other Income	\$14.77	\$15.06	\$15.44	\$15.84	\$16.24
less Tax Depreciation	\$34.87	\$37.48	\$39.66	\$41.49	\$43.16
less Interest	\$45.72	\$47.16	\$48.60	\$49.88	\$50.89
less Operating Expenses	\$96.49	\$98.77	\$101.48	\$106.09	\$108.99
less Previous Year Losses	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Taxable Profit	\$8.08	\$6.98	\$6.60	\$5.56	\$6.80
Total tax expenses	\$2.42	\$2.09	\$1.98	\$1.67	\$2.04

Source: Icon Water analysis.

Table 3-2: Taxable profit and total tax expenses for sewerage, (\$million, nominal)

	2018–19	2019–20	2020–21	2021–22	2022–23
Forecast Tariff Revenue	\$130.75	\$134.16	\$137.66	\$141.26	\$144.95
plus Other Income	\$13.46	\$13.86	\$14.19	\$14.53	\$14.87
less Tax Depreciation	\$23.93	\$27.18	\$29.46	\$31.33	\$32.80
less Interest	\$26.73	\$28.32	\$29.53	\$30.63	\$31.55
less Operating Expenses	\$78.17	\$79.48	\$81.14	\$84.84	\$86.63
less Previous Year Losses	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Taxable Profit	\$15.38	\$13.04	\$11.73	\$8.98	\$8.83
Total tax expenses	\$4.62	\$3.91	\$3.52	\$2.70	\$2.65

Source: Icon Water analysis.

4 Imputation credits and net tax expenses

Under the Australian taxation system, tax credits (imputation credits) created by an Australian company may be redeemed by domestic shareholders. An imputation credit is created for each dollar of eligible tax paid by companies. Imputation credits are distributed to shareholders through the payment of franked dividends. Imputation credits therefore represent a benefit to domestic shareholders for their investment in the company in addition to dividends.² If the benefit to domestic shareholders of imputation credits is not taken into account, the amount of revenue required to provide an appropriate return to investors would be overstated.

While Icon Water, as a publicly owned business, does not pay out franked dividends, an adjustment for the value of imputation credits is required to maintain consistency with the benchmark efficient entity approach (see [Attachment 9: Rate of return and forecast inflation](#)). This is consistent with the 2015 Industry Panel decision where an adjustment was made for imputation credits.³

The 2015 Industry Panel decision adopted a value of 0.5 for imputation credits (also referred to as gamma). This was based on a view that:

- the same observation period should be used when determining the value of gamma as assumed when measuring the value of the WACC, which was around the time the ICRC was making its final decision
- at the time the ICRC was making its final decision, a gamma value of 0.5 had greater regulatory precedent in the water and sewerage industry than a 0.25 value⁴.

However, it is Icon Water's view that the appropriate value of imputation credits for use in the post-tax revenue model is 0.25, a value supported in a recent decision by the Australian Competition Tribunal (Australian Competition Tribunal, 2016a).

The remainder of this section sets out Icon Water's view on the appropriate value of imputation credits and specifically the distribution and utilisation rates. The two recent Tribunal decisions and the recent Federal Court decision in relation to imputation credits are also discussed.

4.1 Value of imputation credits

The regulatory approach generally used in Australia to account for imputation credits is to reduce the estimated amount of corporate tax by the value of imputation credits (represented by, γ , gamma). That is:

$$\text{Net tax expenses} = \text{Total tax expenses} * (1 - \gamma)$$

Gamma is always less than one reflecting the following factors:

- companies, on average, do not distribute all profits as dividends
- foreign investors cannot redeem imputation credits

² Imputation credits are of no value to foreign shareholders and not all credits distributed to domestic shareholders are redeemed.

³ Industry Panel, 2015: 78.

⁴ Industry Panel, 2015: 81.

- some Australian investors cannot utilise imputation credits
- shareholders entitled to utilise imputation credits do not always do so
- shareholders that do utilise imputation credits may not value them at the full face amount.⁵

Gamma is calculated as the distribution rate (the value of imputation credits distributed by a firm as a proportion of the value of imputation credits generated by it) multiplied by the utilisation rate, also referred to as theta (the value of imputation credits distributed to investors as a proportion of their face value).

4.1.1 Distribution rate

In Icon Water's view, the market wide (all equity) distribution rate provides the best approximation for the distribution rate of the benchmark efficient entity. The market wide (all equity) distribution rate is generally accepted to be 0.7. The AER uses an all equity distribution rate of 0.7 in its Rate of Return Guidelines based on ATO tax statistics⁶. This value has been confirmed in updated analysis by NERA and the AER's consultant Professor Handley using ATO data to the 2012 tax year⁷. Gray (for Frontier) updated the ATO data to 2012/13 and found that the cumulative payout ratio is 0.67 but considered 0.7 remained appropriate for the all equity distribution rate having regard to data volatility.⁸ The AER's own updated analysis using ATO data to 2014 found the cumulative payout ratio for all equity is 0.68 but, again, remained of the view that a distribution rate of 0.7 for all equity remained appropriate.⁹

However, more recently, the AER has had regard to higher distribution rates for listed equity only (0.75) and for the top 20 ASX-listed firms (0.83).¹⁰ In Icon Water's view, the use of a distribution rate based on listed equity or the top 20 ASX-listed firms will not provide a reasonable approximation for the distribution rate of the benchmark efficient entity relevant to Icon Water. Whereas the benchmark efficient entity operates only in Australia and has no foreign profits, the distribution rate for listed equity or the top 20 ASX-listed firms is skewed upwards by the access large listed entities have to foreign profits, and the evidence supports the proposition that this skew is significant.¹¹

In Icon Water's view, a market wide distribution rate based on all equity provides the best approximation for the distribution rate for the benchmark efficient entity. This results in a distribution rate of 0.7. This position is consistent with the Tribunal's Ausgrid decision (see section 4.2.1 below).

⁵ Reasons for this include the time value of money associated with the delay between receiving the credit and obtaining the benefit, transaction costs associated with redeeming imputation credits and portfolio effects where investors may secure the benefit of imputation credits at the expense of increased portfolio concentration and risk (see Australian Competition Tribunal, 2016b: 269-294).

⁶ AER, 2013(a): 23.

⁷ NERA, 2015; Handley, 2015.

⁸ Frontier, 2016a: 7, 18-19.

⁹ AER, 2016: Attachment 4, 32; AER, 2017: Attachment 4, 32.

¹⁰ See for example, AER, 2016: Attachment 4, 31-33; AER, 2017: Attachment 4, 31-33. The distribution rate for the top 20 ASX-listed firms was developed by Lally, 2016. The 'top 20 ASX-listed companies' are the 20 largest companies (by market value) listed on the Australian Stock Exchange (ASX).

¹¹ For example, NERA 2015 has demonstrated that excluding the top 20 ASX listed companies, the distribution rate is 0.69.

4.1.2 Utilisation rate

In Icon Water's view, the utilisation rate should reflect the behaviour of shareholders in relation to utilising imputation credits, rather than the eligibility of shareholders to utilise imputation credits available to them. It is this approach which best achieves the ICRC's statutory objective, under section 19L of the ICRC Act, to promote efficiency, in particular efficient investment in regulated services, for the long term interests of consumers.

A utilisation rate based on the worth to investors of what is actually claimed (including the effect of all matters that may affect value, including personal costs) ensures that the overall return to investors is sufficient to promote efficient investment. It is consistent with the purpose of adjusting tax expenses for imputation credits: to ensure that the *value* obtained from imputation credits to investors is removed from the total revenue requirement so that investors are not over-compensated and hence investment decisions are not distorted.

This market value approach to estimating theta and gamma is also consistent with the determination of all other parameters in the nominal WACC (i.e. estimates of the required return on equity and debt). Because these parameters are estimated using market prices, the estimates of these parameters reflect every consideration that investors make in determining the worth of the asset to them.

In Icon Water's view, the best available estimate of the value of distributed credits is one based on the observed changes in stock prices around ex-dividend events (days when the dividend and imputation credit separate from the share) using dividend drop-off analysis. Dividend drop-off studies are the only source of evidence that properly measure what is required, namely the value to investors of imputation credits. This is because they estimate the value of distributed imputation credits by observing the extent to which imputation credits are capitalised into traded share prices.¹² By comparing the 'with-dividend' share prices against 'ex-dividend' share prices, it is possible to infer the value that the market has placed on dividends and imputation credits.

The dividend drop-off analysis relied on by the Tribunal in the Ausgrid decision and that now relied on by Icon Water is an updated version (i.e. with more up to date data) of an earlier 'state-of-the-art study' undertaken by Professor Gray of SFG (now at Frontier Economics) in the *Energex* proceedings. The SFG (2011) study that was ordered by the Tribunal in the *Energex* proceedings was the outcome of a very detailed process (involving very significant input by the AER and its experts) to seek to overcome methodological deficiencies in earlier studies so as to produce a 'state-of-the-art' dividend drop-off study. In *Energex (No 2)*, the Tribunal concluded in relation to the SFG (2011) study that it was the best study available at that time for the purposes of estimating gamma in accordance with the Rules.¹³ The updated SFG study supports an unchanged estimate of theta of 0.35.¹⁴

4.2 Australian Competition Tribunal decisions

The Tribunal made two decisions during 2016 in relation to imputation credits.

¹² SFG, 2015: 70.

¹³ Australian Competition Tribunal, 2011: 29.

¹⁴ Frontier, 2016b: paragraph 100.

4.2.1 Ausgrid

In May 2015, four electricity distribution network services providers (DNSPs) applied to the Tribunal for review of decisions made by the AER in relation to a number of matters, including gamma. In February 2016, the Tribunal released its decision and reasoning (Ausgrid decision).¹⁵

In relation to gamma, the main issues in dispute were:

- the appropriate interpretation of the distribution rate and theta parameters (including what is meant by 'the value of imputation credits' in the Rules)
- the appropriate method, sources of information and/or weight to be attributed to each data source when determining 'the value of imputation credits'
- the appropriate figures for each of the distribution rate, theta, and ultimately, gamma.

The Tribunal's findings were as follows.

- The Tribunal found that the value of imputation credits is not what can be claimed or utilised, but what is claimed or utilised as demonstrated by the behaviour of the shareholder recipients of the imputation credits.
- In relation to the redemption rate, tax statistics provide an upper bound on the estimate of theta while the equity ownership approach to estimating theta overstates the redemption rate and are useful only as a further check on other estimates. This leaves the assessment of theta to rely on market studies. The Tribunal considers that, of the various methodologies for estimating gamma employed by the AER, market studies are best placed to capture the considerations that investors make in determining the worth of imputation credits to them. In addition, this is consistent with the methods used to calculate other parameters of the cost of debt and equity from market data. The Tribunal accepted that the AER adjustments made to the utilisation rates from market studies were not necessary and provided a provisional view that the best estimate of theta is 0.35.
- For the estimation of the distribution rate, the Tribunal's view was that it is appropriate to follow past practice and rely on a distribution rate for all equity (i.e. the AER should not have introduced listed equity into the estimation).

In conclusion, the Tribunal considered that the AER's decision should be set aside. Based on a utilisation rate of 0.35 and the all equity distribution rate of 0.7, gamma is 0.25.

4.2.2 SA Power Networks

A further Tribunal decision was released in November 2016 following an appeal by SA Power Networks (SAPN decision).¹⁶ In the SAPN decision, the Tribunal took the view that the debate between SAPN and the AER over the proper approach to gamma came down to a debate between competing theoretical models - specifically, the Tribunal referred to a debate between the 'average investor' and 'marginal investor' approaches to assessing the value of imputation credits. The Tribunal ultimately concluded that the debate was unresolved, described the AER's decision as a 'judgement call' for the AER to make, and so concluded it was open to the AER to choose the approach it did.

SAPN subsequently appealed these findings to the Full Federal Court. That appeal was heard in May 2017 and the decision is still pending at the time of preparation of this submission.

For the reasons explained above in discussing theta, it is Icon Water's view that nothing in the SAPN decision undermines the Tribunal's conclusion in the Ausgrid decision that a market value based

¹⁵ Australian Competition Tribunal, 2016a: 269-294.

¹⁶ Australian Competition Tribunal, 2016b.

estimate of gamma (and not one based on the eligibility of investors to redeem, or their utilisation of, imputation credits) is consistent with a post tax framework based on a nominal vanilla WACC.

4.3 Federal Court's decision

Following the Tribunal's Ausgrid decision, the AER applied to the Federal Court for judicial review of the Tribunal's decision on gamma. In so doing, it did not challenge the Tribunal's conclusions in respect of the distribution rate.

In the Federal Court's AER Appeal decision,¹⁷ the Federal Court upheld the AER's appeal concerning gamma for the reason that the Tribunal misconstrued and misunderstood the National Electricity Rules and National Gas Rules (together, Rules). The Court otherwise rejected the AER's appeal concerning gamma.

The substantial point of difference between the AER and the Tribunal was as to the meaning of 'value' in the Rules' expression 'value of imputation credits'. The Tribunal concluded that 'value' meant market value - that is, it required a consideration of both the eligibility of investors to redeem imputation credits and the worth of imputation credits to them. By contrast, the AER's decision valued imputation credits based on their claimable amount or face value.

The Court concluded, however, that the Tribunal's interpretation of the Rules' expression 'value of imputation credits' was incorrect. It found that the Rules require the value of imputation credits to be determined in a manner consistent with the Rules' post tax framework based on a nominal vanilla WACC and the determination of the return on equity. While not essential for the reaching of its decision on construction of the Rules, the Court went on to find that the Tribunal incorrectly 'assumed' that the other WACC parameters in such a framework are market values that already reflect factors affecting the worth to investors of imputation credits. It follows, the Court concluded, that the AER did not make an error of construction in focusing on utilisation rather than implied market values.

For the reasons discussed above, Icon Water maintains that, consistent with the available evidence, it is implied market values, and not an estimate of gamma based on the eligibility of investors to redeem, or their utilisation of, imputation credits, that is consistent with a post tax framework based on a nominal vanilla WACC. To the extent that the Federal Court may be understood to reach a different factual finding, that finding should be disregarded by the ICRC.

4.4 Net tax expenses

For the reasons discussed above, Icon Water has adopted a value of 0.25 for imputation credits based on a distribution rate of 0.7 and a utilisation rate of 0.35. The resulting net tax expenses used in the calculation of maximum allowed revenues are set out below in Table 4-1.

¹⁷ Federal Court of Australia, 2017.

Table 4-1: Net tax expenses, (\$million, nominal)

	2018–19	2019–20	2020–21	2021–22	2022–23
Water	\$1.82	\$1.57	\$1.48	\$1.25	\$1.53
Sewerage	\$3.46	\$2.93	\$2.64	\$2.02	\$1.99
Total	\$5.28	\$4.50	\$4.12	\$3.27	\$3.52

Source: Icon Water analysis.

Abbreviations and acronyms

AER	Australian Energy Regulator
DNSPs	distribution network service providers
ICRC	Independent Competition and Regulatory Commission
ICRC Act	<i>Independent Competition and Regulatory Commission Act 1997 (ACT)</i>
RAB	regulatory asset base
SAPN	SA Power Networks
TAB	tax asset base
Tribunal	Australian Competition Tribunal

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