APPENDIX 7.7

Return on debt analysis – Queensland Treasury

Return on debt transition analysis

A JOINT REPORT FOR ENERGEX AND ERGON ENERGY - JUNE 2015

Summary

This report addresses a number of issues relating to the Australian Energy Regulator's (AER) proposed transition to a trailing average for the allowed return on debt. These issues relate to the views set out by the AER in its determinations for the New South Wales distribution and transmission businesses and Jemena Gas Networks (JGN).

Queensland Treasury Corporation's (QTC) main observations and conclusions are as follows:

- The AER has concluded that the uniquely efficient debt management strategy for the benchmark firm under the on-the-day approach was the hybrid strategy, which involves overlaying an interest rate swap on a portfolio of floating rate loans with annual maturities from 1–10 years.
- The primary purpose of AER's debt risk premium (DRP)[1] transition is to intentionally produce a starting allowed return on debt that is lower than the efficient cost of debt under the hybrid strategy to offset the windfall gains that are alleged to have accrued to service providers under the on-the-day approach.
- Whether the AER is permitted to consider past outcomes when determining a return on debt that is consistent with the allowed rate of return objective and the other requirements in the National Electricity Rules (NER) is, in the first instance, a matter of law:
  - If the AER is not legally permitted to consider past outcomes, no DRP transition is required because the efficient cost of debt under the hybrid strategy already reflects the average DRP over the last 10 years.
  - If the AER is legally permitted to consider past outcomes, it does not follow that the proposed DRP transition is appropriate or that it accurately reflects those past outcomes. The allowed rate of return objective still requires the AER to determine a return on debt that is commensurate with the efficient debt financing costs of a benchmark efficient entity.
- The plain English meaning of commensurate is 'equal or similar to something in size, amount, or degree'. If the AER is legally permitted to consider past outcomes, it must demonstrate that the future losses it intends to impose on a service provider are equal or similar to the cumulative windfall gains received by *that* service provider.
- Energex and Ergon Energy have been subject to three consecutive regulatory determinations where an on-the-day approach was used to determine the allowed return on debt. These determinations cover a 14-year period from 2001–02 to 2014–15 inclusive.

[1] Unless stated otherwise, the DRPs in this report are expressed as the margin between the annualised 10-year BBB+ debt yield and the annualised 10-year **swap** rate.

- During this period the annual differences between the allowed DRP and the DRP Energex and Ergon Energy would have incurred under the hybrid approach would have produced cumulative *windfall losses* equal to 0.5 per cent and 0.3 per cent of the opening PTRM debt balance for 2015–16 in present value terms respectively.
- Based on the 1.65 per cent DRP implicit in the allowed return on debt in the Preliminary Decisions, the AER's proposed transition will impose *additional losses* on Energex and Ergon Energy equal to 3.9 per cent and 3.8 per cent of the opening PTRM debt balance for 2015–16 in present value terms respectively. The present value of the combined expected future losses is $495 million.
  - These outcomes do not support the AER's primary reason for imposing a transition on the DRP.

The role of QTC

QTC is the Queensland Government's central financing authority and corporate treasury services provider, with responsibility for:

- sourcing and managing the debt funding to finance Queensland's infrastructure requirements in the most cost-effective manner, and
- providing financial and risk management advice and services to the Queensland Government and Queensland's public sector bodies.

QTC is the largest Australian semi-government issuer of Australian dollar-denominated bonds in the domestic and offshore markets, with total outstandings of approximately $93 billion. Onlendings are made to a wide range of clients including regulated and unregulated government-owned corporations (GOCs), local government authorities, and Queensland Treasury.

QTC is active in the primary and secondary bond markets, and is a regular user of interest rate swaps, bank bill futures contracts and Commonwealth Government bond futures contracts to manage and hedge interest rate risk.

QTC is also responsible for managing the $8.9 billion QTC Capital Guaranteed Cash Fund, which invests in high quality assets including bank bills, commercial paper, corporate floating rate notes, and mortgage and asset-backed securities.

The AER's proposed return on debt transition

The AER will use a trailing average approach to determine the allowed return on debt for all service providers. Under this approach the return on debt equals the average yield on a benchmark portfolio of 10 fixed rate loans with annual maturities from 1–10 years.

The AER proposes to use the 'QTC method' to transition from the previous on-the-day approach to the trailing average approach. Under this method:

- The yield on each fixed rate loan will initially equal the average 10-year benchmark debt yield during a service provider's next rate reset period.
- In each subsequent year the maturing fixed rate loan (which funds 10 per cent of the benchmark debt balance) is refinanced with a new 10-year fixed rate loan at the prevailing 10-year benchmark debt yield.
- The trailing average is gradually phased in over a 10-year period.

Rationale for the QTC method

The QTC method was first proposed by QTC in 2012 as part of the Australian Energy Market Commission's (AEMC) review of proposed changes to the National Electricity Rules (NER) and National Gas Rules (NGR). One of the main proposals was for the allowed return on debt to be determined using a trailing average of historical benchmark debt yields.

During the AEMC's consultation process a number of service providers and the AER expressed concerns over the use of a trailing average approach:

- Some service providers were concerned that their existing base rate (ie, swap) hedges would need to be unwound prior to maturity.
- The AER was concerned that service providers would opportunistically switch between the on-the-day and trailing average approaches based on differences between the prevailing and historical average benchmark debt yield.
- A continuous historical time series of the 10-year BBB+ debt risk premium (DRP) was not available at the time.

To address these concerns QTC proposed a transitional arrangement where the starting value of the allowed return on debt equals that average prevailing 10-year benchmark debt yield during a service provider's next rate reset period.

QTC's primary objective at that time was to obtain broad stakeholder support for a trailing average approach that applies to the total 10-year benchmark debt yield. Without a transition that took into account the concerns identified above, it is unlikely that service providers and the AER would have supported the trailing average approach.

Subsequent to QTC's original proposal the AER determined service providers will not have the option to automatically switch between different return on debt approaches, and that the same trailing average approach will apply to all service providers. Furthermore, historical estimates of the 10-year benchmark debt yield are now available from the Reserve Bank of Australia (RBA) from January 2005. As a result, concerns over opportunistic switching by service providers and data availability are no longer relevant.

QTC's primary objective in proposing a debt transition was to obtain broad stakeholder support for a trailing average approach that applies to the total 10-year benchmark debt yield. The proposed transition was not intended to offset any perceived gains or losses arising from past applications of the on-the-day approach.

Recent AER determinations

New South Wales distribution and transmission businesses

The New South Wales distribution and transmission businesses have argued that no transition is necessary because they have already been using (for some time) the debt management strategy implied by the trailing average approach, which involves maintaining a portfolio of fixed rate debt with annual maturities from 1–10 years. As a result, the businesses have argued that the starting value of their allowed return on debt should equal the average 10-year benchmark debt yield over the last 10 years.

The AER did not accept this argument on the grounds that the benchmark firm would not have maintained a portfolio of fixed rate debt under the on-the-day approach. The AER concluded that the uniquely efficient debt management strategy for the benchmark firm under the on-the-day approach was the hybrid strategy, which involves:

- maintaining a portfolio of floating rate loans with annual maturities from 1–10 years[2], and
- entering into a 5-year pay fixed interest rate swap during each rate reset period to lock in a fixed base interest rate for the term of the regulatory control period.

Jemena Gas Networks

Based on the AER's conclusion that the hybrid strategy was the uniquely efficient debt management strategy under the on-the-day approach, Jemena Gas Networks (JGN) proposed a transition that is consistent with the efficient cost of debt associated the hybrid strategy. Specifically, the proposed starting value of the allowed return equals the sum of:

- the average of the annualised 1–10 year swap rates during the next rate reset period
- the average annualised DRP over the last 10 years, including the current year, and
- swap transaction costs.

AER rationale for a DRP transition

Although a firm that has adopted the hybrid debt management strategy will enter its next regulatory control period with a cost of debt that already reflects the average 10-year DRP over the last 10 years, the AER considers that a 10-year transition should still apply to the DRP because it[3]:

- avoids potential windfall gains or losses to service providers or consumers from changing the regulatory regime
- avoids practical problems with the use of historical data
- maintains the same average price level while decreasing price volatility over time, and
- reduces the potential for opportunistic behaviours from stakeholders.

In QTC's view, none of these reasons can be used to justify the AER's proposed DRP transition.

Avoiding potential windfall gains or losses

The primary purpose of AER's DRP transition is to intentionally reduce the allowed return on debt to offset the windfall gains that are alleged to have accrued to service providers under the previous on-the-day approach.

As shown in this report, the present values of the expected future losses that the AER intends to impose on Energex and Ergon Energy are very large and bear no resemblance to the past outcomes under the on-the-day approach, which are actually windfall losses.

[2] Alternatively, the service provider could issue fixed rate debt and use an interest rate swap to convert the base interest rate from fixed to floating.
[3] AER (November 2014), *Draft decision - Jemena Gas Networks (NSW) Ltd Access arrangement 2015–20, Attachment 3: Rate of return*, pp. 112–123

Practical problems with the use of historical data

Adopting a DRP with no transition requires the average DRP to be calculated over the last 10 years. It is unclear why the AER considers this to be a problem given that it has relied on historical DRP estimates back to 2005 to support its claim that service providers have received significant windfall gains due to past applications of the on-the-day approach.

QTC also notes that Associate Professor Martin Lally now considers the issue of historical data to not be a substantial point because the data is merely contentious rather than unavailable[4].

Maintaining average price level and decreasing price volatility over time

The allowed rate of return objective requires the AER to determine a return on debt that is commensurate with the efficient financing costs of the benchmark efficient entity. As the AER has concluded that the hybrid strategy was the uniquely efficient strategy under the on-the-day approach, regulated prices should initially reflect the efficient cost of debt associated with this strategy. Maintaining some average price level is not a relevant consideration.

The AER's proposed transition has the potential to produce a large change in the DRP (and therefore prices) relative to the DRP from the previous regulatory control period because the starting value of the DRP is still estimated using the on-the-day approach. Any subsequent reduction in volatility over time is due to the use of a trailing average that applies to the total 10-year benchmark debt yield, not the AER's proposed transition.

Reduced potential for opportunistic behaviour

The AER has determined that a trailing average that applies to the total 10-year benchmark debt yield will be used to determine the allowed return on debt for all service providers. There is no option to automatically switch between approaches prior to the start of each regulatory control period. As such, the AER's concerns over opportunistic behaviour are over-stated.

The AER has concluded that the uniquely efficient debt management strategy for the benchmark firm under the on-the-day approach was the hybrid strategy, which involves overlaying an interest rate swap on a portfolio of floating rate loans with annual maturities from 1–10 years.

The primary purpose of AER's DRP transition is to intentionally produce a starting allowed return on debt that is lower than the efficient cost of debt under the hybrid strategy to offset the windfall gains that are alleged to have accrued to service providers under the on-the-day approach.

In QTC's view, none of the reasons offered by the AER can be used to justify its proposed transition for the DRP.

The allowed rate of return objective

The allowed rate of return objective requires the AER to determine a return on debt that is commensurate with the efficient financing costs of the benchmark efficient entity:

> 'The allowed rate of return objective is that the rate of return for a service provider is to be commensurate with the efficient financing costs of a benchmark efficient entity with a similar

[4] Lally, M. (April 2015), *Review of submissions on the cost of debt*, p. 36

> degree of risk as that which applies to the service provider in respect of the provision of reference services (the allowed rate of return objective).'

Clause 6.5.2 (k)(1) of the NER requires the AER to have regard to:

> 'the desirability of minimising any difference between the return on debt and the return on debt of a benchmark efficient entity referred to in the allowed rate of return objective.'

The AER's DRP transition intentionally produces a starting allowed return on debt that is lower than the efficient cost of debt under the hybrid strategy. This appears to be contrary to minimising the difference between the allowed return on debt and the return on debt for the benchmark efficient entity.

Whether the AER is permitted to consider past outcomes when determining a return on debt that is consistent with the allowed rate of return objective and the other requirements in the NER is, in the first instance, a matter of law:

- If the AER is not legally permitted to consider past outcomes, no DRP transition is required because the efficient cost of debt under the hybrid strategy already reflects the average DRP over the last 10 years.
- If the AER is legally permitted to consider past outcomes, it does not follow that the proposed transition for the DRP is appropriate or that it accurately reflects those past outcomes. The allowed rate of return objective still requires the AER to determine a return on debt that is commensurate with the efficient debt financing costs of a benchmark efficient entity.

The plain English meaning of commensurate is 'equal or similar to something in size, amount, or degree'. If the AER is legally permitted to consider past outcomes, it must demonstrate that the future losses it intends to impose on a service provider are equal or similar to the cumulative windfall gains received by *that* service provider.

Lally's windfall gain analysis

The AER has relied on estimates produced by Lally to support its claim that service providers have received significant windfall gains due to past differences between the allowed DRP under the on-the-day-approach and the DRP incurred under the hybrid strategy[5].

Lally's estimates are generic and do not take into account the timing of a service provider's past rate reset periods, the actual DRPs that were allowed under the on-the-day approach or changes in the debt balance over time. Furthermore, as the analysis only extends back to 2005, the starting value of the trailing average will not be correct for service providers that had regulatory determinations prior to 2005 such as Energex and Ergon Energy.

Lally expresses concerns regarding the differential treatment of service providers based on the timing of their regulatory cycles:

> 'The second argument against uniformity arises from the fact that businesses are subject to different regulatory cycles, and would therefore experience different gains or losses arising from the DRP spike induced by the GFC. Again, I do not support such differential treatment because the appropriate treatment for each business is far from clear, because doing so would

[5] Lally, M. (November 2014), *Transitional arrangements for the cost of debt*, pp. 19–21

establish an undesirable precedent, and because the corporate groups to which regulated businesses belong are typically involved in a range of different regulated activities with different cycle commencement dates and this would push all businesses towards the average outcome of about 1.3% of debt value in present value terms.' [6]

In QTC's view there are a number of problems with Lally's position:

- Lally is arguing that factors such as ownership structure/status are relevant when determining the allowed return on debt. QTC does not consider this to be appropriate as the benchmark efficient entity should be viewed as a stand-alone entity.
- The present value of the expected future losses imposed on a service provider will depend on the AER's on-the-day DRP estimate during that service provider's next rate reset period and the average PTRM debt balance over the 10-year transition period. Unless these firm-specific factors are considered there can be no way of determining if the future losses are commensurate with any past gains. Similarly, the past gains (which may actually be losses) cannot be accurately estimated without considering the actual DRPs that were received by a service provider under the on-the-day approach.
- Deliberately imposing future losses on a service provider is a very significant action and one that should be subject to a very high level of scrutiny. Even if this action is legally permissible, the AER must still demonstrate that it has accurately estimated the historical gains that it intends to offset. Concerns over the appropriate treatment for each business do not support the use of generic estimates of past gains and losses to impose future losses on a service provider.

Estimated gains and losses for Energex and Ergon Energy

Energex and Ergon Energy have been subject to three consecutive regulatory determinations where an on-the-day approach was used to determine the allowed return on debt (Table 1):

TABLE 1: REGULATORY DETERMINATIONS FOR ENERGEX AND ERGON ENERGY

Regulatory control period	Regulator	Return on debt approach	Allowed DRP to CGS (%)	Allowed DRP to swap (%)
2001–02 to 2004–05	QCA	On-the-day	1.65	1.16
2005–06 to 2009–10	QCA	On-the-day	1.09	0.64
2010–11 to 2014–15	AER	On-the-day	3.33	2.80
2015–16 to 2019–20	AER	Trailing average	2.08	1.65

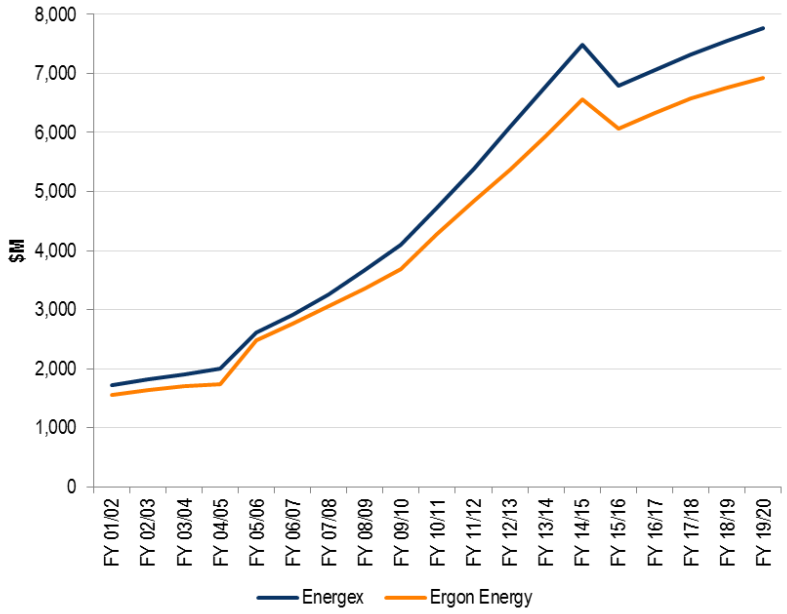
Historical gains and losses

The on-the-day approach will naturally produce gains and losses due to mis-matches between the allowed DRP and the DRP incurred under the hybrid approach. QTC has estimated the dollar value of the gains and losses between 2001–02 and 2014–15 inclusive as follows:

- The PTRM debt balances for Energex and Ergon Energy have increased significantly since 2001 as shown in Figure 1. To accurately reflect the cost of debt that would have be incurred under the hybrid approach, a PTRM-weighted trailing average of the DRP has been used.

[6] Lally, M. (November 2014), *Transitional arrangements for the cost of debt*, pp. 4–5

FIGURE 1: PTRM DEBT BALANCES



- The PTRM debt balances are from the determinations for the 2001–02 to 2004-05, 2005–06 to 2009–10 and 2010–11 to 2014–15 regulatory control periods[7].
- The 10 initial DRPs in the PTRM-weighted trailing average equal the allowed DRP for the 2001–02 to 2004–05 regulatory control period of 1.16 per cent.
- The prevailing DRPs in 2001, 2005, 2010 and 2015 equal the allowed DRPs in those years.
- The prevailing DRPs in the other years are based on the daily average of the extrapolated RBA and Bloomberg BBB DRPs in the previous financial year[8].
- The dollar value of the annual gain/loss equals the opening PTRM debt balance multiplied by the difference between the allowed DRP and the PTRM-weighted trailing average DRP.
- The cumulative value of the gains and losses is estimated up to 30 June 2015. The gains and losses are funded at the allowed WACC for the relevant years.

Expected future losses

The AER's transition will impose losses on Energex and Ergon Energy between 2015–16 and 2024–25 inclusive. QTC has estimated the present value of the expected losses as follows:

- The prevailing 10-year DRP is unchanged at 1.65 per cent, which is the implied DRP from the Preliminary Decisions.
- The starting value of the PTRM-weighted trailing average DRP in 2015–16 is based on the DRPs in the previous 9 years and the prevailing DRP of 1.65 per cent. The trailing average is updated annually as one historical DRP drops out and is replaced with the prevailing DRP of 1.65 per cent.

[7] QCA (May 2001), *Final Determination – Regulation of Electricity Distribution*, p. 65 and QCA (April 2005), *Final Determination – Regulation of Electricity Distribution*, p. 93. The PTRM debt balances for Energex in the 2005–06 to 2009–10 regulatory control period are the adjusted forecasts set out in Energex's 2009–10 Regulatory Reporting Statements (Schedule Q: Fixed Assets, p. 41).

[8] Prior to 2005 the benchmark debt yields are based on the extrapolated Bloomberg fair value curve. From 2005 onwards the benchmark debt yields are based on the estimates in CEG (April 2015), *Critique of the AER's JGN draft decision on the cost of debt*. QTC's estimates of the gains and losses are based on the DRP estimates in Table 12 on page 75 of the CEG report. The gains and losses based on CEG's other DRP estimates (Tables 9 and 10 on page 73) are provided in Appendix A.

- Each year the difference between the PTRM-weighted trailing average DRP and the prevailing DRP of 1.65 per cent is multiplied by the opening PTRM debt balance to determine the dollar value of the expected loss for that year.
- The PTRM debt balances equal the AER's forecasts for the 2015–16 to 2019–20 regulatory control period. The PTRM debt balances for the 2020–21 to 2024–25 regulatory control period equal the closing forecast PTRM debt balance for 2019–20.
- The present value of the expected losses as at 30 June 2015 has been calculated using the WACC of 5.85 per cent from the Preliminary Decision. This present value has been adjusted to reflect the present value of the difference between 10-year base swap rate implicit in AER's allowed return on debt and average 1–10 year swap rate (including transaction costs) implicit in the hybrid transition.

Results

Figures 2 and 3 show the allowed and trailing average DRPs between 2001–02 and 2024–25:

FIGURE 2: ENERGEX - ALLOWED AND TRAILING AVERAGE DRP

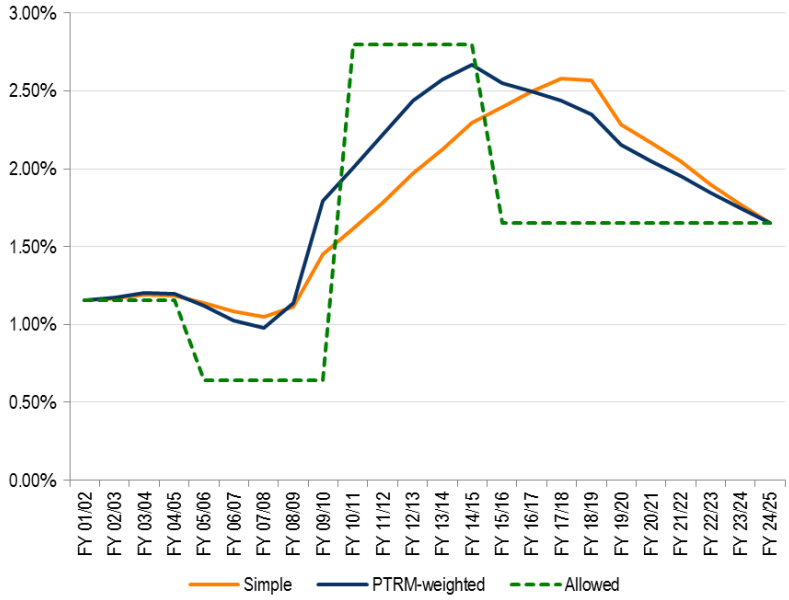
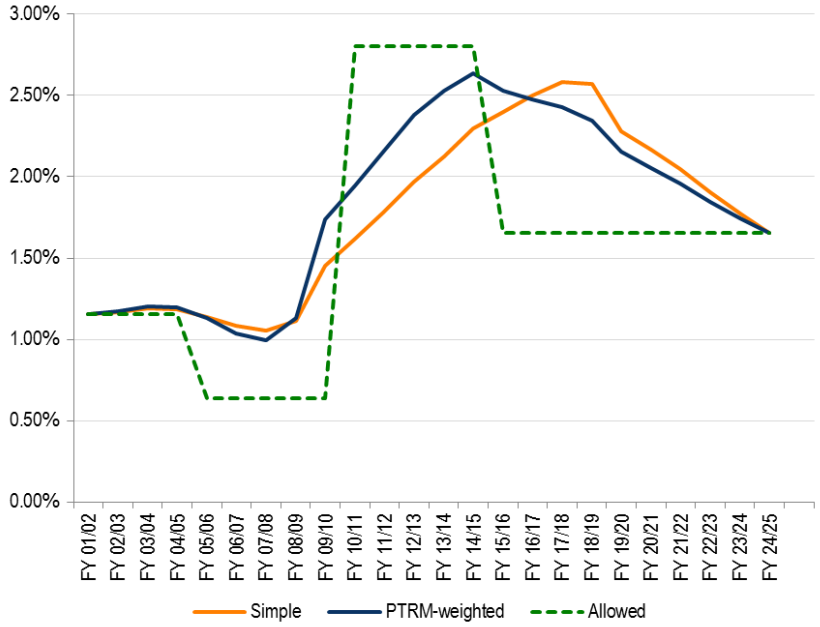


FIGURE 3: ERGON ENERGY - ALLOWED AND TRAILING AVERAGE DRP



The main observations from Figures 2 and 3 are as follows:

- Energex and Ergon Energy were under-compensated in the first two regulatory control periods and over-compensated in the third regulatory control period.
- The PTRM-weighted trailing average rises above the simple trailing average from 2008–09. This reflects the fact that Energex and Ergon Energy were required to raise a significant amount of new debt during the global financial crisis (GFC).
- The average prevailing DRP in 2008–09 is 4.53 per cent. At that time, Energex and Ergon Energy were still receiving an allowed DRP of just 0.64 per cent. At the next rate reset period Energex and Ergon Energy received an allowed DRP of 2.80 per cent for 2010–11 to 2014–15. As such, they did not fully benefit from the GFC-induced spike.
- The 1.65 per cent DRP implicit in the allowed return on debt from 2015–16 is significantly lower than the PTRM-weighted trailing average. This will produce significant expected losses over the 10-year transition period.

The cumulative value of the historical gain/loss and the present value of the expected future losses as at 30 June 2015 are shown in Table 2. The same values expressed as a percentage of the opening PTRM debt balance for 2015–16 are shown in Table 3.

TABLE 2: GAIN/LOSS IN PRESENT VALUE TERMS AS AT 30 JUNE 2015

Entity	Historical gain/loss ($M)	Expected future loss ($M)	Total gain/loss ($M)
Energex	(35.1)	**(263.7)**	(298.8)
Ergon Energy	(18.2)	**(232.1)**	(250.3)

TABLE 3: GAIN/LOSS AS PERCENTAGE OF 2015 OPENING PTRM DEBT BALANCE

Entity	Historical gain/loss (%)	Expected future loss (%)	Total gain/loss (%)
Energex	(0.5)	**(3.9)**	(4.4)
Ergon Energy	(0.3)	**(3.8)**	(4.1)

The historical differences between the allowed DRP under the on-the-day approach and the DRP Energex and Ergon Energy would have incurred under the hybrid approach would have resulted in cumulative windfall losses equal to 0.5 per cent and 0.3 per cent of the opening PTRM debt balance for 2015–16 in present value terms respectively. More importantly, the AER's proposed transition will impose additional losses equal to 3.9 per cent and 3.8 per cent of the opening PTRM debt balance for 2015–16 in present value terms for Energex and Ergon respectively.

The combined cumulative historical loss and the present value of the expected future losses for Energex and Ergon Energy are shown in Figure 4:

FIGURE 4: COMBINED HISTORICAL AND EXPECTED FUTURE LOSSES

Simple trailing average

Although a simple trailing average of the DRP will not accurately reflect the cost of debt that Energex and Ergon Energy would have faced under the hybrid approach due to the significant increase in the PTRM debt balance, QTC has also estimated the historical and expected future gain/loss using a simple trailing average (Tables 4 and 5):

TABLE 4: GAIN/LOSS IN PRESENT VALUE TERMS AS AT 30 JUNE 2015 – SIMPLE TRAILING AVERAGE

Entity	Historical gain/loss ($M)	Expected future loss ($M)	Total gain/loss ($M)	Expected / historical (x)
Energex	135.0	(299.5)	(164.5)	**2.2**
Ergon Energy	114.5	(267.1)	(152.6)	**2.3**

TABLE 5: GAIN/LOSS AS PERCENTAGE OF 2015 OPENING PTRM DEBT BALANCE – SIMPLE TRAILING AVERAGE

Entity	Historical gain/loss (%)	Expected future loss (%)	Total gain/loss (%)	Expected / historical (x)
Energex	2.0	(4.4)	(2.4)	**2.2**
Ergon Energy	1.9	(4.4)	(2.5)	**2.3**

Even under the unrealistic assumption that Energex and Ergon would have incurred a simple trailing average of the DRP under the hybrid approach, the expected future losses that will be imposed by the AER are more than twice as large as the cumulative historical gain.

Even if the AER is legally permitted to consider past outcomes, and even if a simple trailing average of the DRP is used, imposing losses of this size would clearly be contrary to the allowed rate of return objective, which requires the AER to determine a return on debt that is commensurate with the efficient debt financing costs of a benchmark efficient entity.

Energex and Ergon Energy have been subject to three consecutive regulatory determinations where an on-the-day approach was used to determine the allowed return on debt. These determinations cover a 14-year period from 2001–02 to 2014–15 inclusive.

Based on the AER's belief that the hybrid strategy was the uniquely efficient debt management strategy under the on-the-day approach, Energex and Ergon Energy would have incurred cumulative *windfall losses* during this period equal to 0.5 per cent and 0.3 per cent of the opening PTRM debt balance for 2015–16 in present value terms respectively.

Despite this, the AER is proposing to impose *additional losses* on Energex and Ergon Energy equal to 3.9 per cent and 3.8 per cent of the opening PTRM debt balance for 2015–16 in present value terms respectively. The present value of the combined expected future losses is $495 million.

Implications for the AER

The expected future losses produced by AER's proposed DRP transition are unlikely to be commensurate with the cumulative historical mis-match created by the on-the-day approach. This is because:

- The dollar value of the cumulative historical mis-match, which could be positive or negative, depends on the service provider's past PTRM debt balances and past differences between the trailing average DRP and the service provider's allowed DRPs under the on-the-day approach.
- The dollar value of the expected future losses will depend on a service provider's PTRM debt balances in the next two regulatory control periods, the starting value of the trailing average DRP and the AER's on-the-day DRP estimate during a service provider's next rate reset period.

The on-the-day DRP estimate during a service provider's next rate reset period will not affect the historical gain or loss, however it will have a significant impact on the expected future losses under the AER's proposed transition. As such, there is no reason to assume that the AER's proposed transition will offset (ie, be commensurate with) the dollar value of the historical cumulative mis-match for a given service provider.

The outcomes for Energex and Ergon Energy are consistent with these observations as the present values of the expected future losses bear no resemblance to the past outcomes under the on-the-day approach, which are actually cumulative losses.

Deliberately imposing future losses on a service provider is a very significant action and one that should be subject to a very high level of scrutiny. Even if the AER can make an accurate estimate of the cumulative historical mis-match for each service provider, and even if offsetting this mis-match is legally permissible and consistent with the allowed rate of return

objective, the correct approach is not the AER's proposed transition. Rather, the correct approach would be to:

- not apply a transition to the DRP, and
- make an adjustment to the annual allowed revenues in the next regulatory control period with a present value equal to the cumulative historical mis-match, which may be positive or negative.

Return on debt estimates for 2015–16

QTC's estimates of the allowed return on debt under a hybrid transition (excluding swap transaction costs) for Energex and Ergon Energy in 2015–16 are set out in Table 6.

TABLE 6: ALLOWED RETURN ON DEBT ESTIMATES FOR 2015–16

Tenor	Base swap rate (%)	Energex PTRM-weighted DRP (%)	Energex total rate (%)	Ergon Energy PTRM-weighted DRP (%)	Ergon Energy total rate (%)
1 year	2.50	1.91	**4.41**	1.81	**4.31**
2 year	2.51	1.97	**4.48**	1.88	**4.39**
3 year	2.58	2.37	**4.95**	2.31	**4.89**
4 year	2.77	3.63	**6.40**	3.67	**6.44**
5 year	2.89	2.74	**5.63**	2.73	**5.62**
6 year	3.00	2.76	**5.76**	2.75	**5.75**
7 year	3.12	2.95	**6.07**	2.94	**6.06**
8 year	3.20	2.83	**6.03**	2.83	**6.03**
9 year	3.28	2.72	**6.00**	2.71	**5.99**
10 year	3.36	1.65	**5.01**	1.65	**5.01**
Average	*2.92*	*2.55*	***5.47***	*2.53*	***5.45***

Based on CEG's swap transaction cost estimate of 0.23 per cent, the total allowed return on debt for Energex and Ergon Energy for 2015–16 is 5.70 per cent and 5.68 per cent respectively.

Appendix A: Alternative results under a PTRM-weighted trailing average of the DRP

Tables 7 to 10 show the cumulative historical gains and losses and the expected future losses using the DRP estimates from different data providers and extrapolation methods[9]. Although there is some variation in the results, the historical outcomes are mostly negative (ie, windfall losses) and the additional expected future losses remain large at 3.5–4.0 per cent of the opening PTRM debt balance for 2015–16 in present value terms.

TABLE 7: ENERGEX – PRESENT VALUE OF GAIN/LOSS AS AT 30 JUNE 2015

Data source	Extrapolation method	Historical gain/loss ($M)	Expected future loss ($M)	Total gain/loss ($M)
RBA	AER	(76.2)	(276.2)	(352.3)
BBG	AER	5.6	(252.0)	(246.3)
RBA & BBG	**AER**	**(35.1)**	**(263.7)**	**(298.8)**
RBA, BBG & CBA	AER	(31.3)	(265.1)	(296.4)
RBA & CBA	AER	(32.7)	(268.5)	(301.2)
RBA	SAPN	(47.5)	(260.4)	(307.9)
BBG	SAPN	10.2	(244.0)	(233.9)
RBA & BBG	SAPN	(19.8)	(252.8)	(272.6)
RBA, BBG & CBA	SAPN	(27.9)	(256.2)	(284.2)
RBA & CBA	SAPN	(17.1)	(255.7)	(272.9)

Totals may not add up due to rounding.

TABLE 8: ERGON ENERGY – PRESENT VALUE OF GAIN/LOSS AS AT 30 JUNE 2015

Data source	Extrapolation method	Historical gain/loss ($M)	Expected future loss ($M)	Total gain/loss ($M)
RBA	AER	(54.2)	(243.6)	(297.9)
BBG	AER	17.5	(221.1)	(203.6)
RBA & BBG	**AER**	**(18.2)**	**(232.1)**	**(250.3)**
RBA, BBG & CBA	AER	(14.4)	(233.3)	(247.7)
RBA & CBA	AER	(15.7)	(236.6)	(252.3)
RBA	SAPN	(29.6)	(229.6)	(259.1)
BBG	SAPN	22.1	(213.4)	(191.4)
RBA & BBG	SAPN	(4.7)	(222.0)	(226.7)
RBA, BBG & CBA	SAPN	(11.1)	(225.1)	(236.3)
RBA & CBA	SAPN	(2.4)	(225.2)	(227.6)

Totals may not add up due to rounding.

[9] CEG (April 2015), *Critique of the AER's JGN draft decision on the cost of debt*, p. 73.

TABLE 9: ENERGEX – GAIN/LOSS AS PERCENTAGE OF 2015 OPENING PTRM DEBT

Data source	Extrapolation method	Historical gain/loss (%)	Expected future loss (%)	Total gain/loss (%)
RBA	AER	(1.1)	(4.1)	(5.2)
BBG	AER	0.1	(3.7)	(3.6)
RBA & BBG	**AER**	**(0.5)**	**(3.9)**	**(4.4)**
RBA, BBG & CBA	AER	(0.5)	(3.9)	(4.4)
RBA & CBA	AER	(0.5)	(3.9)	(4.4)
RBA	SAPN	(0.7)	(3.8)	(4.5)
BBG	SAPN	0.1	(3.6)	(3.5)
RBA & BBG	SAPN	(0.3)	(3.7)	(4.0)
RBA, BBG & CBA	SAPN	(0.4)	(3.8)	(4.2)
RBA & CBA	SAPN	(0.3)	(3.8)	(4.1)

Totals may not add up due to rounding.

TABLE 10: ERGON ENERGY - GAIN/LOSS AS PERCENTAGE OF 2015 OPENING PTRM DEBT

Data source	Extrapolation method	Historical gain/loss (%)	Expected future loss (%)	Total gain/loss (%)
RBA	AER	(0.9)	(4.0)	(4.9)
BBG	AER	0.3	(3.6)	(3.3)
RBA & BBG	**AER**	**(0.3)**	**(3.8)**	**(4.1)**
RBA, BBG & CBA	AER	(0.2)	(3.8)	(4.0)
RBA & CBA	AER	(0.3)	(3.9)	(4.2)
RBA	SAPN	(0.5)	(3.8)	(4.3)
BBG	SAPN	0.4	(3.5)	(3.1)
RBA & BBG	SAPN	(0.1)	(3.7)	(3.8)
RBA, BBG & CBA	SAPN	(0.2)	(3.7)	(3.9)
RBA & CBA	SAPN	(0.0)	(3.7)	(3.7)

Totals may not add up due to rounding.