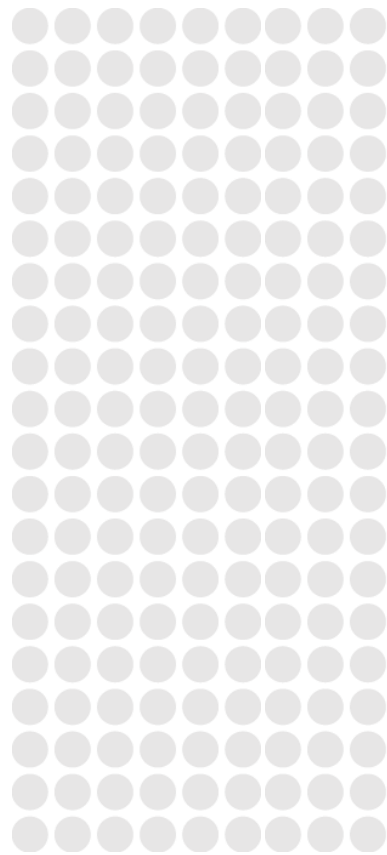




30 May 2018

review of the rate of return guidelines

**APA submission responding to
return on debt discussion paper**





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APA's key messages

Question 1

The evidence supports continued use of BBB+ as the benchmark credit rating; it does not support any use of an A- rating.

Question 2

APA has no reason to question the market expertise of any of the four providers of yield curves.

Question 3

In terms of their overall fitness for purpose, the RBA and BVAL curves are superior. Their construction has been subject to independent scrutiny, and service providers have gained experience in using them to estimate regulatory rates of return on debt.

Question 4

Adjustment of the yield curves away from their published forms may be necessary, and that adjustment can continue to use the method of linear extrapolation proposed by Dr Lally. Linear extrapolation is, however, reasonable only where the range over which it is to be carried out is small.

Question 5

A long series allows better informed conclusions about curve performance. This is a further reason for not adopting either the Thomson Reuters curve, or the S&P curve, each of which has been available continuously for only a relatively short period.

Question 6

Interpolation or extrapolation may be required to match the term for the estimate with the benchmark term. Interpolation or extrapolation is necessary when using the RBA curve, and can continue to be carried out using the method based on advice which Dr Lally has provided to the AER.

Question 7

The evidence does not support a change to the current benchmark term of 10 years. The evidence comes, in part, from Chairmont's analysis of service provider actual cost of debt data. Additional work is required before definitive conclusions about service provider debt can be drawn from the Chairmont analysis.

Question 8

Credit spread estimation should continue to use the yield curves which are available for broad-BBB.

1 This submission

APA Group (APA), an owner and operator of gas transmission pipelines, and of electricity transmission lines, will be affected by the outcomes of the Australian Energy Regulator's rate of return guidelines review. APA appreciates the opportunity to comment on the AER's discussion paper *Estimating the allowed return on debt* (May 2018).

APA has previously expressed support for continuing the AER's current approach the rate of return on debt, thereby allowing service providers and users to gain experience with both the method of estimation and the transition to the trailing average estimate of the rate of return. Our comments on the return on debt discussion paper are made in the context of our continuing support for the current approach.

APA has participated in the preparation of the submission on the AER's return on debt discussion paper made by the Australian Pipeline and Gas Association (APGA). APA's views in this submission are not substantially different from those advanced by APGA.

APA's submission addresses the issues raised in the discussion paper under four headings. They are:

- Benchmark credit rating
- Yield curves
- Actual cost of debt data
- Benchmark term

Under these headings, we have answered each of the eight questions posed in the discussion paper, although our answers are not in the sequence in which the questions were asked.



2 Benchmark credit rating

Estimation of return on debt requires an assumption about the credit rating of the issuing entity.

In 2014, the AER's expert advisor, Dr Martin Lally, observed that the credit ratings of individual electricity network and gas pipeline businesses had been very stable over time and, where there were changes, these had highly plausible explanations.

Table 4 of the discussion paper shows that stability of the credit ratings continues to be the case, at least for those businesses which have operated as separately identifiable entities during the period 2013 to 2017.

Question 1

Does the evidence support continuation of a BBB+ credit rating or a change? If it supports a change, what should the benchmark credit rating be?

For the nine businesses which continued to operate as separately identifiable entities during the period 2013 to 2017, the median credit rating ranged from BBB to BBB+. For the four years 2014 to 2017, the median rating was BBB+.

Four of the nine businesses which continued to operate had A- ratings for one or more years during the period. However, only one of the four, ETSA Utilities, had that rating in each year from 2013 to 2017. ATCO Gas Australia was rated A- for each year from 2013 to 2016 but, in 2017, was rated BBB+. SGSP Australia Assets (Jemena) was rated A- in 2016 and 2017, but prior to that was rated BBB+, and United Energy was rated A- in 2017 but had previously been rated BBB. Whether these changes, for ATCO Gas, SGSP Australia Assets and United Energy persist, or whether they are aberrations and the companies concerned will revert to their earlier ratings, remains to be seen.

APA is of the view that the credit ratings of individual electricity network and gas pipeline businesses remain stable. The evidence supports continued use of BBB+ as the benchmark credit rating.

The evidence does not support the use of an A- rating.

Question 8

How should we implement the benchmark credit rating? In particular, what do you consider is the appropriate broad-curve rating to use?

The benchmark credit rating may be BBB+, but the evidence indicates a majority of ratings in the range BBB to BBB+. Yield curves for BBB+ rated entities are not available for credit spread estimation.



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Credit spread estimation should, therefore, continue to use the yield curves which are available for broad-BBB.

Section 9 of the discussion paper raises the possibility of combining the credit spreads obtained assuming a broad-BBB rating with the spreads obtained assuming a broad-A rating. A weighting of 2/3 broad-BBB and 1/3 broad-A is suggested.

The ratings evidence does not support this proposed use of a broad-A rating.

3 Yield curves

Since publication of its current *Rate of Return Guideline* in December 2013, the AER has obtained credit spreads from yield curve data published by the Reserve Bank of Australia (RBA) and by the Bloomberg service (BVAL). A simple average of these spreads has been used in rate of return on debt estimation.

A question now arises as to whether the yield curves produced by Thomson Reuters and Standard & Poor's (S&P) should be used to supplement the RBA and Bloomberg curves.

Question 2

What are your views on the relevance of market expertise of the above providers (RBA, Bloomberg, Thomson Reuters, S&P) with respect to estimating corporate debt yield curves for our purposes?

APA has no reason to question the market expertise of any of the four providers of yield curves.

Questions 3 and 6

Having regard to the available evidence, are any of the curves clearly superior to the other curves in terms of their overall fitness for purpose?

How should we have regard to curve outcomes over time when deciding on the curves to use in our benchmark?

APA is of the view that, in terms of their overall fitness for purpose, the RBA and BVAL curves are superior. Their construction has been subject to independent scrutiny, and service providers have gained experience in using them to estimate regulatory rates of return on debt.

The RBA and BVAL curves have been assessed by the AER's expert advisor, Dr Martin Lally, and by the ACCC Regulatory Economic Unit. We would not necessarily place the same weights that they have on their findings, but we acknowledge that Dr Lally and the Regulatory Economic Unit carried out comprehensive assessments of the RBA and BVAL curves.

The AER notes, on page 25 of the discussion paper, that during the period from 2013 to 2017:

- the RBA curve exceeded the BVAL curve by 97 basis points
- the BVAL curve exceeded the RBA curve by 40 basis points.

These variations are to be expected given the different bond samples used in curve estimation, and the use of different statistical methods.

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APA would not expect to see credit spreads materially and consistently lower or higher, over an extended period, than those obtained using the RBA and BVAL curves. And yet, the discussion paper's Figure 1 indicates a persistent lowering of credits spreads when those spreads are estimated for the period of 12 months to January 2018 to using the Thomson Reuters and S&P curves, in addition to the RBA and BVAL curves.

On page 26, the discussion paper advises that credit spreads from the Thomson Reuters curve have been, on average, approximately 17 basis points higher than the spreads estimated from the RBA and BVAL curves. The spreads from the S&P curve have, however, been materially and consistently lower than the spreads estimated using the AER's current approach for the period for which the S&P curve has been reported.¹

APA is of the view that consideration should be given to additional data sources where those sources are fit for purpose. APA is aware that, in April 2017, the ACCC Regulatory Economic Unit made (with the assistance of Thomson Reuters) an assessment of the Thomson Reuters curve, and did not find major problems with the curve. However, the advice in the discussion paper does not give us confidence that the Thomson Reuters and S&P curves are fit for purpose.

APA does not see use of the Thomson Reuters and S&P curves being justified by any potential that may have for reducing the "shock" if another provider ceases publication of its curve. If the Thomson Reuters and S&P curves are not fit for purpose, they should not be used.

APA is of the view that, at the present time, the potential curve mix remains: RBA and BVAL.

Each of the RBA and BVAL curves provides estimates of credit spreads derived from actual debt issues. Those issues are unlikely to have a term of 10 years or, indeed, any other specified term, and some adjustment may be required to match the term of debt for which an estimate of rate of return is made with the assumed benchmark term. In these circumstances, interpolation or extrapolation may be required to match the term of the estimate with the benchmark term. Certainly, this interpolation or extrapolation has been necessary when using the RBA curve, and has been carried out using a method based on advice which Dr Lally provided to the AER.

¹ AER, *Discussion paper: Estimating the allowed return on debt*, May 2018: page 25.

Question 4

How should we consider the impact of adjustments to curves away from their published form when deciding on the curves to use in our benchmark?

Adjustment of the yield curves away from their published forms may be necessary, and that adjustment can, in APA's view, continue to use the method of linear extrapolation proposed by Dr Lally. We note that linear extrapolation is reasonable only where the range over which it is to be carried out is small.

Question 5

How should we consider the impact of curve availability over time when deciding on the curves to use in our benchmark?

Of the four yield curves considered in the discussion paper, only one, the RBA curve, provides a long history of yields. The BVAL curve has been available only from April 2015.

A long series allows better informed conclusions about curve performance. This is a further reason for not adopting either the Thomson Reuters curve, or the S&P curve, each of which has been available continuously for only a relatively short period.

APA notes that, although the Thomson Reuters curve has been available for estimation of yields on bonds with terms of 10 years, and with broad-BBB ratings, since July 2015, it has not been available continuously.² The intermittent availability of the curve is a further reason for not using it to estimate regulatory rates of return on debt.

² AER, *Discussion paper: Estimating the allowed return on debt*, May 2018: Table 5, page 24.

4 Actual cost of debt data

From its analysis of service provider debt data, Chairmont, the AER's advisor on debt, has reported that:

- service provider costs of debt, which Chairmont has combined into, and reported as, an Energy Infrastructure Credit Spread Index (EICSI), have been considerably less volatile (over the period 2014 to 2017) than the market spread indexes (RBA and BVAL) which the AER uses to calculate its cost of debt allowance
- this stability can be largely explained by variations in the terms of debt issued by the service providers: when credit spreads have been high, service providers have issued shorter term debt; when spreads have been low, they have issued longer term debt
- in consequence, the EICSI has been consistently lower than the market (RBA and BVAL) spreads for 10 year BBB debt which have been used by the AER to estimate regulatory rates of return: the difference has varied significantly from 19 to 136 basis points.³

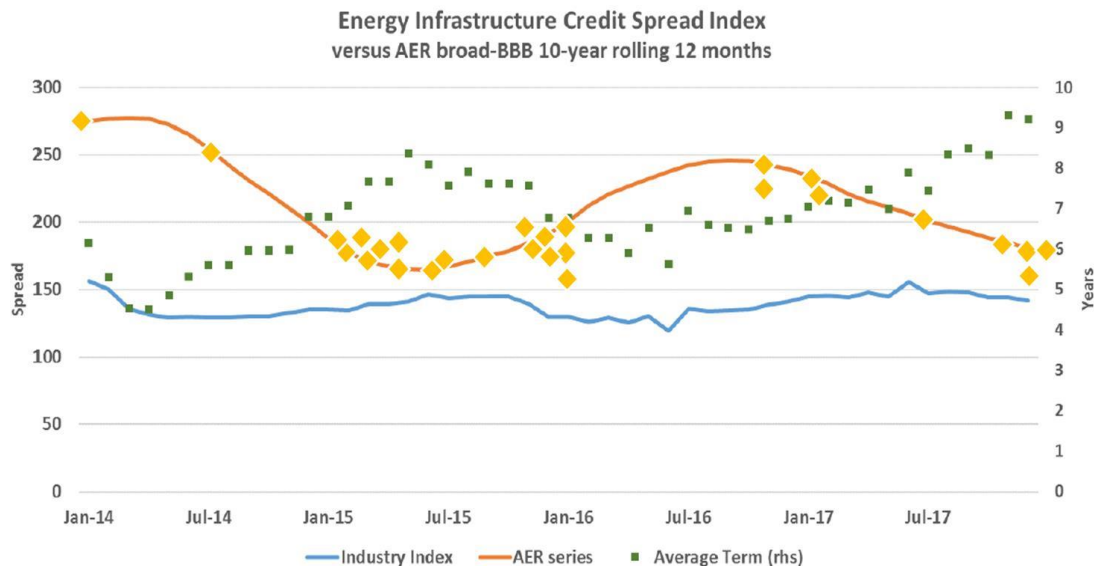
The diagram below is a reproduction of Figure 2 from the discussion paper, which is, in turn, a reproduction of Graph 3 in Chairmont's report to the AER.

Figure 2 is, essentially, the basis for Chairmont's findings.

As APA explains below, some new information has been added to Figure 2. This information, we think, provides further explanation of the data represented in the figure.

³ Chairmont, *Aggregation of Return on Debt Data*, 28 April 2018, page 3.

Figure 2 The current AER approach compared against EICSI³⁹



Clearly, the Industry Index, which is the plot of the EICSI, lies below the rolling average of spreads on broad-BBB debt with a term of 10 years (designated “AER series”) and, compared to the AER series, the EICSI is relatively stable. The average term of the debt issued by service providers appears to rise when spreads (as measured by the AER series) fall, and appears to fall when spreads rise.

A series of diamonds has been added to Figure 2. Each of the diamonds represents a final regulatory decision.

The diamonds in the reproduction of Figure 2 are clustered in the period January 2015 to January 2016. They cluster during a period when the rolling 12 months average of the broad-BBB 10 years credit spread has dropped to its (local) minimum level. The rates of return which the AER has allowed in its regulatory decisions have, therefore, been at their (local) minimum levels. To ensure that their costs of borrowing remain aligned with the regulatory allowances (which may continue to go down, or which will only rise slowly because of the way current rates of return on debt are incorporated in the transition to a trailing average estimate), service providers have responded by borrowing at lower rates. Those lower rates are available on shorter term debt.

In consequence, the average term of service provider debt, which appears to have been rising since April 2014, begins to decline. The decline commences around June 2015, and continues into 2016. This decline in the average term of debt issued by the service providers is halted only when the rates represented by the AER series

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trend upwards and, during the period January 2016 to June 2016, those higher rates are used in the first updating of debt returns in the decisions from January 2015 to June 2015.

The use of shorter term debt in managing against the regulatory allowance appears to have the effects of lowering the observed cost of debt as measured by the EICSI, and imparting stability to that observed cost, at least over the relatively short period in respect of which the AER sourced debt data from regulated service providers.

APA is concerned by the prospect of an immediate response, by the AER, to this apparent behaviour. The AER's decision to transition into a 10 years trailing average estimate of the return on debt, based on an assumed term at issuance of 10 years, was made in 2013. It has been applied in decisions on proposed revisions to the access arrangements for gas transmission pipelines, including those for the Roma to Brisbane Pipeline and the Victorian Transmission System, as late as November 2017. The AER's decision was a decision calling for long term response by service providers. They are now in the process of adapting to, and gaining experience with, the current approach to regulatory estimation of the return on debt.

The AER itself has recognised that many of the electricity network and gas pipeline businesses in its sample have had only one or two years under the current approach, and that this may be too limited a time series on which to base conclusions about longer term practices in response to the trailing average return on debt approach.⁴

In addition, there may be issues with Chairmont's use of the data sourced by the AER which may call into question one or more of the findings noted above. The average term of debt may be reduced by the temporary financing of the recently privatised electricity network service providers in New South Wales. As those service providers put into place new long term financing arrangements, both the average term and the costs of debt as measured by the EICSI can be expected to rise. Also, the EICSI may be depressed by the inclusion of short term debt with multiple roll-overs during a year, effectively giving greater weight to the lower credit spreads on that debt.

We cannot independently verify the EICSI. But APA publishes, in its Annual Reports, the average interest rate (including credit margins) at 30 June applying to drawn debt. These average interest rates for the period 2012 to 2017 are shown in Table 1, together with spreads to swap.

⁴ AER, *Discussion paper: Estimating the allowed return on debt*, May 2018: page 33.

Table 1: APA Group average interest rate and credit spread

Date	Average interest rate	Swap rate	Spread to swap
30 June 2017	5.56%	2.9%	2.7%
30 June 2016	5.78%	2.2%	3.6%
30 June 2015	6.76%	3.35%	3.4%
30 June 2014	7.12%	3.9%	3.2%
30 June 2013	7.35%	4.3%	3.1%
30 June 2012	7.39%	3.95%	3.4%

Chairmont's EICSI which, APA recognises, was calculated as a simple average of rates on issued debt and may not include margins, indicates credit spreads as being around 130 to 150 basis points (the Industry Index in Figure 2).

Nevertheless, the EICSI is about half of the average spread to swap on the debt in APA's portfolio during the last six years. The AER should ask why there is such a difference.

APA understands the reasons for the absence of transparency around the Chairmont work, but that lack of transparency erodes the value of the EICSI.

In APA's view, additional work is required before definitive conclusions about service provider debt can be drawn from the Chairmont analysis.

5 Benchmark term

Relying on the debt data for the period 2013 to 2017, which it sourced from service providers, the AER reports, in the discussion paper:

- an average term to maturity, when terms are weighted by size of issuance, of 7.4 years; and
- an average term to maturity, unweighted by size of issuance, of 7.5 years.⁵

Question 7

In your view, does this evidence support a change to the current benchmark term of debt being 10 years?

APA is of the view that the evidence does not support a change to the current benchmark term of 10 years.

The evidence currently available is for the early part of relatively long transition period. It may be biased by particular events during that period (for example, by the recent New South Wales privatisations noted above), and there are questions still to be answered about the way in which relevant data have been used.

Furthermore, gas transmission pipelines have long technical lives (for regulatory purposes, around 70 years), and compression plant has a life of around 30 years.

Industry practice, long established, is the financing of these long-lived assets with long term debt.

This practice, of financing long-lived physical assets with long term debt, is supported by economic theory: long term debt is an efficient means of financing long-lived physical assets.⁶

The effects of financing long-lived assets without long term debt were clearly seen during the period of the GFC. Businesses which had financed long-lived assets with short term debt found that they could not refinance that debt and, in crisis conditions, could not find buyers for the assets which they could not refinance. Financing short term contributed to business failure.⁷

⁵ AER, *Discussion paper: Estimating the allowed return on debt*, May 2018: Table 6, page 31.

⁶ See, for example, Oliver Hart (1995), *Firms, Contracts and Financial Structure*, Clarendon: Oxford.

⁷ For the experience in the United States, the United Kingdom and Europe (but not Australia), see Barry Eichengreen (2015), *Hall of Mirrors: The Great Depression, the Great Recession, and the Uses – and Misuses – of History*, Oxford.

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During the period of the Global Financial Crisis (GFC), and in the years immediately after, long term debt was not readily available.⁸

Post-GFC, some service providers were able to access long term debt in the United States, where debt with a term at issuance of as long as 30 years is available. But access to the US market is not automatic: it is restricted to borrowers who have taken the time to establish themselves, with lenders, as highly reputable counterparties. Long term borrowing in a foreign market also raises issues of significant exchange rate risk, and potentially high Australian dollar costs of financing.

In the Australian financial market tenors contracted to the range 5 to 7 years during and immediately after the GFC. That situation had begun to change by 2013 with issues at longer maturities than had been the case from around 2007 to 2012. In April 2014, Guy Debelle, Reserve Bank of Australia Assistant Governor (Financial Markets) observed that domestic tenors remained well below the tenors at which corporates could raise bond funding in some offshore markets, particularly in the United States, but Australian investors had become more comfortable with moving up the maturity spectrum.⁹

At 30 June 2010, APA Group had reported that its debt portfolio had a spread of maturities extending out to 2022, with an average maturity of 5 years.¹⁰ APA reported, at 30 June 2013, that the broad spread of maturities on its debt portfolio had, by then, extended out to 2024, with an average maturity of drawn debt of 6.2 years.¹¹ At 30 June 2017, APA reported a broad spread of maturities extending out to 2035, with an average maturity of drawn debt of 7.5 years.¹² As opportunities arose after the GFC, APA issued longer term debt, and the average maturity of its portfolio increased.

In 2013, when the current *Rate of Return Guideline* was being prepared, electricity network and gas pipeline service providers generally accepted 10 years as being benchmark term at issuance, not because it was the desired term, but because it was a reasonable estimate of the average term of debt which might be issued, in the Australian market, to finance long-lived assets during the next regulatory period.

In APA's view, a term at issuance of 10 years remains the benchmark appropriate to the current circumstances of electricity network and gas pipeline service providers.

⁸ The period of the GFC was mid 2007 to early 2009. See Reserve Bank of Australia at <https://www.rba.gov.au/education/resources/explainers/the-global-financial-crisis.html>.

⁹ Guy Debelle, *The Australian Bond Market*, speech to the Economic Society of Australia, 15 April 2014. Available at <https://www.rba.gov.au/speeches/2014/sp-ag-150414.html>.

¹⁰ APA Group, *Annual Report 2010*, page 5.

¹¹ APA Group, *Annual Report 2013*, page 6.

¹² APA Group, *Annual Report 2017*, page 23.

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The AER's finding of an average term to maturity of around 7.5 years for the period 2013 to 2017 indicates to APA:

- incomplete adjustment, by some regulated electricity network and gas pipeline service providers, to a desired term of debt of at least 10 years
- regulation driving the inefficient use of shorter term debt, and driving increased refinancing risk, when service providers should be using longer term debt to finance long-lived physical assets
- the issue of shorter term debt, at rates lower than the regulatory allowance, to provide the returns required by equity investors, those equity returns not being provided by the regulatory estimates of the rate of return on equity.