



Memorandum

To: Jemena Electricity Networks, AusNet Services, CitiPower, and Powercor
From: CEG – Asia Pacific
Date: 5 January 2016
Subject: **September 2015 cost of debt and inflation forecasts**

1 Purpose

1. This memo, and the attached spreadsheet, provides, for the 20 businesses days from 3 to 30 September 2015:
 - an estimate of the cost of debt using data from the RBA, Bloomberg and Reuters;
 - an estimate of forecast inflation.

2 Cost of debt

2. Table 1 below provides estimates of the cost of debt for each transition methodology in the first year of the transition. The first nine averaging periods are calendar years 2006 to 2014.¹ The final averaging period is the 20 days to 30 September 2015. All estimates are based on AER extrapolation. In addition, the hybrid and the optimal hedging transition are based (initially) on 11.5 bp swap transaction costs on that portion of the portfolio assumed to be covered by interest rate swaps. This is consistent with Chairmont² advice to the ERA and phases out over the transition.³

¹ To be clear, the first averaging period is from 1 January 2006 to 31 December 2006, while the ninth averaging period is from 1 January 2014 to 31 December 2014.

² Chairmont, ERA Hedging Costs in the Cost of Debt, May 2015.

³ We note that this is conservative as discussed in our report: CEG, Critique of the AER's approach to transition, January 2016.

Table 1: Cost of debt allowance in year 1 (AER extrapolation in all periods, annualised)

	50/50 Bloomberg/RBA for 9 years. 1/3 Bloomberg/ RBA/ Reuters in September 15	9 years 50/50 RBA only in September 15	RBA for all 10 years, including September 15
Immediate transition (0% of the base rate hedged)	7.75	7.77	7.84
Hybrid (100% hedged base rate) transition*	5.16	5.17	5.24
Guideline transition	5.28	5.44	5.44
Optimal hedging path (1/3 hedging)^	6.89	6.90	6.97

Source: RBA, Bloomberg, Reuters, CEG analysis.* As set out in CEG, Critique of the AER's JGN draft decision on the cost of debt, April 2015. ^The 1/3rd average of the 0% and 100% hedged strategies for the reasons set out in CEG, Efficient use of interest rate swaps to manage interest rate risk, June 2015.

- Note that CEG's previous advice was that prior to 2015 the trailing average DRP could reasonably be estimated using the average of Bloomberg and RBA estimates. Bloomberg both extrapolated using the AER extrapolation methodology – although we noted that the RBA and Bloomberg estimates were all very similar as were the average estimates using AER or SAPN extrapolation.⁴ This assumption is retained in the first two columns of numbers. However, we include an option of RBA only for all periods. We have only included AER extrapolation in these numbers. We note that in the September 2015 period the AER/SAPN extrapolation are similar for the RBA and Bloomberg is not extrapolated (the AER method results in a 5bp lower RBA adjusted 10 year estimate in that month).

3 Inflation

- The following table provides a variety of both break-even and actual inflation estimates.

⁴ CEG, Critique of the AER's JGN draft decision on the cost of debt, April 2015.

Table 2: Break-even (and actual) inflation estimates

Estimate	Value	Estimate	Value
10 year	2.19%		
5 year	1.94%		
4 year	1.83%		
Actual June 14 to June 15	1.51%	Weighted average of 10 year and 5 year break even	2.04%
80% of 4 year forecast and 20% of 1 year actual	1.77%	Weighted average of 10 year and 5 year (where 5 year estimate is 20% actual and 80% forecast)	1.94%

Source: Bloomberg, RBA, ABS, CEG analysis.

5. The following estimates are appropriate in each circumstance:
 - 10 year break even (2.19%) – if all that is being challenged is the source of forecast estimate;
 - Weighted average of 10 and 5 year break even (2.04%) – if it is accepted that debt costs are nominal costs and, therefore, in order to deliver appropriate compensation the PTRM should adopt the same term for the inflation forecast as the regulatory period;
 - Weighted average of 10 and a mix of actual and forecast inflation over 5 years from June 2014 (1.94%) – as above plus recognition that the 5 year term should cover the same period as will be covered in the next RFM model (which we understand will be from June 2014 to June 2019).
6. We consider that the last of these options is the economically correct one.

4 September swap values

7. The following table provides the September 2015 swap values used in our calculations.

Table 3: Daily swap rates over 3 to 30 September by maturity (semi-annual)

	1	2	3	4	5	6	7	8	9	10
3/09/15	2.098	2.086	2.166	2.2707	2.4275	2.5831	2.7088	2.8208	2.9188	3.00
4/09/15	2.086	2.06	2.14	2.265	2.4088	2.5488	2.6725	2.79	2.8825	2.96
7/09/15	2.1265	2.093	2.178	2.3	2.45	2.5988	2.7231	2.8358	2.935	3.0125
8/09/15	2.135	2.108	2.195	2.3363	2.4775	2.6369	2.7513	2.8613	2.955	3.0313
9/09/15	2.1675	2.159	2.243	2.3575	2.4963	2.6325	2.7725	2.8894	2.9706	3.0488
10/09/15	2.16	2.15	2.24	2.3788	2.5238	2.6669	2.7956	2.905	3.0025	3.0756
11/09/15	2.17	2.162	2.248	2.3688	2.505	2.6425	2.765	2.8708	2.9604	3.0438
14/09/15	2.158	2.141	2.238	2.3663	2.505	2.6413	2.7675	2.8717	2.96	3.04
15/09/15	2.1695	2.137	2.223	2.4325	2.5838	2.7275	2.8588	2.9717	3.07	3.155

16/09/15	2.178	2.174	2.281	2.4388	2.5913	2.74	2.8563	2.9671	3.0675	3.14
17/09/15	2.193	2.212	2.332	2.3675	2.5088	2.6575	2.7763	2.8796	2.9681	3.0513
18/09/15	2.207	2.185	2.264	2.3575	2.4963	2.6338	2.7613	2.8646	2.9529	3.0363
21/09/15	2.18	2.163	2.243	2.3925	2.5138	2.675	2.7994	2.8969	3.00	3.0725
22/09/15	2.187	2.174	2.25	2.3488	2.4763	2.6056	2.7288	2.8325	2.91	2.995
23/09/15	2.172	2.144	2.22	2.3475	2.485	2.6325	2.74	2.8538	2.9367	3.0013
24/09/15	2.1575	2.119	2.195	2.3138	2.4425	2.5813	2.6925	2.7963	2.885	2.9563
25/09/15	2.168	2.137	2.222	2.3256	2.4588	2.6038	2.7338	2.8225	2.9075	2.9925
28/09/15	2.173	2.143	2.229	2.295	2.4188	2.55	2.6656	2.766	2.8463	2.92
29/09/15	2.143	2.1	2.156	2.2563	2.38	2.5075	2.6238	2.7213	2.8038	2.8725
30/09/15	2.121	2.084	2.149	2.2488	2.3775	2.5069	2.6213	2.72	2.8088	2.88

Source: Bloomberg

5 Historical swap and DRP values

8. The following table provides the historical DRP values used in our calculations.

Table 4: Historical DRPs (measured to swap values, semi-annual)

Calendar year (unless otherwise stated)	10 year swap rates	RBA (AER extrapolation)	Bloomberg (AER extrapolation)	Reuters*
2006	6.077	0.707	0.579	
2007	6.639	1.067	0.816	
2008	6.659	3.583	2.362	
2009	5.591	4.519	3.373	
2010	5.872	2.107	3.454	
2011	5.505	2.370	3.286	
2012	4.165	3.151	3.017	
2013	4.238	3.018	2.665	
2014	4.011	2.238	1.879	
2015 (3-30 September)	3.014	2.357	2.064	2.1467

Source: Bloomberg, AER, RBA, Reuters and CEG analysis; *Reuters DRP calculated using Bloomberg swap rates.

5.1 Description of DRP calculations

9. We note the following about the DRP calculations.

- The DRP estimates presented in Table 4 above are not the same as the corresponding estimates in Table 18 of our previous report for JGN.⁵ This reflects revisions to the RBA historical series since the time we published that report. The values in Table 4 above are on average lower.
- That historical revision by the RBA also led them to not publish a 10 year target tenor for 11 months (in addition to other changes).⁶ In those months we must extrapolate from a published tenor of 7 years using SAPN extrapolation.⁷

⁵ CEG, Critique of the AER's JGN draft decision on the cost of debt, April 2015, p 91 in Appendix F.

⁶ March May and August 2005, September 2007 to March 2008 inclusive and June 2008.



- Historically we have used the Bloomberg BVAL curve from May 2014 and the Bloomberg BFV curve prior to that. This reflects the reasoning set out in⁸

⁷ We consider that this is a more reliable method of extrapolating from an effective tenor of around 6.5 years to an effective tenor of 10 years in these months. The alternative is to use straight line extrapolation using the slope of the swap curve between effective tenors of around 5.5 and 6.5 years (i.e., a very small portion of the yield curve). The average difference between these approaches is 22bp – which affects the 10 year trailing average RBA number by 2.2bp.

⁸ CEG, Critique of the AER's JGN draft decision on the cost of debt, April 2015, section 6.1.1 beginning on p. 65.