

Cost of Debt for RIIO-3

Prepared for SPT

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At RIIO-3, the key parameters for setting a RAV-weighted cost of debt index are: i) legacy RAV starting point, ii) trailing average length for legacy RAV, and iii) length for refinancing legacy RAV. These parameters should be determined based on economic rationale and criteria

Ofgem introduces RAV-weighted kD index for ET sector

- At SSMD, Ofgem decided to introduce RAV-weighted cost of debt index for all ET networks, but retain the RIIO-2 unweighted approach for Gas networks
 - Ofgem acknowledges that an unweighted trailing average of the cost of debt index may no longer be appropriate for ET at RIIO-3, given high RAV growth and debt financing needs for ET sectors relative to previous price controls, and also the higher and more volatile interest rate environment
- Ofgem considers that weighting the debt index by annual RAV additions and assuming refinancing can mitigate the near-term challenges where the allowed return on debt would deviate from expected cost of debt
- Ofgem also states that the RAV-weighted approach offers better assurance that consumers will pay a fair price for capital while providing the necessary flexibility to address greater totex variability and rate volatility

Key parameters for calibrating RAV-weighted kD index

- The key parameters to consider are:
 - i) Legacy RAV starting point, e.g. starting in RIIO-1, RIIO-2, or RIIO-3
 - ii) TA length for the legacy RAV, and
 - iii) Refinancing assumption for legacy RAV, e.g. refinanced every 10 years
- In principle, we believe that these parameters should be determined based on economic rationale and criteria, rather than solely based on mechanical calibrations, although Ofgem must also ensure companies recover costs:
 - i) The starting point of RAV weight should reflect the period where RAV growth and debt financing needs diverge from steady-state, so that the cost of debt allowance based on an unweighted approach diverges from the actual cost
 - ii) For TA length for the legacy RAV and for refinancing the legacy RAV, the economic rationale is that the TA length should broadly reflect the average maturity at issuance, which is around 15-20 years for electricity networks

Significant RAV growth from RIIO-2 for both the ET sector and SPT supports RIIO-2 as the starting point for legacy RAV within the RAV-weighted approach

- SPT and the ET industry RAV growth increased substantively from RIIO-2
 - From RIIO-1 to RIIO-2, the average annual RAV growth rate (nominal CAGR) in the ET sector more than doubled, increasing from 6 per cent in RIIO-1 to 13 per cent in RIIO-2, and is projected to rise further to ca 20 per cent in RIIO-3
 - SPT’s RAV growth rate was higher than the overall ET sector, increasing from 8 per cent in RIIO-1 to 14 per cent in RIIO-2, and is expected to reach 23 per cent in RIIO-3
- Our analysis indicates that an unweighted approach could lead to a divergence in the cost of debt allowance and the actual cost of debt from RIIO-2 onwards, because of under-weighting of debt costs from RIIO-2. i.e. following the period of high RAV growth and debt issuance
 - Rather RIIO-2 constitutes viable starting point for legacy RAV within the RAV-weighted approach to ensure alignment of allowance and costs

Figure 1. SPT and ET sector RAV addition and RAV growth rate

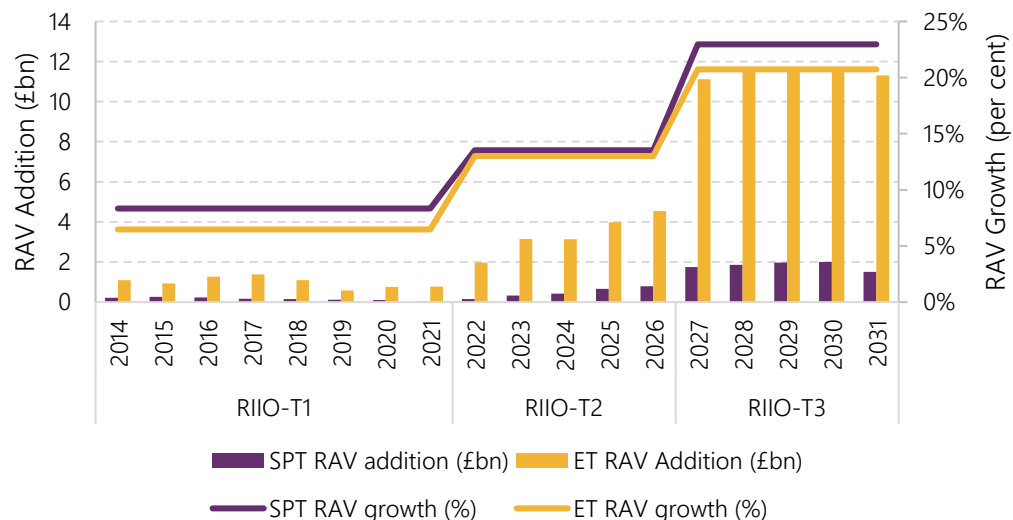
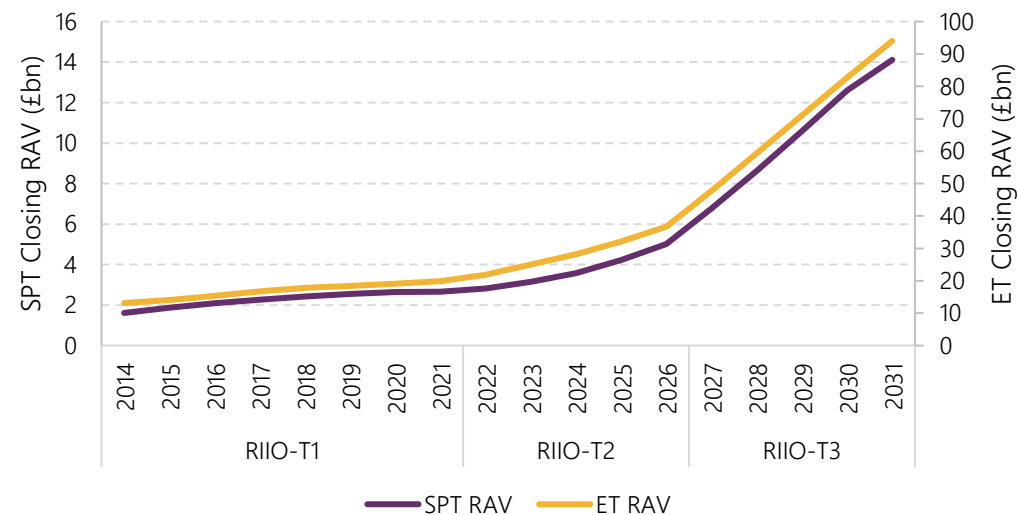


Figure 2. SPT and ET sector nominal RAV evolution



Source: NERA analysis based on data from PCFM and BPFM

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The TA length for the legacy RAV and refinancing should reflect the average maturity at issuance of approximately 15 to 20 years for electricity networks

- The economic rationale for setting the Trailing Average (TA) of the cost of debt index is that it should broadly reflect the average maturity at issuance
 - By doing so, if an energy network issues a bond with an average tenor of, e.g. 18 years, it will receive an allowance equal to the efficient debt cost for each year of the bond's lifetime, thereby providing a reasonable prospect of recovering the debt cost.
 - The same principle applies to the refinancing of legacy debt
- Our analysis shows that average maturity at issuance for ET and wider energy/regulated networks is around 15-20 years. Specifically, the ET sector average maturity at issuance is around 15 years whereas the ED sector is around 20 years, and the GD/T sector is around 19 years, with a sector wide average of ca 18 years

Figure 3. Average maturity at issuance for ET and wider energy/regulated networks is around 15-20 years



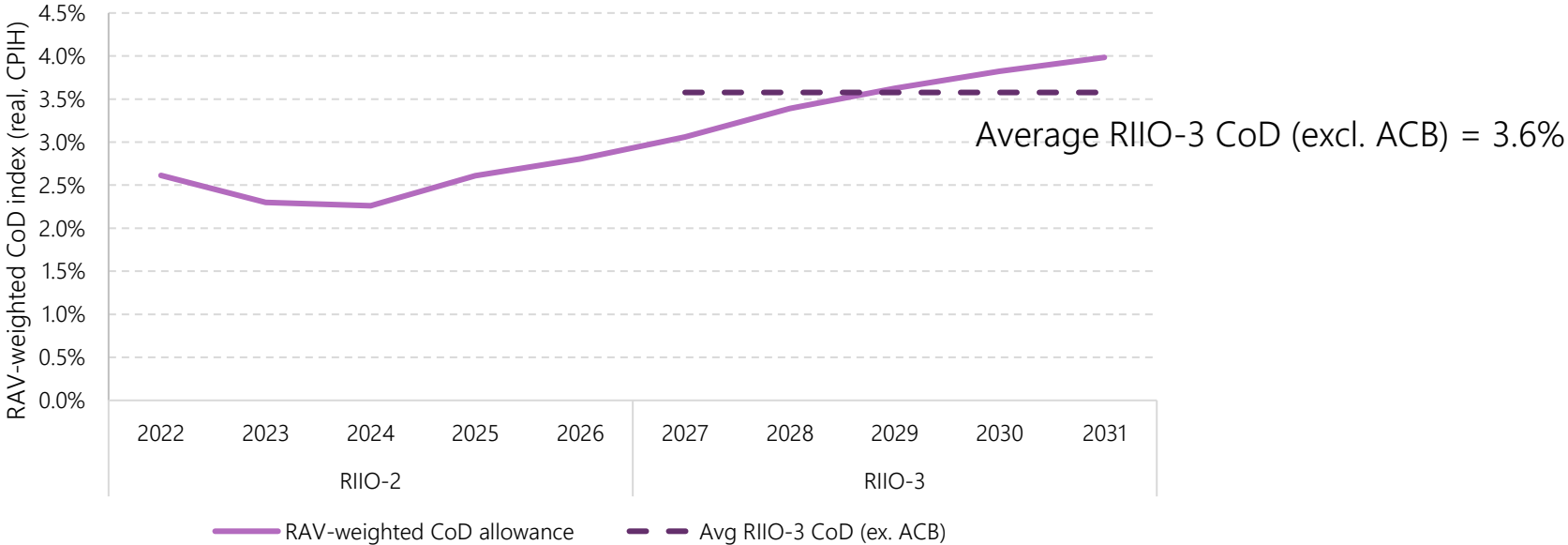
Source: NERA Analysis

Note: Analysis based on all fixed-rate outstanding public bonds including nominal and ILD identified from public sources

Conclusion: Economic rationale supports a RAV-weighted cost of debt index with legacy RAV starting in RIIO-2, with a TA of 18-years. This specification provides a cost of debt allowance of around 3.6 per cent over RIIO-3, excluding additional cost of borrowing

- Economic rationale supports a RAV-weighted cost of debt index with legacy RAV starting in RIIO-2, with a TA of 18 years :
 - i) Significant RAV growth that begins in RIIO-2 for both the ET sector and SPT supports RIIO-2 as the starting point for legacy RAV
 - ii) For TA length for the legacy RAV and for refinancing the legacy RAV, the economic rationale is that the TA length should broadly reflect the average maturity at issuance, which is around 15-20 years for electricity networks and ca 18 years on average
- Drawing on SPT totex forecast, the above calibration provides a cost of debt allowance of around 3.6 per cent, excluding an estimated additional cost of borrowing (which we separately estimate at 60 bps), as shown in Figure 4 below

Figure 4. SPT RAV-weighted CoD index, RAV weighting starting in RIIO-2, with 18-yr TA



Source: NERA analysis

Ofgem will need to ensure that the chosen specification allows the sector to recover debt costs as a whole. There may be a need for an uplift to the specification as per ED2, to allow for the sector as a whole to recover costs, including costs under a reasonable downside scenario/ headroom

- In addition, Ofgem will need to ensure that the cost of debt calibration allows the sector to recover debt costs as a whole
 - may be a need for an uplift to the specification as per ED2, to allow for the sector as a whole to recover costs, including costs under a reasonable downside scenario and/or headroom
- As shown in Figure 5, at ED2 Ofgem provided an uplift of 55 bps to its calibration which provided some protection against downside risk, and at GD2/T2 Ofgem calibrated mechanism such that it provided ca 30 bps headroom
 - At ED2, Ofgem sets the cost of debt allowance based on a 17-year trailing average of the iBoxx Utilities debt index, and allows a **55bps calibration adjustment**, plus 25bps additional cost of borrowing. Ofgem calibrated the cost of debt mechanism to ensure that the sector as a whole recovered its cost of debt, **with expected headroom of between 0-32bps at the sector level**
 - At GD2/T2 FD, Ofgem decided on 10-14y +25bps cost of debt index, as it considered this will provide an adequate allowance to recover sector debt costs, based on an assessment of expected performance of the allowance under different scenarios. Specifically, **Ofgem expects 26-29bps headroom in the base case**, albeit headroom declines to 3 to -2 bps where RPI is 1 per cent higher

Figure 5. Ofgem provided an 55bps adder to allow 0-32bps headroom at ED2 FD, and 26-29bps CoD headroom at GD2/T2 FD

Table 9: Difference between expected industry debt costs and expected allowed debt costs, RIIO-ED2 average, excluding derivatives

Index calibration	Baseline totex	Higher totex	Inflation + 1%	Inflation - 1%	iBoxx & LIBOR +1%	iBoxx & LIBOR - 1%
17-year trailing average + 55bps calibration adjustment + 25bps additional cost of borrowing	0.17%	0.17%	0.05%	0.26%	0.00%	0.32%

Source: Ofgem (30 November 2022), RIIO-ED2 Final Determinations Finance Annex, p.27.

Table 5: FD debt allowance calibration compared to expected GD&T debt costs under different scenarios

Scenario/ Assumption	Net Zero 2 Totex	Ofgem FD Totex
March '20 OBR RPI Forecast	0.29%	0.26%
RPI +1%	0.03%	-0.02%
RPI -1%	0.53%	0.51%
Long Term RPI = 3%	0.26%	0.22%
RPI 3%, Iboxx & LIBOR +1%	0.11%	0.10%
RPI 3% Iboxx & LIBOR -1%	0.40%	0.34%

Source: Ofgem (03 February 2021), RIIO-2 FD – Finance Annex, p.17.

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