



APGA Submission to the AER

Draft working paper on Energy Network debt data

14/08/2020

1. Introduction

The Australian Pipelines and Gas Association (APGA) welcomes the opportunity to comment on the Australian Energy Regulator's (AER) Draft working paper on Energy Network debt data.

APGA is the peak body representing Australasia's pipeline infrastructure, with a focus on gas transmission, but also including transportation of other products. Our members include owners, operators, constructors, advisers, engineering companies and suppliers of pipeline products and services. APGA's members build, own and operate the gas transmission infrastructure connecting the disparate gas supply basins and demand centres of Australia, offering a wide range of services to gas producers, retailers and users. The replacement value of Australia's gas transmission infrastructure is estimated to be \$50 billion.

A stable, predictable regulatory framework is vital to maintaining the attractiveness of the Australian energy sector as a destination for investment. It is in the context of this recent history that we make this submission in respect of the current process, which we hope can contribute to a future improved investment environment.

APGA does not have the detailed industry data necessary to discuss whether the numbers produced by Chairmont for the EICSI and WATMI indices are correct; for this, we point to the Energy Networks Australia (ENA) submission where such analysis has been undertaken. However, we note that issues such as a failure to properly weight for tenor is likely to substantially underestimate the actual cost of debt faced by networks as it over-weights short-term debt, which has a lower cost, relative to its size in the RAB.

In this submission, we focus primarily on two issues:

- Issues associated with the implementation of several of the options the AER presents which require further consideration before these options are employed.
- Issues associated with the change in the strategic environment occasioned by options which make use of the indices as part of the annual updating process.

Implementation issues are to be expected at this early stage, but it seems as though some options face issues which are not easily resolved by a process of fine-tuning the options. This pertains to what the metrics reveal, and what the AER can do in an environment of a binding rate of return instrument.

As an example of the former, the relationship between spread and tenor is positive, but it is not linear, nor even very stable. Therefore, the spread on a five-year bond is different from the average of the spreads on a one- and nine-year bond. Since the EICSI is an average of spreads on bonds of different tenors, it is not clear that it can play a role greater than a broad cross check.

As an example of the latter, the AER suggests it may continue to exclude some "outliers", but debt is issued all of the time. If a network issues a new debt after the AER completes its next rate of return instrument, particularly if that debt has some novel characteristic, the AER may need to exercise judgement to determine whether it is an outlier or not. However, since the instrument is binding, it is not clear whether there is scope for the AER to exercise judgement in this fashion. It is therefore not clear how the AER might reasonably treat new debt save for simple rules like including all of it or none of it. This might serve to limit its options.

We discuss several implementation issues in Section 2 of this submission.

The change in the strategic environment is more profound, and, for some of the AER's proposed options, involves a change from a situation where networks consider only market factors when raising debt, to a situation where they must consider both market factors and the decisions made by each of their peers in debt raising, which change the EICSI. We believe this is likely to create a destabilizing influence in respect of network finances, which is not in the long run interests of consumers.

Finally, the AER has asked several questions about what kinds of debt instruments it should include. We answer these questions in Section 4, where we note that, since the purpose of these indices are to show the actual cost of debt, they should include all instruments and fees which go towards the debt package used by networks to provide regulatory services. Anything else just means the indices are not measures of actual debt costs.

2. Implementation issues

In this section, we provide an overview of several implementation issues which we think remain unresolved in the working paper and which require consideration as we move towards the rate of return instrument in 2022. For the purposes of the remainder of our discussion, we count five options on page 17-18 of the AER's working paper, viz:¹

- Use the EICSI to “sense-check” the cost of debt allowance; the same use to which the index was put in 2018.
- Use the WATMI to “inform” the term of the cost of debt. We have interpreted the AER's meaning here as being that it would use the WATMI index in the same “sense-check” way that it used the EICSI index in 2018.
- Use “the analysis” (we presume both EICSI and WATMI) to inform the benchmark credit rating assumed for the industry as a whole.
- Use the EICSI *in* the determination of the return on debt by, for example, using it as a fourth index in addition to the three independent indices it already uses.
- Use the EICSI *as* the determination of the allowed cost of debt, removing any use of the three existing independent measures.

There is very little detail on what is involved in each of these options, which is perhaps understandable in this first working paper. However, it is important that detail emerges so that stakeholders can begin to discuss the options with more clarity. We divide the implementation issues we discuss in this section into three broad areas:

- Areas where more clarity is required in respect of how a given option might operate.
- Areas where the information revealed by a given option is not what the AER might need.
- Areas where it is not clear that the AER could do what is required by the option.

We discuss these below.

¹ We note that there are only 4 dot points in this section of the AER's paper, but we include the status quo as an option, as the AER does too. For the avoidance of doubt, where we later refer to “the AER's 5th option” or similar, we are making reference to this list.

2.1 Issues of clarity

There are many areas where more clarity is required before we can appropriately assess the options the AER has proposed and their consequences. We list some of these below:

- Option 5 proposes to use the EICSI as the cost of debt index. However, it is a spread, meaning the AER will need to make choices about what risk-free rate to add it to (see discussion about averaging spreads below). It will also need to make choices about timing; does it add an annual average of the spread to a risk-free rate formed during a particular averaging period? Finally, adding a spread to a risk-free rate appears to be a fundamental change to present practices, which would appear to require some form of transition.
- It is not clear from the AER how it will treat the debt margin from a 12-month rolling average in either assessing reasonability of cost of debt or determining the cost of debt. This is because a 12-month rolling average of debt margin is disconnected from a prevailing 10-year swap rate and is also disconnected from the WATMI tenor which is based on all live debt to date rather than the tenor of debt in the rolling average.
- It is not clear the extent to which the options might create unforeseen consequences, and how these might be avoided. For example:
 - The use of EICSI could mean that a business that is raising debt in the prevailing lower (higher) interest conditions could benefit (lose) from higher (lower) rates in market condition occurring 12 months back in other businesses' averaging periods.
 - The use of an EICSI could potentially create perverse incentives for businesses to not allocate lower financing costs benefits to regulated assets where debt is raised at a group level.
 - It is not clear what averaging period would be used for the risk-free rate if the spread is averaged over 12 months. If it is a matching period, rather than hedging in a narrow time-band, the approach may promote opportunistic behaviour in selection of these periods to ensure a preferable 12-month average.
 - There appears to be an inconsistency where an inflation forecast is being used for the incremental debt observation. For example, the current inflation forecast required in the PTRM model is forward looking that is consistent with underlying the prevailing data from independent data curves. However, this forecast used in the PTRM will not be consistent with the underlying data used for developing the EICSI, which is historical.

2.2 Issues of meaning in the information revealed

It is not clear, to us at least, whether the information the AER thinks might be revealed in a given option represents what the AER thinks it means. The simplest example of this is the third option above relating to credit ratings. Credit ratings for a network reflect the overall financial position of that network, and are not simply the sum total of the credit ratings on its bonds. We believe it would be more useful to deal with credit rating issues as part of a financeability assessment than to use the EICSI for these purposes.

A second example is more subtle, and reflects the very nature of the EICSI itself. Whilst spreads are positively correlated with tenor, the relationship between them is not linear, nor even stable. The average of the spread on a one- and nine-year bond, for example, is not equal to the spread on a

five-year bond. If the EICSI is used only as a broad sense check when making the rate of return instrument, this might not matter much, but it would preclude its use in any determinative fashion to set the allowed cost of debt, particularly in conjunction with the WATMI index.

2.3 Issues of feasibility

The key constraint the AER faces in respect of the rate of return instrument is that it is binding on both the AER and ourselves. This is likely to preclude options which require the AER to use judgement at a regulatory determination or as part of the annual updating process for debt, and create very complex contingency statements in the rate of return instrument for other options.

As an example of the former, consider the question of “upward outliers” which we address in Section 4. Consider what might happen if a business issues an exotic debt instrument very different to what it, or anyone else, has issued previously. The AER could not possibly know every permutation of exotic debt instrument that a network might issue and therefore could not set down a clear inclusion or exclusion rule in the instrument.² This may mean that it is not possible to exclude instruments, even if the AER believes that they could be outliers, which may have important consequences as to how the indices are used.

As an example of complexity in the rate of return instrument, consider the interaction between the WATMI index and the trailing average. The current trailing average is ten years and predicated on a firm issuing debt in equal tranches of ten percent per annum over those ten years. If the WATMI index indicates a change in tenor and the AER acts on this when it forms the next rate of return instrument, then doing so is likely to create very complex transition arrangements. Indeed, it is not clear to us how a meaningful trailing average could be developed if different tranches have different tenors. This is an issue picked up in more detail in the ENA submission.

However at least in the formation of the rate of return instrument, the AER has some flexibility. If the AER tried to write the rate of return instrument to include contingencies on what it would do if the WATMI index were to indicate a change of tenor (as it currently does, for example, in the case of one of the third-party indices failing to be published), then this would make the rate of return instrument very long, and likely, hopelessly confused. This would seem to preclude the WATMI index plying any role other than at the time the rate of return instrument is determined, and probably even then only as a broad sense check.

3. The change in the strategic dynamics of debt

In this section, we provide an overview of how we think the strategic dynamics of the industry in respect of debt may change if the EICSI and WATMI indices are used more widely, in particular in the 4th and 5th options from the list in the previous chapter.

Note that in both cases, the AER intends to use the *spread* from the EICSI (which creates some implementation issues noted in the previous sections). However, because there is generally a positive relationship between spread and tenor, the choices networks make in respect of their tenor will influence the EICSI and mean in particular that it is not reflecting merely changes in the efficiency of debt as it changes, and that choices made by one network on tenor will affect the index and thus the debt allowance provided to another network.

² *Indeed, attempting to do so may provide incentives to game the rules, which is unlikely to be in the long run interests of consumers, and would probably have unforeseen consequences for networks as well.*

The 4th and 5th options are essentially the same in terms of their effects, with the only difference being that using the EICSI *in* rather than *as* the debt allowance slows down the adverse consequences we discuss below. For the purposes of the discussion below, we focus largely on the extreme case of the EICSI combined with some proxy of a risk-free rate *as* the index.

In the sections below we focus on:

- The change in incentives which emerge if the AER chooses to use the EICSI or WATMI indices extensively in the annual updating process for the cost of debt.
- How we think the unintended consequences and behaviours may play out if it does this.
- Why we think the AER already essentially has the right approach in respect of how the indices are used. In particular, the importance of limiting their use to the formation of the rate of return instrument and not the annual updating of the cost of debt.

3.1 The strategic change

At present, the AER uses three independent indices to set the cost of debt at each regulatory determination (for our discussion on how it chooses these indices, and why it is beneficial, see Section 3.3). Like the EICSI and WATMI, these are averages but they are averages of bonds from across the whole economy. In particular, most of the bonds are not issued by regulated energy networks, and are thus unaffected by action by the AER, or by actions of the networks, responding to incentives put in place by the AER. In practical terms, this means that each network business makes its debt-raising activities independently of one another, as the current indices are largely unaffected by actions made by a single network.

The EICSI (and WATMI) are quite different. They are averages only of network debt spreads, so all debt issuances from which the average is formed are directly affected by the actions of and incentives provided by the AER. These indices will change as any particular network makes changes to their own debt-raising practices.

This is a fundamental difference. At present, networks respond solely to market forces; general market forces in respect to the trade-offs they choose to make between refinancing risk and cost and the market outcome of such trade-offs made throughout the economy as reflected in the relevant third-party indices. However, giving more weight to the EICSI in the cost of debt allowance in an annual updating process for the cost of debt means that networks will also need to focus on the choices their peers make in the regulated energy sector, and what this does to the average. This weakens the role that market forces play, and strengthens the role played by the incentives inherent in the strategic interaction which emerges in a small group facing interdependencies.

For example, assume that there is no change in market conditions, but Network A appoints a new board director who takes a more bearish view than her predecessor about refinancing risk and directs her CFO to start extending the average tenor of their debt book. This will have the effect of increasing the EICSI as spread is positively related to tenor. Assume that Network B has had no changes in its views on refinancing risk because there have been no changes in market data or personnel, and thus does not react to this change; it now has a windfall gain. The converse is true if Network A appoints a more bullish director, who is less concerned about refinancing risk, although in this case, Network B is arguably more likely to react to the windfall loss rather than passing on losses to its equity holders.

The basic point is that these changes have occurred in an environment of no market changes, but merely idiosyncratic changes of view at a given network. Efficient markets do not react to such changes as corporate treasuries remain at arms-length from one another. As a case in point, at present, even the averaging periods for our debt allowances remain commercial in confidence.

To our minds, what the AER has created with Option 5 looks like a classic “tragedy of the commons”. Networks might prefer a higher spread,³ but if one network lowers its spread whilst another does not, then the average falls and the relative relationship between risk and reward which formerly prevailed has changed and this may force the second network to also reduce its spread.⁴ If spread really were only a matter of the efficiency with which debt is raised, this might not matter. However, it also depends on tenor, and the EICSI allows no means of distinguishing reasons why spreads fall, nor any kind of brakes to prevent a fall unrelated to any improvement in efficiency. Moreover, since networks that are above the average fail to obtain an allowance for debt equal to their cost, even if they are efficient at that tenor, the pressure on debt costs exists whether debt is efficient or not. For this reason, we think it is likely to precipitate a tragedy of the commons, and destabilise network finances. We expand on this below.

3.2 Our view of the likely outcome

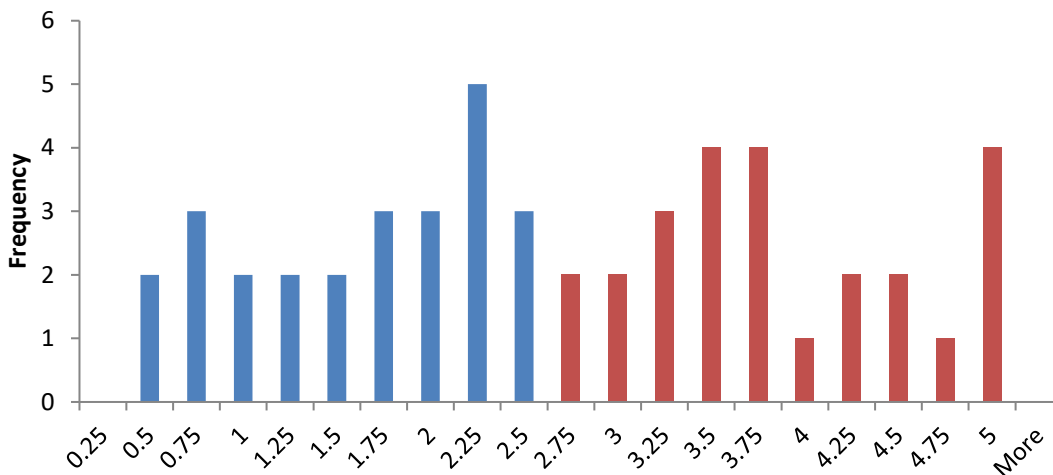
We explore how we think the EICSI leads to a tragedy of the commons via a simple illustration with 50 debt instruments, initially set at random points on the interval of spreads between zero and 5%, and a “strict” EICSI which sets the cost of debt allowance at any point in time t to be equal to the average actual spread across the 50 instruments in period $t-1$ (for simplicity, we assume no change in the risk-free rate throughout and that each network does in fact have efficient debt given its circumstances).⁵ This is essentially the proposed Option 5 from the AER. Option 4 (has essentially the same dynamic, but it just plays out more slowly due to the mitigating effects of the third-party indices, which do not change due to actions by networks. The first round in this game is shown in Figure 1.

³ It is not clear that they necessarily would. If all networks actually had debt with a 300-bps spread, when the efficient spread at that tenor was 200bps then consumer prices would be too high, but networks would not be benefiting as they would need to pay the 300bps to the bank or other debt-holders. It is not clear why the owners of the networks would favour this outcome.

⁴ Again, it is not clear that they necessarily would in all instances, because shorter tenor means higher refinancing risk faced by equity holders (see the ENA submission on this point). However, some networks may face this as the only option to avoid losses (and may favour the approach if the avoided losses are larger than any increase in the cost to equity from higher refinancing risk) if they find themselves above average because the idiosyncratic aspects of their assets make their debt intrinsically more expensive.

⁵ We appreciate that this is not the situation Option 5 is intended to address; it is intended to address inefficient debt. However, it is an average with no means of determining whether a given bond is efficient or inefficient, and thus has exactly the same effect on a set of debt instruments that are all efficient given the circumstances of each issuing network as it has on a set where some are efficient and some are not, or, indeed, where all debt is inefficient.

Figure 1: Illustration of the EICSI in action – Round 1



The average spread in Round 1 is 2.6 percent. This then becomes the benchmark for Round 2. The question then becomes what networks will do in Round 2, which drives, in turn, the benchmark in Round 3. Conceptually, the networks in the blue bars of the histogram in Figure 1 (i.e. those with below average spread) could take advantage of their windfall gain to push for longer tenor as they refinance debt.⁶ However, if they do so, they potentially create windfall gains for others who make no change, if they manage to push the price up and, if nobody else follows, they risk losing money in Round 3. At the same time, all of the networks represented by the red bars from Round 1 will already be losing money in Round 2 by virtue of having come in with above average spreads. If they do not reduce their spread, even if no-one else does anything, they face the risk of two (or more) periods of losses on their debt allowance. We therefore think there is a stronger dynamic towards reducing, rather than raising spreads.

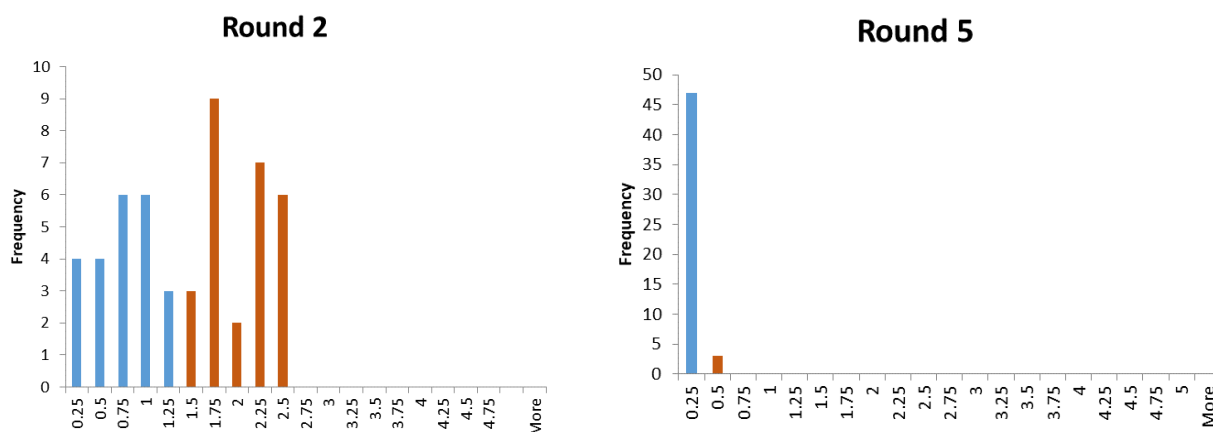
We assume that all networks who find themselves above average will therefore seek to re-contract to obtain below average spreads whilst those with below average spreads do nothing. We note, however, that any equilibrium which leaves the debt allowance in Round t lower than it was in Round $t-1$ will lead to the same result we discuss, only more slowly.⁷

Figure 2 shows the outcomes in Round 2 and Round 5 of the game we have constructed. In Round 2, the benchmark has been set at 2.6% at the end of Round 1, so all networks have re-contracted in order to come in under the benchmark. This means that all of the debt instruments in the orange bars in Figure 2 will be above the average, and thus above the benchmark in Round 3. It is assumed that these firms will refinance to come in below the average from Round 2 in Round 3, and so on. By Round 5 (so the end of a single 5-year regulatory period if the EICSI forms part of the annual update mechanism for the cost of debt), the average has moved to only 0.25%; and of course, since the benchmark is an average, some networks will still be losing money on some debt. If there was a Round 6, the spread would be closer to zero still.

⁶ Or, conceptually, the CFO in the relevant organisation could take less effort in debt raising and raise inefficient debt. However, as we noted in our July 29 presentation, the owners of the network would be unlikely to look favourably on this inefficiency which creates risk for them without any additional reward for them. We therefore ignore this possibility.

⁷ The other two options are a series of ever higher spreads, or a pattern (random or otherwise) of rising and falling spreads. The former may be beneficial to networks if higher costs are accompanied by longer tenor and thus reduced re-financing risk, but, since they result in higher consumer prices, it is not clear that consumers would prefer them. If debt costs oscillate, then this seems likely only to introduce volatility, and again it is unclear why consumers would favour this.

Figure 2: Illustration of the EICSI in action – Rounds 2 & 5



At first glance, this dynamic seems like an ideal outcome; depending upon how strong the downward pressure actually is, the dynamic set in place by the EICSI index seems an inexorable force downwards for the cost of debt. This, however, ignores market forces in debt markets.

It is highly unlikely that networks could obtain a spread so close to zero solely by squeezing out inefficient debt at a given tenor as there is no evidence that regulated energy assets are risk-free. It also seems highly unlikely that they could do so by simply adopting shorter tenor. Shorter tenor implies higher refinancing risk which is likely to result in a credit downgrade from ratings agencies and may result in defaults being triggered by existing debt holders; depending upon their debt covenants.

Since both of these outcomes lead to higher spreads, the EICSI, if it ever fell significantly, would simply shoot straight back up again. The only lasting effect from a short sojourn into lower prices for consumers would be a legacy of financial instability causing a shift in focus away from providing efficient energy services and towards purely financial concerns to stave off corporate failure. It is difficult to see how this is in the long run interests of consumers.

3.2.1 The AER’s proposed approach and the NGO/NEO

The NGO states that the goal of the NGL is:⁸

to promote efficient investment in, and efficient operation and use of, natural gas services for the long-term interests of consumers of natural gas with respect to price, quality, safety, reliability and security of supply of natural gas.

It is not clear if the EICSI is capable of meeting this goal if it is used as part of the annual updating process. To the extent that efficient investment and operation of networks is underpinned by efficient debt-raising, the EICSI (and WATMI) is far too blunt a tool. This is because it is simply an average and has nothing to do with efficiency in a world where networks are not all identical and thus cannot every have the same cost of debt but for the efforts of their CFOs in debt raising.

⁸ See <https://www.aemc.gov.au/regulation/regulation>

Consider, by way of an example, two gas pipelines; one serves a mining region and the other a capital city. Each has very different risk profiles for a debt holder, because the customer base is very different. In particular, the pipeline serving the mining district is likely to be judged a higher risk because, if the mines fail due to depletion of mineral resources or a change in commodity price making them uneconomic, the pipeline has no revenue stream.

If the EICSI determines the debt allowance, it seems likely that the pipeline serving the mining region will have above average spreads and the pipeline serving the city will have below average spreads. This will happen regardless of what each does in respect of debt raising. The net effect will be that the pipeline serving the mining region will lose money, and the pipeline serving the city will have windfall gains unrelated to its debt raising efforts. This is not incentive regulation and, to our minds, does not meet the NGO.

3.3 Why we think the existing AER approach is preferred.

As the discussion above highlights, using the EICSI or WATMI as the direct input into the determination of the cost of debt each year through a regulatory period is likely to lead to perverse management incentives and destabilisation of the industry. This does not mean, however, that they have no role to play at all. In fact, the role they play at present is perhaps ideally suited to making efficient use of actual debt cost information without creating feedback loops and strategic interaction dynamics. This is because of the two-stage process the AER uses.

In the 2018 rate of return instrument, the AER made use of the then nascent EICSI index as one piece of information which informed its judgement that it would be better to use a mix of 1/3 A and 2/3 BBB third party indices, rather than just using the BBB index that it had previously used. This, it felt, would likely lead to an allowance which was closer to what it was then observing in the actual cost of debt. Then, having made that decision, the AER subsequently made use of only third-party indices to set the allowed cost of debt actually given to networks in subsequent regulatory determinations. The EICSI played no role in this second stage.

Since the EICSI plays no role in the second stage where annual updates are made to the cost of debt, networks respond only to market forces, as summarized in the combination of third party indices which comprise the allowance; nothing that one network does in respect to its own debt strategy affects any other network.

Moreover, since the exact way in which the EICSI will be used in any given rate of return instrument is not known with clarity before that instrument is prepared, there is very little benefit from attempting to influence the index because this requires the networks to actually take out debt, and this debt may be out of the money if the AER does not use the index in the way which was expected.

Thus, making some use of the EICSI and WATMI indices during the formation of the rate of return instrument to inform what proportion of third party indices will be used for the allowance for each annual update, and not being mechanistically clear how the information will be used in the first stage, would appear to entirely remove the potential for strategic behaviour to emerge and ensure that networks maintain focus on market forces in debt markets, not what each other is doing.

The question therefore revolves round what weight to give the indices in the rate of return instrument and how far it is appropriate to go from being a broad sense check. In this respect, we note both the implementation issues noted in Section 2 and the concerns raised by the ENA in respect of how the indices are compiled and their relationship to our actual cost of debt. To our

minds, this is a suitable focus for the discussion on the indices going forwards, to assist in making these indices a better sense check. Options which involve a more deterministic use of the EICSI or WATMI indices in forming the annual debt allowance should be avoided.

4. Further EICSI development

The AER suggests three possible avenues for further development of the EICSI index in its working paper:

- Inclusion of callable or subordinated debt
- Inclusion of more fees associated with spread estimates
- Exclusion of debt instruments which have previously been deemed 'upward outliers' by consultants.

In broad terms, we believe there is a need to include whatever debt is actually required to provide regulated services on the part of each network. Anything else simply does not reflect the actual debt costs of the networks involved, which defeats the purpose of the indices. This includes fees, which may differ for different kinds of debt instruments. Since fees are just a different way of apportioning the risk associated with debt, it would be inconsistent to apply a one-size-fits-all solution. This is an issue addressed in more detail in the ENA submission.

We have two further concerns:

- Consistency
- Implementability.

In respect of the first, we note with some concern in the ENA submission that some callable and some bank debt is included, but not other such debt. It is not clear why this would be the case; either this debt is used for the provision of regulated services or it is not. If the AER is to adopt what appears on the surface to be an inconsistent approach, it needs to explain exactly why particular types of ostensibly similar debt instruments are included and others are not.

In respect of the second concern, our concern is aimed particularly at the treatment of so-called outliers. As discussed in Section 2.3, it is not clear how a policy of excluding outliers could operate in practice if the EICSI were used to set the cost of debt directly, because it would require the AER to exercise judgement over new debt as it is raised after the rate of return instrument is made, and it is not clear that the AER can do this where the instrument is binding. If the EICSI remains a cross check, remove outliers is feasible, but it is not clear whether it is desirable; the metrics is supposed to reflect the actual cost of raising debt, and these "outliers" reflect actual debt raised.