Does the rate of return achieve the national gas and electricity objectives?

The allowed rate of return must achieve the national gas and electricity objectives and the allowed rate of return objective.

It is then important to consider the extent to which the allowed rate of return is achieving electricity the objectives.

The objectives of the allowed rate of return

Under the current rules, we set the allowed rate of return to achieve the national gas and electricity objectives and the allowed rate of return objective.[1] In setting the allowed rate of return, we must also have regard to the revenue and pricing principles.

The national gas and electricity objectives require promoting efficient investment in, and efficient operation and use of, energy network services for the long-term interests of energy consumers.[2] Efficient investment in, and efficient operation and use of, energy networks services is to be considered in terms of the price, quality, safety, reliability and security of supply of energy network services.

The national gas and electricity objectives govern every aspect of our regulatory determinations and have primacy, including over the allowed rate of return objective. The allowed rate of return objective is a rate of return commensurate with efficient financing costs and the risks involved in providing energy network services.

The allowed rate of return should contribute, in combination with the other aspects of our regulatory determinations, to the achievement of these objectives. The role of the allowed rate of return is to attract the amount of investment needed, and as such to reflect the returns that investors require in order to invest, given the risk of the investment.

Therefore, the allowed rate of return should reflect the minimum returns required (given the risk involved in the investment) to attract the level of investment needed for the efficient ongoing provision of energy network services at the service level[3] demanded by end users.

How well does the allowed rate of return achieve the objectives?

This is an important question, yet it is difficult to come to a definitive answer. This is because the future returns investors must expect in order to invest in energy networks cannot be directly observed or measured and instead can only be estimated. That said, there are a number of indicators that may be informative of the extent to which investor requirements are being met by the allowed rate of return.

Based on the available evidence we consider our current approach is an appropriate starting point and it has been achieving the national electricity and gas objectives, and the allowed rate of return objective.

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1 NER clauses 6.5.2(b) and 6A.6.2(b); NGR clause 87(2).

2 The National Electricity Objective is in section 7 of the National Electricity Law and the National Gas Objective is in section 23 of the National Gas Law.

3 In terms of reliability, security, safety, and any other measures of service quality that are important to consumers.

Actual investments and realised returns

We have previously observed that:

- There is no evidence to suggest that the energy networks we regulate have not been able to raise capital on reasonable terms to undertake extensive investment programs.[4]
- Broker reports suggest that our recent determinations have not removed the ability for listed networks to maintain payment of dividends.[5]
- Regulated asset base (RAB) multiples calculated from asset sales have typically been greater than one, and suggest that regulated energy networks remain an attractive investment at prices at or above the value of the RAB.

Though energy networks may still be investing in their networks through capital expenditure, it is difficult to tell if the level of capital expenditure is too high or too low. However, we can monitor service quality over time, and it appears that the level of capital expenditure has not jeopardised service quality – networks actually appear to have increased service quality over time. This may suggest that the allowed rate of return has not been too low.

Similarly, RAB multiples greater than one suggest that the that energy networks remain an attractive investment, but multiples above one may also indicate that network owners can achieve returns from outperformance of regulatory benchmarks. Outperformance of the allowed rate of return may suggest that the rate of return is too high. However, RAB multiples greater than one could be indicative of outperformance of other regulatory benchmarks (such as opex, capex, or tax allowances) or of returns from unregulated activities.

Further, sales that have already occurred may not reflect changes to the overall rate of return that are occurring at present. Ultimately, RAB multiples do not provide a definitive answer to the specific return investors require.

Recently, RAB multiples have significantly and persistently been greater than one. We do expect there to be some level of outperformance of regulatory benchmarks due to the operation of incentive mechanisms, as well as there being some level of returns from unregulated activities. It is possible that the allowed rate of return could be too low, but that other unregulated returns (from outperformance of other allowances or from unregulated activities) are large enough to outweigh this effect and result in a multiple greater than one. However, given the RAB multiples recently observed we consider it unlikely that the allowed rate of return would be too low.

In any case, we consider that there may be benefit in further investigation of RAB multiples and actual/realised returns.

Overall, we consider that the currently available evidence supports the view that the allowed rate of return is unlikely to be too low. We then consider other information to assess the extent to which the allowed rate of return may be too high.

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[4] See, for example, DUET, *Successful completion of DUET's $200 million placement offer*, 1 April 2016; DUET, *DUET completes $1.67 billion placement and entitlement offer*, 13 August 2015; DUET, *DUET completes $396.7 million entitlement offer*, December 2014; SP AusNet, *SP AusNet completes A$434 million Entitlement Offer*, 15 June 2012. ASX & SGX-ST release, *AusNet Services successfully prices HKD 1.2bn offer*, 9 December 2016; ASX & SGX-ST release, *AusNet Services successfully prices NOK 1bn offer*, 10 January 2017; ASX & SGX-ST release, *AusNet Services successfully prices USD 80m offer*, 19 January 2017.

[5] AER, *Draft decision Murraylink transmission determination 2018 to 2023: Attachment 3 – Rate of return*, September 2017, p. 91.

Observable parameter estimates

While investors' expected returns are not directly observable, some parameter estimates can be observed.

We estimate allowed rate of return as a weighted average cost of capital, which is comprised of three parameters: the return on debt, the return on equity, and the gearing ratio.

We directly observe the gearing ratio of Australian energy networks. We also directly observe the returns on debt of a certain credit rating (BBB rated bonds), and this credit rating is based on direct observation of the credit ratings of Australian energy networks.

We are directly observing the required returns in debt markets, and the benchmark gearing ratios and credit ratings of private firms that are likely (at least on average) to be operating efficiently (under profit incentives). There may be some imprecision involved in observing broad range data, such as all debt that is BBB rated. It may be the case that not all debt that is rated BBB carries the same degree of risk. Nonetheless, given the direct observation of relevant data, we consider that these aspects of our allowed rate of return are unlikely to be significantly too high or too low.

Looking forward, we can continue to investigate the data we use for our gearing, credit rating, and return on debt benchmarks and options for improving precision of our estimates. One work program that we are considering is examining the actual debt costs of the businesses that we regulate.

Consistency of equity estimates with supporting information

While the gearing ratio, credit rating, and return on debt can be directly observed from benchmark firms or market data, this type of direct observation is not possible for equity returns. However, we would expect return on equity would not be below the return on debt, which can be observed. This is another piece of information supportive of the view that the return on equity (and overall rate of return) is at least not too low.

Since required return on equity cannot be directly observed, we must select a pricing model from which we can estimate the return on equity. To assess whether this estimate may be too high or too low, we reference the following information:

- We estimate the return on equity predominately from the Sharpe-Lintner CAPM (with some consideration of other pricing models informing the estimates of parameters to be used in the SLCAPM). The SLCAPM is the pre-eminent equity pricing model, and has stood the test of time. It is the model that is most widely used among market practitioners and regulators. Since investors' required return on equity cannot be observed, we cannot definitively show that our estimated return on equity reflects investors' requirements. However, we consider that the SLCAPM is the method most likely to reflect investors' required returns, and hence our estimate derived from the SLCAPM is most likely to reflect investors' requirements.

- In addition to the pricing model used, the estimates of return on equity and equity risk premiums are consistent with the ranges used in broker reports, valuation reports, other regulators' decisions, and surveys of market practitioners.[6] A significant portion of this information comes from market practitioners that may be investors themselves, or may advise investors.

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6 AER, *Draft decision Murraylink transmission determination 2018 to 2023: Attachment 3 – Rate of return*, September 2017, p. 90.