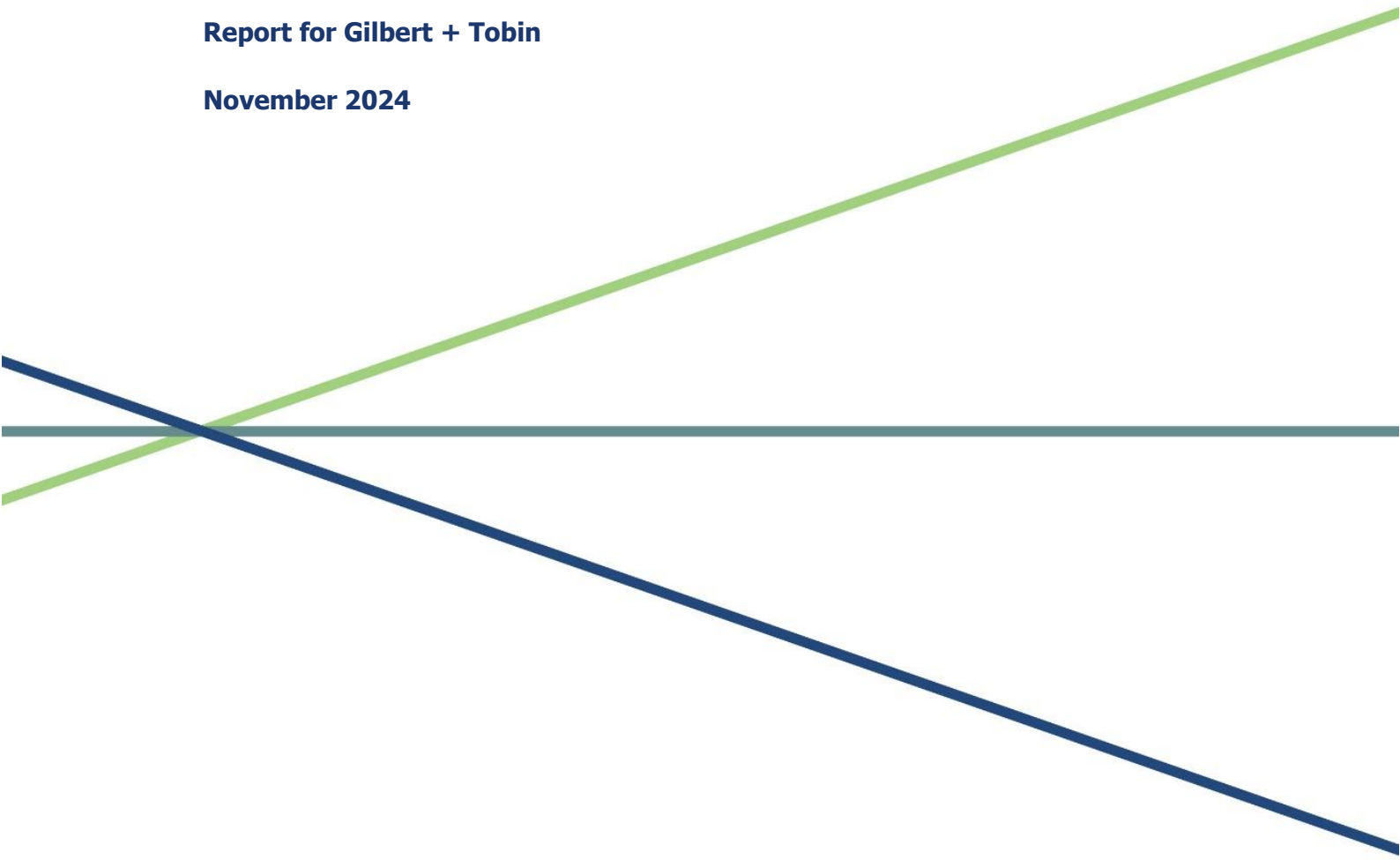
# Are the returns to the SWQP consistent with the returns expected in a competitive market?

**Report for Gilbert + Tobin**

**November 2024**



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# 1. Introduction and summary

## 1.1 Introduction

### 1.1.1 Scope of our work

1. The Australian Energy Regulatory (AER) recently released a draft determination on the form of regulation for the South West Queensland Pipeline (SWQP).[1] As part of its analysis, the AER commented on the historical returns to the operator of the SWQP. We have been asked to comment on this aspect of the AER's analysis, and specifically to respond to the following question:

> *Were the returns to the operator of the SWQP (APA) over the 2014 to 2023 financial years as reported by the AER (Table 6.1 of the AER draft report, p.58) consistent with the returns that would be observed for a firm operating in a competitive market?*

2. The statement of the AER to which we are asked to respond (including Table 6.1) is reproduced here:

**Earnings and returns**

Further, additional analysis of APA's financial information suggests that over the past 10 years, APA's earnings are higher than we would expect in a workably competitive market, as they appear to be significantly above what they would have earned under scheme regulation.

### 1.1.2 Authorship

3. My name is Jeff Balchin and I am the Managing Director of Incenta Economic Consulting, a firm that specialises in advising in relation to economic regulation issues in the infrastructure sector. Prior to my current role, I was a Principal at PricewaterhouseCoopers and prior to that a director at the Allen Consulting Group. I have over 30 years of experience in relation to economic regulation and pricing issues

[1] Australian Energy Regulator, (October 2024), *Form of Regulation Review: South West Queensland Pipeline, Draft Decision*.

across the electricity, gas, ports, airports, water and rail sectors in Australia and New Zealand, having advised governments, regulators and major corporations on issues including the development of regulatory frameworks, regulatory price reviews and with respect to the negotiation of charges for unregulated infrastructure services. As part of this, I have had extensive experience advising regulators, regulated entities and major customers about the application of finance principles to economic regulation, including the estimation of betas and benchmark gearing for use as inputs into the estimated weighted average cost of capital for the relevant activities. My full curriculum vitae was appended to an earlier report to these proceedings.

4. I have been assisted in producing this report by my colleague Dr Michael Lawriwsky, although I am solely responsible for its contents.

## 1.2 Summary of conclusions

5. In my opinion, the returns to APA over the period of analysis (2014 to 2023) from the SWQP were not returns that were in excess of those that would be observed in a competitive market, and indeed were lower than the returns that would be observed in a competitive market.[2] Accordingly, APA's returns from the SWQ over the analysis period do not provide evidence that market power exists and has been exercised. Whilst economists discern a myriad of outcomes that are expected in a competitive market (such as the presence of strong incentives for efficiency and innovation), the outcome of interest here is that firms should expect to earn returns that are commensurate with the opportunity cost of capital associated with the activity.

6. My conclusion that APA has earned returns that were not in excess of the returns expected in a competitive market rests principally on the following key findings.

   a. First, that the cost of capital against which the returns to the SWQP are compared properly captures the relative risk of the SWQP's activities.

      i. We observe that the AER's benchmarking has applied the relative risk inputs (the asset beta) that it has derived for the heavily regulated energy networks that have strong and enduring market power.

      ii. However, we observe that the relevant characteristics of the SWQP suggest its relative risk is substantially higher. My assessment of the empirical evidence is that a reasonable asset beta for the activities of the SWQP over the period is **0.50** (compared to the benchmark that is applied to the heavily regulated networks of 0.24).

   b. Secondly, when benchmarking the returns to firms, it is essential to match the market interest rates that are factored into the return benchmark with the rates that are embedded within the prices that are being charged, and that any risk-sharing that has been undertaken between the provider and user of the service is respected.

[2] As the vast majority of the SWQP assets are irreversible means, APA's investment cannot be redeployed elsewhere, which is why sub-normal returns may arise and persist.

i. In the case of the SWQP, I note that the majority of revenue from the pipeline is derived under long-term fixed-price contracts that were entered into in 2009. Furthermore, the price in one of those contracts – the Origin contract, which was entered into in June 2009 – has then set the benchmark for APA's pricing for subsequent capacity sales. I derive a risk-free rate of return of approximately **5.5 per cent** as being consistent with the level of interest rates prevailing at the time the Origin contract was entered into.[3]

ii. I note that the AER's benchmark interest rates appear to factor in the rates that were prevailing during its analysis period, although I have not been able to fully replicate the AER's figures. However, applying the prevailing interest rates when benchmarking returns will deliver an inappropriate benchmark where services are provided under long-term, fixed price contracts and where those prices set the benchmark for other services.

7. My recreation of the AER's Table 6.1 with my estimates are as follows:[4]

**Table 1 – Comparison of the SWQP's returns against a competitive market benchmark**

*Source: AER, APA, Bloomberg and Incenta analysis*

8. I observe from the table that APA's returns from the SWQP were in fact below the competitive market benchmark in all years.

[3] The 10-year risk free rate averaged 5.56 per cent in the two weeks leading up to 15 June 2009 when the Origin contract was signed.

[4] My return benchmarks adopt the AER's prevailing market risk premium assumption from the applicable Rate of Return Instrument (which ranged from 6.1 per cent to 6.5 per cent over the period and averaged 6.3 per cent) and apply the average of the opening and closing values of leverage for APA overall (using the market value of equity and sourced from Bloomberg) for each financial year to de-lever the beta estimates (these annual leverage values ranged from 43 per cent to 49 per cent and averaged 46 per cent).

9. In addition, I observe that the circumstances in which the foundation contract prices were determined – which was via a competitive process – would have been expected to expose the pipeline operator to a range of risks, including the capital and operating costs of the project and whether it would be able to recover the cost associated with spare capacity, and indeed that the winner of the tender is likely to be the party that was most optimistic about these matters. The anticipated outcome of this risk would be that:

    a. if the operator was more successful than forecast at containing costs and selling spare capacity then it would make higher returns than expected, and

    b. if the operator was less successful than forecast at containing costs and selling spare capacity then it would make lower returns than expected.

10. Accordingly, before conclusions about the presence and exercise of market power may be drawn from observed returns, it is essential to account for the potential outcomes of the risk allocation embedded in the long term contracts, and the effect this risk allocation may have on observed returns. The nature of the costs and financing arrangements for pipelines means that even modest changes in cost outcomes or capacity sales can have a material impact on measured returns.

# 2. Asset beta for the SWQP

## 2.1 Introduction

11. As discussed above, the benchmark return on equity the AER applied when assessing the returns to the SWQP applied the rate of return instrument parameters. These rate of return instrument parameters included an asset beta that varied from 0.28 to 0.24 over the AER's analysis period.[5]

## 2.2 Relative risk of the SWQP

12. I note that the asset betas the AER has applied under the "rate of return instrument" of 0.28 and 0.24 is directed to firms that have a very high level of market power and consequently are heavily regulated, which involves periodic resetting of prices to cost and with a revenue cap typically applied. However, there are compelling reasons to consider that the systematic risk of the SWQP will be higher than the firms to which the rate of return instrument was designed to cover, which can be seen by considering the key systematic risk characteristics of SWQP compared to regulated energy businesses:

***Demand risk for spare capacity***

a. The regulated prices for the regulated electricity networks are designed to allow a recovery of all cost, including spare capacity. Periodic regulatory resets realign regulated prices with cost, based upon updated forecasts of demand. Moreover, all of the electricity networks are now regulated under revenue caps, which means that demand risk is not even borne during a regulatory period.

b. In contrast, the SWQP does not have any surety of cost-recovery with respect to its level of spare capacity – for this cost to be recovered, it must attract additional customers.

***Stranding risk***

c. The stranding risk of the regulated electricity transmission and distribution businesses is immaterial

[5] AER (December 2014), Better Regulation, Explanatory Statement, Rate of Return Guideline (Appendices), pp.9, 15 applied an equity beta of 0.70 (for the "foundational model") and leverage assumption of 60 per cent, which implies an asset beta of 0.28 (= 0.70 x (1 – 60%)). The subsequent Rate of return instruments have applied the same leverage, but an equity beta of 0.60, which implies an asset beta of 0.24 (= 0.60 x (1 – 60%)): AER (December 2018), Rate of return instrument, clauses 3 and 4; AER (February 2023), Rate of return instrument, clauses 3 and 4).

d. SWQP's stranding risk is material due to such factors as fluctuating industrial load, emerging alternative gas supply sources and competing transmission pipeline construction,[6] and the impending (but uncertain) phase-out of the use of natural gas.[7]

***Interest rate risk***

e. For regulated electricity networks interest rate risk in relation to the return to equity providers is limited to the duration of the regulatory period (typically 5 years) as the regulated prices are reset to provide a return that is commensurate with prevailing market requirements at the time of the review. In relation to the return to debt providers, the AER's use of a trailing average (and capacity to nominate averaging periods) now provides regulated energy network businesses with the capacity to largely insulate themselves from the risk associated with unexpected changes in interest rates. This occurs because the revenue cap is adjusted each year to reflect the updated cost of holding the benchmark portfolio of debt.

f. SWQP's interest rate risk is materially higher due to the locking in of foundation contract prices for extended periods that are based on the interest rates prevailing at the time of signing, noting that the pricing of subsequent contacts is greatly influenced by those foundation prices.

13. In his section I conclude that an asset beta of 0.50 is reasonable for SWQP based on an assessment of Hastings Diversified Utilities Fund (HDUF) during its period of operations, which included SWQP as its major foundation asset, and a sample of US gas transmission pipelines that are comparable to the SWQP.

## 2.3 Method for estimating the asset beta

14. We have applied the following broad asset beta estimation methodology:

a. *Period of analysis* – We have estimated betas for the following periods depending on data availability and other factors:

i. HDUF: we have estimated the 5-year asset beta as at 14 December 2011, which is the date that the business received a takeover offer from APA Group (APA),[8] and

ii. US competing gas pipelines and regulated energy businesses: for these businesses we have estimated beta for the two successive 5-year periods ending 31 December 2014 and 31 December, 2019. This was done to avoid the

6 The AER discussed the potential for the development of LNG import terminals in the southern states and for the development of the Hunter Gas Pipeline (Australian Energy Regulator, (October 2024), *Form of Regulation Review: South West Queensland Pipeline, Draft Decision*, pp.48-51).

7 The AER also discussed the impending – but uncertain – decline in demand for gas arising from, amongst other things, carbon abatement policy initiatives (Australian Energy Regulator, (October 2024), *Form of Regulation Review: South West Queensland Pipeline, Draft Decision*, pp.51-53).

8 This was taken as the final valid beta estimation date, as the company's share price during the subsequent period up to acquisition and delisting was dominated by a competitive bidding duel that is discussed further below, and was therefore likely to distort beta estimates.

controversial issue of how to treat the Covid 19 pandemic period, which commenced in March 2020.

b. *Equity beta estimate* – we have downloaded the standard Bloomberg equity beta estimates for the periods outlined above using weekly frequencies, which is the AER's preferred return frequency.[9]

c. *Leverage* – we calculated average gearing levels using the formula Net Debt / (Net Debt plus Market Equity). Leverage was calculated for each comparator using the average of monthly values for Bloomberg variables NET_DEBT and CUR_MKT_CAP.[10]

d. *De-levering formula* – to de-lever equity betas to asset betas we applied the AER's approach, which is to use the Harris and Pringle Method, i.e. Asset beta = Equity beta × (1 – Leverage)

## 2.4 Empirical estimate of the asset beta for the SWQP

### 2.4.1 Hastings Diversified Utilities Fund

#### *Background*

15. Hastings Diversified Utilities Fund's (HDUF) initial investment was a 100 per cent interest in Epic Energy Holdings Pty Limited, which included as its major assets:

    a. SWQP

    b. Moomba to Adelaide Pipeline System, and

    c. Pilbara Pipeline System.

16. An initial public offering (IPO) was announced in October 2004,[11] with trading commencing on 13 December 2004. Subsequently, in March 2005 HDUF acquired a 50 per cent interest in Mid Kent Water (the fourth largest regulated water utility in the UK) and 38.7 per cent economic interest (and 50 per cent voting interest) in the UK's South East Water, which was ultimately sold in December 2010. The presence of regulated water assets in HDUF's portfolio would be expected to lower its asset beta owing to stable demand, negligible stranding risk and the presence of a regulatory cash flow "dampening" effect.

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9 This was the approach recommended by the AER's expert adviser. See Henry, Olan T. (April, 2014), *Estimating β: An Update.*

10 As noted in footnote 4, I also used APA's overall leverage level (measured using the market value of equity) when re-levering the selected asset beta to obtain an equity beta that is appropriate for APA. I note that APA's leverage when measured using the market value of equity is materially lower than its leverage when measured using the book value of its equity. Thus, using the book-value measure of leverage would have resulted in a higher estimate of the cost of equity for the SWQP.

11 Hastings Funds Management Limited, Citigroup, UBS, Westpac (October, 2004), *Hastings Diversified Utilities Fund, Product Disclosure Statement.*

17. On 14 December 2011, HDUF was subjected to a takeover offer from APA Group (APA), and as this progressed during the early months of 2012 a competing bid was launched by Pipeline Partners Australia (PPA) on 15 May 2012.[12] APA and PPA competed with counter-offers which resulted in APA acquiring HDUF.

#### *Empirical evidence for HDUF*

18. Applying the methods outlined above the 5-year weekly frequency asset beta for HDUF as at 13 December 2011 (the day prior to the receipt of the takeover offer) is 0.53. The full results for HDUF are provided in Appendix B.

### 2.4.2 US comparable gas pipelines

#### *Selection of the comparable pipelines*

19. Using the Bloomberg Industry Classification System (BICS) we obtained a sample of 34 "Midstream – Oil and Gas" industry sector firms. From this sample we excluded 7 firms that are based in Canada, which left 27 firms. The operations of each of these firms was examined further based on the Bloomberg description of activities, annual reports, K-10 forms, corporate presentations and market analyst reports. Firms were excluded unless the majority of activity by revenue was in the transportation of natural gas or natural gas liquids in the US. This resulted in a five-firm pipeline comparator group as follows:

    a. The Williams Cos Inc

    b. ONEOK Inc

    c. Kinder Morgan Inc

    d. Targa Resources Corporation

    e. TCP Pipelines LP

20. These five companies are comparable to SWQP due to them being:

    a. primarily gas transportation pipeline companies

    b. not subject to heavy handed regulation

    c. dependent on long term contracting and the subject to the risks that this entails

    d. subject to the vagaries of gas demand and supply dynamics, and

    e. facing potentially material assets stranding risk.

21. For the comparator group of US regulated energy network businesses, we used the US regulated energy businesses identified by the New Zealand Commerce Commission

[12] HDUF (31 August, 2012), *HDF 2012 Half Year Results Presentation*, p.10.

(NZCC) in its most recent Input Methodologies process.[13] This derived a comparator group of 42 US regulated energy businesses, as displayed in Appendix A.

***Empirical evidence for US comparable gas pipelines***

22. As displayed in Table 2 below, we found that for average weekly frequency beta estimates over two 5 year periods ending in December 2014 and December 2019:

    a. Comparable pipelines had an average asset beta of 0.63, and

    b. Regulated energy networks had an asset beta of 0.28.

23. This results in an asset beta premium of **0.35** for unregulated gas pipelines, which would imply an unregulated gas pipeline asset beta of **0.59** in Australia if applied to the prevailing regulated energy business asset beta of 0.24 under the current "rate of return instrument" discussed earlier.

**Table 2 – Asset beta of US comparable gas pipelines and regulated energy utilities**

| | 2010-2014 | 2015-2019 | Average |
|---|---|---|---|
| Comparable gas pipelines | 0.55 | 0.71 | 0.63 |
| Regulated Energy Utilities | 0.36 | 0.20 | 0.28 |
| **Premium** | **0.19** | **0.51** | **0.35** |

*Source: Bloomberg and Incenta analysis*

### 2.4.3 Conclusion on the empirical evidence for the SWQP asset beta

24. The evidence discussed above suggests that a reasonable estimate of the asset beta for the SWQP, taking account of the systematic risk to which it is subject, is:

    a. 0.53 (which I round to 0.5) when attention is placed on the estimated asset beta for HDUF during the time it was listed (but prior to being influenced by the take-over offer), and

    b. 0.59 (which I round to 0.6) when attention is placed on the comparable US pipelines (and, specifically, the difference between the asset beta for those pipelines and the regulated energy networks which I add to the current Australian regulated energy network asset beta).

25. I have chosen to apply an asset beta of 0.5, which reflects the HDUF asset beta estimate, but I take comfort from the fact that a similar value (albeit moderately higher) is obtained from the US evidence. Whilst I note that this value may appear high relative to the asset beta that is applied to the regulated energy networks (and principally electricity networks) in Australia, it is:

[13] New Zealand Commerce Commission (13 December, 2023), *Cost of capital topic paper, Part 4 Input Methodologies Review 2023 – Final decision*, Table E3, pp. 348-350.

a. lower than the average asset beta for firms listed on the Australian share market (which is around 0.67),[14] and

b. only marginally higher than the asset betas that Australian regulators applied in the initial round of price reviews for the Australian regulated energy networks.[15]

[14] The average gearing on the Australian share market between 2014 and 2019 was 35 per cent, which implies an asset beta of 0.65 (= 1 x (1 – 35%)) (based on data obtained from Bloomberg).

[15] The original regulatory determinations in Victoria in 1998 (by the Office of the Regulator-General and the Australian Competition and Consumer Commission) applied an equity beta of 1.2 and a gearing level of 60 per cent, which implies an asset beta of 0.48 (= 1.2 x (1 – 60%)).

# 3. Risk-free rate of return benchmark for the SWQP

26. As discussed earlier, the estimated cost of equity against which the AER benchmarked the returns to the SWQP appeared to apply the prevailing interest rates (risk-free rates) during the AER's analysis period (2014 to 2023). However, the information provided by APA shows that:

    a. the vast majority of APA's revenue is derived under foundation contracts that were entered into during 2009 and 2010 (although some took effect several years after that), and

    b. most of APA's remaining revenue is derived under contracts whose prices are benchmarked against those original foundation contracts.[16]

27. Clearly, when benchmarking the returns that APA receives, it is essential to construct a benchmark return that applies the interest rates prevailing at the time the contracts were entered into. If, instead, the returns under fixed price contracts are compared to a cost of capital that applies the prevailing interest rates, then there is a material risk that a false diagnosis will result about the state of competition that is reflected in those contract prices. For example:

    a. a contract price that was the subject of a very vigorous competitive process may nonetheless appear to deliver excessive returns if interest rates fell after the signing of the contract

        i. such a benchmarking exercise may encourage regulation to be applied where this is not necessary to protect service users when new contracts are negotiated (and indeed would prove to be detrimental to the long term interests of consumers), and

    b. equally a contract whose prices were forced upwards by the exercise of substantial market power may nonetheless appear to be the product of competition if interest rates subsequently increased

        i. such a benchmarking exercise may discourage regulation from being applied where this is justified to protect service users when new contracts are negotiated (and indeed would prove to be beneficial to the long-term interests of consumers).

28. More generally, when parties enter into long-term, fixed-price contracts, there is an assumption of interest rate risk: that is, the price is held irrespective of whether interest rates increase (which, if it occurred, would turn out to be detrimental to the provider) or whether interest rates fall (which, if it occurred, would turn out to be beneficial to the provider). Benchmarking the returns that are implicit in that contract will confuse the

[16] APA now also receives revenue from the day-ahead auction of spare capacity, whose price is determined by the interplay of short- term demand and supply of capacity rather than cost, and indeed is frequently sold for a zero price.

returns that were expected by parties at the time that prices were set, from the outworking of the risk allocation that was embedded in that contract.

29. I note that the choice of interest rates against which to benchmark the returns to the SWQP is a very material issue. This is because, during the AER's analysis period, Australia (and indeed the world) experienced some of the lowest interest rates on record, and which continued for an extended period.

30. In terms of the choice of risk-free rate of return, I consider that a rate of **5.5 per cent** is appropriate. I note that this interest rate:

    a. is consistent with the interest rate prevailing at the time the Origin contract was entered into (the two-week average ending with 15 June 2009 was 5.56 per cent, which I have rounded down to 5.5 per cent)

    b. while additional foundation contracts were entered into up until the end of 2010, APA's discussion suggests that the Origin contract was influential in their pricing (I note that interest rates over the period until the end of 2010 were generally higher than the rate that I have chosen), and

    c. APA's discussion also indicates that the prices in subsequent (non-foundation) contracts were set with reference to the price in the Origin contract.

# 4. Potential effect of risk allocations under long term contracts

31. The discussion above noted that, when long-term fixed price contracts are entered into, the provider takes on the risk of interest rate movements over the period (which may be favourable or unfavourable). A further outcome of entering into long-term, fixed-price contracts is that the provider takes on a degree of cost and demand risk.

32. That is, while foundation contracts provide certainty of revenue recovery with respect to the capacity that is contracted for under those contracts, certain risks typically are allocated to the pipeline owner, namely:

    a. *Cost risk* – where the contract price may reflect a forecast of the cost of a major construction and/or the cost of ongoing operations, so that the operator bears the risk as to whether these forecasts are met, and more specifically create a potential for higher returns if the operator delivers the project/operations at a lower cost than forecast, and vice versa if costs are higher than forecast.

    b. *Demand risk* – it has been standard practice in Australia for pipelines to be constructed with a degree of spare capacity for which there is no certainty of cost recovery

        i. the provision of spare capacity is efficient because adding capacity at the time of pipeline construction is a low-cost means of adding capacity, however

        ii. the existence of capacity beyond what is recoverable under foundation contracts nonetheless creates a risk for the operator, where there is a potential for higher returns if the operator is more successful than anticipated with respect to sales of spare capacity, and vice versa if the operator is less successful.

            1. For the avoidance of doubt, I note that if the prices for the foundation contracts are determined under a competitive process (which was the case for the SWQP Origin contract), then it would be expected that those foundation contract prices would be lower due to the potential for the pipeline operator to install spare capacity and subsequently sell that capacity. This is because, if a tenderer to that competitive process sought to retain all of the benefit associated with subsequent sales of spare capacity, then it would be unlikely to be the winner of the tender (indeed, the party that was most optimistic about future sales would be more likely to be the winner).

            2. Accordingly, it is appropriate in my view to refer to the foundation contracts as giving certainty for (potentially) most of a pipeline's revenue (noting that cost risk is borne), but with a portion of revenue depending on the success at sales of spare capacity, which creates a (symmetric) risk.

33. From the point of view of benchmarking the returns of the SWQP, the issue that arises is that the measured return will factor in the success (or lack thereof) of the operator in

containing its costs and in selling spare capacity. In contrast, a proper test of whether market power exists would be to factor in the expectations at the time of contracting, that is, the returns if forecast costs had been achieved and if sales of spare capacity were also as expected, both of which are unobservable. Thus, the existence of cost and demand risk creates the potential for a false diagnosis, that is:

a. prices that were set in a robustly competitive process may appear to contain excessive returns if the operator has been more successful than expected at containing costs and/or selling spare capacity, and

b. prices that were affected by the exercise of substantial market power may appear not to contain excessive returns if the operator is less successful than expected at containing costs and/or selling spare capacity.

34. The implication of this risk is that caution is required when attempting to draw inferences for the degree of market power from measured returns.

35. Moreover, even modest changes to the degree of success in containing costs or selling spare capacity have the potential to cause economically meaningful changes in the measured return on equity, given the largely fixed cost nature of pipelines and the fact that any change in returns flows through to equity holders.

36. The impact on returns of a favourable outcome for demand risk can be seen from the following stylised example. The key features and assumptions of the example are as follows.

a. The pipeline is assumed to expect to earn a return equal to its cost of capital. In this world:

   i. the "return on assets" is expected to make up 50 per cent of its revenue, depreciation 20 per cent and O&M 30 per cent

   ii. equity is assumed to make up 54 per cent of its finance (consistent with APA's average leverage over the analysis period of 46 per cent), and the cost of equity and debt are assumed to be 10 per cent and 7 per cent respectively, implying that the return on equity accounts for 63 per cent of the return on assets (i.e., 54% x 10% / (54% x 10% + 46% x 7%))

b. Demand is now assumed to be 5 per cent higher than forecast, which translates into a 5 per cent increase in revenue. As costs are assumed to be fixed, this revenue flows through wholly to the observed return on assets, and as debt is also fixed this additional return flows through wholly to the return on equity. As shown, the 5 per cent increase in the demand (and revenue) causes:

   i. a 10 per cent increase in the return on assets (= 5% / 50%), and

   ii. a 16 per cent increase in the return on equity (= 10% / 63%)

c. Thus, the reasonably modest increase in demand (5 per cent) causes an increase in the return on equity equates of approximately 1.6 percentage points (10% x 16%),

implying that the observed return on equity increases from 10 per cent to 11.6 per cent.

**Table 3 – Stylised example of demand outperformance on the return on equity**

| Parameter | Input / scenario | |
|---|---|---|
| Return on assets share | 50% | |
| Depreciation share | 20% | |
| O&M share | 30% | |
| Total cost | 100% | |
| | | |
| Financing structure | *Finance* | *Cost of finance* |
| Equity | 54% | 10.0% |
| Debt | 46% | 7.0% |
| RoE share of earnings | 63% | |
| | | |
| Change in revenue | 5% | |
| Change in return on assets | 10% | |
| Change in return on equity | 16% | |
| | | |
| Underlying RoE | 10.0% | |
| Demand outperformance increment | 1.6% | |
| Observed RoE | **11.6%** | |

37. A similar stylised example would also show that modest changes to costs can also have an economically meaningful effect on measured returns.[17]

38. Thus, when interpreting the observed return on equity for pipelines, it is important to take account of the fact that reasonably modest changes in how cost or demand risk has been manifested can have a material effect on the observed return on equity. As noted above, this observation suggests that caution should be exercised when interpreting those returns and seeking to draw inferences for the presence and exercise of market power.

[17] Under the same stylised example, a 5 per cent reduction in capital costs would raise the return on equity by 1.2 percentage points (i.e., manifest as a 11.2 per cent return on equity), and a 5 per cent reduction in (annual) operating costs would raise the return on equity by approximately 0.5 percentage points (i.e., manifest as a 10.5 per cent return on equity).

# A. Commerce Commission sample of US regulated energy networks

**Table 4 – Sample of regulated US energy transmission and distribution businesses**

| Bloomberg Ticker | Company name |
|---|---|
| AEE US Equity | Ameren Corp |
| AEP US Equity | American Electric Power Co Inc |
| AES US Equity | AES Corp/The |
| ALE US Equity | ALLETE Inc |
| ATO US Equity | Atmos Energy Corp |
| AVA US Equity | Avista Corp |
| BKH US Equity | Black Hills Corp |
| CMS US Equity | CMS Energy Corp |
| CNP US Equity | CenterPoint Energy Inc |
| D US Equity | Dominion Energy Inc |
| DTE US Equity | DTE Energy Co |
| DUK US Equity | Duke Energy Corp |
| ED US Equity | Consolidated Edison Inc |
| EIX US Equity | Edison International |
| ES US Equity | Eversource Energy |
| ETR US Equity | Entergy Corp |
| EXC US Equity | Exelon Corp |
| FE US Equity | FirstEnergy Corp |
| HE US Equity | Hawaiian Electric Industries Inc |
| IDA US Equity | IDACORP Inc |
| KMI US Equity | Kinder Morgan Inc |
| LNT US Equity | Alliant Energy Corp |
| NEE US Equity | NextEra Energy Inc |
| NFG US Equity | National Fuel Gas Co |
| NI US Equity | NiSource Inc |
| NJR US Equity | New Jersey Resources Corp |
| NWE US Equity | Northwestern Energy Group Inc |
| OGE US Equity | OGE Energy Corp |
| OGS US Equity | ONE Gas Inc |
| OKE US Equity | ONEOK Inc |
| PCG US Equity | PG&E Corp |
| PEG US Equity | Public Service Enterprise Group Inc |
| PNW US Equity | Pinnacle West Capital Corp |
| POR US Equity | Portland General Electric Co |
| PPL US Equity | PPL Corp |
| SJI US Equity | South Jersey Industries Inc |
| SO US Equity | Southern Co/The |
| SR US Equity | Spire Inc |
| SRE US Equity | Sempra |
| SWX US Equity | Southwest Gas Holdings Inc |
| WEC US Equity | WEC Energy Group Inc |
| XEL US Equity | Xcel Energy Inc |

# B. Equity betas, leverage and asset betas

**Table 5 – Estimated equity beta, leverage and asset beta: HDUF**

| | Equity Beta | Leverage | Asset Beta |
|---|---|---|---|
| Hastings Diversified Utilities Fund | 0.88 | 40% | 0.53 |

*Source: Bloomberg and Incenta analysis*

**Table 6 – Estimated equity betas, leverage and asset betas: US comparable pipelines**

| | | 2010-2014 | | | 2015-2019 | | | Average |
|---|---|---|---|---|---|---|---|---|
| Ticker | Company name | Equity Beta | Leverage | Asset Beta | Equity Beta | Leverage | Asset Beta | Asset Beta |
| WMB US Equity | Williams Cos Inc/The | 1.39 | 31% | 0.95 | 1.42 | 47% | 0.76 | 0.86 |
| OKE US Equity | ONEOK Inc | 0.96 | 41% | 0.57 | 1.21 | 39% | 0.74 | 0.66 |
| KMI US Equity | Kinder Morgan Inc | 0.65 | 43% | 0.37 | 1.03 | 45% | 0.56 | 0.46 |
| TRGP US Equity | Targa Resources Corp | 0.96 | 44% | 0.54 | 1.56 | 42% | 0.91 | 0.72 |
| TCP US Equity | TC PipeLines LP | 0.41 | 24% | 0.31 | 0.92 | 39% | 0.56 | 0.44 |
| | **Average** | **0.88** | **37%** | **0.55** | **1.23** | **42%** | **0.71** | **0.63** |

*Source: Bloomberg and Incenta analysis*

**Table 7 – Estimated equity betas, leverage and asset betas: US regulated energy networks**

| | | 2010-2014 | | | 2015-2019 | | | Average |
|---|---|---|---|---|---|---|---|---|
| Ticker | Company name | Equity Beta | Leverage | Asset Beta | Equity Beta | Leverage | Asset Beta | Asset Beta |
| AEE US Equity | Ameren Corp | 0.62 | 46% | 0.33 | 0.25 | 38% | 0.16 | 0.24 |
| AEP US Equity | American Electric Power Co Inc | 0.54 | 47% | 0.29 | 0.29 | 40% | 0.18 | 0.23 |
| AES US Equity | AES Corp/The | 1.29 | 65% | 0.45 | 0.83 | 68% | 0.26 | 0.36 |
| ALE US Equity | ALLETE Inc | 0.72 | 34% | 0.47 | 0.34 | 30% | 0.24 | 0.36 |
| ATO US Equity | Atmos Energy Corp | 0.66 | 41% | 0.39 | 0.32 | 27% | 0.23 | 0.31 |
| AVA US Equity | Avista Corp | 0.69 | 46% | 0.38 | 0.32 | 41% | 0.19 | 0.28 |
| BKH US Equity | Black Hills Corp | 0.86 | 46% | 0.47 | 0.31 | 46% | 0.17 | 0.32 |
| CMS US Equity | CMS Energy Corp | 0.64 | 54% | 0.29 | 0.22 | 44% | 0.12 | 0.21 |
| CNP US Equity | CenterPoint Energy Inc | 0.70 | 50% | 0.35 | 0.44 | 42% | 0.25 | 0.30 |
| D US Equity | Dominion Energy Inc | 0.49 | 39% | 0.30 | 0.26 | 41% | 0.15 | 0.22 |
| DTE US Equity | DTE Energy Co | 0.63 | 44% | 0.35 | 0.29 | 39% | 0.18 | 0.26 |
| DUK US Equity | Duke Energy Corp | 0.37 | 42% | 0.21 | 0.20 | 47% | 0.10 | 0.16 |
| ED US Equity | Consolidated Edison Inc | 0.36 | 41% | 0.21 | 0.19 | 40% | 0.11 | 0.16 |
| EIX US Equity | Edison International | 0.59 | 44% | 0.33 | 0.32 | 38% | 0.20 | 0.26 |
| ES US Equity | Eversource Energy | 0.60 | 43% | 0.34 | 0.33 | 38% | 0.21 | 0.27 |
| ETR US Equity | Entergy Corp | 0.56 | 49% | 0.29 | 0.33 | 50% | 0.16 | 0.23 |
| EXC US Equity | Exelon Corp | 0.53 | 35% | 0.34 | 0.36 | 46% | 0.19 | 0.27 |
| FE US Equity | FirstEnergy Corp | 0.59 | 54% | 0.27 | 0.42 | 56% | 0.18 | 0.23 |
| HE US Equity | Hawaiian Electric Industries Inc | 0.63 | 25% | 0.47 | 0.29 | 14% | 0.25 | 0.36 |
| IDA US Equity | IDACORP Inc | 0.78 | 41% | 0.46 | 0.33 | 28% | 0.24 | 0.35 |
| KMI US Equity | Kinder Morgan Inc | 0.65 | 43% | 0.37 | 1.03 | 45% | 0.56 | 0.46 |
| LNT US Equity | Alliant Energy Corp | 0.69 | 38% | 0.43 | 0.30 | 35% | 0.20 | 0.31 |
| NEE US Equity | NextEra Energy Inc | 0.59 | 45% | 0.32 | 0.27 | 33% | 0.18 | 0.25 |
| NFG US Equity | National Fuel Gas Co | 1.20 | 20% | 0.96 | 0.69 | 29% | 0.49 | 0.73 |
| NI US Equity | NiSource Inc | 0.68 | 52% | 0.33 | 0.35 | 49% | 0.18 | 0.25 |
| NJR US Equity | New Jersey Resources Corp | 0.66 | 27% | 0.48 | 0.53 | 26% | 0.39 | 0.43 |
| NWE US Equity | Northwestern Energy Group Inc | 0.72 | 45% | 0.40 | 0.32 | 41% | 0.19 | 0.29 |
| OGE US Equity | OGE Energy Corp | 0.74 | 35% | 0.49 | 0.42 | 31% | 0.29 | 0.39 |
| OGS US Equity | ONE Gas Inc | 0.71 | 37% | 0.44 | 0.41 | 28% | 0.30 | 0.37 |
| OKE US Equity | ONEOK Inc | 0.96 | 41% | 0.57 | 1.21 | 39% | 0.74 | 0.66 |
| PCG US Equity | PG&E Corp | 0.43 | 41% | 0.25 | 0.64 | 47% | 0.34 | 0.30 |
| PEG US Equity | Public Service Enterprise Group Inc | 0.62 | 32% | 0.42 | 0.41 | 33% | 0.27 | 0.35 |
| PNW US Equity | Pinnacle West Capital Corp | 0.64 | 40% | 0.38 | 0.25 | 34% | 0.16 | 0.27 |
| POR US Equity | Portland General Electric Co | 0.65 | 47% | 0.35 | 0.29 | 38% | 0.18 | 0.26 |
| PPL US Equity | PPL Corp | 0.42 | 47% | 0.22 | 0.47 | 47% | 0.25 | 0.24 |
| SJI US Equity | South Jersey Industries Inc | 0.72 | 32% | 0.49 | 0.56 | 41% | 0.33 | 0.41 |
| SO US Equity | Southern Co/The | 0.33 | 37% | 0.21 | 0.24 | 45% | 0.13 | 0.17 |
| SR US Equity | Spire Inc | 0.55 | 30% | 0.38 | 0.37 | 43% | 0.21 | 0.30 |
| SRE US Equity | Sempra | 0.63 | 39% | 0.39 | 0.43 | 40% | 0.26 | 0.32 |
| SWX US Equity | Southwest Gas Holdings Inc | 0.76 | 38% | 0.47 | 0.38 | 34% | 0.25 | 0.36 |
| WEC US Equity | WEC Energy Group Inc | 0.47 | 38% | 0.29 | 0.21 | 34% | 0.14 | 0.22 |
| XEL US Equity | Xcel Energy Inc | 0.46 | 45% | 0.26 | 0.22 | 40% | 0.13 | 0.19 |
| | **Average** | **0.57** | **38%** | **0.36** | **0.32** | **38%** | **0.20** | **0.28** |

*Source: Bloomberg and Incenta analysis*