

BEFORE THE EXPERT PANEL

FTAA-2504-1054

Under

the Fast-track Approvals Act 2024

In the matter of

an application for approvals in relation
to the Ryans Road Industrial
Development

By

Carter Group Limited

Applicant

**STATEMENT OF EVIDENCE OF JEFFREY JOHN BALCHIN ON BEHALF OF
CHRISTCHURCH INTERNATIONAL AIRPORT LIMITED
(ECONOMICS)**

Dated 12 March 2026

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STATEMENT OF EVIDENCE OF JEFFREY JOHN BALCHIN

Introduction

- 1 My name is Jeffrey John Balchin. I am the Managing Director of Incenta Economics Consulting, an economics consulting firm based in Melbourne, Australia. I have over 30 years of experience advising principally in relation to infrastructure sectors, such as airports, ports, energy grids and telecommunications, spanning all aspects of the economic regulation of infrastructure and related matters, including economic techniques for evaluating the merits of projects. My full curriculum vitae accompanies this statement.

Code of conduct

- 2 I confirm that in preparing this statement I have read the Environment Court's Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2023 and agree to comply with it. My qualifications as an expert are set out above. Other than where I state that I am relying on the advice of another person, I confirm that the issues addressed in this statement are within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

Scope of Evidence

- 3 I have been engaged by Christchurch International Airport Limited (**CIAL**) to provide expert commentary on the economic effects arising from the Ryans Road development proposal (**Proposal**). My evidence addresses:
 - (a) The economic benefits of the Proposal;
 - (b) The regional significance of the Proposal; and
 - (c) The costs of the Proposal.
- 4 In preparing my evidence I have read:
 - (a) Statement of Evidence of Natalie Hampson of Market Economics, prepared for CIAL, 20 September 2023 (Market Economics 2023)
 - (b) Market Economics (2025), Economic Assessment – 104 Ryans Rd Industrial Development, prepared for Carter Group Limited, March (Market Economics 2025)

- (c) Market Economics (2025), Ryans Road Industrial Development - Reply to CCC, October (Market Economics 2025A)
 - (d) Market Economics (2026), Economic Assessment of Regional Significance and Claimed Third-Party Costs – Ryans Road Industrial Development, February (Market Economics 2026)
 - (e) CIAL March 2026 advice on footprint of “facilitated by” activities
 - (f) Colliers (2025), 4 Ryans Road, Harewood Christchurch Industrial land Market, February
 - (g) Bayleys (2025), 4 Ryans Road Industrial Development – Fast-Track Approvals Act Application, March (Bayleys 2025).
- 5 In view of the time that has been available to prepare this evidence, I have been limited to commenting on the economic impact assessment that was undertaken by Market Economics and indicating the likely magnitude of any errors, rather than presenting an alternative estimate.

Summary of conclusions

- 6 My response is to the latest work of Market Economics (Market Economics 2026), within the context of the other material with which I have been briefed.
- 7 In my view, the economic benefits that Market Economics project are overstated because:
- (a) the potential for the economic activity on the development (i.e., the operating businesses) to simply displace activity from elsewhere is downplayed / understated
 - (b) the estimates of the economic impacts are based on high level and speculative assumptions about the likely final occupants (operating businesses) on the development, and these estimates reduce substantially if benchmarks based on previous work of Market Economics for CIAL is applied (noting that that work reflects the actual composition of businesses adjacent to the airport), and
 - (c) no account has been made for the timing of the economic benefits when presenting aggregate results (they are, incorrectly, assumed all to arise immediately).

- 8 As a consequence, there is good cause to be sceptical that the benefits from the Proposal would have Regional significance.
- 9 In addition, Market Economics imposes an asymmetrically high hurdle for whether costs should be counted. The way Market Economics has approached costs is not justified by economic principles and also out of step with the imprecision in the benefit estimates. Rather, economic principles would justify making a small investment (i.e., a delay to the development) in order to obtain the information required to:
- (a) ensure that potentially material catastrophic adverse events can be identified and addressed appropriately; whilst also
 - (b) not placing more restrictions on the development than necessary.

Background

- 10 I understand that this matter originates from a proposal by the Carter Group to develop approximately 55.5 hectares of industrial land that is immediately adjacent to one end of main north-south runway at Christchurch International Airport.
- 11 Based upon the material that I have considered, I infer that the Carter Group is expected to subdivide the land and then sell the land as developed lots, rather than to undertake activities itself on the land, or even to construct industrial premises. Thus, the ultimate economic use (as well as the timing of that use) of the land in question will depend upon other parties being attracted to purchase the developed lots and construct/install whatever premises and equipment that are required, with the nature of that ultimate use currently unknown. I further understand that a key differentiator of the Carter Group proposal relative to other industrial land options is that the potential purchasers of the lots will have the option to own the land and building upon which they operate rather than to lease.
- 12 I understand that the principal objections of CIAL and Airways Corporation of New Zealand Limited (Airways) to the proposed development relate to its potential impact on the safety and efficiency of airport operations. Their concerns include the potential economic impact of having to modify operations to address potential safety impacts that arise from the proposal.

Economic benefits of the Proposal

Technique that Market Economics has applied

- 13 The technique that Market Economics Ltd has used to estimate the economic impact of the Carter Group's proposed activities is an application of what is commonly referred to as input-output modelling. Input-output modelling is an economic technique that has been used since at least the 1930s, and involves making use of statistical relationships between the various sectors in the economy to predict how an increase in the output of one particular sector (the target sector) is likely to affect the output in sectors that provide inputs to the target sector, and then all other sectors as the increase in output of the input providing sector flows through to household incomes (e.g., via wages).
- 14 Part of the purchase of inputs will flow directly to imports into the economy (being the nation or the region, depending upon the focus of the exercise), and so not have a further multiplier effect through the local economy.
- 15 The results of the input-output modelling exercise will include an estimate of the change in production of the various sectors and the resultant increase in value added (which is a measure of GDP change), as well as other variables of interest (such as aggregate employment). Tatauranga Aotearoa Statistics NZ produces a series of input output tables at the national levels, for which it breaks the NZ economy into 109 sectors. Applying input output modelling at a sub national level (such as to a region) requires further effort, and is typically associated with greater error (this is because imports and exports are more significant at the regional level than at the national level, and more difficult to measure).
- 16 Standard input-output modelling is subject to a number of limitations, that need to be considered when applying the method or interpreting the results.
 - (a) First, the method provides estimates based upon aggregated data (in common with many economic techniques), and so should be interpreted with that shortcoming in mind.
 - (b) Secondly, standard input-output modelling is subject to the criticism that it assumes that the expansion in the target sector and associated sectors can occur without causing any other adverse effects in other sectors. This criticism is important because the proper basis for evaluating the economic merit of a project is to compare all relevant aspects of the world "with" the project to all relevant aspects of the world "without" the project. In reality,

however, all sectors of the economy are related, and so the likelihood exists that an expansion in a particular sector will have an adverse effect on activity elsewhere, which should be taken into account and, in essence, offset against the deemed benefit of the project.

- (i) For example, a very large project may put upward pressure on wages and other input prices, and so cause a decline in other sectors. For this reason, input output modelling is commonly seen as more valid for small projects.
- (ii) However, more generally, care must be taken to ensure that the increase in output/expenditure that is being used as the basis for the estimated economic impact actually comprise additional activities, rather than just displacing activities that would have occurred in the absence of the project in question.

No account taken for the potential that activity will merely shift location

- 17 As noted above, my understanding of the Carter Group proposal is that they are not intending to undertake the ultimate, ongoing economic activity on the development, but rather will develop land and so facilitate that activity – what could be referred to as “build it and they will come”.
- 18 Consequently, one should expect that there is a strong chance, that a proportion of the economic activity that is attracted to the development will simply be activity that would have been undertaken anyway, but just at a different location (such as another industrial estate in Christchurch). Activity that is simply displaced from a different location in Christchurch (or, indeed, anywhere else in the Canterbury Region) cannot increase the economic activity in the Canterbury Region.¹ The proper focus for the economic impact of the proposed development should therefore be on the extent of economic activity that is attracted that would not otherwise have occurred.
- 19 The analysis of Market Economics assumes that the entirety of the projected future use of the Carter Group development comprises activities that would not have

¹ This economic impact analysis is different to the normal focus of an economic impact assessment, where there is a proponent proposing a particular investment (such as a sports stadium or a new mine), and where implicitly the question is whether the project should be undertaken or not, and so the potential for diversion of projects from elsewhere do not occur. Of course, as noted above, there is a more general diversion that could occur (e.g., by competing for labour and so raising wages) that needs to be borne in mind.

occurred in the absence of the Carter Group development. This assumption is extreme and not justified by the analysis that Market Economics has undertaken.²

- 20 It may well be that the proposed development has advantages (such as proximity to transport routes or other businesses that are located near Christchurch International Airport), and so there may be some inducement of new activity; however, the principal effect of introducing a superior option (in terms of location) would be expected that activity that would have occurred otherwise would simply shift.
- 21 Market Economics also refers to the potential for the Proposal to increase the degree of competition for industrial and commercial land in the immediate vicinity of the airport, and thereby generate economic benefit. Putting aside the question of whether any change in competition will be material (the market for commercial and industrial land is surely wider than the location in the immediate vicinity of the airport), the economic benefits from an increase in competition are limited – true economic benefits accrue where removing a monopoly rent induces additional activity, whereas most of the effect from removing monopoly pricing is simply to transfer a rent between buyers and sellers (i.e., not affect economic activity).
- 22 I would not expect the proposal by the development to allow new businesses to own their land and building to have a material impact on the level of new (ultimate operating) activity that is induced. Rather, business operators that wish to own the land upon which they operate are likely simply to be displaced from other locations where only leasing options exist, rather than for new activity to arise. Moreover, the proposition that the ultimate operating businesses will wish to own the land and buildings upon which they operate is not justified – having a separation between the owners of the land and the operators of the ultimate businesses is extremely common across industrial markets, and most likely reflects the fact that operating businesses benefit from having capital freed up for their operating activities. Indeed, my reading of the material from the real estate firms that supported the

² Market Economics acknowledged that some of the operating activities that may take place on the Carter Group development may be a displacement of activities that otherwise would have occurred elsewhere (Market Economics 2025A, p.12), but do not make any adjustment to its estimate of economic benefits to reflect this. Market Economics did argue in that context that most of the operating activities on the development would not be a displacement; however, this position of Market Economics was based on the assumption that all of the operating businesses that would be attracted to the development have a strong preference for owning their operating site as freehold, to the point where the large amount of available leasehold land around the airport would not be considered a substitute. I think assumption is implausible, and a matter where the evidence presented to this matter is inconsistent (I discuss this latter point in footnote 3 below).

Proposal suggests that land investors (rather than the ultimate operating businesses) may well be the purchasers of the developed lots.³

- 23 Whilst the Market Economics evidence includes analysis of the supply/demand balance for industrial and commercial property (with an indication that the timing of the development stages will target when excess demand is likely to exist), much of this is premised on the assumption that there is a separate market for leased and freehold land (which I addressed above), and limited account is taken of the potential for other developments to occur in the absence of the Proposal.

Ultimate operations are speculative

- 24 Even if one were to put aside the potential for much of the activity in the development simply to change where activity takes place – rather than to increase activity – there are reasons to be cautious about Market Economics’ estimates of activity. In particular, I observe that the economic impact of the use of the development will depend on:

- (a) the size of the direct activity that takes place across the various parts of the development (including expenditure and employment), and
- (b) the nature of the activity, with those that are more integrated with the local economy (i.e., that draw upon inputs from the local region) expected to generate a greater regional multiplier.

- 25 However, Market Economics’ conclusions about the size of the economic impact – additional value added of \$320.7 million per annum annually to the Canterbury Region and 3,267 ongoing jobs – is based upon very high level assumptions about the nature of activities that ultimately may be undertaken at the Carter Group development. Moreover, given that there are (as I understand it) no actual activities that are as yet planned, the magnitude and identity of activities must be somewhat speculative. As noted above, these assumptions will have a material effect on the estimates of the value added and employment effects of the development.

- 26 As a point of comparison, I note that Market Economics has separately provided an economic impact analysis⁴ for various aspects of the operations of CIAL. This

³ In particular, I read the advice of Bayleys 2025 as suggesting that the purchasers of the lots are likely to be investors, which is consistent with Bayleys statement that one of the strengths of the location adjacent to the airport is the diversity in tenants (Bayleys 2025, para.11.2). I note that the evidence of the real estate agents that (i) industrial land users (i.e., the operating businesses) prefer to hold the land as freehold to the point where freehold land must be considered to be a separate market, but that (ii) the likely buyers of the developed lots of the Proposal were investors, to be inconsistent.

⁴ Market Economics 2023, paras.52-59.

analysis includes activities undertaken on the commercial and industrial land estate that is owned by CIAL and is adjacent to the airport. One of the categories of use that Market Economics identified were those that were not directly connected to the airport operations, but benefited from being close to airport-related services, a large workforce or to Christchurch City. On its face, this appears similar to the nature of the users that the Carter Group proposal might attract (Market Economics referred to these as activities that are facilitated by Christchurch International Airport, which I shorten to the “facilitated by” activities in the discussion below). In relation to this 2023 estimate of Market Economics:

- (a) I asked CIAL to estimate the size of the land estate that related to the “facilitated by” activities identified by Market Economics. CIAL estimated (whilst placing caveats around the precision of its estimate) that there is approximately 40 Ha of land associated with this type of activity, excluding vacant sites and roading. The land estate that provides for CIAL’s “facilitated by” activities is therefore similar to the size of the proposed Carter Group development.
- (b) I observe that the 2023 Market Economics estimate of the economic impact to the Canterbury Region of the “facilitated by” activities at the Christchurch International Airport was \$153 million per annum and 1,349 jobs.⁵ The first of these estimates were provided as at February 2020, and allowing for inflation since that time (using the Consumer Price Index) this value would convert to \$193 million per annum.⁶

27 I note that the regional impact estimated for this similar sized land estate (\$193 million per annum and 1,349 ongoing jobs) is materially lower than the estimate that Market Economics has provided in relation to the Carter Group development (\$320.7 million per annum and 3,276 ongoing jobs). It is not apparent to me why a materially different nature of occupancy of the Carter Group development may be expected and the Market Economics analysis does not discuss this.

28 For completeness I note that the benefit figures that are referred to in the previous paragraph do not make an allowance for the potential for the Carter Group

⁵ Market Economics, 2023, Table 6.

⁶ The Consumer Price Index (all groups) between March 2020 and December 2025 increased by approximately 26 per cent.

development to divert activity from elsewhere in the Region, which I have discussed earlier.⁷

- 29 Moreover, I note that when Market Economics has calculated the present value of GDP associated with the Proposal,⁸ it has implicitly assumed that the whole of the benefit is available immediately (the present value quoted of \$3.6 billion dollars assumes that the additional value added of \$320.7 million per annum commences immediately). This assumption is not consistent with the Proposal (Stage 1 is 17.47 Ha) and substantially overstates the potential aggregate benefit of the Proposal. In economics, the size of an anticipated economic benefit will depend upon both the magnitude of the effects once they are realised, as well as the timing from when those effects are realised (which is why benefits and costs that accrue over an extended time period are typically converted into present values).

Regional Significance of the Proposal

- 30 My observations above show there are strong grounds to be sceptical as to whether the proposed Carter Group development would be classed as “regionally significant” and/or the extent of benefit the proposal offers:

- (a) First, using Market Economics previous work for CIAL as a benchmark for the potential economic impact of the Proposal would result in a total benefit that is only marginally regionally significant.
- (i) However, applying this prior estimate to a new development is almost certainly an overestimate as it makes no allowance for the staging of the development, nor of the time delay in obtaining occupancy of the new development. I observe that Stage 1 is only 17.7 Ha, and so the annual value added and ongoing jobs for this component of the development would clearly not meet Market Economics own threshold for regional significance.
- (ii) By way of illustration, if the ultimate business operations on Stage 1 (17.7 Ha) were to commence in three years time (and the stage to be immediately fully utilised), and then operations on Stage 2 were to commence 10 years after that (i.e., from the commencement of year 11), then this deferral of commencement of benefits would reduce

⁷ Market Economics argued that it was difficult to allow for diversion effects in relation to the activities at Christchurch International Airport given that the activities already exist (and indeed that there was a degree of co-evolution between the airport and surrounding activities): Market Economics, 2023, para.15. the same constraints do not apply in relation to estimating the economic impact of new developments, where a proper analysis of the world “with” and “without” the development can and should be undertaken.

⁸ For example, in Market Economics 2026, table 1.

the aggregate economic benefit by approximately 50 per cent (i.e., compared to Market Economics' assumption that all benefits commence immediately).

- (b) Secondly, as discussed earlier, there is a real potential that a material share of the new activity in the Carter Group development would simply be diverted from other locations in the region, and so not contribute as much – if any – additional economic benefit to the Region.

Costs of the Proposal

- 31 Notwithstanding the shortcomings in its estimation of the positive economic impacts of the proposed development, Market Economics applies a markedly higher threshold for potential costs or adverse events to be recognised in the assessment of whether the Project should process under the fast-track approvals process. This is illustrated by the following extract from the Market Economics 2026 Report:⁹

The fast-track approvals process requires consideration of a project's overall benefits and adverse effects. Accordingly, if substantiated, significant and enduring costs borne by a regionally important entity such as CIAL and Airways could, in principle, offset some portion of the Project's direct gross benefits and reduce its net contribution to the Canterbury economy.

However, relevance is conditional, not automatic. For such costs to carry weight in an economic assessment, the analysis must move beyond generalised assertions of "potential" or "theoretical" impacts. Relevance arises only where there is a demonstrable, direct causal relationship between the Project and clearly defined operational consequences for airport or aviation activities.

As currently framed, the concerns raised identify no specific operational changes that would be required, nor do they quantify any resulting cost impacts. In the absence of this specificity, the claimed costs remain abstract and cannot be meaningfully weighed against the Project's quantified benefits.

- 32 First, I would note that the degree of certainty that costs should have before being given weight are not drawn from economic principles. Rather, economic principles would advocate taking account of all information, and making the best decision based on that totality of information. Moreover, a key implication of the discussion above is that the Market Economics estimates of beneficial economic impact are potentially no less speculative than the costs.

⁹ Market Economics, 2026, p.5.

- 33 Moreover, Market Economics has mischaracterised the position (objection) of Airways and CIAL, as well as the remedy that is sought. As I understand it, the essence of the objection is that the development has the potential to have adverse impacts on operations at the Airport, with the outcomes ranging from economic (i.e., requiring expenditure to remedy) to potentially catastrophic. However, I further understand the position of Airways and CIAL to be that no one can say with any certainty what those impacts will be yet and (if present) how they could be avoided. This is why both parties say time is needed to conduct the appropriate studies.
- 34 I observe that a clear conclusion of economic principles is that it would be appropriate to make a small investment (i.e., a delay to the development) in order to obtain the information required to:
- (a) ensure that potentially material to catastrophic adverse events can be avoided; whilst also
 - (b) not placing more restrictions on the development than necessary.

Dated 12 March 2026



Jeffrey John Balchin

Jeff Balchin

Managing Director

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Overview

Jeff is the Managing Director of Incenta Economic Consulting. Jeff has over 30 years of experience in relation to economic regulation issues across the electricity, gas, ports, airports, telecommunications, and water infrastructure sectors in Australia and New Zealand. He has advised governments, regulators and major corporations on issues including the development of regulatory frameworks, regulatory price reviews and issues around the introduction and measurement of competition (including franchise bidding). His particular specialities have been on the application of finance principles to economic regulation, the design of incentive compatible regulation and efficient tariff structures and the drafting and economic interpretation of regulatory instruments.

In addition, Jeff has substantial experience with the application of economic and finance principles to pricing and investment appraisal and associated commercial disputes in unregulated infrastructure and non-infrastructure markets. He has also assisted with applying economic principles to competition regulation, transfer pricing and taxation issues.

Jeff has undertaken a number of expert witness assignments.

Past positions

Jeff previously was a Principal at PwC in its economics and policy team for almost 4 years, prior to that a director and partner at the Allen Consulting Group for over 13 years, and prior to that he held a number of policy positions in the Commonwealth Government. In this latter role, he was on the secretariat of the Gas Reform Task Force (1995-1996), where he played a lead role in the development of the National Gas Code.

Relevant experience

A. Economic regulation of network / monopoly activities

Assistance to parties during price reviews/negotiations

- Input methodologies for NZ airports (Client: Christchurch International Airport Limited, 2023) – prepared expert reports in relation to the asset beta for airport aeronautical services.
- Price review for aeronautical services for PSE4 (Client: Christchurch International Airport Limited, 2021-22) – provided advice in relation to a range of economic issues associated with setting infrastructure prices, including appropriate depreciation methods, acceptable rate of return and calculation of implied returns and techniques for forecasting expenditure. Also responsible for the overall financial modelling that fed into the calculation of prices.
- Economic regulation of ultrafast broadband (Client: Chorus NZ, 2016-24) – advised Chorus on a range of issues associated with transitioning its ultrafast broadband activities from one that is regulated via a concession contract to a building block approach. Key matters of advice have included: the valuation of assets; the treatment of stranded asset risk (including the choice of depreciation method); treatment of its concessional government financing; allocation of shared costs and assets; cost of capital issues, technical financial modelling issues; and issues with

forecasting expenditure and the design of incentive schemes. This advice spanned the period during which the new regulatory framework was being developed, the Commission's determination of the initial Input Methodologies and then the first and second price-quality determinations.

- Cost-based price for equity post-trade services (Client: ASX Ltd, 2021-ongoing) – advised in relation to the compliance of ASX's proposed prices for the regulated services provided by its new clearing and settlement system (the CHESSE replacement) with cost-based pricing principles. Key issues included: asset valuation and the relevance of intangible assets; return benchmarks; and cost / asset allocation.
- Financeability for a major electricity transmission business (Client: TransGrid, 2020-21) – provided a report accompanying an application for a rule-change demonstrating the financeability issues posed by TransGrid's pipeline of projects, and illustrating how a change to depreciation would improve its ability to attract capital.
- Tax depreciation of replaced gas distribution assets (Client: AGN, 2020-21) – estimated the extent of tax write-off for regulatory purposes that was justified by AGN's mains replacement program (provided a number of reports and financial modelling).
- Depreciation of gas transmission projects (Client: DPB, 2020-21) – provided a number of reports in support of DBP's proposals to (i) increase the number of asset groupings for regulatory depreciation purposes, and (ii) alter the remaining lives of its main assets to respond to emerging asset stranding risks.
- Regulatory depreciation method for a major container port (Client: Port of Melbourne, 2021) – provided an expert opinion about the options available to use an alternative depreciation method to create a more efficient time profile for prices.
- Asset beta for a major container port (Client: Port of Melbourne, 2020) – provided an expert opinion about the asset beta (and equity beta) for the Port of Melbourne as an input into its annual pricing submissions, which was based on an extensive analysis of the empirical evidence.
- Indicative cost-based prices for a new airport (Client: CIAL, 2019) – assisted to develop preliminary estimates of cost-based charges for a potential new NZ airport, and associated measures of financial performance.
- Depreciation for gas distribution (Client: JGN, 2019) – provided two expert reports in support of JGN's application to advance the depreciation of new investment in gas distribution assets to respond to the emerging stranding risks posed by carbon reduction policies.
- Price review for aeronautical services for PSE3 and Input Methodologies review (Client: Christchurch International Airport Limited, 2015-18) – provided economic advice on a range of economic issues associated with setting infrastructure prices, including: detailed advice and modelling to underpin a reform of tariff structures to better manage CIAL's risk; appropriate depreciation methods; acceptable rate of return; approach in relation to asset / cost allocation; and techniques for forecasting expenditure. I was also responsible for the overall financial modelling that fed into the calculation of prices. In addition, I also prepared reports in relation to the Commission's 2016 review of the airport Input Methodologies that occurred during this period, which included advice in relation to the full range of economic issues arising.
- Compliance with new regulatory regime for non-scheduled pipelines (Client: Epic SA, 2017-18) – assisted Epic SA to respond to the new regulatory regime for non-scheduled pipelines, which included advice on the economic meaning of the new regulatory requirements, modelling of an initial regulatory asset value that best complied with the regime requirements, advice on the

weighted average cost of capital and assistance with determining a price that best complied with the regime requirements.

- Regulatory valuation of telecommunications local loop assets (Client: Chorus NZ, 2014) – prepared a report advising on the appropriate valuation of local loop assets for the purpose of deriving a TSLRIC price for unbundled local loop access and provided subsequent ongoing advice on the application of different methods.
- Cost allocation (Client: BHP, 2014-2016) – prepared two reports on the economic principles behind allocating costs between regulated and unregulated services during the review of tariffs for the Goldfields Gas Pipeline.
- Depreciation and financeability (Client: AGN, 2015-16) – prepared a series of reports on the use of depreciation to manage financeability issues, and its justification within the relevant legal instruments. Also advised in relation to the acceleration of depreciation for “replaced” assets.
- Depreciation and risk management (Client: ENA, 2015) – prepared a report on how depreciation could be used as a stranding-risk management tool, which included a discussion of regulatory precedents and articulation of how this role for depreciation is consistent with economic principles and the relevant legal instruments.
- AER WACC Review (Client: ENA, 2011-12) – prepared expert reports on a range of matters, including the appropriate term of the risk free rate, the appropriate term of debt and a critical assessment of the ERA’s (then) method for deriving the debt risk premium.
- Design of incentives for operating expenditure efficiency (Client: ElectraNet, 2012-13) – provided expert advice on the detailed application of the incentive arrangements for operating expenditure, including the link between the incentive scheme and the forecasting method.
- Regulatory depreciation (Client: APA, 2012-13) – provided expert reports on the economic principles relevant to the depreciation method that is applied to set gas transmission charges.
- Regulatory cost of debt (Clients: Powerlink, ElectraNet and Victorian gas distributors 2011-2012) – provided a series of reports addressing how the benchmark cost of debt should be established pursuant to the National Electricity Rules and on the appropriate benchmark allowance for debt and equity raising costs.
- Real cost escalation (Client: Energex, 2009-10) – advised Energex on appropriate escalators to apply to forecasts of operating and capital expenditure over the regulatory period.
- Strategic advice, Victorian electricity distribution review and NSW gas distribution review (Client: Jemena Electricity Networks, 2009-2011) – retained as strategic adviser during the review and also provided advice on a range of technical regulatory economic issues, including on regulatory finance matters, service incentives, party contracts, allocation of costs between regulated and unregulated activities and forecasting of expenditure.
- Regulatory cost of debt (Client: Powercor Australia Limited, 2009-2010) – provided a series of reports addressing how the benchmark cost of debt should be established pursuant to the National Electricity Rules.
- Service incentive scheme (Client: Powercor Australia Limited, 2010) – assisted Powercor to quantify the financial effect that would have flowed if the former service performance incentive scheme had continued. Also prepared an expert report pointing to a material inconsistency in how the AER intended to close out the old scheme and the parameters for the new service performance incentive scheme, which was accepted by the AER.

- Input methodologies for NZ regulated businesses (Clients: Powerco NZ and Christchurch International Airport, 2009-2012) – advised in relation to the Commerce Commission’s development of input methodologies, focussing asset valuation, the regulatory cost of capital, the use of productivity trends in regulation and the design of incentive-compatible regulation. Also assisted in briefing counsel in subsequent reviews.
- Commercial negotiation of landing charges (Client: Virgin Blue, 2009-2012) – economic advice to Virgin Blue during its commercial negotiation of landing charges to a number of major and secondary airports.
- Equity Betas for Regulated Electricity Transmission Activities (Client: Grid Australia, APIA, ENA, 2008) – Prepared a report presenting empirical evidence on the equity betas for regulated Australian electricity transmission and distribution businesses for the AER’s five yearly review of WACC parameters for these industries. The report demonstrated the implications of a number of different estimation techniques and the reliability of the resulting estimates. Also prepared a joint paper with the law firm, Gilbert+Tobin, providing an economic and legal interpretation of the relevant (unique) statutory guidance for the review.
- Economic Principles for the Setting of Airside Charges (Client: Christchurch International Airport Limited, 2008-2013) – Provided advice on a range of economic issues relating to its resetting of charges for airside services, including the valuation of assets and treatment of revaluations, certain inputs to the cost of capital (beta and the debt margin) and the efficiency of prices over time and the implications for the depreciation of assets and measured accounting profit.
- Treatment of Inflation and Depreciation when Setting Landing Charges (Client: Virgin Blue, 2007-2008) – Provided advice on Adelaide Airport’s proposed approach for setting landing charges for Adelaide Airport, where a key issue was how it proposed to deal with inflation and the implications for the path of prices over time. The advice also addressed the different formulae that are available for deriving an annual revenue requirement and the requirements for the different formulae to be applied consistently.
- Application of the Grid Investment Test to the Auckland 400kV Upgrade (Client: Electricity Commission of New Zealand, 2006) - As part of a team, undertook a review of the Commission’s process for reviewing Transpower’s proposed Auckland 400kV upgrade project and undertook a peer review of the Commission’s application of the Grid Investment Test.
- Appropriate Treatment of Taxation when Measuring Regulatory Profit (Client: Powerco New Zealand, 2005-2006) - Prepared a series of statements on how taxation should be treated when measuring realised and projected regulatory profit.
- Application of Directlink for Regulated Status (Client: Directlink, 2003-2004) – Prepared advice on the economic efficiency of the conversion of an unregulated (entrepreneurial) interconnector to a regulated interconnector and how the asset should be valued for pricing purposes.
- Principles for the ‘Stranding’ of Assets by Regulators (Client: the Independent Pricing and Regulatory Tribunal, NSW, 2005) - Prepared a report discussing the relevant economic principles for a regulator in deciding whether to ‘strand’ assets for regulatory purposes (that is, to deny any further return on assets that are partially or unutilised).
- Principles for Determining Regulatory Depreciation Allowances (Client: the Independent Pricing and Regulatory Tribunal, NSW, 2003) - Prepared a report discussing the relevant economic and other principles for determining depreciation for the purpose of price regulation, and its application to electricity distribution. An important issue addressed was the distinction between accounting and regulatory (economic) objectives for depreciation.

- Methodology for Updating the Regulatory Value of Electricity Transmission Assets (Client: the Australian Competition and Consumer Commission, 2003) - Prepared a report assessing the relative merits of two options for updating the regulatory value of electricity transmission assets at a price review - which are to reset the value at the estimated 'depreciated optimised replacement cost' value, or to take the previous regulatory value and deduct depreciation and add the capital expenditure undertaken during the intervening period (the 'rolling-forward' method). This paper was commissioned as part of the ACCC's review of its Draft Statement of Regulatory Principles for electricity transmission regulation.
- Application of Murraylink for Regulated Status (Client: Murraylink Transmission Company, 2003) – Prepared advice on the economic efficiency of the conversion of an unregulated (entrepreneurial) interconnector to a regulated interconnector and how the asset should be valued for pricing purposes.
- Proxy Beta for Regulated Gas Transmission Activities (Client: the Australian Competition and Consumer Commission, 2002) - Prepared a report presenting the available empirical evidence on the 'beta' (which is a measure of risk) of regulated gas transmission activities. This evidence included beta estimates for listed firms in Australia, as well as those from the United States, Canada and the United Kingdom. The report also included a discussion of empirical issues associated with estimating betas, and issues to be considered when using such estimates as an input into setting regulated charges.
- Treatment of Working Capital when setting Regulated Charges (Client: the Australian Competition and Consumer Commission, 2002) - Prepared a report assessing whether it would be appropriate to include an explicit (additional) allowance in the benchmark revenue requirement in respect of working capital when setting regulated charges.
- Pricing Principles for the South West Pipeline (Client: Esso Australia, 2001) - As part of a team, prepared a report describing the pricing principles that should apply to the South West Pipeline (this gas transmission pipeline was a new asset, linking the existing system to a new storage facility and additional gas producers).
- Likely Regulatory Outcome for the Price for Using a Port (Client: MIM, 2000) - Provided advice on the outcome that could be expected were the dispute over the price for the use of a major port to be resolved by an economic regulator. The main issue of contention was the valuation of the port assets (for regulatory purposes) given that the installed infrastructure was excess to requirements, and the mine had a short remaining life.
- Relevance of 'Asymmetric Events' in the Setting of Regulated Charges (Client: TransGrid, 1999) - In conjunction with William M Mercer, prepared a report (which was submitted to the Australian Competition and Consumer Commission) discussing the relevance of downside (asymmetric) events when setting regulated charges, and quantifying the expected cost of those events.

Other regulatory compliance work

- Independent review of systems and processes (Client: Jemena, 2025) – undertook a review of the systems and processes of a pipeline company for ensuring compliance with obligations to disclose information to support the day ahead auction for unused contracted capacity. This review arose as part of an undertaking after non-compliance was identified.
- Independent review of systems and processes (Client: Jemena, 2024) – undertook a review of the systems and processes of a pipeline company for ensuring compliance with obligations to disclose its short term and medium term capacity outlooks. This review arose as part of an undertaking after non-compliance was identified.

Major roles for regulators

- Review of the approach to regulation (Client: IPART, 2021) – reviewed IPART’s proposed reforms to its approach to review regulated utility prices directed to enhancing the quality of utility proposals and forecasts. Focussed on the practical conditions required for the regime to generate the intended incentives.
- Review of financeability test (Client: IPART, 2018) – provided advice to IPART in relation to the financial metrics and target ratios that IPART proposed to use as part of its financeability test, which was released to stakeholders during the consultation process.
- Aurizon Network price review (Client: Queensland Competition Authority, 2018-19) – advised the QCA on the appropriate rate of return (discount rate) for the Aurizon Network business as in the previous review, and also advised the QCA with respect to the assessment of financeability for a regulated business and the appropriate measures to ameliorate financeability concerns.
- Aurizon Network price review (Client: Queensland Competition Authority, 2013-2014) – advised the QCA on the appropriate rate of return (discount rate) for the Aurizon Network business, which included an assessment of the relative risk of Aurizon Network compared to other infrastructure sectors, advice on the appropriate benchmark gearing level and on the benchmark debt interest rate.
- Victorian Gas Distribution Price Review (Client: the Essential Services Commission, Vic, 2006-2008) - Provided advice to the Essential Service Commission in relation to its review of gas distribution access arrangements on the treatment of outsourcing arrangements, finance issues, incentive design and other economic issues.
- Envestra Gas Distribution Price Review (Client: the Essential Services Commission, SA, 2006) - Provided advice on several finance related issues (including ‘return on assets’ issues and the financial effect of Envestra’s invoicing policy), and the treatment of major outsourcing contracts when setting regulated charges.
- DBCT price review (Client: QCA, Qld, 2004-2006) – advice on a number of finance related issues, including the calculation of IDC for a DORC valuation, cost of debt and equity beta.
- Victorian Electricity Distribution Price Review (Client: the Essential Services Commission, Vic, 2003-2005) - Provided advice to the Essential Service Commission on a range of economic issues related to current review of electricity distribution charges, including issues related to finance, forecasting of expenditure and the design of incentive arrangements for productive efficiency and service delivery. Was a member of the Steering Committee advising on strategic regulatory issues.
- Victorian Water Price Review (Client: the Essential Services Commission, Vic, 2003-2005) - Provided advice to the Essential Services Commission on the issues associated with extending economic regulation to the various elements of the Victorian water sector. Was a member of the Steering Committee advising on strategic regulatory issues, and also provided advice on specific issues, most notably the determination of the initial regulatory values for the water businesses and the role of developer charges.
- ETSA Electricity Distribution Price Review (Client: the Essential Services Commission, SA, 2002-2005) - Provided advice on the ‘return on assets’ issues associated with the review of ETSA’s regulated distribution charges, including the preparation of consultation papers. The issues covered include the valuation of assets for regulatory purposes and cost of capital issues. Also engaged as a quality assurance adviser on other consultation papers produced as part of the price review.

- Victorian Gas Distribution Price Review (Client: the Essential Services Commission, Vic, 2001-2002) - Economic adviser to the Essential Services Commission during its assessment of the price caps and other terms and conditions of access for the three Victorian gas distributors. Was responsible for all issues associated with capital financing (including analysis of the cost of capital and assessment of risk generally, and asset valuation), and supervised the financial modelling and derivation of regulated charges. Also advised on a number of other issues, including the design of incentive arrangements, the form of regulation for extensions to unreticulated townships, and the principles for determining charges for new customers connecting to the system.
- ETSA Electricity Distribution Price Review (Client: the South Australian Independent Industry Regulator, 2000-2001) - As part of a team, prepared a series of reports proposing a framework for the review. The particular focus was on the design of incentives to encourage cost reduction and service improvement, and how such incentives can assist the regulator to meet its statutory obligations. Currently retained to provide commentary on the consultation papers being produced by the regulator, including strategic or detailed advice as appropriate.
- Dampier to Bunbury Natural Gas Pipeline Access Arrangement Review (Client: the Independent Gas Pipelines Access Regulator, WA, 2000-2002) - Provided economic advice to the Office of the Independent Regulator during its continuing assessment of the regulated charges and other terms and conditions of access for the gas pipeline, including a review of all parts of the draft decision, with particular focus on the sections addressing the cost of capital (and assessment of risk generally), asset valuation and financial modelling. Represented the Office on these matters at a public forum, and provided strategic advice to the Independent Regulator on the draft decision.
- Goldfield Gas Pipeline Access Arrangement Review (Client: the Independent Gas Pipelines Access Regulator, WA, 2000-2004) - Provided economic advice to the Office of the Independent Regulator during its continuing assessment of the regulated charges and other terms and conditions of access for the gas pipeline, including a review of all parts of the draft decision, with particular focus on the sections addressing the cost of capital (and assessment of risk generally), asset valuation and financial modelling. Represented the Office on these matters at a public forum, and provided strategic advice to the Independent Regulator on the draft decision.
- Victorian Electricity Distribution Price Review (Client: the Office of the Regulator General, Vic, 1999-2000) - Economic adviser to the Office of the Regulator General during its review of the price caps for the five Victorian electricity distributors. Had responsibility for all issues associated with capital financing, including analysis of the cost of capital (and assessment of risk generally) and asset valuation, and supervised the financial modelling and derivation of regulated charges. Also advised on a range of other issues, including the design of incentive regulation for cost reduction and service improvement, and the principles for determining charges for new customers connecting to the system.
- Victorian Ports Corporation and Channels Authority Price Review (Client: the Office of the Regulator General, Vic, 2000) - Advised on the finance related issues (cost of capital and the assessment of risk generally, and asset valuation), financial modelling (and the derivation of regulated charges), and on the form of control set over prices. Principal author of the sections of the draft and final decision documents addressing the finance related and price control issues.
- AlintaGas Gas Distribution Access Arrangement Review (Client: the Independent Gas Pipelines Access Regulator, WA, 1999-2000) - Provided economic advice to the Office of the Independent Regulator during its assessment of the regulated charges and other terms and conditions of access for the gas pipeline. This advice included providing a report assessing the cost of capital associated with the regulated activities, overall review of all parts of the draft and final decisions, with particular focus on the sections addressing the cost of capital (and assessment of risk generally),

asset valuation and financial modelling. Also provided strategic advice to the Independent Regulator on the draft and final decisions.

- **Parmelia Gas Pipeline Access Arrangement Review** (Client: the Independent Gas Pipelines Access Regulator, WA, 1999-2000) - Provided economic advice to the Office of the Independent Regulator during its assessment of the regulated charges and other terms and conditions of access for the gas pipeline, including a review of all parts of the draft and final decisions, with particular focus on the sections addressing the cost of capital (and assessment of risk generally), asset valuation and financial modelling. Also provided strategic advice to the Independent Regulator on the draft and final decisions.
- **Victorian Gas Distribution Price Review** (Client: the Office of the Regulator General, Vic, 1998) - Economic adviser to the Office of the Regulator General during its assessment of the price caps and other terms and conditions of access for the three Victorian gas distributors. Major issues addressed included the valuation of assets for regulatory purposes, cost of capital financing and financial modelling. Principal author of the draft and final decision documents.

Development/Review of Regulatory Frameworks

- **Financeability for ISP electricity transmission projects** (Client: AEMC, 2023-24) – advised the AEMC on the rationale for, and design of, rules that would allow cash flows to be advanced to address financeability issues arising in relation to very large (ISP) electricity transmission projects.
- **Pricing principles for non-scheduled pipelines** (Client: Gas Market Reform Group, 2017) – provided advice to the Group on the range of principles that could be specified for an arbitrator if called to arbitrate a dispute on a non-scheduled pipeline, and the relative merits of the different options.
- **Review of the Australian energy economic regulation** (Client: Energy Networks Association, 2010-2012) – assisting the owners of energy infrastructure to engage in the current wide-ranging review of the regime for economic regulation of energy infrastructure. Advice has focussed in particular on the setting of the regulatory WACC and on the regime of financial incentives for capital expenditure efficiency, and included strategic and analytical advice, preparation of expert reports and assistance with ENA submissions.
- **Review of the Australian electricity transmission framework** (Client: Grid Australia, 2010-2013) – assisting the owners of electricity transmission assets to participate in the wide-ranging review of the framework for electricity transmission in the national electricity market, covering such matters as planning arrangements, the form of regulation for non-core services and generator capacity rights and charging. Has included analytical advice on policy choices, facilitation of industry positions and articulation of positions in submissions.
- **Implications of greenhouse policy for the electricity and gas regulatory frameworks** (Client: the Australian Energy Market Commission, 2008-2009) – Provided advice to the AEMC in its review of whether changes to the electricity and gas regulatory frameworks is warranted in light of the proposed introduction of a carbon permit trading scheme and an expanded renewables obligation. Issues addressed include the framework for electricity connections, the efficiency of the management of congestion and locational signals (including transmission pricing) for generators and the appropriate specification of a cost benefit test for transmission upgrades in light of the two policy initiatives.
- **Economic incentives under the energy network regulatory regimes for demand side participation** (Client: Australian Energy market Commission, 2006) – Provided advice to the AEMC on the incentives provided by the network regulatory regime for demand side participation, including the

effect of the form of price control (price cap vs. revenue cap), the cost-efficiency arrangements, the treatment of losses and the regime for setting reliability standards.

- Implications of greenhouse policy for the electricity and gas regulatory frameworks (Client: the Australian Energy Market Commission, 2008) - Provided advice to the AEMC in its review of whether changes to the electricity and gas regulatory frameworks is warranted in light of the proposed introduction of a carbon permit trading scheme and an expanded renewables obligation. Issues addressed include the framework for electricity connections, the efficiency of the management of congestion and locational signals for generators and the appropriate specification of a cost benefit test for transmission upgrades in light of the two policy initiatives.
- Application of a ‘total factor productivity’ form of regulation (Client: the Victorian Department of Primary Industries, 2008) - Assisted the Department to develop a proposed amendment to the regulatory regime for electricity regulation to permit (but not mandate) a total factor productivity approach to setting price caps – that is, to reset prices to cost at the start of the new regulatory period and to use total factor productivity as an input to set the rate of change in prices over the period.
- Expert Panel on Energy Access Pricing (Client: Ministerial Council on Energy, 2005-2006) - Assisted the Expert Panel in its review of the appropriate scope for commonality of access pricing regulation across the electricity and gas, transmission and distribution sectors. The report recommended best practice approaches to the appropriate forms of regulation, the principles to guide the development of detailed regulatory rules and regulatory assessments, the procedures for the conduct of regulatory reviews and information gathering powers.
- Productivity Commission Review of Airport Pricing (Client: Virgin Blue, 2006) - Prepared two reports for Virgin Blue for submission to the Commission’s review, addressing the economic interpretation of the review principles, asset valuation, required rates of return for airports and the efficiency effects of airport charges and presented the findings to a public forum.
- AEMC Review of the Rules for Setting Transmission Prices (Client: Transmission Network Owners, 2005-2006) - Advised a coalition comprising all of the major electricity transmission network owners during the new Australian Energy Market Commission’s review of the rules under which transmission prices are determined. Prepared advice on a number of issues and assisted the owners to draft their submissions to the AEMC’s various papers.
- Advice on Energy Policy Reform Issues (Client: Victorian Department of Infrastructure/Primary Industries, 2003-2009) - advice to the Department regarding on issues relating to the transition to national energy market arrangements, cross ownership rules for the energy sector, the reform of the cost benefit test for electricity transmission investments and the scope for lighted handed regulation in gas transmission.
- Productivity Commission Review of the National Gas Code (Client: BHPBilliton, 2003-2004) - Produced two submissions to the review, with the important issues including the appropriate form of regulation for the monopoly gas transmission assets (including the role of incentive regulation), the requirement for ring fencing arrangements, and the presentation of evidence on the impact of regulation on the industry since the introduction of the Code.
- Development of the National Third Party Access Code for Natural Gas Pipeline Systems Code (Client: commenced while a Commonwealth Public Servant, after 1996 the Commonwealth Government, 1994-1997) - Was involved in the development of the new legal framework for the economic regulation of gas transmission and distribution systems, with advice spanning the overall form of regulation to apply to the infrastructure and the appropriate pricing principles (including the valuation of assets for regulatory purposes and the use of incentive regulation), ring fencing

arrangements between monopoly and potentially contestable activities, and whether upstream infrastructure should be included within the regime.

Licensing / Franchise Bidding

- Competitive Tender for Gas Distribution and Retail in Tasmania (Client: the Office of the Tasmanian Energy Regulator, 2001-2002) - Economic adviser to the Office during its oversight of the use of a competitive tender process to select a gas distributor/retailer for Tasmania, and simultaneously to set the regulated charges for an initial period.
- Issuing of a Licence for Powercor Australia to Distribute Electricity in the Docklands (Client: the Office of the Regulator General, Vic, 1999) - Economic adviser to the Office during its assessment of whether a second distribution licence should be awarded for electricity distribution in the Docklands area (a distribution licence for the area was already held by CitiPower, and at that time, no area in the state had multiple licensees). The main issue concerned the scope for using ‘competition for the market’ to discipline the price and service offerings for an activity that would be a monopoly once the assets were installed.

Assessments of the degree and prospects for competition / need for regulation

- Assessment of the merits of the coverage test in the gas regulatory regime (Client: AEMC, 2015) – advised the AEMC on whether the test contained in the gas regime for determining whether pipelines should be regulated is fit for the intended purpose, which included a detailed review of the coverage / declaration decisions to date.
- Pilbara electricity networks (Client: Public Utility Office, 2014) – provided advice to the Office on whether the applications for declaration of the Pilbara electricity networks would meet the coverage test.
- Transmission connection assets (Client: Grid Australia, 2012) – prepared an assessment of the degree of competition in the provision of transmission connection assets, which included advice on the market within which the service is provided and an assessment of the degree of rivalry (including the prospects for entry) in that market.
- South East network (Client: Kimberley Clarke, 2011) – advised whether the gas pipeline from which it is supplied would pass the threshold for regulation.
- Pilbara rail access (Client: BHP Billiton) – assisted in the preparation of expert evidence on whether the Pilbara rail infrastructure passed the test for declaration of essential infrastructure, with specific focus on the analysis of whether there would be a promotion of competition in other markets from the granting of access.
- Need for regulation of gas transmission pipelines (Client: SA Government) – advised as to whether the Moomba to Adelaide pipeline was likely to pass the threshold required for regulation under the Gas Code, focussing upon an assessment of the degree of competition for its services.

B. Pricing in non-infrastructure markets

Market reviews of the effectiveness of competition

- Review of the NZ retail banking market (Client: ANZ, 2023-24) – advising in relation to the measurement of profitability for the NZ banking sector grocery retailers and its interpretation when assessing the effectiveness of competition. Key issue is the derivation of an appropriate benchmark for returns, in turn spanning: the breadth of countries from which peer firms are sourced; the economic relevance of “intangible” assets; and whether comparisons should be made against a bottom-up estimate of the cost of capital.

- Review of the NZ grocery retailing market (Client: Foodstuffs, 2020-22) – advised in relation to the measurement of profitability for the NZ grocery retailers and its interpretation when assessing the effectiveness of competition. Key issues included: the valuation of assets; derivation of appropriate benchmarks for returns (including the relevance of “intangible” assets); and advising on how leased assets should be treated when seeking to measure economic returns (including an assessing the economic merits of IFRS16).
- Review of the NZ petrol retailing market (Client: Z Energy, 2018-19) – advised in relation to the measurement of profitability for the NZ petrol retailers and its interpretation when assessing the effectiveness of competition. Key issues included: the valuation of assets; derivation of appropriate benchmarks for returns (including the relevance of “intangible” assets); and advising on the robustness of measures of Tobin’s Q (the ratio of the market value to the replacement cost of assets) for making inferences about the degree of competition in a market.
- Assessment of retail competition in Victoria and South Australia (Client: Australian Energy Market Commission) – assisted the Commission to quantify and interpret information on margins for retailers and to draw inferences about the level of competition. Also provided a peer review of the Commission’s overall assessment of the level of competition, including the Commission’s overall analytical framework and the other indicators it considered.

Default/transitional regulated prices for retail functions

- ACT transitional tariff review (Client: ICRC, ACT, 2010) – advised the regulator on an appropriate method to derive a benchmark wholesale electricity purchase cost for an electricity retailer, including the relationship between the wholesale cost and hedging strategy.
- South Australian default gas retail price review (Client: the Essential Services Commission, SA, (2007-2008) – derived estimates of the benchmark operating costs for a gas retailer and the margin that should be allowed. This latter exercise included a bottom-up estimate of the financing costs incurred by a gas retail business.
- South Australian default electricity retail price review (Client: the Essential Services Commission, SA, 2007) - estimated the wholesale electricity purchase cost for the default electricity retail supplier in South Australia. The project involved the development of a model for deriving an optimal portfolio of hedging contracts for a prudent and efficient retailer, and the estimate of the expected cost incurred with that portfolio.
- South Australian default gas retail price review (Client: the Essential Services Commission, SA, 2005) - As part of a team, advised the regulator on the cost of purchasing gas transmission services for a prudent and efficient SA gas retailer, where the transmission options included the use of the Moomba Adelaide Pipeline and SEAGas Pipeline, connecting a number of gas production sources.

Market Design

- Options for the Development of the Australian Gas Wholesale Market (Client: the Ministerial Committee on Energy, 2005) - As part of a team, assessed the relative merits of various options for enhancing the operation of the Australian gas wholesale markets, including by further dissemination of information (through the creation of bulletin boards) and the management of retailer imbalances and creation of price transparency (by creating short term trading markets for gas).
- Review of the Victorian Gas Market (Client: the Australian Gas Users Group, 2000-2001) - As part of a team, reviewed the merits (or otherwise) of the Victorian gas market. The main issues of contention included the costs associated with operating a centralised market compared to the

potential benefits, and the potential long term cost associated with having a non-commercial system operator.

- Development of the Market and System Operation Rules for the Victorian Gas Market (Client: Gas and Fuel Corporation, 1996) - Assisted with the design of the ‘market rules’ for the Victorian gas market. The objective of the market rules was to create a spot market for trading in gas during a particular day, and to use that market to facilitate the efficient operation of the system.

Transfer pricing

- Application of a netback calculation for infrastructure under the Minerals Resource Rent Tax (Client: BHPB, 2011-2013) – advised on how the arms-length price for the use of downstream infrastructure should be determined, including the valuation of assets, weighted average cost of capital and on the implications for the price of incentive compatible contracts.

Pricing strategy

- Pricing for telephone directory services (Sensis, 2012) – as part of a team, advised on how margins could be maximised for the telephone directory business in the context of falling print advertising and a very competitive digital market, informed by the application of econometric techniques.
- Effectiveness of promotional strategies (Target, 2011-2012) – as part of a team, applied econometric techniques to assess the effectiveness of Target’s promotional strategies, with tools developed for management to improve profitability.
- Optimal pricing (Client: Coles, 2011-2012) – applied econometric techniques to assist Coles to set relativities of prices within “like” products and developed a method to test the effectiveness of promotional strategies.

C. Regulatory due diligence and other finance work

- Sale of Port of Melbourne (Client: a consortium of investors, 2014-16) – Prepared a regulatory due diligence report for potential acquirer of the asset, including a review of the financial modelling of future pricing decisions.
- Sale of TransGrid (Client: a consortium of investors, 2011-12) – Prepared a regulatory due diligence report for potential acquirer of the asset, including a review of the financial modelling of future pricing decisions.
- Sale of the Sydney Desalination Plant (Client: a consortium of investors, 2011-12) – Prepared a regulatory due diligence report for potential acquirer of the asset, including a review of the financial modelling of future pricing decisions.
- Sale of the Abbot Point Coal Terminal port (Client: a consortium of investors / debt providers, 2010-11) – Prepared a regulatory due diligence report for potential acquirer of the asset, including a review of the financial modelling of future pricing decisions.
- Private Port Development (Client: Major Australian Bank, 2008) - Prepared a report on the relative merits of different governance and financing arrangements for a proposed major port development that would serve multiple port users.
- Sale of Allgas gas distribution network (Client: confidential, 2006) – Prepared a regulatory due diligence report for potential acquirer of the asset.
- Review of Capital Structure (Client: major Victorian water entity, 2003) - Prepared a report (for the Board) advising on the optimal capital structure for a particular Victorian water entity, taking account of the likely impact of cost-based regulation.

D. Expert Witness Roles

- Roaming fee between operators of toll-roads (Client: ConnectEast, 2021-23): provided an expert opinion on how the fee that one toll road (home operator) charges another (away operator) for recovering tolls when account holders “roam” on the away operator’s toll road should be calculated (in conformity with the CityLink Act).
- Commercial dispute around service fee (Client: ZEN Energy, 2022-23): provided an expert opinion about the calculation of certain elements of a service fee, including the cost of procuring a bank guarantee and the appropriate profit margin.
- Access price for a gypsum loading facility at a port (Client: Gypsum Resources Australia, 2019-20) – provided an expert opinion about the appropriate cost-based price for the loading service in an access arbitration. Key issues included: the appropriateness of price benchmarking versus cost-based pricing; asset valuation (in the context of a very old facility); estimation of the required commercial return; the method for forecasting expenditure (including the sharing of risk); and the effect of different forms of price escalation.
- Measurement of short run marginal cost (SRMC) and assessment of market power in electricity generation (Client: Economic Regulatory Authority, WA, 2020-21) – provided expert evidence in support of the ERA WA’s action against Synergy (a major generator) before the Electricity Review Board that Synergy had (i) submitted offers into the energy market in excess of SRMC, and (ii) that Synergy had / had exercised market power. Focus of evidence was on (i) concept of SRMC; (ii) the measure of gas costs for the purpose of SRMC, and (iii) whether Synergy had / had exercised market power.
- Stamp duty assessment for a gas distributor (Client: confidential, 2020-21) – provided an expert report about whether the attraction of custom for a gas distributor may create value and so give rise to an intangible asset.
- Assessment of the market / lessening of competition for a container port (Client: NSW Ports, 2019-20) – provided expert evidence in the ACCC’s actions to strike down certain agreements between NSW Ports and the NSW Government as lessening competition. Focus of the evidence was on the role of the broader logistics chain (including land transport costs) in defining the geographic market for the services, and the effect of these factors for the financial viability for an alternative container port at Port of Newcastle.
- Arbitration of prices for the Vanuatu electricity utility (Client: UNELCO (asset owner), 2019-21) – provided expert evidence in a commercial arbitration under the concession agreement on a range of economic issues relevant to the arbitration, including the cost of capital, the regulatory valuation of assets (including the treatment of accrued provisions), the form of price control and the determination of operating expenditure allowances.
- Tax consequences of customer contributions (Client: VPN, 2017-19) – provided expert evidence about the regulatory treatment of customer contributions and related matters for a dispute in the Federal Court with the Tax Commissioner about whether these contributions should be assessed as income.
- Goldfields gas pipeline price review (Client: BHP, 2017) – provided expert evidence to the judicial review on the economic principles around whether a “true-up” is permitted when there is a delay in the commencement of a regulatory period under the National Gas Rules.
- Goldfields gas pipeline price review (Client: BHP, 2014) – provided an expert report on economic principles associated with the allocation of costs between regulated and unregulated assets.

- Kapuni gas contract dispute (Client: Vector, 2013-2015) – provided expert evidence for the arbitration addressing a number of economic issues with determining a fair and reasonable price for the (raw) Kapuni gas, including the overall economic interpretation of the bargain, an appropriate netback price for gas processing, retail margins, value of gas flexibility and interpretation of discovered gas supply arrangements.
- Abbot Point Coal Terminal Pricing Arbitration (Client: Adani, 2013) – prepared a number of expert reports for the arbitration on economic issues arising from the application of the cost-based formula in the pricing agreement, including the economic meaning of key terms, the valuation of assets (and specifically the role and calculation of interest during construction), the quantification of transaction costs of raising finance and the calculation of the required rate of return (most notably, the benchmark cost of debt finance).
- New Zealand Input Methodologies (Clients: Powerco and Christchurch International Airport Limited, 2009-2012) – prepared expert report for both clients on a range of economic issues, including the valuation of assets, weighted average cost of capital, cost allocation, the regulatory treatment of taxation and interpretation of the new purpose statement in the Commerce Act. Appeared as an expert before the Commerce Commission in the key conferences held during the review. Also assisted the clients in their subsequent merit reviews of the Commission’s decision.
- Victorian gas market dispute resolution panel (Client: VENCORP, 2008) – prepared an expert report and was cross examined in relation to the operation of the Victorian gas market in the presence of supply outages.
- Consultation on Major Airport Capital Expenditure Judicial Review (Client: Christchurch International Airport, 2008) – prepared an affidavit for a judicial review on whether the airport consulted appropriately on its proposed terminal development. Addressed the rationale, from the point of view of economics, of separating the decision of ‘what to build’ from the question of ‘how to price’ in relation to new infrastructure.
- New Zealand Commerce Commission Draft Decision on Gas Distribution Charges (Client: Powerco, 2007-2008) – prepared an expert statement about the valuation of assets for regulatory purposes, with a focus on the treatment of revaluation gains, and a memorandum about the treatment of taxation for regulatory purposes and appeared before the Commerce Commission.
- Sydney Airport Domestic Landing Change ACCC Arbitration (Client: Virgin Blue, 2007) – prepared two expert reports on the economic issues associated with the structure of landing charges.
- New Zealand Commerce Commission Gas Price Control Decision – Judicial Review to the High Court (Client: Powerco, 2006) – provided four affidavits on the regulatory economic issues associated with the calculation of the allowance for taxation for a regulatory purpose, addressing in particular the need for consistency in assumptions across different regulatory calculations.
- Victorian Electricity Distribution Price Review: Appeal to the ESC Appeal Panel (Client: the Essential Services Commission, Vic, 2005-2006) – prepared expert evidence on (i) the workings of the ESC’s service incentive scheme and the question of whether the scheme was likely to deliver a windfall gain or loss to the distributors, and (ii) the workings of the ESC’s tariff basket form of price control, with a particular focus on the ability of the electricity distributors to rebalance prices and the financial effect of the introduction of ‘time of use’ prices in this context.
- New Zealand Commerce Commission Review of Information Provision and Asset Valuation (Client: Powerco New Zealand, 2005) - Appeared before the Commerce Commission for Powerco New Zealand on several matters related to the appropriate measurement of profit for regulatory

purposes related to its electricity distribution business, most notably the treatment of taxation in the context of an incentive regulation regime.

- Duke Gas Pipeline (Qld) Access Arrangement Review – Appeal to the Australian Competition Tribunal (Client: the Australia Competition and Consumer Commission, 2002) - Prepared expert evidence on the question of whether concerns of economic efficiency are relevant to the non price terms and conditions of access.
- Victorian Electricity Distribution Price Review: Appeal to the ORG Appeal Panel (Client: the Office of the Regulator General, Vic, 2000) – Provided expert evidence to the ORG Appeal Panel on the questions of (i) whether the distribution of electricity in the predominantly rural areas carried greater risk than the distribution of electricity in the predominantly urban areas and (ii) the implications of inflation risk for the cost of capital associated with the distribution activities.

Qualifications and memberships

- Bachelor Economics (First Class Honours) University of Adelaide
- CEDA National Prize for Economic Development