

31 October 2019

TPM Group cross-submission to submissions to the Electricity Authority's 2019 Issues Paper on Transmission Pricing Methodology

The TPM Group

We are a group which formed in 2016 because we were concerned about the changes to the transmission pricing methodology (**TPM**) Guidelines proposed by the Electricity Authority (the **Authority**). We comprise organisations from right across the electricity sector including large consumers, energy consumer trusts, stakeholder groups, electricity network companies, and electricity generators and retailers.

Current active members of the TPM group are:

- Counties Power
- EMA Northern
- Entrust
- Federated Farmers (Northland and Auckland)
- Horizon Networks
- Northpower
- Norske Skog Tasman Ltd
- Oji Fibre Solutions
- Top Energy
- Trustpower
- Vector

Views of the TPM Group

This cross-submission represents the response of the TPM Group to the submissions and expert reports received by the Authority on its most recent proposed reforms to transmission pricing (**2019 Issues Paper**). We wish to thank the Authority for holding a cross-submission process and providing us with an opportunity to consider and respond to the views of other parties.

There were a significant number of submissions and expert reports received (93 in total) on the Authority's 2019 Issues Paper.

Our review of those submissions suggest we are not alone in our views that:

- There is a case for some change to the current arrangements, and these can easily and quickly be achieved through altering the existing regime
- The current level of transmission peak pricing can and should be reduced, as well as resolving the inequities over who pays the HVDC
- While there is some conceptual merit to a beneficiary-pays regime, the practical realities of implementing one must be resolved before proceeding. Government policy guidance is also

required before changes are made as there are very real risks involved and very limited international experience of such a regime to draw on

- There are serious limitations with the cost-benefit analysis that has been undertaken by the Authority, which render it unfit-for-purpose and insufficient as a tool for determining reforms to the TPM

In other words, a pragmatic assessment of options for change shows that most if not all the issues that concern the Authority can be addressed on a no-regrets basis. In contrast, the big bang change proposed in its latest Issues Paper are based on assumptions about the future that are extremely speculative and unproven. If implemented they would reduce optionality and increase risk at a time when flexibility is required around technological developments and major policy challenges such as climate change.

In short, we could shoot ourselves in the foot by going down the EA's proposed path.

We also expressly note that the submission by the Electricity Networks Association, which represents all 29 electricity distribution businesses or lines companies, presents guidelines that could steer the TPM reforms that are generally aligned with the principles for reform recommended in our original submission.

Expert views

Given the substantive number of submissions on the 2019 Issues Paper and the various interests of submitters, we encourage the Authority to focus on the views of independent experts with expertise in transmission pricing. To facilitate this, we commissioned Mike Thomas from The Lantau Group (TLG) to comment on the expert reports filed by submitters. These are:

- Axiom Economics on behalf of Transpower
- New Zealand Institute of Economic Research (NZIER) on behalf of the Major Electricity Users' Group (MEUG)
- Professor Derek Bunn on behalf of Vector
- HoustonKemp on behalf of Trustpower
- Creative Energy Consulting on behalf of Trustpower
- John Culy Consulting on behalf of Trustpower
- NERA on behalf of Meridian Energy
- Orbit Systems on behalf of Meridian Energy

For the TPM Group this is not a new approach. In February 2017 the TPM Group published an independent analysis of the 60 expert reports (referred to as the Covec Report) that were submitted to the EA over the course of its lengthy TPM reform process to that date.

A copy of TLG's submission is provided as Appendix 1. Most of the expert reports agree that:

- The claimed benefits of the EA's proposed reforms are a long time in the future and are uncertain
- There are serious errors in the cost-benefit analysis that has been produced to justify the reforms
- New Zealand is a small and high-risk place to implement the EA's proposed solutions
- A real-world, incremental approach would yield superior results

- Co-ordination issues between the Authority, the Commerce Commission and Transpower have not been adequately addressed

Transpower's views

The TPM Group suggests that the Authority should also focus on the views of Transpower on the proposed reforms given its important role in developing and implementing any new TPM.

We note that Transpower's submission expresses reservations about the Authority's assessment of the problems with the current TPM and highlights a number of challenges with the proposed reforms, including:

*"...likely to create sources of dispute and may incentivise parties to withhold information rather than share it. Where disputes over price outcomes hinder timely, efficient investment in transmission and generation, higher electricity prices (a disbenefit to consumers) and elevated greenhouse gas emissions are likely consequences."*¹

*"...would not ensure those who benefit pay for transmission investment in the longer term: Customers' BB charges would be based on the benefits that Transpower estimates they will receive over the life of an investment at the time that it is made (or at the commencement of the new TPM in the case of the historical investments). Actual benefits will diverge from estimated benefits over time – perhaps dramatically. Moreover, the initial allocations would also apply to any upgrades made many years later. It is hard to see how such a regime could be durable..."*²

*"...appears to be unsympathetic towards retaining a peak pricing signal in the TPM. We submit that a peak price signal for transmission saves consumers money by deferring new transmission investment. Real-time nodal energy prices cannot do this job – as the Authority has acknowledged in the past."*³

*"...does not, in our analysis, accord with international precedent and appears to have been heavily influenced by the opinion of one international expert in electricity market design. By contrast, the contrary perspectives offered by several other equally well-qualified international experts preferring a more orthodox approach do not appear to have found favour in the Authority's evaluation."*⁴

*"...would not prevent price shocks or smooth the transition... our review suggests the design of the proposed price cap would neither prevent price shocks for our customers nor limit consumers' electricity price increases to (initially) 3.5% as intended".*⁵

¹ Transpower TPM submission (October 2019), p. 5

² Ibid

³ Ibid

⁴ Ibid

⁵ Ibid, p. 6

Next steps

The TPM Group continues to think it would be risky for the Authority to progress this radical reform when there is very little expert support for the reforms. Therefore, we recommend that:

- the set of principles put forward in the Lantau Group cross submission report (attached) should be adopted to guide the Authority in the next steps of its reform; and
- a public hearing is held, as an absolute minimum, prior to the Authority's Board making a decision.

We also continue to consider that direction from the Government is required with respect to clarify the Government's priorities for the electricity sector, including consideration of distributional impacts on some of New Zealand's most vulnerable communities and the risks the reform process poses for achieving the Government's climate change objectives.



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Review of Transmission Pricing Guidelines Issues Paper 2019: TLG Cross- Submission Paper

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1. PURPOSE

We submitted a paper through the TPM Group as part of the submissions on the Transmission Pricing Methodology (TPM) review. We would like to provide additional commentary as part of the cross-submission process. The TPM Group has asked that we review the expert reports that were submitted to identify areas of consistency and agreement and comment on points of difference.

1.1. EXPERT REPORTS REVIEWED

We have reviewed the following reports:

- **Axiom Economics** on behalf of Transpower;
- **New Zealand Institute of Economic Research (NZIER)** on behalf of the Major Electricity Users' Group (MEUG);
- **Professor Derek Bunn** on behalf of Vector;
- **HoustonKemp** on behalf of Trustpower;
- **Creative Energy Consulting** on behalf of Trustpower;
- **John Culy Consulting** on behalf of Trustpower;
- **NERA** on behalf of Meridian Energy; and
- **Orbit Systems** on behalf of Meridian Energy.

It does not take long to discover the extensive agreement and convergence of views across these diverse reports, with only two exceptions – the NERA and Orbit reports for Meridian. Yet, as discussed below, the NERA report is high level and comparatively cursory in its review and the Orbit report is more about whether the Authority's modelling for the seven existing assets proposed to be treated differently going forward is technically proficient. The relevant and truly problematic issues, however, are at a much deeper level – one that neither NERA nor Orbit appear to have been asked to consider. Accordingly, neither leads us to alter our conclusions.

1.2. PRINCIPLES AND CONCLUSIONS ARE REINFORCED

We previously set out several key principles that informed our views and shaped our recommended TPM approach in our original submission. We set these out again below having regard to the various expert cross submissions we have reviewed:

1. A price signal that causes uneconomic avoidance behaviour is only a problem if the signal is not able to respond sufficiently such that the uneconomic behaviour continues or worsens materially without corrective response.

2. A peak-period transmission charge able to be recalibrated periodically in a manner consistent with principle #1 should be retained because it conveys clear and valuable information about the cost and effectiveness of a growing range of options available to customers behind their meters;¹
3. Other than to adjust transmission pricing as may be needed from time to time to achieve principles #1 and #2, retroactive reallocation is generally bad practice – and should be limited to instances where reallocation materially and unambiguously enhances efficiency.²
4. The only exception to #3 (and it is not really an exception as much as it is an example) pertains to the existing HVDC assets which are currently treated in a manner that likely distorts efficient generation investment decisions. Therefore, it is recommended to alter the HVDC cost recovery framework to be less distortionary and more equitable such as through a simple \$/MWh charge applied to all North and South Island generators.
5. A benefits-based transmission cost recovery methodology is not needed (will not better promote the statutory objective or result in material benefits) and will increase dispute costs in almost all cases where benefits are already clearly broadly based. If the Authority intends to proceed with any benefits-based methodology it should be limited to specific situations where there is unambiguous localisation of benefits (such as more than 60 or 70 percent), otherwise cost recovery should default to a broad-based framework for simplicity and costly dispute avoidance;
6. Any benefits-based cost recovery methodology should not be implemented without support by a Government Policy Statement to give essential guidance on inherently complex and especially contentious issues such as inter-temporal equity (when benefits are disproportionately in the future such as for economic development or when augmentation or expansion include room for growth, such as for EV demand or

¹ Such information may come at some short-term static efficiency loss but is valuable in planning and policy making in relation to overall grid investment strategies and costs as well as risks associated with long-term generation investment. It conveys useful information as energy markets continue to develop over time and adjust to new technologies.

² In simple terms, if it is possible to reallocate or restructure in a way that “grows the pie”, then it is at least theoretically possible to compensate losers in any reallocation. Such situations while complex, can be worth resolving. Otherwise, the purpose of the reallocation is simply to re-allocate, and there is no gain. Any action that raises the possibility that stakeholders will see re-allocation or even re-re-allocation as the outcome of a game (rent-seeking) is generally bad practice. In some instances, if it can be shown that an in-place allocation violates a previously agreed allocation principle such that ex post correction reinforces rather than undermines the robustness of future agreements, then this too can be considered. But the point more generally is that there needs to be a good reason related to enhancing efficiency or related to honouring commitments. The concept of “efficient breach” has some relevance here, as it makes sense to introduce a change if the result is to reduce costs or free up a trapped resource (efficiency), but not otherwise.

because of economies of scale); and the treatment of competition, reliability, and safety benefits;³

7. Subject to the above principles, the TPM Guidelines should not be overly prescriptive, being designed to strike a balance between increased certainty and flexibility for Transpower to develop the detailed design features for a revised TPM along with appropriate implementation/transition arrangements;
8. Changes in the TPM should be clearly signalled but incrementally introduced so as to mitigate material price shocks, maximise stakeholder acceptance and understanding, and avoid risks of unintended consequences; and
9. The analytical foundation for changes to the TPM now or at any time in the future should be comprehensive and robust.

Within the context of these principles, a TPM framework can and should be grounded in practical realities and promote increased efficiency, while also being appropriately adaptable to changing circumstances, familiar to stakeholders, and thus comparatively easy to communicate and manage over time. Would it be perfect? No. Does it need to be perfect? No. Would it be good and self-correcting over time? Yes.

But what to do now? Having regard to all stakeholder submissions and papers over the years, a great deal of work has been done. The complexities of the issues should be clear. The challenges of adopting major changes should be much clearer. RCPD recalibration around an LRMC value has material value and can be adopted. The CBA, flawed though it is, also highlights that benefits of more significant changes are more than a decade hence. Accordingly, there is ample time to consider the beneficiary pays model more fully and to focus on more nuanced enhancements within the broad construct that exist.

Looking ahead, a valuable focus would be to develop a Government Policy Statement to guide treatment of benefits and alignment with other objectives in a beneficiary pays framework in practice. We do not believe this is the sort of reconciliation and prioritisation that can be achieved by the Authority or Transpower either together or alone and it may also have implications for the Commerce Commission.

1.3. MAIN POINTS

In our 1 October submission we made several key points, which we reiterate here with, in some cases, additional commentary to incorporate cross-submission context.

³ Other jurisdictions that adopt forms of beneficiary pays have significant latitude to put benefits into categories, including those that are to be socialised or recovered via postage-stamp or other similar types of charges and those that are localised to particular regions or jurisdictions. Invariably the regionalisation and jurisdictionalisation involve much larger economic zones than the regions identified in New Zealand.

- The Regional Coincident Peak Demand (RCPD) charge should be recalibrated so that it is no higher than the estimated long-run cost of transmission.
- The cost-benefit analysis (CBA) should be rejected.
- Beneficiary pays as an idea has merit but involves significant conceptual and implementation challenges that must first be overcome at this point. The status quo should continue until or unless a very much clearer and more fully developed approach to beneficiary pays can be developed – one that requires guidance from a Government Policy Statement on the treatment of certain types of benefits.

The reasons for our recommendations – which allow for meaningful and valuable but incremental change to the TPM (and potentially guide developments within the existing TPM) – concern the numerous challenges identified and problems inherent in the Authority's CBA; the unproven and unresolved complexities of the Authority's beneficiary pays proposal; and the unproven and uncertain reliance on nodal prices without a clearer long-run transmission avoided cost signal.

We were pleased to see significant agreement across most expert reports on these general themes, as discussed below.

1.3.1. Problem: Distant and Uncertain Benefits for Immediate Costs and Arbitrary Wealth Transfers.

The CBA identifies benefits that do not become material until after 2030. This is a concern because benefits are more speculative being more distant and the urgency for change is reduced. This point seems almost universally acknowledged.

The CBA model is suggesting that there would be eleven years of no net benefits and then the TPM could change substantially.⁴

And...

The figure below sets out the profile of net benefits estimated by the EA's modelling over time. It shows that the annual net benefits of the reform are projected to be near zero and fluctuate between small negative and positive values until 2034. There is a huge increase in projected benefits after 2034, to which the entirety of the predicted total net present value of benefits in the EA's cost benefit analysis is attributable.⁵

And...

⁴ Axiom Economics, p. 11.

⁵ HoustonKemp, p. viii.

The EA forecast that battery investment will rise very rapidly between 2030 and 2040, before reaching an arbitrary limit in 2045.⁶

Accordingly, an important observation is that there is time within which to adopt no-regrets enhancements and to more fully develop and test the more complex aspects of the overall proposal, such as the beneficiary pays regime. The option to defer major change in favour of incremental improvements can prudently be given greater weight because the benefits of change over the next decade are small -- according to the Authority's CBA.

1.3.2. Problem: The Vanguard is a Risky Place to Be.

Some of the concepts proposed for New Zealand would be unique in their application in a market of the small size and level of competition as New Zealand. As Axiom Economics more emphatically notes:

Every TPM reform proposal has been globally unprecedented.⁷

Being new and untested is not necessarily a problem, but it does suggest that one should seek an appropriately high standard of assurance before electing to put such a change into effect.

*If there was a concern that the costs of bringing forward investment in 200-300MW of batteries before 2035 outweighed the benefits, then this could be simply addressed by phasing down the RCPD to a lower level over that period. **This would be a low risk strategy** which would ensure that existing low-cost ripple control would be retained and the phasing down of the RCPD could be adjusted over time as and when the changes relating to technology costs, solar and EV emerge in the future and, as and when changes relating to real time nodal spot pricing and demand response are confirmed.⁸ [Emphasis added]*

Often even the same concepts as may appear to be adopted in other markets have much broader application – such as across regions that may be many times bigger than New Zealand, meaning that the New Zealand implementation of the identified theories must be far more granular and sharper. Methodologies that would produce modest regional variation in large systems can produce much sharper differences in smaller systems. This could be more efficient, but it could also just be more open to error and dispute.

⁶ John Culy Consulting, p. 14.

⁷ Axiom Economics, p. 11.

⁸ John Culy Consulting, p. 16.

Second, New Zealand is a tiny place. Our population is around 4.8m. By way of comparison, the combined population of the thirteen states that make up the PJM market in the USA is a tick over 100m – over twenty times larger. None of the international examples of BB charging methodologies – such as the PJM approach – involve anything like the degree of ‘granularity’ seen in the current proposal. In the USA, it would be far more typical for the costs of a new investment to be split across, say, three states based on the estimated shares of benefits and for those costs to be recovered through postage-stamp pricing in each of those location.⁹

Similar points were made by HoustonKemp, Creative Energy Consulting and us. Each of these expert reports raised important and difficult questions that were not addressed in the EA’s consultation, and which demonstrated the complexity inherent in developing and implementing a beneficiary pays regime.

1.3.3. Problem: Focus on the Entire Process not Just the TPM.

The current process for transmission plan development, approval, and cost recovery is tripartite in that it involves Transpower, the Commerce Commission, and the Authority for different things at different times. Accordingly, the prospect of misalignment, mistranslation, and differential interpretation cannot be ignored.

A prerequisite for realising benefits from adoption of a beneficiary pays approach is that the beneficiaries are actively part of the approval process – but this presupposes consistent views of the benefits to be considered in both approvals and cost recovery through the TPM. It also assumes that the signals available are appropriate and work as intended; yet neither assumption can be taken as given in the New Zealand context.

As noted by Creative Energy Consulting:

Going back to our original question of who should be responsible for forecasting long-run prices, the EA proposal puts the onus clearly on the user. A BP charge is fundamentally backward-looking in that it is only determined and applied when the relevant transmission investment project is developed and approved. At that stage, it is too late for users to reconsider their investment decisions that led to the transmission investment being needed. In appraising an investment, users must therefore construct their own forward price, in the absence of a forward-looking transmission price. The EA acknowledges that the effectiveness of the BP charge relies on users being able to do this.¹⁰

⁹ Axiom Economics, p. 13.

¹⁰ Creative Energy Consulting, p. 14/15.

The implications of this uncertainty as to what signal a user must forecast and respond to are not considered in the Authority's framework. Likewise, the various processes by which the "baton" of considered benefits, associated analyses, and informed participation must pass between Transpower and the Commerce Commission for approvals and then again between Transpower and the Authority for pricing (cost recovery) have not been described; perhaps have not been agreed; and in our view cannot even be implemented appropriately without additional guidance, such as through a Government Policy Statement, on the treatment of various types of transmission benefits and particularly to guide treatment of inter-temporal equity issues (where costs are incurred but benefits are disproportionately in the future or contingent on specific outcomes).

1.3.4. Problem: The Perfect is the Enemy of the Good.

A flexible, incremental "learning" approach is warranted. The energy world is clearly changing with the prospect of numerous emerging and future sources of disruption, so the prospect of a once-and-for-all solution is unrealistic, though the underlying principles and concepts supporting an evolving solution appear robust.

There is nothing that the proposal could do to discourage inefficient load shedding that more orthodox alternatives – such as LRMC-based prices with a residual charge – could not do at least as well or better. However, the Authority's proposal could compromise allocative efficiency in a variety of ways – especially in the future when grid constraints start to re-emerge with greater regularity.¹¹

Or as Creative Energy Consulting notes:

The TPM design must reflect the world as it is, not as we would like it to be. The EA should acknowledge that nodal prices are not fully efficient and are not likely to be for the foreseeable future. It must develop a TPM that reflects that fact and addresses that gap. That means, at the very least, providing for effective and flexible transitional arrangements so that administered transmission prices can continue to fill the gap between the ideal and the actual nodal price outcomes.¹²

The work the Authority has done, even where we disagree with it or would have done something different, has been useful in establishing that some level of change is appropriate. Nevertheless, the CBA accompanying its 2019 Issues Paper (2019IP) is flawed conceptually and does not hold up well to the many criticisms directed at it due to flaws in assumptions, methodologies, and interpretations.

¹¹ Axiom Economics, p. 77.

¹² Creative Energy Consulting, p. 39.

1.3.5. Problem: Resolve the HVDC Charging Regime.

The HVDC charge for historically incurred HVDC investments, which is currently imposed only on South Island generators (though it was once allocated very differently), is unfair and distortionary, and should be resolved in a simple, practical way – even if it requires a unique treatment. Some expert reports touch on the inequity and inefficiency of the current HVDC charge:

It is correct that the HVDC distorts investment – the SIMI charge effectively raises the marginal cost of supplying electricity from the South Island. The Authority provides solid evidence of the materiality of this problem at [2.47-2.49 IP].¹³

We have suggested one way to address this distortion is to recover the costs of the HVDC across all generation on a \$ per kWh basis. This recommendation is consistent with our view that any beneficiary pays approach as might be implemented should focus on resolving comparatively extreme cases such as where most benefits are more clearly localised, and default to simpler allocation rules for where benefits are sufficiently broad-based.

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NERA, p. 2.

2. A CONVERGENCE OF VIEWS

2.1. OVERVIEW

We have focussed our review on those reports prepared by independent experts with the purpose of identifying common themes and understanding or clarifying areas of potential differences of views.

Accordingly, we have reviewed the following reports:

- **Axiom Economics** on behalf of Transpower;
- **New Zealand Institute of Economic Research (NZIER)** on behalf of the Major Electricity Users' Group (MEUG);
- **Professor Derek Bunn** on behalf of Vector;
- **HoustonKemp** on behalf of Trustpower;
- **Creative Energy Consulting** on behalf of Trustpower;
- **John Culy Consulting** on behalf of Trustpower;
- **NERA** on behalf of Meridian Energy; and
- **Orbit Systems** on behalf of Meridian Energy.

In our review of these we have found widespread areas of common ground across all but the NERA report. The points raised in the NERA report are comparatively cursory and, accordingly, do not alter our overall views.

2.2. AXIOM ECONOMICS (TRANSPOWER)

Axiom's submission is particularly of interest because it was prepared for Transpower, a comparatively neutral party in the overall TPM development.

Axiom Economics' submission on behalf of Transpower rejects the Authority's proposal from basic economic principles, on equity, efficiency and durability grounds. It also does a deeper dive into the quantitative CBA modelling and concludes that it is deeply flawed, raising many similar limitations to those identified by HoustonKemp (as we discuss later in this paper, as well).

Axiom contend that the *ex ante* 'shadow price' signals provided by the beneficiaries-pay charges do not provide efficient signalling of the long-run transmission investment (at least in the case of interconnection and HVDC assets). Its report sets out why the conditions for efficient shadow pricing do not hold (and would only do so in a very narrow set of circumstances), specifically:

- Difficulty for the customer to predict the impact of their actions on Transpower's future costs.
- Difficulty for the customer to predict the charges that would it would face if such investment costs were incurred by Transpower.
- Shadow prices would not reflect the discrepancy between the long-run marginal costs (LRMC) of future investments and nodal prices, as private benefits are not equivalent to LRMC.
- Customers may not respond to price signals efficiently, as the associated benefits are dependent on the actions of others (a tragedy of the commons scenario).

Axiom concludes that the beneficiaries-pay charge would not provide a reasonable or predictable signal of long-run transmission costs.

With respect to equity, the Axiom report notes that, given the uncertainties encompassing the beneficiaries-pay system, it is by no means a given that this would lead to a more equitable outcome: "In [Axiom's] view, it is questionable whether it is 'fair' to charge customers prices based on highly imperfect estimates of the benefits they might receive over a series of uncertain scenarios over thirty or fifty years." Added to that is concern regarding the inequity of applying the beneficiaries-pay approach arbitrarily to only a subset of existing assets.

We agree that the arguments for applying the beneficiary-pays approach to existing assets are weak and should be rejected. Additionally, the Authority's CBA does not attribute material benefits to the change to beneficiary pays treatment of existing assets. The only exception in our view is the HVDC for which there are logical options to address existing economic distortions, though we recognise the associated sensitivities around this historically contentious set of costs.

Whereas the Authority considers that incorporating legacy assets within the beneficiary pays framework would support "durability", Axiom considers that the Authority's overall proposal would represent a step backwards in terms of durability. The Authority's proposal, in its current form, would in Axiom's words lead to "a tremendous amount of additional uncertainty and would lead to far more disputes in relation to countless matters".¹⁴ It would also incentivise gaming and ultimately be of detriment to the grid investment approval process.

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Axiom Economics, p. iv.

We expressed similar concerns in our original submission, considering that the Authority's proposed approach is not sufficiently developed; some of the key aspects of beneficiary determination involve significant discretion and should be guided by policy considerations; and application of the beneficiary-pays approach in New Zealand would be uniquely granular and thus without relevant precedent.

2.2.1. Nodal Prices and Beneficiary Pays

Axiom challenges the assumption that nodal prices are sufficient to signal transmission investment requirements – a point with which we agree.

Namely, if nodal pricing can truly be relied upon to provide all the signals that grid users need to make efficient decisions, then why would the BB charge need to send any signal? Indeed, why would there need to be any ex-ante price signals in the TPM at all? If the Authority's new interpretation is accurate, then nodal pricing would be all that would be required to ensure that the right investments were made at the right times. It would be futile and counterproductive to try and elicit further responses from grid users via the TPM, since this could only compromise static and dynamic efficiency. Indeed, by that rationale, adding these (TPM-based) signals on top of existing (nodal price) signals would surely elicit inefficient over-reactions from grid users.¹⁵

We do not think the Authority is really pushing this argument though. We suspect the Authority is arguing that nodal prices substantially inform the need for peak related transmission investment in the very short term, and in theory there is truth to this. A beneficiary-based charge has some theoretical characteristics of a long-term transmission contract. But peak related transmission investment is by no means the only or even often the main driver of transmission investment. Beneficiaries may exist for many other reasons. The complexities of identifying how, when, why transmission investment is required are not uniquely determined by nodal prices, but informed by policy, competition, safety, reliability and economic development projections. Benefits vary over time, conditions, conjectures, and assumptions.

Yet, the Authority has not made it clear how these complexities are expected to fit together in a workable, practicable, and efficient way **in real life**. And so, it is especially important and very ironic, that the "in real life" parts of this would largely be left to Transpower to sort through (as a practical matter) and Transpower's expert advisor is rejecting the very need or sense of doing this.

We cannot stress this insightful irony enough. Whether one thinks the problem is that:

- nodal prices are or may be too short term focussed and not sufficient in any, most, or enough cases; and/or

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Axiom Economics, p. 6.

- the proposed beneficiary pays logic and implications are (still) not and may not ever be sufficiently thought through or fleshed out; and/or
- that end users may or will not see or recognise (in time) the result of a combination of nodal prices and beneficiary pays as being sufficiently clear, predictable, or actionable signal (and thus simply will not respond as theory would suggest they should)

the shift to nodal prices and beneficiary pays and away from an LRMC-type approach is not yet developed at the framework/guidelines level to be supportable at this time.

Beneficiary pays is supposed to (in theory) identify those who benefit most from the resulting transmission investment – whether by virtue of reducing congestion or increasing competition or reliability or any other source of benefit. Clearly one issue is that nodal prices are not perfect signals – particularly by the time they reach customers. A related issue is that a shift to greater reliance on nodal prices implies a very fully fleshed out and informed beneficiary pays approach—something that just does not exist and has not been put forward. But what about all the other possible sources of benefit that must and will be considered in the future? Where and how do these fit into the equation and the process?

As Axiom notes:

In other words, the Authority has observed – rightly, in our view – that customers contemplating investing in distributed generation would be unable to predict the potential effects on transmission investment requirements. Yet, it is continuing to maintain that the same types of customers would respond to ‘shadow pricing’ signals that require precisely the type of foresight that it has admitted is beyond them. These two statements are irreconcilable. As we explain in more detail in section 3.3, we remain of the opinion that the ‘shadow pricing’ concept is problematic in numerous respects and that it would result in inefficiency.¹⁶

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Axiom Economics, p. 7.

In fact, to work in real life, a beneficiary pays approach must be able to distinguish efficiently and signal effectively how stakeholder actions will influence their cost exposure under the TPM. Nodal prices are not perfect, but they are the easiest of this complex equation to talk about. If you are going to move away from the approach of having a long-run average form of transmission charge (a reformed RCPD charge)¹⁷ in favour of a combination of nodal prices and beneficiary pays, then that is a very significant bet on a *completely* different way of doing things. And within this there is enormous discretion to determine the treatment of some very loaded questions – most of which touch on policy, some of which assume transparency, and all of which depend, for their effectiveness, to be clear enough for stakeholders to form reasonable responses to.

As Axiom notes:

As we explain in more detail in section 5.2.2, under the proposed ‘lock-in’ approach, Transpower would need to make countless assumptions and judgement calls in relation to a multitude of highly uncertain factors when estimating private benefits. Those decisions would inevitably create winners and losers. Parties would fixate upon the assumptions underpinning their benefit calculations and charges and lobby for aspects to be changed. This would only get worse as market conditions changed over time and the assumptions that underpinned the initial calculations turned out to be inaccurate.¹⁸

We’re just not there yet, which is a reason why we recommend development of a corresponding Government Policy Statement, together with additional more detailed consideration (and not just through extreme examples).

2.2.2. CBA Issues

Axiom rejects the Authority’s proposed CBA as not being reliable, noting:

This category of benefits that, until recently, was considered to be ‘minor’ is now said to be worth \$2.6b – or 96% of the net benefit estimate. That sum exceeds by a factor of ten the total net benefit estimate contained in the (admittedly profoundly flawed) OGW CBA. It is difficult to imagine there being a starker discrepancy between two analyses ostensibly designed to estimate the same thing. Perhaps unsurprisingly, our review of the CBA (contained in section 6 and Appendices A and B) has revealed that it is just as unreliable as its predecessor.¹⁹

¹⁷ Such a charge would then be reasonably right in all circumstances, not terribly risky, and unlikely to be materially wrong. Indeed, most benefits estimated by the CBA arise from shifting from the current RCPD charge to a broader one. Far fewer of the benefits arise from moving from a more broad-based RCPD charge to a completely different approach.

¹⁸ Axiom Economics, p. 8.

¹⁹ Axiom Economics, p. 9.

It should be very clear to all that the big shift involves the characterisation and quantification of efficient grid use benefits. It should be very clear to all that even including this particular benefit, calculated in this particular way, there are still no material net benefits for over a decade. And, it should be clear to all that absent this particular highly contentious benefit calculated in a particularly obtuse and non-transparent and counter-intuitive way there is no case to change at all, this category of benefit merits extraordinarily close attention.

The Authority has developed a convoluted logic to justify the benefit being included. However, Axiom Economics, like others, considers that the benefit in question is essentially a wealth transfer. The Authority appears either to not believe this, or to believe that it is nonetheless “OK” to count such transfers as net benefit by taking a consumer only perspective. We think this is dangerous thinking that leads to more contentious policies that cannot by definition be durable. They will be disputed for sure and with the effect pendular, and thus uncertain and risky, at best.

The closest analogy we can think of is the macroeconomic debate about whether tax cuts spur economic growth. If your theory and model are tuned such that your model demonstrates that tax cuts spur economic growth, then that is what you are going to get. If you really think your model is answering the question of whether this is true, you are on much shakier ground, as the construct of the model itself is what influences that more than anything else. Others will disagree and will use alternative models, assumptions and hypotheses, accordingly. The difficulties lie in developing a black box that *resolves* the disagreement and converges views to a single perspective. Instead, models on both sides of the debate are largely calculators that provide the results of a particular change as calculated by a particular theory or model for the benefit of those who already believe that perspective.

In the case of this particular CBA, Axiom notes:

The analysis is starting with the foundational assumption that the proposal would be efficient and then characterising everything that flows from it – whether that may be avoided costs or additional costs – as ‘good’. This is no way to perform a CBA.²⁰

Axiom also notes that basic mistakes of logic and commercial practice are likely to materially determine the unintuitive CBA results:

[For example, the \$2.7b net benefit] ... was calculated using assumptions and investment decision rules that do not reflect reality, including that investors would not consider future returns when deciding whether to invest in grid-connected generation, which produces modelled outcomes that defy common sense.²¹

²⁰ Axiom Economics, p. 10.

²¹ Axiom Economics, p. xxxvi.

If investment decisions are made based on history in a scenario of falling prices, then those decisions must be confirmed ex post to be commercially viable.²² An assumption or conjecture or heuristic that, implicitly, investors will consistently make investments that lose money over decades is not a sound basis for a modelled reference scenario.²³

2.2.3. Other

Additionally, and as an example of a policy-oriented factor that may well influence future outcomes materially, Axiom notes that the CBA

*ignores the cost of additional carbon that would be likely to be produced if peak demand increased as forecast (since gas fired peaking plants are used to meet that incremental demand);*²⁴

We generally agree that where policy related objectives are likely to become more important in the future – particularly for analyses and scenarios whose relevant differences to the BAU case do not “kick-in” until after 2030, such considerations are reasonably part of the reference case.

2.2.4. Summary

Axiom presents a significant rebuttal to the proposed TPM, raising relevant points throughout. We can quibble on some points of detail here and there, as one might expect, but would reach the same general conclusions.

Axiom notes:

In our opinion, there are two key sources of potential allocative inefficiency arising from the way in which the sunk costs of existing investments are recovered under the status quo – both of which are identified in the Issues Paper and the CBA. These are:

- *the incentive created by the RCPD charge to shed load to avoid interconnection charges, even though there is currently spare capacity throughout much of the grid, i.e., total peak demand is generally below available capacity; and*

²² Based on what we can tell, we do not think the CBA is treating investment decisions underpinning the addition of new capacity by the model in a manner consistent with how commercial investors analyse market opportunities. It appears that many new generation resources added by the model in the CBA are not profitable over the investment cycle. Accordingly, it behooves the Authority to have a really good reason why investors would persist in unprofitable investing (or how trends which are considered robust enough to be projected and claimed as a driver of material net benefits would be invisible or ignored to sophisticated investors). Just because a model does something does not mean real people will do the same thing.

²³ This point is also made by HoustonKemp.

²⁴ Axiom Economics, p. xxxvi.

- *the potential inefficiencies arising from the Historical Anytime Maximum Injection (HAMI) charge applied to a proportion of HVDC assets, i.e., the incentives created for South Island generators to strategically withhold supply.*

In terms of the first, as we have observed already, we agree with the Authority's observation that load customers may currently have undue incentives to reduce their use of sunk interconnection assets so as to avoid the RCPD charges through, say, the use of distributed generation. This is potentially a source of static inefficiency, since there is currently spare capacity. Much of the demand that is currently being curtailed might therefore be served more efficiently by using the existing transmission grid assets.

However, as we have already seen, the achievement of those allocative efficiency gains does not hinge on the introduction of the Authority's preferred option. [...] all that needs to happen is to remove – or perhaps reduce the strength of – the existing RCPD charge.²⁵

We agree that the beneficiary-pays concept while theoretically sound has not been developed to the point that it can be directed to be implemented with any certainty that it will work as intended. There are too many loose ends, broad assumptions, clearly contentious issues, and practical challenges that will render implementation almost impossible if not extraordinarily contentious.

2.3. NZIER (MEUG)

MEUG commissioned NZIER to advise on “*whether the cost benefit analysis (CBA) for the ‘Transmission pricing review 2019’ (TPM 2019). Is robust. In view of the complexity of the CBA the scope of this advice has been narrowed to a stocktake of current aspects of the CBA to consider.*”²⁶

NZIER makes several important points with which we agree:

- **Overestimation of the benefit of removing the RCPD charge** on peak electricity use due in part to the fact that Electricity Distribution Businesses (EDBs) do not currently structure their charges in a manner consistent with the assumptions modelled in the CBA. NZIER clearly and relevantly note that the largest EDBs, which account for 74 percent of total interconnection charges recover the RCPD charge over “a higher number of trading periods than the 1,600 periods assumed in the CBA or does not vary with time of use”.

²⁵ Axiom Economics, p. 65/66.

²⁶ NZIER, p. i.

- Failure to capture the implied distribution costs. “The CBA does not allow for the potential need for EDB to increase investment in their network to cope with increases in peak demand....”²⁷
- Concern about the residual charge.

Of these, the point which receives most attention in NZIER’s submission is that **the benefits of more electricity use at peak are overstated** in the Authority’s CBA. NZIER attributes this to the fact that the RCPD signal to *mass market consumers* is much weaker than assumed, given the ways in which RCPD charges are passed through to customers by distributor pricing.

2.3.1. “Peak” Trading Periods

In particular, NZIER notes that, across the 10 largest EDBs in the market, the typical definition of peak demand covers 4,140 trading periods (over two-and-a-half times more than the 1,600 trading periods assumed in the CBA). NZIER also notes that EDBs do not solely recover interconnection charges through peak energy charges (as ToU tariff adoption is low), and the EA’s CBA analysis fails to capture heterogeneities across key consumer groups. Accordingly, NZIER argues that price responsiveness (elasticity) of commercial and industrial load is overstated. This complexity is absent from the Authority’s modelling which does “not distinguish between consumers connected to distribution networks” and does not consider “the degree to which distribution prices reflect transmission prices, or the extent to which distribution price signals are passed through into retail prices”.

We considered that the Authority’s modelling of the reference BAU scenario involves a strong assumption that the RCPD charge is too concentrated and would change over the analysis period (even if such change would not require a new TPM).²⁸

²⁷ NZIER, p. 8.

²⁸ This point is given a very insightful treatment in the report by HoustonKemp in which the authors rightly point out that the correct approach for analysing the BAU case is not to compare one specific value or treatment to another, but to compare **what can be done under the existing TPM to what could be done under the alternative TPM**. The existing TPM is not rigidly prescriptive or formulaic. Accordingly, it is not correct to argue or conclude that a specific comparison of a specific BAU case to a specific alternative case supports a change to the TPM itself. One must first demonstrate that the value sought to be realised from changing the TPM cannot substantially be realised through changes able to be implemented within the existing TPM. Such a demonstration has not been provided, at least not through the CBA.

The alternative case modelled by the Authority – which finds similarly large net benefits – models recovery of these costs over all hours rather than just during peak hours. The CBA finds significant net benefit when changing from recovering costs across 1600 trading periods to recovering costs across 8760. Yet, this **cannot be true** because current arrangements already recover much of these same costs over 4,140 trading periods. Economic analysis is concerned with incremental impact. Even before considering anything else, **any benefit attributed to the assumed shift from 1,600 to 4,140 trading periods for the relevant loads, is irrelevant to any decision**, even if it were calculated correctly in all other respects (which is not agreed).

2.3.2. Overstated Price Responsiveness

We also agree that price responsiveness is overstated. Indeed, price response must be overstated (and cannot be understated) given that the RCPD charge exceeds the estimated long-run cost avoided cost of transmission. With a much higher RCPD charge any observed demand response must be seen in the context of the stronger-than-appropriate RCPD-based signal, which assists in subsidising avoidance behaviour. This point is an analogue to the prior point about the relevant number of trading periods. EDBs clearly already have and already execute the ability to shape charges so as to reduce the risk to themselves of under recovery.

Given the evidence set out above, to us the impact on peak usage is not just overestimated but is *materially* so. As illustrated in Figure 4 of our original submission, even a modest “base expansion” (i.e. number of hours to which the charge applies) leads to a significant reduction in the implied signal relative to the existing RCPD charge.

Secondly, the NZIER report notes, consistent with our own views, that the Authority’s CBA fails to account for the *additional distribution costs* incurred in order to cope with increased peak demand. The Authority notes that “the CBA does not include any costs for distribution network investment brought forward... because the focus of the CBA is transmission.” This is just wrong.

Indeed, this particular omission – of any knock-on impacts on distribution costs -- is a recurring criticism of the CBA found in several other expert submissions.²⁹ In plain terms, failure to account for (or even acknowledge the relevance of) costs (or indeed benefits) related to distribution is inexcusably inconsistent with the Authority’s approach to capture benefits derived through complex interactions in the wholesale market. The Authority’s selective blindness – knowingly acknowledged – is a serious flaw.

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E.g. HoustonKemp, p. 46.

By arguing that beneficiaries can be determined using a combination of nodal prices and analytics, the Authority is stuck with how to recover the beneficiary charges. Yet, if beneficiaries do not know they are beneficiaries, then there is no signal. If they cannot be sure if they will be deemed beneficiaries, the signal becomes ever more uncertain and muted. It is at this point some sort of logical magic occurs. Even though beneficiaries must know they benefit in order to make the right long-term decisions, the impact of *anticipated* beneficiary pays charges does not appear to be anywhere considered in the CBA. It's as if any beneficiary pays charge is assumed to have zero impact on beneficiary behaviours – which of course completely undermines the argument for beneficiary pays charges in the first place.³⁰

2.3.3. Residual Problems

Finally, NZIER argues against a residual charge based on historical five-year AMD. NZIER bases its view on two grounds: (i) firstly, on the basis that RCPD is a better reflection of contributions to peak demand that should justify increases in grid capacity; and (ii) secondly, that only adjusting the metric with a long (five-year) lag reduces incentives for flattening load profiles and is inconsistent with the annual reset approach to allocating EDB costs. Its report recognises the failure of the Authority's Issues Paper to consider how AMD relates to peak or average patterns of use.

Our view is that the RCPD charge is too high and needs to be reduced – and that the reasons for doing so include: (1) that the RCPD charge currently exceeds any reasonable estimate of an LRMC charge; and (2) not all transmission is built to meet peak demand, so logically it makes no sense to recover *all* of transmission cost based on peak demand in an overly narrowly defined set of hours. We also consider that this is probably possible within the context of the existing TPM and does not, in itself, justify or warrant many of the changes being recommended by the Authority at this time.

2.3.4. Summary

We consider that the clearly written and succinct NZIER Report makes important points that align well with our own views. We did not find any points raised by NZIER which contradict our conclusions that the CBA is flawed and that beneficiary pays is incomplete as presented and problematic as proposed to be implemented. We understand that NZIER will be further developing their views on the CBA based on the materials provided by other parties.

2.4. PROFESSOR DEREK BUNN (VECTOR)

Professor Bunn forms his key views in three areas:

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HoustonKemp makes this point in a different way as discussed in Section 2.5.1.

- The beneficiaries pay approach;
- Peak-based pricing; and
- The Authority's CBA.

There is a strong degree of overlap in our views.

2.4.1. Beneficiary Pays is (Deceptively and Extremely) Challenging

Firstly, with respect to the beneficiaries pay approach, he notes that “[f]or NZ the lessons suggest that the move towards residual/beneficiary-pays is happening elsewhere, but with grandfathering and a cautious transition”. Crucially, Professor Bunn notes that “[i]t is not trivial to administer a beneficiaries-pay mechanism, and many implementation details remain”. We agree.

More pointedly, Professor Bunn notes:

Fairness in charging is indeed under review in many parts of the world. "Beneficiary pays" is deceptively engaging and would appear to be uncontroversial as an economic principle. The problem comes when there are many beneficiaries with varying degrees of benefit at varying times of the day and year.

We share Professor Bunn's view that the beneficiary pays and residual charge approach “is becoming widespread as a principle and less controversial if implemented in a transparent, progressive and non-discriminatory way.” However, the devil is in the details of how exactly to best implement the approach.³¹ None of these points of detail are clearly articulated or considered at this point and yet they constitute very contentious potential issues going forward. Without some guidance on these, it is not clear how to interpret the beneficiary pays approach advanced by the Authority.

Additionally, the NZ context may be one of the most challenging for developing a robust beneficiary pays approach given the very limited size of New Zealand's overall system and the fact that most of the global experience with beneficiary based regimes concerns sharing of costs across jurisdictional boundaries and not so much about allocating cost differences to customers by location. Accordingly, there is much less hard-won practical insight and experience than one might wish for when adopting a new approach, a point with which Professor Bunn appears to concur:

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In our own report we set out a clear argument as to why a beneficiaries-pay system is an ideal that cannot be achieved without first addressing and resolving numerous interpretative and implementation challenges, most of which are not yet resolved in New Zealand.

Accumulated experience worldwide on the beneficiaries pay approach does not offer many lessons to New Zealand, despite the increasing motivations worldwide in that direction.³²

Professor Bunn notes the importance of considering questions such as “[w]hat happens if the proposed long-term benefits do not materialise?’ He develops the concept of “dynamic fairness”, noting:

*It is **not trivial to administer** a beneficiaries-pay mechanism, and many implementation details remain. Even if an allocation process is administered transparently and fairly, it implies a contract with a class of customers that could be contestable. What if the proposed long-term benefits do not materialise? Would there be compensation? Do the benefits have to get re-calculated annually as demand, supply and infrastructure changes can alter the relative benefits? What about stranded assets? Suppose a community with large industrial facilities pays for extra network capacity and then the industry exits? The EA do comment on first mover issues in their Guidelines and Policy consultation paper but indicate that they do not have a solution to dynamic effects and will leave the matter unaddressed. **This is unsatisfactory and I would suggest that dynamic fairness needs further consideration by the EA.**³³*

And, as we noted in our own report:

We had some experience in an ASEAN country when a pipeline was built to connect a new LNG terminal to the existing pipeline system. The incremental pipeline costs were to be allocated to beneficiaries. Yet who were the beneficiaries? The beneficiaries clearly constituted both present and future users as the pipeline was sized for a projected level requirement that was years away from being realised. What then should be the allocation rule? The pipeline investor (analogous to Transpower) incurred the cost to build a pipeline that might initially be used at only (say) 10 percent of its capacity. If direct users are beneficiaries, do they pay the entire annualised cost or just 10 percent of that cost? Are the costs levelised, or based on rate base return plus depreciation principles? Or are they profiled according to the overall usage projection? Different options leave the developer exposed to sums to be accrued and recovered later or the users with the prospect of having paid a premium for a pipeline their competitors can access later at a lower effective price. Should the regulatory regime allow this? And should rights be associated with the payments made? What happens if usage does not grow as expected? If it grows less than expected, then at what point does the uncollected cost need to be collected, and from whom? What flexibility exists to design or implement the additional recovery mechanism, which must be developed after the fact? Would the surcharge be “use based” or recovered through taxes or general revenues or through some unavoidable fixed charge? If demand fails to develop, the failure will be noticed by stakeholders, setting up opportunities for argument and debate over who bears the risk, ex post. Accordingly, principles ideally are determined ex ante.

³² Professor Bunn, p. 4.

³³ Professor Bunn, p. 7.

All of these (types of) questions are relevant to a beneficiary-based scheme; though they are often over-simplified or over-looked until a situation arises in which, surprise, they really matter. Problems then result. In our view, “durability” depends on anticipating and preparing for these to the extent reasonably and practicably possible.³⁴

As Professor Bunn correctly points out, the Authority’s vision for application of the “beneficiaries pay principle is the most radical, and [yet] the CBA is very weak on that aspect”. We concur strongly with this view.

Professor Bunn is particularly dismissive of the view that the proposed beneficiaries-pay approach should now be applied to a selection of legacy investments. His logic is consistent to that of our own insofar as we cannot see any way in which the proposed rationale supports durability. We agree with Professor Bunn that it would “seem to be opening a Pandora’s box for disputes, claims for special treatment and a precedent going forward that the Authority is likely to be expedient and discriminatory in its decision now and in the future”. As much as the Authority might like to manage the pancaking of legacy charges and new charges, opening up the treatment of legacy projects is not the way to manage such a transition.

2.4.2. What to Compare?

We argued in our report that the CBA was fatally misguided because it focusses on comparing scenarios that are not relevant **when compared to each other**.³⁵ The BAU scenario locks in a particular form of RCPD charging assumption that is too high. Rather than first fix that problem and then consider what else might be worthwhile, the analysis overestimates and mis-conceptualises benefits and draws mistaken conclusions as a result.

Professor Bunn makes a similar and related point:

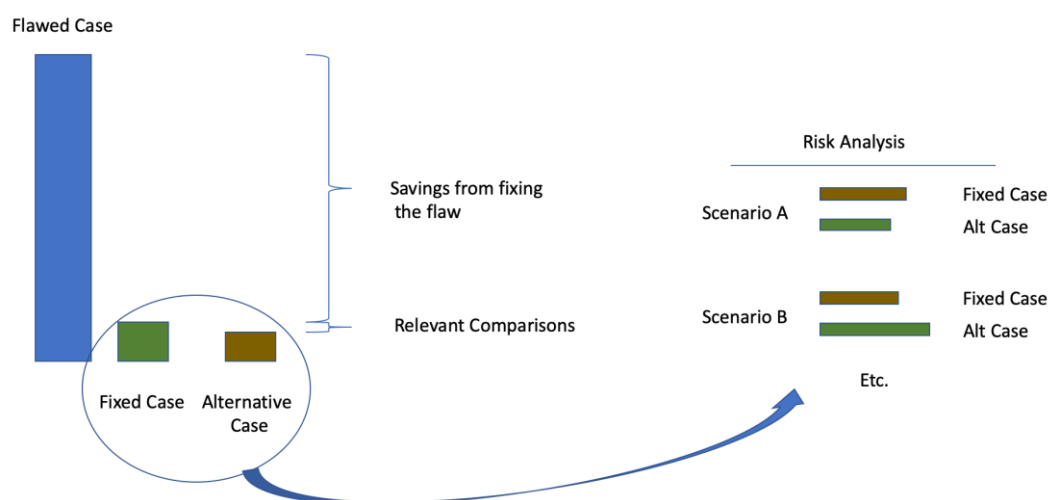
³⁴ The Lantau Group, p. 19.

³⁵ This problem is independent of any other problem inherent in the CBA as noted by others. The problem we focus on is endemic to the structure of the CBA and not to the underlying calculations. To the extent that the underlying assumptions are potentially unrealistic or other problems exist, these would, as the saying goes, merely beat a dead horse.

In terms of details, I do not think RCPD removal should be the main part of the calculation. I think, as I have argued above, that aspect should be a matter of principle. On the other hand, the beneficiaries pay principle is the most radical, and the CBA is very weak on that aspect. I think that is mainly because the EA have not fully addressed all of the implementation details for how the beneficiaries will be identified, to what beneficial extent and with what dynamics. This is worrying, because whether the scheme works well, or not, will depend upon a lot of practical details. The EA should have put more thought into that, rather than advancing a dubious CBA.³⁶

We agree. This point is a core message of our submission: the CBA (whether calculated correctly or not) is framed incorrectly, comparing something that we know has an inherent flaw with alternative state of the world in which that flaw is removed. That the flaw exists is a matter of principle. We captured this point as a matter of logic via analogies such as the one about comparing a car with four tyres versus one with two. This analogy, while intended to make the point with good humour, is grounded in robust economics. The marginal benefit associated with fixing the flaw is always going to be the major source of benefit. Going further than that may or may not yield additional material or robust benefits. And this is the purpose of the “real” analysis required to establish a case for material change to the TPM as opposed to incremental adjustments.

Figure 1: Comparing Options Properly Taking Relative Benefits and Costs into Account



In the figure above, the more relevant analysis concerns the Fixed Case vs the Alternative Case. The evaluation of these – much closer – cases would then turn on more specific risk assessment in which it might be that one case is better under some circumstances and the other case is better under other circumstances, leading to a more nuanced judgement of what is the best approach to adopt. The importance of such nuance can be largely drowned out if the focus is on the Flawed Case.

Conflating the calculated benefits by going all the way from one extreme to the other is a misapplication of economic analysis.³⁷

2.4.3. Pique Price?

With regard to peak pricing, Professor Bunn notes that the value of this mechanism depends on the specific circumstances:

“If new transmission investments are not being driven by the need to meet demand, but rather to connect new generating facilities, eg wind and solar resources, then it is a flawed economic principle to place the charges on to consumers in a few periods of high demand.”

“... But, if the system were indeed constrained at peak demand periods such that either demand response or new transmission infrastructure were needed at the margin, then the peak load pricing theory would still apply, as originally intended.”³⁸

We generally agree with these statements but consider that the key implication is that there is still value to retaining some form of peak pricing charge in the system (albeit significantly lower than its current level). This is particularly true in the context of an insufficiently developed beneficiaries-pay approach.

Recognising that the value of a peak pricing charge depends on the precise characteristics of the system and should therefore be flexible, Professor Bunn posits two alternatives to the current RCPD charge:

- One suggestion is to have a dynamic loss of load probability calculation every half hour, as is the case in the UK, which can provide a sharp signal if required.
- The second suggestion is for “the transmission company to contract for flexibility services with aggregators of demand-side and other services, to the extent that the regulator can oversee they offer better value than the transmission company strengthening its network”.

³⁷

Consider a CBA of a bundle consisting of two projects, one that has a positive NPV and one that has a negative NPV but that when taken together the bundle has a positive NPV. Surely it is clear that you should focus on unbundling the two projects, even though the overall bundle has a positive NPV. In our view, the CBA can be thought of as bundling two elements together – setting aside any other criticism of the CBA, its underlying assumptions, or modelling methodology. One element requires no fundamental change to the TPM at all. The other element *may* require change to the TPM. Yet, the CBA treats the analysis of the two elements as being inextricably bound together as a bundle, which results in a confusing analysis and potentially wrong recommendation to change the TPM when the most substantial proportion of benefits almost certainly comes from the element that requires no change (or only very minor change) to the TPM. And this is all *before* considering whether the CBA is also riddled with other material problems.

³⁸

Professor Bunn, p. 8.

Separately, Professor Bunn notes that: “I agree with the EA that RCPD distorts and should be phased out.” We do not agree. Instead, we consider the more practical and realistic issue at this point is simply that the current RCPD charge is too high and should be reduced through broadening to align with an LRMC estimate. However, we have seen no benefit or value in phasing out the RCPD charge entirely, at least not for perhaps even a decade. Alternative forms of peak charges may be appropriate, but at that point one is tweaking things that would be unlikely to produce material benefit. In any event, the associated analysis of such differences is not presented.

2.4.4. Waiting for Godot?

In terms of the Authority’s approach in the CBA, another of Professor Bunn’s concerns is the long-time horizon (out to 2050) used for evaluating the costs and benefits of the scheme. Such a framework, while suitable for evaluating a long-term physical infrastructure project, is not appropriate for evaluating the impact of a price mechanism change and overly speculative. We concur, having noted that the Authority finds that most net benefits would arise after 2030.

Professor Bunn goes further to contrast the Authority’s approach with that of Ofgem in the UK, which used only a 12-year time horizon to assess the impact of removing the triad charging system. In our original submission, we acknowledged that when benefits are extremely back-end loaded, discounting alone is rarely sufficient to resolve to a particular recommendation. In other words, identifying a uniquely preferred solution against such a long timeframe is problematic.

In our view, one could argue that the primary value of the CBA is precisely opposite of what has been concluded by the Authority: that despite the claimed high net benefits, the CBA more appropriately **proves the case for deferring change for several years as there is no net benefit for over a decade**.³⁹ Such deferral can be used constructively to implement “no regrets” changes or to focus more intensively on addressing remaining uncertainties.

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In any NPV analysis, the decision rule is not strictly to do anything that has a positive NPV, but rather it is to examine any option or choice that has a positive NPV to determine whether it can be further enhanced or optimised by adjusting timing or deconstructing the option into elements that can be further optimized. It is only when an option being analysed admits no flexibility in terms of deployment timing or nature that the NPV decision rule takes precedence. In the case of the TPM, the fact that the TPM has already been under consideration for nearly a decade can also be seen as signaling an absence of urgency. There is nothing wrong with undertaking a review or update every few years. What is important is that the review or update be put in proper context as being a cross-check on timing of various types of changes that could be introduced on a going-forward basis. This approach keeps everyone focused on the fact that the future is not assured to be like the past – good advice under almost all circumstances.

2.5. HOUSTONKEMP (TRUSTPOWER)

HoustonKemp organises its assessment of the Authority's CBA into five core areas:

- Issues with the conceptual framework that lead to overestimation of net benefits.
- Errors of assumption and approach that render results unreliable.
- Failure to consider alternative options and incorrectly specifying possible outcomes.
- Assumes rather than evidences the efficacy of its preferred option.
- Its failure to support short term reform, due to the delayed onset of net benefits.

2.5.1. Winners / Losers and Good Policy

HoustonKemp spends particular time addressing this issue with the result that HoustonKemp's revisions cause the Authority's estimated net benefit to swing from +\$2.6billion to -\$2.3billion. HoustonKemp contends that the Authority's CBA overestimates benefits by capturing the entire consumer surplus, the vast majority of which (98%) it considers a wealth transfer rather than a reduction in the deadweight loss.

- A CBA *should* include all costs and all benefits;
- However, the Authority's CBA *does not include* the additional costs of significant amounts of additional generation resources that are projected to be added to the reference case compared with the BAU case. Instead, the Authority claims that, given the generation market is competitive any investment is assumed to be efficient. Yet, whenever a particular benefit that you do count requires an investment that you do not count, then something is wrong.
- A related and fatal flaw concerns the perverse outcomes that arise from the CBA's investment decision rule. An absolutely essential cross check in any model that builds hypothetical stuff far out into the future is that a real-life investor can reasonably be expected to do the same thing. There is no evidence of this sort of cross-check (which we do not think would pass muster), and HoustonKemp (and Axiom Economics) both highlight how this is a serious problem.

- Indeed, the CBA model is a black box filled with thousands of lines of Python code, many spreadsheets, and a wide range of opaque assumptions. The model was produced based on assumptions that cause the wholesale price in the future to fall relative to the BAU case. The substantial benefits of such a wholesale price reduction are then credited as an overall TPM benefit, yet they come directly at the expense of generation asset owners. They also render much of the incremental investment unprofitable, and thus utterly implausible, a point also made by Axiom Economics.⁴⁰
- A useful test of whether a transfer or value creation situation exists is whether the value in question depends on the existence or otherwise of a hypothetical piece of paper. If existing assets lose value because they are exposed to a wholesale market price rather than to a hypothetical long-term contract struck as a hedge against uncertain future TPM changes, then the value loss claimed as a net benefit by the CBA must substantially be a transfer, and should not be counted as a net benefit.

HoustonKemp also recognises the failure of the CBA to account for the additional costs imposed by higher peak demand: first and foremost, the failure to account for the cost of new generation capacity; and, secondly, the absence to account for additional costs to enhance distribution capacity. We acknowledged in our submission that the omission of generation capacity was a key flaw of the Authority's CBA, and we reaffirm that position here. This equates to almost \$2billion of additional investment, which would significantly reduce the estimated net benefit. The same logic applies to distribution costs, as we already raised in reference to NZIER's submission, and which according to HoustonKemp accounts for a further \$292million of costs.

2.5.2. Other Errors in Assumptions and Approach

HoustonKemp notes various other limitations in assumptions and approach, for example, an implausibly high investment in batteries, due to the failure of the Authority's modelling to capture the declining marginal benefit of battery investment for the purpose of peak shaving. We recognised this in our own submission, with the upshot that the Authority's CBA was overestimating the extent of inefficient investment in batteries in the status quo. Moreover, HoustonKemp claims that the Authority's quantification of the benefits of increased scrutiny for more efficient grid investment and a more certain policy environment reducing the cost of investment are unreliable and based on assumptions that are entirely unfounded or lack a sufficient evidence base. Indeed, it concludes that the Authority's estimated benefit of a more certain policy environment "is more accurately described as a contention, rather than an estimate".

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Axiom Economics, p. 88.

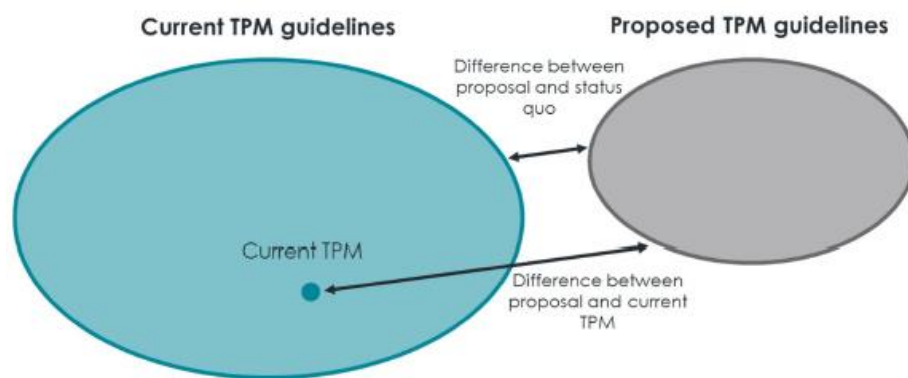
2.5.3. A Mis-Specified Counterfactual and Weak Options Analysis

HoustonKemp notes that the CBA does not follow best practice, insofar as it fails to explore, and thus test its proposal against, various potential alternatives. We put forward the same view in our submission, noting that the Authority's CBA only really serves to establish bookend values by comparing two extremes, and emphasising, an already well established and non-contentious view that the current RCPD charge is too high. The result was unsurprising and thus the CBA, in many ways, superfluous.

Under the umbrella of best practice, HoustonKemp also in effect argues that the Authority's CBA does not develop the counterfactual correctly, as it does not capture the fact that Transpower currently has some flexibility regarding how the TPM is defined provided it is consistent with the existing guidelines established by the Authority.

Figure 2: Against What Counterfactual Should the Authority's Proposal be Evaluated?

Current TPM is formulated within guidelines that the EA proposes to change



Source: HoustonKemp

This point is very much related to the key point we illustrated above that setting up the comparison of options is crucial to the value of a CBA.

2.5.4. Assuming, Not Demonstrating, the Efficacy of Beneficiary-Pays

Another point in its report is that the Authority's CBA assumes, rather than demonstrates, the efficacy of the preferred approach, specifically with respect to the benefit-based charge. It notes that the signal provided by the benefit-based charge is not conventional because it requires users "to ration their use of the transmission network in response to the prospect of future increases in price". In HoustonKemp's view, it may be difficult for users to accurately distinguish such a signal and thus respond in an efficient way. And, even if it can discern these signals, there is the potential for users to distort their behaviour over the period in which benefits are measured, in order to reduce their exposure to the costs of new investment in a socially inefficient manner. In our opinion, these are valid concerns and reemphasise the point that any benefit-based system must be very carefully designed, with great attention to the many details, to ensure efficient signalling and minimise distortionary 'gaming' behaviour.

2.5.5. Delayed Onset of Net Benefits

Finally, akin to the point made by Professor Bunn, HoustonKemp claims the Authority's CBA does not support for near-term reform of the TPM, given that most of the benefits occur towards the end of the modelling period (post-2034), and that many of said benefits are reliant on speculative future developments. Given the uncertainty and delayed onset of benefits, it advocates a slower implementation process. We continue to support this position and build on it, by asserting that a managed and clearly signalled transition over the next ten years would result in no material loss of net benefit, while at the same time managing to minimise short-term price shocks and wealth transfers, raise understanding and acceptance, and limit unintended consequences. This long transition period, as we previously pointed out, would also allow time for the Government to develop clearer guidelines around the operation of the beneficiaries-pay approach. We are also minded that the profile of benefits provides support for an incremental approach to RCPD reform, with a lower (though still present) RCPD charge in the earlier years of reform likely to reduce net costs in the earlier years of the forecast period.

2.6. CREATIVE ENERGY CONSULTING (TRUSTPOWER)

Creative Energy Consulting (CEC) sets out views in the following key areas:

- Nodal pricing.
- Beneficiary-pays pricing.
- Durability.
- Transmission planning.
- Competition and non-discrimination.

2.6.1. Nodal Pricing an “Aspirational Ideal”

We share CEC’s view that the notion of nodal pricing being efficient is an “aspirational ideal”, rather than a reflection of the current market, or the market for the foreseeable future. As such, CEC argue against the removal of the RCPD charge on the grounds of efficiency. This is consistent with the view we set out in our original submission, where we set out several reasons why whole reliance on locational marginal pricing is not desirable in practice: its volatility as a price signal; the small scale of the market with workable competition at best; the continuing push to decarbonisation and how this may influence transmission investment beyond LMP; and reliability-driven investments that have little relation to LMPs (which CEC considers under the guise of static efficiency). With respect to dynamic efficiency concerns, we concluded, consistent with CEC, that “fully removing the RCPD charge would eliminate a simple, effective, long-term signal that contributes to competition in the otherwise thinly traded market.”

2.6.2. Beneficiary Pays has Limited Applicability

CEC contend that beneficiary-pays pricing has the potential to be efficient and effective in “a limited number of situations”, specifically those which require immediate and shallow transmission investment. However, it goes on to explain that in the majority of cases, with deeper investment taking place on major routes to support transmission flow growth, the beneficiary pays approach would not be efficient for two main reasons: (i) dilution – insofar as the pricing signal is likely to be only a fraction of the long-run transmission cost that a given user’s investment decision causes; and (ii) opacity – since most stakeholders are not able to predict what future charges would be.

We share CEC’s reservations about the efficiency of beneficiary-pays pricing, previously noting that “Whereas some projects clearly have more localised benefits, most have wide-spread impacts, raising the question of whether a full-blown beneficiary-pays allocation is necessary or appropriate for projects with a wide enough set of impacts.” We recognise the validity of both of CEC’s arguments against the efficiency of the beneficiary-pays approach, but would also wish to re-emphasise the significant number of practical challenges that need to be overcome before such an approach could be considered workable: aligning the two stage approach for transmission investment approval and pricing methodology application; developing a sufficiently broad and comprehensive process for identifying benefits; answering key questions around how to treat and define different types and timings of benefits; and so on.

CEC also note that the Authority misrepresents the use of beneficiary-pays in the US, where it is used to allocate costs between transmission companies themselves, rather than the customers of those companies: in CEC’s words this has “no relevance to NZ”. We agree with CEC that the onus is on the Authority to explain clearly the relevance of the US case to what it is proposing for New Zealand, insofar as beneficiary-pays charges may flow through to end users (if at all).

2.6.3. Damaging to Durability

CEC stipulate three critical conditions that need to be met: (i) “be intuitively reasonable”, which it compares to the Authority’s “what you pay is what you get” requirement; (ii) “offer a clear trajectory given the expected future”; and (iii) “have sufficient flexibility and adaptability to remain intuitively reasonable even when the future departs from what was expected”. CEC claims that the Authority’s beneficiary-pays proposal fails on all three grounds. On the first, as it only logically applies to future assets, despite transmission services being provided by *all* assets; on the second, because of too many “unknowables” such as how beneficiaries from investments would be identified; and, on the third, because the framework is overly prescriptive and so not adaptable to changing circumstances.

We agree with CEC’s general view that the Authority’s proposal lacks durability, despite its key focus on this. With regard to the reasons CEC put forward for this, we support the second and third, but not the first. Durability does indeed require flexibility – in our submission we spoke of the importance of resolving difficult questions around determining the incidence of benefits and how “durability depends on anticipating and preparing for these to the extent reasonably and practicably possible”. However, we disagree with CEC’s view that durability requires equal treatment of new and legacy investments. On the contrary, as we set out in our original submission:

We note that the Authority’s analysis does not suggest material trapped value can be released by revisiting the legacy projects. The argument instead is merely one of durability by making a change to honour a new principle. In our view, switching principles undermines durability. It is signalling that tomorrow there may be yet another principle that can be used to review today’s agreement.⁴¹

Provided there is a clearly articulated change in direction, then we do not see a strong case for changing the treatment of legacy assets on the grounds of durability alone. Any decision to overturn past charging structures calls into question the durability of the new ones being formed and is thus counterproductive.⁴² While we disagree with CEC on this specific point, the commonly held view remains consistent, that the Authority’s proposed TPM, as currently drafted, lacks durability.

⁴¹ TLG, p. 21.

⁴² Our view is shared by Professor Bunn who says that “the apparent anomaly of including 7 legacy investments in the beneficiaries charging is indefensible and undermines confidence in the regulatory regime going forward.” See Professor Bunn, p. 10.

2.6.4. Transmission Planning Would In Fact Come Under Less Scrutiny

CEC is dismissive of the Authority's claim that the proposed TPM would bring benefits through greater scrutiny of transmission investment proposals. It gives two major reasons for this: firstly, because user engagement in the process would decrease, as the beneficiary-pays charge is designed to reduce the acuteness of charges incurred by users; and, secondly, because users would be more incentivised to provide inaccurate or partial evidence for their own benefit. In our view, these are both logically sound points, and would emphasise in particular that at least some potential beneficiaries will utilise greater efforts to avoid paying for benefits either by pushing benefits to non-beneficiaries (increasing smoothing) or claiming to be non-beneficiaries themselves. So the effect is twofold, some forces will focus or diminish participation, other forces will tend to incentivise distortion of the messages delivered as a result of participation. (The "returns" from efforts to game the system will increase with any focus around any given investment allocation).

2.6.5. Upholding Principles of Competition and Non-Discrimination

We are less taken by CEC's assertion that the Authority's proposal is "riddled with discrimination." We discount these critiques but do not spend more time on them here, as they do not alter our conclusions or the key take-aways from our review. CEC also acknowledges the potential detrimental effects on competition. It claims that as the TPM lacks transparency and stability, smaller players and/or potential entrants would lack the resources or hedging abilities to limit their exposure to such risks. This would be to the detriment of smaller players in the market.

More generally, CEC argues that because of the Authority's "relentless pursuit of efficiency in transmission usage and investment, and its fixation on BP [beneficiary-pays] approaches, [it] has neglected some basic principles of transmission pricing: non-discrimination, transparency and stability." While we do not entirely agree with these views, we do believe it reemphasises the broader point that there is an undue emphasis by the Authority on a 'textbook' solution that strives for Pareto-efficiency, but in doing so fails to capture the realities of the market and the New Zealand context and hence the nuances in TPM design that these intricacies should dictate.

It also fails to use the related Pareto concepts of compensation from the overall net benefits to focus stakeholders on the larger pie rather than on the cutting of individual slices. Indeed, the absence in theory or in practice of an even remotely Pareto solution is most evident in the fact that the \$2.7b net benefits *cannot* be redistributed – whether conceptually or imaginatively or creatively and let alone practically -- in a way that keeps all stakeholders whole ex ante without running out of benefits to redistribute.

2.7. NERA (MERIDIAN)

NERA's submission on behalf of Meridian is high level in nature, and on several occasions fails to provide supporting evidence for the positions it takes. It appears to place too much emphasis on what would be theoretically most desirable in a 'first best' world, and thus gives little attention to important questions around implementation in the New Zealand context. It is the latter which is critical to understanding how benefits would play out in reality. At this stage in the overall debate – many years into the process – the issues are getting more detailed and should be subjected to more practical and detailed robustness checks. High level conceptual sign-off does not move the needle and cannot provide comfort at this stage given the sharp criticisms evident across submissions (particularly Transpower's as a comparatively neutral party).

This in our view is the key flaw of the NERA report – a significant one. It overlooks the detail necessary to bring something new to the table. In particular, we note the following cases in which it overlooks the real complexity of the issues at hand:

- With respect to the benefits charge, where NERA asserts that it “would result in grid-connected investors taking into account the impact of their generation and load investment decisions on grid investment costs, which would therefore result in investment decisions being more socially efficient”. While this could be considered true in a first-best ‘ideal world’ scenario, the NERA report ignores the significant difficulties of implementing such a scheme in practice and the extent to which this could detract from any theoretical benefits. We spent much of Section 3 in our initial submission elucidating that, while easy as a concept, the implementation of a benefits-based charge faces a number of key challenges (defining benefits, accounting for different types, and different timings etc.). These issues, despite being treated as bordering on obvious and clearly problematic by several other experts, are overlooked entirely in the NERA report.
- With respect to RCPD and SIMI charges, NERA argues that “both the RCPD and SIMI charges variabilise the recovery of sunk costs, and inefficiently distort grid use and related investments.” NERA also merely asserts that “nodal prices are sufficient to signal any need for rationing of demand when there is congestion and any need for future grid investment decisions”. We cannot take the statement at face value as future grid investment decisions are not informed only by nodal price differences or impacts – nor have they ever been in the past, nor will they ever be in the future, *solely* informed by such considerations. The history and future of transmission development in New Zealand, as elsewhere, is rife with complexities that go beyond the contribution of nodal pricing to resolve or reconcile. The issue, in our view, is not so much the appropriateness of nodal prices – they are what they are and can contribute what they can contribute – but all of the unworked through detail around a potential beneficiary-pays implementation that has no peer, globally.

The NERA report is also superficial in its evaluation of critical aspects of the Authority's CBA. The report, for example, provides very limited explanation for why the estimated grid use benefits, by averaging the benefits with grid price only effects and with additional energy price effects, are "probably conservative". NERA's reference to the size of allocative efficiency effects in other industries is entirely arbitrary and does not, in our view, assist in cross-checking the Authority's own estimated efficiency gains (through a reduction in deadweight loss). If there were a long history of well-established and transparent estimations of net benefits from more efficient grid use and the latest estimate were a little different from prior estimates and needed to be sanity checked, then some benchmarking has value. But for a first-of-its-kind calculation that is driving virtually all of the claimed benefit, we do not draw confidence from a cross-industry benchmark.

In fact, the deadweight loss estimates NERA present range from 1% to 27%, so it seems much more accurate to suggest that "the details matter" and that there is, in fact, little consistency across industries, and/or scenarios, that would allow one to generalise (in any confident manner) about the typical size of deadweight loss. It is a function of the industry, the specific circumstances and the underlying demand and supply conditions this generates.

NERA make two other specific comments that merit focus. First NERA consider that by not including the costs of generation investment brought forward, the Authority in effect treats energy costs different to any other types of costs (including battery costs and the increased cost relating to grid investments brought forward). We agree, though our view is that the Authority has a rationale for doing so that should also be considered (and critiqued holistically), as we explained in detail in Section 2.5.1.

Second, NERA notes that a beneficiaries-pay approach is "in accord with workably competitive market outcomes" and is also promoted by the Federal Energy Regulatory Commission (FERC) in the United States. Yet, the high-level conceptual alignment of beneficiary pays and workably competitive market outcomes that NERA focuses on, does not mean that other forms of transmission cost recovery are *not* consistent or aligned with workably competitive markets. It just means that if you can get a beneficiary pays arrangement to work *at the level of detail and agreements required*, then it is likely to be aligned with workable competition. That is possibly true. We just think significant the work required remains to be done. We also note that the US markets where beneficiary pays concepts are reasonably well developed, they are most generally applied at a higher level of abstraction and not nearly so granularly as proposed in New Zealand.

2.8. JOHN CULY CONSULTING (TRUSTPOWER)

John Culy's report on behalf of Trustpower focuses specifically on critiquing the Authority's quantification of inefficient battery investment under the status quo (i.e. with the RCPD charge still in place), and on presenting a preferred approach to modelling future battery investment. His key finding is that the Authority's analysis vastly overstates the extent of battery investment, by a factor of around 6 (just over 500MW of investment, relative to the Authority's estimate of over 3,000MW). The Culy report relates this to a number of failings of the Authority's modelling approach:

- Failure to verify the model with actual or forecast half hourly demand profiles.
- Failure to account for the shifting of peaks as more batteries enter the system, exemplified by the fact that in the Authority's analysis average demand in the peak period falls below that in the shoulder period.
- Failure to capture the strong decline in the marginal benefit of battery investment to avoid RCPD signals, as real peak demand across the top 50 hours becomes progressively flattened.

In adjusting for these shortcomings, as well as a number of smaller tweaks to the Authority's approach and assumptions, Culy reaches the conclusion that "the current high RCPD price may provide a strong signal for battery investment, but this is not a significant efficiency issue for 10 years until battery costs fall significantly". His view is that the strength of the RCPD signal should be phased down in response to changes in technology costs, solar and EV, and other market developments, over time.

This is consistent with the view we presented in Section 5.4 of our original consultation submission. While we did not delve into the numbers like the Culy report, we recognised that a key issue with the Authority's analysis was its failure to capture the formation of a significant new peak in what was previously the shoulder period and the implication that battery investment was therefore likely to be grossly overestimated in the counterfactual.

While there can obviously be some debate around the precise set of assumptions used and thus the exact degree to which battery investment may be overestimated by the Authority – is it sixfold or fivefold? – what can be said with a large degree of certainty is that the modelling shortcomings will have resulted in a *material* overestimation of the benefits of avoiding inefficient battery investment.

2.9. ORBIT SYSTEMS (MERIDIAN)

Orbit Systems was asked by Meridian to assess the modelling methodology utilised by the Authority to estimate the benefits to different transmission users of the seven major existing transmission investments (that the Authority proposes to incorporate under the beneficiary-pays scheme). Orbit reran the models to verify the figures produced by the Authority, as well to test a number of key input assumptions. It concluded that there were no major issues of concern with the Authority's modelling assumptions clear and reasonable and the results reproducible.

We are not in a position to comment on the specifics of this modelling, nor the robustness of Orbit's verification thereof. However, what we do wish to note is that this is a very narrowly scoped piece, specifically analysing how the Authority modelled the beneficiaries of seven major legacy investments. In this way, it is solely focused on the modelling technicalities, rather than the bigger picture economic, conceptual and practical issues. In our view, it is these latter points which still require significantly more development and teasing out, before the former takes on any real significance. In other words, although this modelling may have value further down the line, the focus for the time being should be firmly on

establishing whether a beneficiary-pays approach is even viable at this present time. The Orbit report does not take us any closer to answering this question.

3. SUMMARY

Across the expert reports reviewed, a number of common themes occur, with few exceptions:

- Eliminating the RCPD charge is not advised, though recalibrating it has value;
- Beneficiary pays is an attractive concept that is difficult to translate into implementation without first addressing a number of additional areas of concern.

We cannot stress enough the importance of rejecting the CBA in the grounds of being extraordinarily mis-conceived. It is unfortunate because so much hard work has clearly gone into the CBA; however, that work is sunk. The CBA as it stands and has been used to date – again setting aside any other criticism of inputs, methods, assumptions, or interpretations – is useless as a guide to economically efficient decision-making.

It really is not possible to be strong enough in criticizing the whole way the CBA has been structured and communicated. The CBA makes points that are clearly contentious or unexpected. It also reaches conclusions that materially differ from all prior work. Clearly the CBA is a lightning rod for concern about “transfers” vs “value creation”. And yet, the CBA is presented in just about the most obtuse manner conceivable. Every single word is seemingly written in complete ignorance of the fact that the whole purpose of the CBA is to make clear and credible the resulting findings. That means being exceedingly clear about those parts where the findings are most unusual, contentious, or unexpected.

When doing this type of work, in which it is well known long in advance just what the most contentious issues will be, it is imperative to clearly explain and demonstrate in the simplest terms just what is the reason why certain results can be accepted. The CBA utterly fails in this respect. It is not so much the complexity of the problem or the model that is the fatal issue with respect to the absolute lack of credibility of the CBA as a decision tool, it is the fact that the CBA does not answer its most essential question: why should one believe it. And judging from the expert reports, few do.

Even if the EA should somehow remain convinced, almost alone, that the CBA is robust, one must then ask: how exactly does a CBA that so few find to be credible support durable policy development?