

Summary of submissions

Transmission Pricing Methodology: CBA

23 September 2014



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1 Introduction

- 1.1 The Electricity Authority (Authority) is reviewing the Transmission Pricing Methodology (TPM), which specifies the method for Transpower New Zealand Limited (Transpower) to recover the costs of providing transmission services. The TPM is contained in Schedule 12.4 of the Electricity Industry Participation Code 2010 (Code).
- 1.2 The Authority considers that the current TPM can be improved so as to better meet the Authority's statutory objective to promote competition in, reliable supply by, and the efficient operation of, the electricity industry for the long-term benefit of consumers. The Authority's consultation paper 'Transmission Pricing Methodology: issues and proposal' was released in October 2012 (October 2012 issues paper) to obtain feedback on the TPM proposal.
- 1.3 Extensive feedback on the TPM proposal was received through submissions, cross submissions and at a conference held in May 2013. Stakeholders raised concerns about, and made suggestions on, the Authority's TPM proposal. As a result of these, the Authority decided to issue a second issues paper.
- 1.4 Prior to developing a second issues paper, the Authority has decided to prepare a series of working papers to seek a further understanding of the issues raised by submitters. Feedback on the working papers will form a key input into the second issues paper.
- 1.5 In this regard, on 3 September 2013, the Authority published the first in a series of working papers "Transmission Pricing Methodology: CBA" (the Working Paper). The Working Paper outlined a revised approach that the Authority intends to apply to the cost benefit analysis of a revised TPM proposal.
- 1.6 This paper provides a summary of submissions received on the Working Paper. It replaces an earlier summary, released on 25 March 2014. This summary contains a more comprehensive summary of submissions made by submitters.

2 Overview of submitters

- 2.1 Twelve submissions were received from submitters covering a range of topics in the Working Paper.

2.2

Retailer/Generator	Distributors	Consumers	Others
Mighty River Power (MRP)	Orion	Major Electricity Users' Group (including a report by NZIER)	Transpower (including a report by CEG)
Meridian	Vector	Pacific Aluminium	
Contact	Powerco		
Genesis (including a report by Castalia)	PwC on behalf of 22 distributors ¹		
Trustpower (including a report by CEG)			

3 Form of summary

3.1 The summary is presented in two parts, under the following headings:

- (a) Part 1: Comments on legal and process issues (table items 1-53)
- (b) Part 2: Comments on proposals/analysis (table items 54-212).

3.2 Part 1 includes the following issues:

- Problem definition (including comments on aspects of section 6 of the Working Paper) (table items 1-33)
- Material change in circumstances (table items 34-36)
- The Authority's statutory objective (table items 37-41)
- Standard/burden of proof for change/change hurdle (table items 42-45)
- Approach to the TPM review/general process comments (table items 46-53).

3.3 In Part 2, submissions are organised generally in accordance with the consultation paper, with the exception of section 6 (problem definition) which is addressed in Part 1 of the table:

- Section 4: Summary of response to criticisms and suggestions (table items 54-67):
 - Methodological and conceptual
 - Technical issues

¹ Alpine Energy Ltd, Aurora Energy Ltd, Buller Electricity Ltd, Counties Power Ltd, Eastland Network Ltd, Electra Ltd, EA Networks Ltd, Electricity Invercargill Ltd, Horizon Energy Distribution Ltd, MainPower New Zealand Ltd, Marlborough Lines Ltd, Nelson Electricity Ltd, Network Tasman Ltd, Network Waitaki Ltd, Northpower Ltd, OtagoNet Joint Venture, Scanpower Ltd, The Lines Company Ltd, The Power Company Ltd, Top Energy Ltd, Waipa Networks Ltd, and Westpower Ltd.

- Section 5: Overview of proposed CBA analysis framework (table items 68-81):
 - General
 - Selecting the options for assessment
- Section 7: Specify the baseline scenario (table items 82-87);
 - Status quo as baseline
 - Estimating final prices in the baseline
 - Baseline should be referenced to problem definition
- Sections 8-10: Identify, quantify and value the impacts (table items 88-165):
 - Top-down/bottom-up approach
 - Top-down/use of benchmarks
 - Structured approach (bottom-up)
 - Treatment effects approach and computerised general equilibrium (CGE) models;
 - Benefit and cost categories
 - Transitional costs
 - Static efficiency assessment
 - Dynamic efficiency assessment
 - Wealth transfers
 - Need for, and standard and form of, quantification
- Section 11: Adjust for differences in the timing of the impacts (table items 166-170):
 - Assessment period
 - Discount rate
- Sections 12-13: Calculating decision criteria and sensitivity analysis (table items 171-178);
 - Comments on decision criteria
 - Sensitivity analysis and cross-checking required
- Other comments on the CBA approach (table items 179-212):
 - General comments
 - CBA needs to take into account the costs of disputes;
 - Consultation on CBA desirable
 - Other comments on potential CBA inputs and approach.

This paper is a summary only and does not contain an exhaustive list of submissions made on each subject. For more information please refer to the submissions themselves, which can be

found on <http://www.ea.govt.nz/development/work-programme/transmission-distribution/transmission-pricing-review/consultations/#c7428>.

4 Summary of submissions

PART 1: COMMENTS ON LEGAL AND PROCESS ISSUES

Issue	Submitter(s)	Submission	Submission ref	Item no
Legal and process issues				
Problem definition (including comments on aspects of section 6 of the Working Paper)	Contact	Agrees with the Authority that inefficiencies in transmission cost recovery under the status quo result in inefficient investment in, and operation of, the electricity industry. This is best demonstrated by the effect that the HAMI charge continues to have on the dispatch of Contact's Clutha generation. The HVDC charge, in particular, results in inefficient investment in new South Island generation and inefficient operation of generation plant in the South Island.	Page 1	1
	Castalia for Genesis	The Working Paper does not yet provide sufficient confidence that a credible problem definition will underpin any proposed changes to the TPM. The Working Paper deals with some aspects of the substance of the problem definition, without first addressing the framework questions of how a convincing problem definition is put together.	Page 3	2
	Castalia for Genesis	With reference to the Authority's problem definition, the Authority needs to do more than simply assert existence of inefficiencies in the current regime in order to define a problem well. The issue to resolve through the problem definition is whether the total inefficiencies arising from transmission pricing can be reduced in a material way, and whether any changes will deliver benefits that outweigh the costs and risks of change with a reasonable degree of certainty.	Page 3	3

Issue	Submitter(s)	Submission	Submission ref	Item no
	Castalia for Genesis	<p>The problem definition presupposes change, rather than establishing a case for change. A more helpful and open problem definition might involve testing a hypothesis, such as:</p> <p><i>"To determine if the net inefficiencies in transmission cost recovery can be sufficiently reduced to enhance the... efficient operation of the electricity industry for the long-term benefit of consumers."</i></p>	Pages 4-5	4
	Castalia for Genesis	<p>Two potential problems (potential sources of inefficiency) are:</p> <ul style="list-style-type: none"> • the HVDC charge is a locational signal that leads to inefficient price signals for new investment in generation; and • the current approach to recovering the cost of interconnection assets may not provide sufficient incentives on participants to avoid creating a need for reliability-driven transmission investments. <p>The HVDC problem has been relatively well defined, and there is clarity on the underlying cause of the problem, which is supported by available evidence. The apparent breakdown in the link between interconnection charges and transmission investments has not yet been made in a compelling way, and there does not appear to be any clarity on the underlying cause of efficiency. If the Authority proposes any change to the way that interconnection charges are set, a specific problem definition that is supported by evidence is needed. Nothing produced by the Authority or any submitters in the TPM process to date provides a compelling case that a problem definition needs to include</p>	Pages 4-5	5

Issue	Submitter(s)	Submission	Submission ref	Item no
		interconnection charges.		
	Meridian	Meridian agrees with the proposed problem definition, but considers that it can be refined. Specifically, there are significant efficiency benefits from the single change of dropping the HVDC charge and including the cost of the HVDC assets in the current interconnection charge.	Page 1	6
	Meridian	Section 6 of the Working Paper underemphasises the benefit of providing a credible beneficiaries-pay price signal. The focus on avoided costs also seems too narrow, given the substantial benefits that could come from deferring transmission investment to more optimal timing. These incentives and benefits are a good candidate for quantifiable case study.	Page 3	7
	NZIER for MEUG	The paper takes the existence of a problem as a given. A problem with a root cause needs to be categorically identified when the baseline is established.	Page 1	8
	NZIER for MEUG	The stylised example of the transmission system in section 6 is helpful to explain the trade-offs in the evaluation of system efficiency and further reinforces NZIER's preference for bottom-up system analysis to compare with the top-down benchmarking proposed.	Page 1	9
	MRP	As a matter of priority, the Authority should produce a separate Working Paper and consult with stakeholders on its problem definition. The main concern is that the Authority has still not adequately characterised the problem with the status quo and identified any market failure created by the current TPM. The current problem definition in the Working Paper is insufficient, offering no clarity as to the size or materiality of the issues the Authority perceives with the TPM status quo and has no	Page 3	10

Issue	Submitter(s)	Submission	Submission ref	Item no
		basis in empirical fact.		
	MRP	The theory presented in the paper does not meaningfully address the inefficiencies the Authority perceives with the existing TPM. The Authority's analysis does not examine the extent to which the current TPM (via the RCPD mechanism) may or may not provide appropriate long-term signals to increase or reduce use of the transmission system, and therefore does not analyse the extent to which reform is warranted.	Page 4	11
	Orion	The weight of submissions so far is that the Authority has not made a compelling case that there is anything very wrong with the current TPM or that the alternative would be superior. There should be no presumption that there is a superior alternative.	Page 1	12
	Pacific Aluminium	Section 6 provides a useful discussion around problem definition and, while Pacific Aluminium strongly asserts that there are very material problems with the existing methodology, many other submitters do not. The Authority needs to clearly identify the problem and the root cause when establishing its baseline for comparison of options.	Pages 1-2	13
	Powerco	The "define the problem" section of the Working Paper does not actually define the problem being addressed. Powerco agrees with the Authority that more explanation of why the Authority considers the TPM to be inefficient is required but considers this should be done through a separate consultation on the problem definition, undertaken before any other discussion papers.	Page 1	14
	Powerco	Submissions on the October 2012 consultation paper exposed inadequacies and errors in the problem	Page 1	15

Issue	Submitter(s)	Submission	Submission ref	Item no
		definition included in that paper. For example, the October 2012 paper claimed that there had been ongoing debate and lobbying in relation to the interconnection charge. In reality, the interconnection charge is well understood and accepted, and there have been very few disputes.		
	Powerco	We are in the tenth year of TPM reviews, and a great deal of analysis has been undertaken during that time. For this reason, it is appropriate to undertake separate consultation on problem definition to review the Electricity Commission's analysis and reasoning in developing the current TPM guidelines and explain why the Authority believes that analysis/reasoning is wrong, how and why the existing TPM guidelines are inappropriate and have led to a TPM that produces inefficient outcomes.	Pages 1-2	16
	PwC for 22 EDBs	A clear problem statement in relation to the current TPM remains elusive. If the Authority believes that the current TPM does not appropriately signal efficient investments in transmission and transmission substitutes, this should be explicitly stated in a short problem statement (or series of problem statements). For example, a problem statement in the following form would be useful: <i>"Interconnection charges are biased towards remote grid-based generation leading to inefficient investments in transmission substitutes."</i>	Pages 2-3	17
	Transpower	The Authority is yet to adequately define the problem with the TPM that it is seeking to solve.	Page 7	18

Issue	Submitter(s)	Submission	Submission ref	Item no
	Transpower	<p>The Authority has identified problems with the HVDC charge, and the connection and interconnection charges:</p> <ul style="list-style-type: none"> • The HVDC problem definition is essentially the product of the TPAG work and it identifies inefficiencies with the HAMI charge • The connection charge problem definition appears to have been largely debunked through the original consultation • The interconnection charge problem definition is particularly ill-defined. The essence of the Authority's definition of the problem for the interconnection charge is that its preferred solution could be "more efficient" than the status quo. This is a statement of faith and belief – it is not a problem definition and does not permit the establishment of a causal relationship between the intervention and the attainment of the stated benefit. 	Page 7	19
	Transpower	<p>A robust problem definition involves:</p> <ul style="list-style-type: none"> • explicit definition of the problems that are perceived to exist under the status quo • establishing whether the problems exist and their materiality • establishing whether identified problems are enduring • establishing that the TPM is the appropriate remedy. 	Pages 7-8	20
	Transpower	Transpower encourages the Authority to consult separately on the TPM problem definition.	Page 9	21

Issue	Submitter(s)	Submission	Submission ref	Item no
	Trustpower	<p>The Authority's problem definition needs to be reworked and republished, and a new working paper is required before advancing other areas of work. It is imperative that: :</p> <ul style="list-style-type: none"> • a problem is defined clearly and up front and assessed quantitatively and qualitatively • stakeholders understand the problem definition • the problem definition is used to shape all the options assessed going forward. 	Page 2	22
	Trustpower	<p>The Authority states that the analysis of inefficiency in relation to existing transmission assets is not comparable with a forward-looking CBA. However, a comparison would be relevant in a case where there were no major transmission upgrades over the forecast time horizon. In that case, improving the efficiency of the use of the existing assets would be the only goal.</p>	Page 2	23
	Trustpower	<p>If the Authority believes incorrect transmission investment decisions had been made in the past and/or that New Zealand now has significant excess transmission capacity and a number of stranded transmission assets, it needs to state that this is its position, and complete the analysis to justify its position. Otherwise, the Authority has no basis on which to justify that a beneficiaries-pay methodology would lead to improvements in future transmission investment decision-making. The Authority needs to provide examples of decisions made incorrectly (and/or that would have been deferred under a different TPM) to support this position.</p>	Pages 1-3	24

Issue	Submitter(s)	Submission	Submission ref	Item no
	Trustpower	Trustpower agrees that a review of the TPM need not be restricted to analysis of the impact of changes on transmission and generation investment only, noting (for example) that the effects of the current HAMI charge on peaking operation of South Island peaking capacity are well understood (and generally accepted). However, Trustpower would not agree that the downstream impacts are significant. The downstream impacts could presumably be achieved by adjusting the existing TPM in other, low-cost ways, to avoid charging in such a way that impacts static efficiency.	Page 2	25
	Trustpower	One of the shortcomings of the CBA from the 2012 issues paper was that stakeholders did not feel like they were taken on a journey from problem definition to the forecasted outcome of the pricing reform. The perception was that the benefits were just assumed. Section 6 in the Working Paper has a similar flavour and appears, on the surface, to be quite theoretical and abstract.	Page 3	26
	Trustpower	The whole of section 6 would benefit from some real examples – ie, real generation dispatch and investment decisions impacted, real load siting and consumption decisions impacted, real transmission investment decisions deferred or brought forward by real parties in New Zealand.	Page 3	27
	Trustpower	Proven issues relating to static efficiency could and should be separated from perceived issues relating to dynamic efficiency, and addressed in separate steps. Whatever the problems are, they are unlikely to increase in size significantly over the next decade.	Pages 1-3	28

Issue	Submitter(s)	Submission	Submission ref	Item no
	Vector	Vector continues to be concerned by the Authority's ongoing failure to adequately specify the problem with the current TPM or the market failure that the TPM review is trying to address. The discussion in section 6 of the Working Paper is entirely silent on what, if any, problems there are with the status quo.	Page 3	29
	Vector	The Authority's problem definition is so generic it could be used for any policy initiative that purported to improve dynamic efficiency.	Page 3	30
	Vector	The Authority is continuing to muddle assessment of the benefits of its proposal with the problem definition, treating the two as interchangeable. The Authority needs to identify what the problem/market failure is with the status quo and then determine how these could be addressed to the long-term benefit of consumers. The Authority has not properly established the size or nature of the problem.	Page 4	31
	Vector	Section 6 of the CBA Working Paper appears to try to assess net benefits to consumers of different policy options and skips the actual problem definition. Without a proper problem definition, the Authority has no sound basis for identifying options for addressing the market failure (if any).	Page 4	32
	Vector	The Authority should develop a Working Paper on problem definition, and it should be prioritised over other TPM review work.	Page 4	33
Material change in circumstances	Powerco	The CBA paper is silent on the material change in circumstances requirement in clause 12.86 of the Code, and the October 2012 discussion paper did not adequately address it. A material change in	Page 2	34

Issue	Submitter(s)	Submission	Submission ref	Item no
		<p>circumstances would be a change that is sufficiently substantial to render the current TPM no longer consistent with the transmission pricing guidelines or with the objectives of transmission pricing. The material changes identified in the October 2012 paper were not, of themselves, changes that are sufficiently material to justify a review, and consequently the issue of material change in circumstances should be addressed again at the start of this latest round of consultations, in conjunction with the development of a clear and proper definition.</p>		
	PwC for 22 EDBs	<p>A problem statement such as the one suggested by PwC would go some way to fulfilling clause 12.86 of the Code, relating to a material change in circumstances.</p>	Page 3	35
	Transpower	<p>The material change in circumstances threshold is intended to provide stability for participants, to allow the regulator to resist calls for change and as a discipline to mitigate the risk of ad hoc change or tinkering. The threshold is not to be dispensed with lightly. The Authority has yet to establish that the threshold has been met.</p>	Page 11	36
The Authority's statutory objective	Contact	<p>In order to ensure that any future TPM is stable and durable, it is important that the proposal has the broad support of industry and delivers on the Authority's single statutory objective.</p>	Page 1	37
	MRP	<p>MRP is concerned that the Authority intends to attribute a high degree of focus on final consumer prices as a proxy for achievement of its statutory objective. While the analysis provided understated the impacts of the proposal, a focus solely on end consumer price reduction should not imply achievement of the</p>	Page 6	38

Issue	Submitter(s)	Submission	Submission ref	Item no
		<p>Authority's statutory objective. The correct application of the Authority's statutory objective should include an explicit and transparent assessment of the various limbs. This approach would balance any potential short-term wealth transfer benefits with the potential impacts in terms of future investment (which could reduce reliability for consumers) and the efficient operation of the system.</p>		
	PwC for 22 EDBs	<p>A clear set of decision criteria should also be developed early in the process in relation to the Authority's statutory objective. The decision criteria should set out the criteria for ranking or scoring each TPM option by its ability to meet each limb of the statutory objective.</p>	Page 7	39
	Transpower	<p>Under the TPM policy development, the Authority has taken the view that its statutory objective should be truncated into an "overarching" objective for efficiency. The options analysis is now viewed from a singular perspective of the outcomes for efficiency, and the specific consideration of outcomes for competition and reliability have been disregarded. The effect of this is to greatly limit both an open-minded search for options and their full consideration against the tripartite objectives for the whole industry.</p>	Page 10	40
	Transpower	<p>Referencing a truncated version of the statutory objective will diminish emphasis placed on competition and reliability, but, given the potential for material adverse impacts on retail competition, it is highly relevant and should be explicitly referenced. Equally, as the benefits assume significant changes to the transmission planning outlook, the reliability limb should also be explicitly considered.</p>	Page 13	41

Issue	Submitter(s)	Submission	Submission ref	Item no
Standard/burden of proof for change/change hurdle	Meridian	The Working Paper suggests that there might be a hurdle level of benefits that must be exceeded before a change is made to the TPM. This feels like very slippery ground. The only argument for choosing a hurdle is where there is value in delaying, such as when contemplating a large sunk investment in a situation of uncertainty. However, TPM reform is about changing the institutional arrangements, and the changes will be robust to market outcomes. The TPM CBA cannot be approached as another investment business case. There is no reason for the Authority to impose an arbitrary hurdle on the benefits of regulatory change.	Page 5	42
	Powerco	Reviews of transmission pricing have created an element of uncertainty which has added to the perceived regulatory risk attached to investment in the New Zealand electricity sector. For this reason, Powerco recommends that the Authority signal that it will only proceed to implement a change to the TPM if analysis can identify an incontrovertible net economic benefit from such change that is beyond a certain identified margin.	Page 4	43
	Transpower	It is important that the option of no change remains on the table through the analysis process undertaken to identify and assess policy options. Regulators need to be wary of the "sunk costs fallacy" – particularly with exhaustive processes such as the TPM where considerable effort is expended and views are deeply held.	Page 8	44
	Vector	The Authority should consider the burden of proof required to justify regulatory change. A CBA showing net positive benefit is not, on its own, necessarily	Pages 8-9	45

Issue	Submitter(s)	Submission	Submission ref	Item no
		<p>sufficient to justify change. Vector agrees with a 2005 submission made by MRP (to the Electricity Commission in relation to a paper on options for establishing transmission alternatives), that a high standard of proof should be required for regulatory intervention and, more specifically, the burden of proof that is necessary should be:</p> <ul style="list-style-type: none"> • under all circumstances, no less than the civil standard • higher than the level of uncertainty surrounding the potential costs and benefits. Every uncertainty should count directly and clearly against the intervention • higher where the regulatory intervention may (negatively) impact or interfere with the natural competitive operation of the affected markets • higher where there is an asymmetry risk between the potential benefits and costs. <p>Any proposed revision to the TPM should be subject to a very high burden of proof that changes are justified.</p>		
Approach to the TPM review/general process comments	Genesis	Genesis requests that the Authority respond to submitters' suggestions and comments on the CBA Working Paper before releasing any further working papers on options or components of a new TPM. This will enable submitters to provide evidence that is more useful for the Authority's ultimate evaluation of the options.	Page 4	46
	Genesis	The Authority's proposed process is missing a critical working paper that properly considers alternatives in the context of overall improvements to the TPM. Working	Pages 4-5	47

Issue	Submitter(s)	Submission	Submission ref	Item no
		papers on beneficiaries-pay and residual charges (which Genesis understands to be options papers) could inadvertently predetermine the range of options that the Authority will consider. This has the potential to erode confidence in the TPM review process.		
	Orion	The Authority notes that it will continue to be guided by the decision-making and economic framework. Orion considers that the framework has provided little useful guidance so far, and that there is no reason to believe that the situation will improve.	Page 2	48
	Transpower	<p>The Authority's decision to rethink its proposed TPM interventions is the right thing to do. A willingness to reconsider proposals and change these to reflect a different or enhanced information set is a characteristic of a good regulator. Transpower quotes Galbraith:</p> <p><i>"Faced with the choice between changing one's mind and proving there is no need to do so, almost everyone gets busy on the proof."</i></p> <p>Transpower has concerns about the process for the CBA investigation. The concerns include the logical sequence, the subject matter and whether the Authority is back to square one, or simply getting "busy on the proof".</p>	Covering letter, pages 1-2	49
	Transpower	It is unclear from the sequence and subject matter of the Working Papers exactly what the Authority is trying to achieve, and whether it has substantially returned to the drawing board. Transpower's view is that the Authority should substantially return to the drawing board, but also notes that (regardless of whether the Authority has returned to the drawing board or not):	Page 16	50

Issue	Submitter(s)	Submission	Submission ref	Item no
		<ul style="list-style-type: none"> • the sequence is important: the ability to comment meaningfully in some areas hinges on an understanding of material covered in other working papers • ACOT is a separate policy issue. If the Authority is contemplating some fundamental change to the ACOT scheme, then it should do this through a separate regulatory process. 		
	Trustpower	<p>Consistent with the Authority's aspirations to be a world class regulator, there would be benefit in the Authority establishing:</p> <ul style="list-style-type: none"> • a set of regulatory principles that "govern" how it operates • a transparent CBA framework applicable to all regulatory decisions. 	Page 16	51
	Trustpower	Trustpower is pleased that the Authority has decided to publish a set of working papers and consult on them.	Page 1	52
	Trustpower	Trustpower recommends the Authority publishes a further working paper on its CBA framework once a suite of policies is on the table, and prior to the final issues paper being released.	Page 4	53

PART 2: COMMENTS ON PROPOSALS/ANALYSIS

Issue	Submitter(s)	Submission	Submission ref	Item no
Section 4: Summary of response to criticisms and suggestions				
Methodological and conceptual	Contact	In relation to MC ² 4, Contact agrees that transmission pricing affects more than just the timing and location of major transmission and generation investments. The use of the HAMI charge to determine HVDC charges discourages Contact from operating its South Island generation at full capacity, and embedded generation is often built and run to avoid transmission charges.	Page 4	54
	Contact	In relation to MC7, Contact agrees that further work on embedded and distributed generators is required and is pleased that the Authority will issue a further working paper on that issue.	Page 4	55
	Contact	In relation to MC10, Contact believes transmission assets are sunk costs.	Page 4	56
	Contact	In relation to MC11, Contact agrees that the total welfare gain is the relevant criterion for cost-benefit analysis, but is concerned that the Authority may be counting wealth transfers as an efficiency/welfare gain, and it is not clear that the Authority intends to calculate the change in consumer surplus and change in producer surplus that is the cornerstone of welfare analysis.	Page 4	57
	Castalia for Genesis	In relation to MC6, which addresses concerns relating to the Authority's estimates of the benefit of having fewer disputes over the TPM, this is an empirical question: if the Authority can credibly show that there will be fewer disputes under a reformed TPM and can quantify savings generated by avoiding disputes, then these	Page 2	58

² Refers to Table 2 (Overview 2:methodological and conceptual); page 6 of the CBA working paper

Issue	Submitter(s)	Submission	Submission ref	Item no
		impacts should be included in the CBA. Castalia sees no conceptual or framework question in the concerns on this issue – rather that stakeholders were asking the Authority to demonstrate that the claimed benefit is actually plausible.		
	Orion	In relation to MC3, Orion submits that quantifying and assuming are different things, and that the problem with the original proposal is that the method of quantification was assumption. We think the message from submitters was to avoid spurious quantification.	Page 2	59
	Orion	In relation to MC4, Orion believes that submissions were more that transmission efficiency effects, rather than pricing effects, are limited to time and location of major investments.	Page 2	60
	Orion	Orion asks whether the Authority has published the "initial analysis" referred to in Table 2, line "MC4".	Page 2	61
	Trustpower	Trustpower is pleased that the Authority agrees with the suggestions/concerns expressed in relation to MC3 (existence of efficiency benefits), MC8 (considering adverse consequences of reform), and T10 (implementation risks). There is a link between accounting for implementation risks from the reform scope and uniqueness (referred to in T10) and the reference to the benefit to cost ratio in MC11.	Page 6	62
	Vector	Vector does not agree with the Authority's statement in MC8 that potential adverse reform consequences were considered in the previous proposal and will be further assessed in reform design in the CBA. Substantial adverse impacts on static and dynamic efficiency of the	Page 10	63

Issue	Submitter(s)	Submission	Submission ref	Item no
		TPM proposal were absent from the Authority's assessment.		
Technical issues	Contact	In relation to T ³ 5, Contact agrees that break-even analysis is not cost benefit analysis, and understands that the Authority must work through the Code amendment principles. However, Contact considers that a break-even analysis is an important sensitivity indicator. If two reform options have the same net benefit, the one that provides a faster break-even is the one that should be preferred. A long break-even period raises the risk that reform costs will be incurred but the system will be changed yet again before the long-term benefits can be realised. The Authority's proposals remain sufficiently contentious. It should be assumed that there is a significant risk of future change.	Page 4	64
	Contact	In relation to T6, Contact agrees that the effect of reform on risk profiles is an important issue.	Page 4	65
	Contact	In relation to T10, one of the key implementation risks is that reform does not have solid cross-industry support and is reversed with a future change in strategic objective or governance of the Authority.	Page 4	66
	Trustpower	With reference to T3, Trustpower does not agree that the downstream impacts of TPM are "significant".	Page 2	67
Section 5: Overview of proposed CBA analysis framework				
General	MEUG	MEUG agrees with the 10 step process for CBA framework as a decision tool. Often, in commercial settings, subsequent decisions using CBA are subject to ex post review to compare actual costs and benefits with	Page 1	68

³ Refers to Table 3 (Overview 3: Technical issues); page 8 of the CBA working paper

Issue	Submitter(s)	Submission	Submission ref	Item no
		the original CBA. This serves as a means to learn lessons on how to improve future CBA. MEUG suggests the same approach should also apply to major CBA undertaken by the Authority.		
Selecting the options for assessment	Contact	The Authority's proposals are controversial and the Authority should reconsider its position if it intends the results of the CBA to be compelling. The consensus is that transmission asset costs meet the textbook definition of a sunk cost in the timeframe that is relevant for the analysis. With reference to examining a spectrum of options focusing on recovering the costs of transmission services on a more efficient basis, this means that recovering the costs of transmission services must seek to recover those costs in a way that does not alter generation or purchase decisions over the timeframe that those transmission costs are sunk. A good first step is to remove the current HVDC charge that incentivises Contact to underutilise Clyde and Roxburgh even though this has no effect on the asset costs for the HVDC.	Page 3	69
	Genesis	The CBA Working Paper falls short of establishing a best practice framework for developing a revised TPM because, although moving in the right direction, the paper does not describe how the reform options will be identified. Poor identification of options will undermine any analytical assessment of benefits, no matter how credible the methodology used. A credible CBA framework includes identification of a narrow set of options. The CBA paper omits any discussion on the identification of options. Although a framework paper should not discuss any actual options, key principles	Pages 1, 3	70

Issue	Submitter(s)	Submission	Submission ref	Item no
		need to be outlined for the identification of options.		
	Castalia for Genesis	A best practice CBA framework should describe how a set of options will be identified that are most likely to deliver improvements, most likely to be convincingly assessed against each other, and least likely to cause unintended consequences. Options should be complete, but should not target new objectives or perceived problems that are wider than the initial problem identified. There are some important framework questions associated with options identification. A good CBA framework will link the problem definition to the identification of options and will describe how options that solve any material problems will be identified. How options are selected is critical to achieving the goal of improving efficiency by ensuring that the right mix of options are \ assessed in the CBA. The options should cover all practical options to solve the identified problem, and the framework for identifying options needs to ensure that the reform proposals do not become divorced from the problems, and thereby seek a logic of their own, creating unforeseen consequences and incurring significant costs of change.	Pages 1, 7	71
	Castalia for Genesis	The Authority does not explain why recovering more transmission costs from generators and retailers is desirable and what relationship that objective has to efficient transmission cost recovery. While it is correct to characterise the electricity industry as having competitive and	Pages 5-6	72

Issue	Submitter(s)	Submission	Submission ref	Item no
		<p>monopolistic components, the regulatory regime under Part 4 of the Commerce Act aims to ensure efficient outcomes from monopoly sectors. Seeking to recover transmission costs from the competitive sector implies that the Part 4 regulatory regime is not effective. The case that the competitive segments of the market are better placed to manage transmission costs than regulated firms has not been made (in the same way that alleged problems with transmission investment approvals have not been proven). The regulation of natural monopolies under Part 4 is capable of replicating the outcomes that would be achieved in workably competitive markets by allowing distributors to pass through all transmission costs. In a perfectly competitive market, all transmission costs (but no more) would be passed on to consumers. When those conditions are not present, economic theory makes no prediction of the level of costs that are passed through. The actual level may be more or less than 100%. This suggests that the objective of allocating more transmission costs to generators and retailers is misplaced because it does not guarantee a more efficient outcome. In the long run, firms in both competitive and monopolistic markets need to recover their cost of capital and should have incentives to operate in ways that reflect consumer demands. While the means of achieving these outcomes are different, competitive markets cannot be said to manage the imposition of transmission costs in a way that is more efficient than is achieved through good economic regulation.</p>		
	Castalia for Genesis	Two potential options in relation to the problem identified by Castalia in relation to HVDC charges are:	Page 7	73

Issue	Submitter(s)	Submission	Submission ref	Item no
		<ul style="list-style-type: none"> • change the approach to recovering HVDC costs from South Island generators. For example, by replacing the HAMI charge with a charge per MW of South Island generation capacity installed (when HVDC assets were commissioned) • recover HVDC costs from all market participants, for example through a postage stamp charge or through interconnection with a transition period. <p>In relation to interconnection charges:</p> <ul style="list-style-type: none"> • modify the transmission investment approval process to identify exacerbaters and beneficiaries and recover costs from those parties • introduce an exacerbaters-pay or beneficiaries-pay approach to recovering interconnection costs to improve focus on transmission investment approvals. 		
	Castalia for Genesis	<p>The TPM has several distinct components, and it is at least possible that different problems exist in different components. Some options will target specific problems, while other options may be able to resolve more than one problem at the same time. This creates the risk that the number of options assessed in the CBA becomes unwieldy. An important question for the CBA framework is therefore how to decide upon options that include both narrow focused solutions as well as broader measures to resolve several problems at once. Without this range of options the proponents of either broad or narrow solutions will not be convinced that the best option has emerged from the analysis.</p>	Page 8	74

Issue	Submitter(s)	Submission	Submission ref	Item no
	Meridian	Meridian agrees with the decision to consider more than one option. As the CBA Working Paper notes, there is a broad spectrum of options to choose from. When doing so, the Authority's filtering of the broad options remains sound, and the task is to identify the refinement of the current proposal that maximises net benefits. The Authority is on the right track to bring a long-standing issue to a close, and should resist suggestions to open up new fronts.	Page 2	75
	Meridian	Meridian suggests that the design of the residual charge be considered as a component of any option as it is a significant cost, particularly in the near term, and the design of the charge is important.	Page 3	76
	Meridian	With reference to there being more focus on recovering costs from the competitive sector, it would be useful to clarify whether the omission of a reference to direct connect customers is intended to signal that they will bear a lesser share of transmission costs than other beneficiaries.	Page 3	77
	MRP	MRP supports the recognition that a range of options for reform should be considered, and that efficiency benefits should be tested and not just assumed.	Page 3	78
	MRP	While the intent to consider a wide range of options is welcome, MRP is concerned that the Authority may be inclined to consider variations on its beneficiaries-pay approach. Other more incremental reforms should also be considered. With reference to the Authority's statement that the spectrum of options will focus more emphasis on recovering transmission costs from the competitive sector (ie, generators and retailers), MRP considers the appropriate decision framework is whether	Page 6	79

Issue	Submitter(s)	Submission	Submission ref	Item no
		the options advance the Authority's statutory objective in addressing the issues identified in the problem definition analysis. Further work is required on the problem definition in consultation with stakeholders.		
	Trustpower	It is completely unclear how the sub-focus on recovering transmission costs from the competitive sector has been justified. Surely the focus on efficient recovery should not be constrained unnecessarily to a subset of parties on which the charge could be recovered. Trustpower questions whether the Authority has proven that focusing charges on a competitive sector would maximise the long-term benefit of consumers, and notes that it was under the impression that it was most efficient to levy charges on the components of the supply chain with the lowest price elasticity (noting that the latter perhaps should not be a presupposition in the analysis either).	Page 8	80
	Vector	Vector agrees that more TPM options should be considered as part of the review, and submissions on the 2012 issues paper contained a wide range of alternative pricing options. For example, Vector advocated consideration of locational pricing and an enhanced status quo, which adopts part of the Authority's TPM proposal, but not changes to allocation of the HVDC away from South Island generators, or the Authority's SPD methods. Both of the options advocated for by Vector provide a genuine alternative to the Authority's proposal. It would place more emphasis on recovering transmission costs from the competitive sector (ie, generators and retailers), as referred to in the Working Paper. Regardless of whether locational pricing is to the long-term benefit of consumers, a	Page 12	81

Issue	Submitter(s)	Submission	Submission ref	Item no
		<p>question that Vector does not believe has been adequately tested, locational pricing is unambiguously the option that best satisfies the Authority's decision-making and economic framework. Vector is concerned that the Authority's emphasis appears to be predominantly on the application of beneficiaries-pay charges. Vector would be concerned if the Authority limited consideration of alternative options to variations on its initial TPM proposal and SPD method.</p>		
Section 7: Specify the baseline scenario				
Status quo as baseline	Powerco	<p>The analysis should use the existing TPM as the baseline case and assess counterfactual proposals against this baseline. To be preferred, a counterfactual should be able to demonstrate unequivocally that it would achieve a better balance of static and dynamic efficiency outcomes than the status quo and that it would limit the costs incurred by parties disputing the TPM.</p>	Page 2	82
Estimating final prices in the baseline	PwC for 22 EDBs	<p>In order to better understand the causal impacts of a change in the TPM, it is suggested that the various components of final prices may need to be estimated. However, using prices to understand changes in net reform benefits is only likely to be appropriate in a competitive market where there is pressure on prices to reflect underlying costs. For those parts of the sector that do not face competition, cost-based regulation will need to be in place to ensure prices reflect underlying costs over time. In either case, the Authority needs to understand the drivers and timing for how costs and prices are passed through to consumers.</p>	Pages 3-4	83

Issue	Submitter(s)	Submission	Submission ref	Item no
	PwC for 22 EDBs	It is less clear from the Working Paper how the Authority plans to model the upstream and downstream components of final consumer charges (eg, distribution charges). Further discussion would be welcome.	Page 4	84
	PwC for 22 EDBs	It is also unclear whether final consumer prices would include social externalities and benefits, or be based on observed market prices.	Page 4	85
	PwC for 22 EDBs	It is necessary to monitor the impact of reforming consumption and load. As PwC understands the problem, the Authority is seeking to reduce inefficiencies arising from the application of the current TPM. Inefficiencies from an economic perspective are measured by dead weight loss. However, dead weight loss is measured by the interaction of both price and quantity. Changes in quantities as well as prices arising from variations to the TPM are therefore very important in understanding changes in allocative efficiency.	Page 4	86
Baseline should be referenced to problem definition	Transpower	The baseline scenario should be defined with reference to the problem definition (given that it is this problem that the intervention seeks to address).	Page 13	87

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Sections 8-10: Identify, quantify, and value the impacts				
Top-down/bottom-up approach	Contact and Genesis	These submitters support the move away from a purely top-down approach to including both a top-down and bottom-up approach.	Contact page 1, Genesis page 1	88
	Meridian	Meridian agrees bottom-up models will complement top-down approaches.	Page 3	89
	PwC for 22 EDBs	PwC supports the use of a top-down and bottom-up model to calculate benefits.	Page 5	90
Top-down/use of benchmarks	Castalia for Genesis	<p>To be credible, a top-down analysis generally needs to rely on the magnitude of efficiency gains experienced in other contexts. Otherwise, any efficiency factor will appear to have been selected simply to generate the desired result from the analysis. Unless the Authority completely changes its proposal to match something that has happened elsewhere (which Castalia would support), the best evidence on impacts cannot come from comparable reforms carried out in other countries or sectors. Even if a similar reform situation could be found, the impacts on a different system with different characteristics would make the use of the parameter fraught with difficulty. Adverse consequences from reform are very difficult to incorporate into a top-down CBA, as that would rely on the effects also having been observed in a comparable industry or location at broadly similar magnitude. Any top-down estimates of efficiency can be used as a cross check, but should not be relied on as a primary decision-making tool in this case.</p>	Pages 9-10	91
	Castalia for Genesis	Top-down approaches rely on benchmarked inputs that	Page 9	92

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		are not available.		
	NZIER for MEUG	NZIER cautions that the use of benchmarking can be problematic if it is assumed that the benchmarks can be transferred to New Zealand circumstances without a thorough testing process.	Page 1	93
	MRP	MRP remains highly sceptical of the Authority's proposed use of a top-down approach using an efficiency factor. The approach affords far too much leeway to a parameter that is capable of significant manipulation. The Authority therefore should not just rely on the top-down approach for quantification of efficiency gains, but also acknowledge evidence of potential losses. It is essential that any top-down assessment is verified against a robust bottom-up assessment and that there is not significant divergence.	Page 5	94
	MRP	At the TPM conference, MRP presented independent economic analysis which illustrated that the total productivity factor was far lower and in fact negative for the electricity and gas sectors, compared with the figure used by the Authority. The Authority had also applied the network TFP to a much larger revenue base.	Page 5	95
	Pacific Aluminium	A top-down analysis using benchmarks from similar industries and other countries can be useful. However, it is important that this is done cautiously and the Authority needs to establish that any such benchmarks are appropriate for comparative purposes in the New Zealand electricity sector.	Page 2	96
	Powerco	Powerco recommends that the Authority does not persist with any top-down approaches to the CBA, including benchmarking. The main problem with the	Page 2	97

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		top-down approach is that it assumes that the changes being proposed will result in efficiencies and then proceed to make calculations based on that assumption.		
	Powerco	Comparators could be referenced for interest and illustration, but should not form the basis of the CBA, in whole or in part. If the Authority is going to persist with the SPD method, benchmarking will not be possible because this approach has not been applied anywhere else in the world.	Page 2	98
	Transpower	Transpower does not support the Authority's use of top-down methods at this point.	Page 12	99
	Transpower	The benchmark countries identified in the October 2012 paper have since been discounted as meaningful comparators. Benchmarking is fraught and susceptible to misinterpretation and manipulation.	Page 12	100
	Transpower	Transpower is cautious about over-reliance upon an all-encompassing efficiency factor. There is real benefit to disaggregating different costs and benefits because it allows a more informal view of different classes of costs and benefits. Applying an efficiency factor to costs/revenue beyond transmission and generation, and using final prices paid by consumers, risks unnecessarily introducing an unwarranted multiplier effect. A problem with top-down approaches is that they do not adequately compensate for the propensity for regulators to exaggerate benefits and to understate costs of intervention.	Page 14	101

Issue	Submitter(s)	Submission	Submission ref	Item no
	Trustpower	If the Authority is to conduct top-down analysis, it must disaggregate the efficiency factors selected into individual components. Otherwise it risks stakeholders disbelieving that the efficiency factor accounts for static inefficiencies or various other efficiency impacts attributable to different causes (as was evident in submissions on the 2012 consultation paper).	Page 5	102
	Trustpower	Finding a set of efficiency factors that is relevant will prove extremely challenging, let alone one that is robust. The same applies to the discussion of suitable comparatives in paragraph 10.2 of the Working Paper.	Page 5	103
	Vector	Vector remains sceptical about the continued use of a top-down approach, albeit alongside a bottom-up approach, and does not believe that it will help inform the review of whether changes should be made to the TPM. Vector says it is difficult to comment much further, beyond previous submissions on the matter, in the absence of more detail on the methodology the Authority will apply to the top-down approach.	Page 5	104
Structured approach (bottom-up)	Contact	Generator behaviour is one of the key reasons that bottom-up analysis must be employed. Any analysis of a counterfactual TPM must take into account changes in generator bidding behaviour. Bidding behaviour depends on the nature of the generating plant, the composition of the generator's portfolio, and the extent to which transmission charges can be avoided or minimised by changing bidding behaviour. Whether changes to bidding behaviour result in an increase in productive efficiency critically depends on whether the remote generator or the in-region generator has the lowest variable cost (not marginal cost) when adjusted	Page 2	105

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		<p>for average electrical losses (not marginal losses). New Zealand's remote generation plant tend to be highly efficient hydro and geothermal generation plant with low variable costs and if these plant were to behave as the Authority suggests and reduce generation, then there would be a reduction in productive efficiency. The impact of a potentially variable transmission charge on remote generation is illustrated by the current HAMI charge. The true implications of this behaviour are that when the proposed TPM suggests that a remote generator benefits from a transmission line, the remote generator will reduce generation, leading to underutilisation of the line. Conversely, load benefiting most from a transmission line will provide the greatest price signal for increased embedded generation, again reducing utilisation of the transmission line.</p>		
	Contact	<p>A well-structured CBA should be capable of taking into account a distinction between the short-run and the long-run, with reference to the question of whether costs are sunk. A bottom-up model would only "invest" in transmission expansion when well-designed specified decision rules were met, which would include consideration of projected demand and likely new generation.</p>	Page 3	106
	Contact	<p>Equally as important as assessing generator behaviour, sunk costs and regulatory overlap issues, is assessing the impact on retail risk, particularly for small and undiversified parties, and the risk for directly connected consumers. For those parties, volatility on a half hour basis is not particularly important, but volatility on a monthly basis is. A robust bottom-up model is required</p>	Pages 3-4	107

Issue	Submitter(s)	Submission	Submission ref	Item no
		<p>in order to understand:</p> <ul style="list-style-type: none"> • the effect the proposed TPM will have on price volatility in dry years; • whether the proposed methodology will further exacerbate price swings or dampen them; and • how retailers and industrial load will respond. 		
	Genesis	It is clear that a bottom-up approach is the most appropriate methodology for assessing costs and benefits of any proposed reform.	Page 4	108
	Castalia for Genesis	<p>If the proposed TPM reform is innovative or untested, evidence on impacts will need to come from the expected effects on market interactions and investment decisions in the New Zealand electricity system, in particular the effects that a different TPM will have on:</p> <ul style="list-style-type: none"> • transmission investment decisions • generation investment decisions • load investment decisions • the operation of the wholesale electricity market • the operation of the retail electricity markets. <p>Not all of these will be able to be directly modelled. With reference to wholesale and retail market impacts, these will likely apply some assumed efficiency (or inefficiency) factor. This is a form of "top-down approach within a bottom-up analysis".</p> <p>Impacts, positive and negative, intended and unintended, should first be identified and described, and then quantified where possible. Any top-down estimates</p>	Pages 9-10	109

Issue	Submitter(s)	Submission	Submission ref	Item no
		of efficiency can then be used as a cross check, but should not be relied on as the primary decision making tool in this case.		
	Castalia for Genesis	<p>The circumstances support a bottom-up approach to the CBA.</p> <p>The only credible method for establishing the benefits from a change to the TPM is a bottom-up analysis of the efficiency effects of a change to the regime. None of the other analytical approaches discussed in the paper can substitute for this in this particular situation.</p>	Page 10	110
	NZIER for MEUG	While more work, a bottom-up system approach to estimation should avoid the potentially problematic use of benchmarking, as the bottom-up approach is more prescriptive and evidenced and the necessary assumptions are transparent to stakeholders.	Page 1	111
	MRP	While several independent consultants' reports have provided guidance on how a structural bottom-up approach could be implemented, there is little detail in the Working Paper on how these recommendations will be operationalised in the CBA.	Page 5	112
	Pacific Aluminium	The Authority should focus on a bottom-up approach, because the extra prescription and transparency of assumptions (compared with a top-down approach) will produce a more robust analysis that is likely to improve acceptance and durability.	Page 2	113
	Powerco	It is essential for the precise means by which benefits will be produced to be clearly described and analysed in a way that is able to be replicated by an independent observer. This can only be achieved via a bottom-up approach to a valuation.	Page 2	114

Issue	Submitter(s)	Submission	Submission ref	Item no
	Transpower	To meaningfully assist the Authority in deciding whether change is needed and, if so, what change is appropriate, a bottom-up CBA is necessary. To that extent, Transpower agrees with the Authority's proposal to use a bottom-up approach. Bottom-up CBA allows logic and assumptions to be tested and for costs and benefits of the different options to be separately identified and updated as the proposals are refined. Transpower does not support a top-down approach to the TPM at this point.	Page 12	115
	Transpower	A comprehensive and robust bottom-up CBA does not eliminate the need for decision makers to exercise discretion and judgment to balance up various considerations, however it does narrow the scope of that discretion and judgment and allows the decision maker to focus more specifically on residual areas of uncertainty (for example, risk, the advantages of regulatory certainty over continuing uncertainty for affected parties' long-term investment decisions, complexity, non-financial transaction costs/opportunity costs).	Page 12	116
	Trustpower	Bottom-up is the traditional approach used for the analysis of TPMs. Trustpower agrees with the Authority that using a bottom-up approach has a significant advantage that it means that the existence of efficiency benefits can be tested, not merely assumed. A bottom-up method, utilising real case studies, is the best way to illustrate the link between the problem definition and the benefits of the proposal.	Page 4	117
Treatment effects approach and	Castalia for Genesis	The value of using CGE to understand any links between the TPM and the economy as a whole is	Pages 10-11	118

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computerised general equilibrium (CGE) models		unclear. A CGE model would not provide any insights on the cause or link between changing the TPM and the prices charged in the electricity sector. A CGE model can only take a price change as given and the sector would establish the flow-on effects. Using a CGE model is likely to detract from the fundamental issue of whether the benefits estimated in the CBA are credible, and whether other possible effects should be included.		
	Transpower	A treatment effects approach is not appropriate and general equilibrium modelling is not appropriate.	Page 13	119
	Trustpower	Trustpower strongly suggests that the Authority does not attempt to conduct CGE modelling. CGE modelling would be a step too far in terms of modelling complexity, especially if the Authority has already modelled the electricity sector in a bottom-up fashion. Drawing on relevant international experience with TPM assessments would be advisable.	Page 5	120
Benefit and cost categories	PwC for 22 EDBs	The key risk arising from the approach of splitting costs into initial transition costs and ongoing steady state costs is that certain costs and benefits will be missed. To minimise this risk, there needs to be a thorough understanding of the flow-on effects stemming from each reform impact. Secondary and potentially tertiary loop effects also need to be well understood. This requires a thorough understanding and analysis of the key business drivers for each affected party and any secondary impacts on other parties.	Page 4	121
Transitional costs	PwC for 22 EDBs	There will be ongoing transitional costs that need to be factored in throughout the projection period. Transitional costs should not be limited to the initial development	Page 5	122

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		period but are considered across the projection period.		
Static efficiency assessment	Meridian	Care will be needed when analysing the ways in which improved beneficiaries-pay price signals alter the behaviour of market participants. In the short-term, reduced use of the existing transmission assets can result in static inefficiencies. However, if a beneficiaries-pay pricing approach is implemented in a credible and sustainable way in the medium and long-term, participants will adjust their behaviour in ways that generate significant efficiency benefits. For example, a medium to longer-term benefit of the beneficiaries-pay approach is the increased incentives on market participants to be involved in the transmission investment planning, and scrutinised transmission investment timing.	Page 3	123
	MRP	The CBA must reflect the various static and dynamic impacts raised in various independent economic consultant reports as well as the impacts raised by geothermal and embedded wind generators.	Pages 1, 5	124
	MRP	The Authority may hold the view that its preferred approach would result in material gains in both static and dynamic efficiency but this was not borne out in its own analysis or feedback from stakeholders. On the contrary, clear feedback to the Authority was that there were significant static inefficiencies that could result from its preferred approach, making the status quo or incremental options more attractive.	Page 4	125
	Orion	It is conceivable that a different TPM could change the relative contribution of different generation sources, but it is another thing to demonstrate that this is more efficient. The SRMC of transmission is already captured	Page 2	126

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		via nodal prices. The change that an alternative TPM might achieve would be generated by enhancing those price signals, but to the extent that this drives a wedge between prices and costs, it seems most likely that the outcome will be less efficient than the status quo. The way the paper is written, it appears that any changes in the use of the grid will be seen as efficiency enhancing, which is circular.		
	Powerco	The critical characteristic of electricity transmission is that most of the costs are fixed, as they derive from a large stock of existing capital and the SRMC of providing this service is very low and close to zero. Therefore, in order to promote static efficiency, recovery of the value of the fixed costs should be done in a way that alters the energy consumption decisions of consumers as little as possible. The objective is that consumers' consumption behaviour should be driven by the energy price since the vast bulk of transmission costs will be incurred regardless of what customers choose to do. The best charge or charges would be fixed and unavoidable, akin to an efficient tax, and it is not necessary for costs to be recovered via a single charge that applies to all customers (instead, Ramsey pricing could be adopted).	Pages 2-3	127
	Powerco	The SPD approach scored poorly in terms of static efficiency, because it was purposely highly variable and unpredictable and would, if implemented, significantly modify energy consumption decisions.	Page 3	128

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	CEG for Transpower	<p>There are significant problems with the proposition that changes to the TPM can deliver short-term static efficiency benefits. It is apparent that the existing pricing arrangements are likely to result in highly efficient use of the existing grid infrastructure. In industries characterised by large fixed costs such as electricity transmission, short-term static efficiency is usually maximised by way of a two part tariff comprising a unit price signalling the SRMC, and additional charges to recover fixed (non-marginal) costs in the least distortionary manner (often via levying fixed charges).</p> <p>Full nodal pricing arrangements in the wholesale market mean that the SRMC of transmission is reflected in the difference between spot prices across nodes throughout the country. In other words, the unit price for grid usage recovered through the wholesale market reflects the SRMC of transmission.</p> <p>The various other fixed charges under the TPM through which Transpower recovers the remainder of its revenue requirement appear to do a reasonably good job of minimising distortions to short-term production and consumption decisions, and the use of the existing grid is therefore likely to be very efficient under the current arrangements. It follows that there are unlikely to be any significant static efficiency benefits to be obtained through changing the way that transmission charges are levied for existing assets.</p> <p>However, the potential for static inefficiency costs is clear, particularly if a variant to the beneficiaries-pay charged proposed by the Authority in the October 2012 issues paper is implemented. These costs stemmed</p>	Pages 1-2	129

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		from reduced wholesale dispatch efficiency, amplified risk throughout the supply chain and, potentially reduced retail competition. The Authority's CBA framework should be modified to reflect the very limited scope for static efficiency gains and the very real prospect of static efficiency costs.		
	CEG for Transpower	Price structured as a two part tariff will make the most efficient use of the existing assets during the period in which capacity is fixed. However, in the long-run, demand no longer needs to be met from current capacity alone, and firms have the option of expanding capacity to meet additional demand. There is a strong and principled link between SRMC, LRMC and the dynamic efficiency of capacity expansion decisions.	Page 8	130
	CEG for Transpower	A key challenge for the TPM is to enable Transpower to recover the fixed non-marginal costs of its existing network assets in a way that preserves the high level of static efficiency brought about by locational marginal price signals that currently exist as a result of New Zealand's nodal pricing system. The existing pricing arrangements are likely to result in the high degree of short-term static efficiency and it follows that there is little scope for changes to the TPM to deliver incremental static efficiency benefits. The more likely source of potential benefits is through the promotion of more efficient investment in new assets, ie, dynamic efficiency.	Pages 11-14	131

Issue	Submitter(s)	Submission	Submission ref	Item no
	CEG for Transpower	The Authority's proposition that static efficiency improvements are attainable through transmission pricing reform appears to rest on circular logic. The reason that consumers are switching to "within region generators" in the Authority's example is because relative prices have changed. However, it is important to recognise that the underlying costs of providing the transmission and generation assets have not. There is therefore no reason to think that static efficiency will be enhanced and in fact it is more likely that static efficiency will be compromised by such changes.	Page 19	132
	CEG for Transpower	The potential for static inefficiency costs is clear, particularly if a variant of the beneficiaries-pay charge proposed by the Authority in its first issues paper is implemented. These costs stem from reduced wholesale dispatch efficiency, amplified risk throughout the supply chain and potentially, reduced retail competition. The CBA framework should be modified to reflect the very limited scope for static efficiency gains and a very real prospect of static efficiency costs.	Page 2	133

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	Trustpower	<p>The vast majority of the benefits of moving to a beneficiaries-pay mechanism (in particular) are generally assumed to come in the form of more efficient investment, rather than operation. The downstream impacts in question could presumably be achieved by adjusting the existing TPM in other, low cost ways, to avoid charging in such a way as to impact static efficiency. Proven issues with regard to the current charging regime (in relation to static efficiency) could (and should) be separated from perceived issues relating to dynamic efficiency. These two issues could be addressed in separate steps, particularly if there was a lack of agreement regarding the materiality of the two parts of the problem definition.</p> <p>Trustpower struggles to see where the Authority is coming from in its discussion of the impact of transmission charges on static efficiency, and does not agree with the Authority's statements in paragraph 6.14 and 6.15 of the Working Paper. With reference to the statement that there would be an increase in the productive efficiency because the same output would be produced with fewer inputs, but that in the short-term this may result in unutilised transmission or generation capacity, Trustpower agrees that this is inefficient.</p>	Pages 2-3	134
	Vector	<p>Substantial adverse impacts on the static and dynamic efficiency of the TPM proposal were absent from the Authority's assessment in the October 2012 CBA. An example of a substantive static efficiency impact that was omitted from the previous CBA was the "paid as offer" equivalent effect of the SPD method.</p>	Page 10	135

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Dynamic efficiency assessment	Meridian	Institutional changes should be analysed on the basis that they will prevail for the life of the market, unless regulatory risk is to be factored in. It is relevant that institutional change under the Authority's mandate must meet the test of dynamic efficiency so that if, for example, HVDC charges were to be changed in the future, they would augment dynamic efficiency. A finite time period for the CBA implies a return to the status quo at the end of that period, which is not what would be expected of institutional change.	Page 4	136
	Meridian	New Zealanders should not lose the benefit of a regulatory change simply because it is modest and New Zealand should not constantly be looking for 'big bang' regulatory change. A culture of regular incremental improvement in the Code will serve New Zealand well. In the current process, there is a clear answer to this abstract issue. The starting point should be that \$30 million of efficiency gains are available simply from folding the recovery of the costs of the HVDC link into the current interconnection charge. These efficiency gains have been thoroughly assessed, do not benefit from delay, are uncontroversial, and are easily captured. They are material.	Page 5	137
	NZIER for MEUG	The section 6 analysis in the Working Paper points at examples of where dynamic gains could come from, which is helpful but the issues with the 2012 issues paper were more to do with the analysis and evidence regarding the actual efficiency issues with the transmission system.	Page 1	138
	MRP	The clear feedback to the Authority was that the presence of dynamic efficiency benefits required further	Page 5	139

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		assessment, which should include analysis of what future transmission investment decisions could reasonably be expected to be influenced by a change in the TPM.		
	MRP	Analysis provided by independent consultants for MRP suggested that the actual net dynamic impacts of the Authority's proposal were in the range of -\$27.8 million to +\$17 million.	Page 5	140
	Orion	Orion is unsure why the Authority is taking the stance that Transpower's price control/new investment decision-making (both administered by the Commerce Commission) is off-limits in terms of the Authority's proposals. The Authority's new proposal will need to be very clear about how this will be improved when the Commission's process is not changing. Case studies based on recent significant investment decisions would be useful.	Page 3	141
	Orion	Any benefits from improved investment decision-making need to be appropriately discounted to reflect that they will only arise from the date of the investment decision. As there are few significant transmission investments currently in the pipeline, there are therefore few opportunities for the new TPM to deliver better investments in the short term.	Page 3	142
	Powerco	Dynamic efficiency is promoted if prices reflect the LRMC of new investment in the grid. Given the RCPD method does not purport to produce a charge that accurately reflects LRMC of new investment, there is potential scope for an alternative cost allocation method to promote dynamic efficiency more effectively.	Page 3	143

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		<p>However, the SPD method is unlikely to promote dynamic efficiency more effectively than the current TPM, because the price signal it produces is not in any way related to the LRMC of new investment (and does not claim to be). Instead, the claimed dynamic efficiency arises from the promotion of more effective lobbying of the Commerce Commission, which, it is argued, would lead to more efficient grid capital expenditure approvals by the Commission. While the CBA paper discusses the incentive effects of transmission prices on market behaviour, the SPD method is about providing an incentive to engage in an administrative process, which seems a rather tenuous mechanism with uncertain outcomes.</p>		
	CEG for Transpower	<p>The more likely source of "in principle" benefits from transmission pricing reform lies through the promotion of more efficient investment in new assets in the long term, ie, through the enhancement of dynamic efficiency. CEG uses "in principle" because there are several factors that suggest that significant dynamic efficiency benefits are unlikely to be achievable in practice. Before concluding that a change to the TPM will yield dynamic efficiency benefits, the CBA framework must take into account a number of matters.</p>	Pages 2-3	144

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	CEG for Transpower	<p>First, the CBA framework must establish a causal relationship between a change to the status quo and the attainment of a benefit. If changing the TPM has no discernable effect on the future investment outcomes, then there can be no dynamic efficiency benefits recognised in a CBA. In order for changes to the TPM to deliver dynamic efficiency benefits, transmission prices must be capable of altering investment decisions in a material way. Before changes to the TPM can influence future transmission investment outcomes, they must first affect the investment decisions of generators and load. However, in practice, other factors are likely to be of much greater significance:</p> <ul style="list-style-type: none"> • Generators will tend to locate their plants based primarily on the availability of certain fuels, which may be more important than any feasible differentiation in transmission prices • Investment decisions of large industrial load will be influenced by many considerations that are likely to be more important to them than transmission charges, including access to market, proximity of customers, etc. 	Pages 2-3	145
	CEG for Transpower	<p>Second, even if it could reasonably be established that changing the TPM has the potential to affect investment outcomes, the effect must be shown to be beneficial. In this context, it has not been suggested (at least not explicitly) that the Commission's capital investment framework is incapable of delivering the right investment outcomes, and there appears to be no suggestion that Transpower has, in the past, built the wrong assets at the wrong time or that the existing investment framework</p>	Pages 3-4	146

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		<p>would lead it to do so in the future. It is consequently unclear where dynamic efficiency benefits would flow from in the event that investment outcomes could feasibly be altered (which is also unclear). Finally, given that Transpower's capital investment will be much reduced in coming years, even if transmission pricing could "defer" future investments, the potential benefits from doing so may be small given the point in the investment cycle.</p>		
	CEG for Transpower	<p>Third, even if the existing investment and pricing arrangements have the potential to result in material levels of dynamic inefficiency (which has not been established), that problem can only be addressed with the right price signal. CEG puts forward the example that the TPM might be modified so as to signal to grid users the LRMC of their actions on future transmission requirements, but states that modifying the TPM to reflect the beneficiaries-pay approach would not provide such a signal. In essence, the Authority's methodology seeks to estimate how much parties would be prepared to pay to avoid a particular asset being taken away. Such questions have no obvious role in the establishment of efficient prices for services provided using the existing fixed assets. This is especially the case in the period following the addition of new transmission capacity. There is no reason to think that the private benefits that market participants receive from the use of existing transmission assets today will reflect either the SRMC of using the grid or the LRMC of adding capacity in the future. Setting prices for existing assets by reference to private benefits therefore promotes neither a short-term static efficiency nor a</p>	Pages 3-4, 21-25	147

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		dynamic efficiency. The more likely scenario is that it will compromise the achievement of both.		
	CEG for Transpower	<p>Any dynamic efficiency benefits would need to weighed against the attendant costs, including:</p> <ul style="list-style-type: none"> • the cost of disputes in litigation, which will increase substantially if the proposal is introduced • the static efficiency losses arising from distortions to the wholesale generation dispatch process • the potential efficiency costs associated with any reduction in retail competition brought about from the heightened risk produced by the proposal. <p>The potential for changes to the TPM to deliver material improvements in dynamic efficiency is therefore likely to be limited in practice, but there is a clear prospect of significant additional costs.</p>	Pages 26-27	148
	Vector	Vector does not agree with the Authority's statement that the potential adverse reform consequences were considered in the previous proposal. The TPM Working Paper does not acknowledge all of the dis-benefits and, in particular, does not acknowledge the most significant in relation to dynamic efficiency and higher transmission investment requirements. Disregarding other factors in the first instance could lead to a spotlight problem, which could exclude potential solutions/problems that are not evident, for example, the cost of protracted dispute/judicial reviews/litigation, but could have significant impact on the future.	Page 10	149
Vector	The Authority also needs to assess the dynamic inefficiency impacts of the SPD price cap resulting in	Page 13	150	

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		lower charges for market participants if their benefits arise predominantly during peak periods (potentially higher transmission capacity and investment requirements), and the dynamic inefficiency impacts created by perverse locational signals for generators to avoid using post-2004 assets.		
Wealth transfers	Genesis	The TPM review is a very contentious issue. Any solution is likely to include the transfer of wealth between stakeholders and would therefore be hotly contested. For this reason, the TPM review is a good example of why it is critical for the result of any CBA analysis to be verifiable and why this should be a standalone step in the process.	Page 4	151
	MRP	MRP fully supports the Authority's recent comments that regulators are always able to transfer wealth but, if they do so, it has to recognise that there will be a cost. The cost will be in the willingness and terms on which parties will invest in generating capacity in the future and in other sectors of the economy (quoting the June 2013 Economics of Electricity paper).	Page 6	152
	Powerco	Some costs that, on the face of it, could be considered transfer costs from a national perspective should be included in the CBA. For example, a change to the TPM could substantially reduce the commercial value of investments in distributed generation that were justified in part by avoided cost of transmission payments calculated in accordance with the current TPM. We believe such value reduction should be taken into account as part of the analysis.	Page 4	153
	Trustpower	Trustpower quotes from the Authority's <i>Economics of</i>	Page 7	154

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		<p><i>Electricity</i> paper and, in particular, the paper's discussion of a wealth transfer from generators to consumers induced by regulation. Trustpower then states that it is not clear how the decreased willingness of parties to invest, induced by significant wealth transfer, will be treated by the Authority in its CBA. If the Authority uses just two cost categories in its CBA (reform transition and ongoing costs), then the decreased willingness to invest will have to be accounted for in the ongoing cost category, otherwise it will have to be accounted for in the assessment of explicit downward adjustments to efficiency estimates in a top-down model, or increased investment hurdle rates in the bottom-up model.</p>		
	Vector	<p>While the original CBA indicated the net benefits of the TPM proposal were positive, this was because the CBA was unsound and omitted various substantive negative impacts the proposal would have on consumers, including: wealth transfers from consumers to South Island generators; static inefficiency from the 'pay-as-bid' equivalent impact the SPD method would have on bidding behaviour; and substantive dynamic inefficiency impacts from subsidising peak usage and providing discriminatory incentives for use of pre/post 2004 transmission assets.</p>	Page 5	155
	Vector	<p>Vector agrees with paragraph 10.6 of the Authority's Working Paper, which states that consumer prices are clearly highly relevant to the Authority's statutory objective and, accordingly, estimating the impact of reform on consumer prices provides a direct means of testing the extent to which a given reform proposal does or does not promote the Authority's statutory objective.</p>	Page 10	156

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		The absence of any pricing impact assessment, or quantification of wealth transfers from consumers to generators was one of Vector's substantial concerns with the Authority's first TPM issues paper. For a change to the TPM to be to the long-term benefit of end users requires end users to actually be made better off. Vector quotes a Treasury statement that, where the decision is made not to specifically include or adjust for distributional effects, the reasons for this need to be clearly documented and explained.		
Need for, and standard and form of, quantification	Castalia for Genesis	Impacts, positive and negative, intended and unintended, should first be identified and described, and then quantified where possible.	Page 10	157
	MRP	The Authority should not just rely on the top-down approach for the quantification of efficiency gains, but also acknowledge evidence of potential losses.	Page 5	158
	Orion	Quantifying and assuming are different things. The problem with the original proposal was that the method of quantification was assumption. We think that the message from submitters was to avoid spurious quantification.	Page 2	159
	Orion	There are a number of areas where Orion does not consider that the Authority's emerging thinking reflects or addresses the weight of submissions made so far. Orion cautions that the Authority must be very clear, conceptually, how it expects material benefits to arise from a proposed new TPM before it seeks to quantify those benefits.	Pages 2-3	160
	PwC for 22 EDBs	The approach to calculating revenue and price appears quite simplistic as it does not appear to be based on a	Page 6	161

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		<p>build-up of costs but, rather, a forward extrapolation of historic prices using various assumptions. To improve robustness, PwC recommends a cost build-up approach is employed where estimates of future costs can be readily and reliably sourced. While the cost-based approach could be difficult to apply in some parts of the sector given availability and uncertainty over information, there is a significant amount of information disclosed by EDBs annually under information disclosure regulation in Part 4 of the Commerce Act. This information could be used to improve forecasts of prices for the distribution component of the sector and could also assist in forming a view on other components.</p>		
	PwC for 22 EDBs	<p>In forecasting prices for distributors, the Authority needs to have regard to a number of other considerations specific to distributors – specifically:</p> <ul style="list-style-type: none"> • New regulatory input methodologies applying to non-exempt EDBs under Part 4 are likely to be complex to model but are important to consider in order to accurately forecast distribution prices. • Information disclosures relating to exempt EDBs may provide insight into how prices are set; • It is unclear how Part 4 regulation will change over time. TPM changes may also influence EDB regulation; • Distributors may have excess capacity in their networks or may have committed to certain investments and contractual arrangements which are difficult to adjust. It may, therefore, take some time for TPM reform to have an effect on distribution 	Page 6	162

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		prices.		
	Trustpower	In the 2012 consultation paper, problems with the status quo were defined and quantified, while the proposal was assumed to somehow be able to solve all those problems. There needs to be a direct linkage illustrated between the problem definition and the benefits of the proposal – these cannot be assumed.	Page 4	163
	Vector	The courts have recognised the importance of quantified CBA as part of the operation of regulatory bodies' decision-making processes. In particular, comments made by Richardson J in the case of <i>Telecom v Commerce Commission</i> [1992] 3 NZLR 429 at 447 – that there is a responsibility on a regulatory body to attempt, so far as possible, to quantify detriments and benefits rather than rely on a purely intuitive judgement to justify a conclusion that detriments in fact exceed quantified benefits – was not specific to the particular legislation the Commerce Commission administers. The Authority faces the same requirements.	Pages 6-7	164
	Vector	Vector agrees with MRP that, regardless of any legal requirements, a quantitative CBA is a desirable and beneficial part of regulatory decision-making (quoting from an MRP submission to the Electricity Commission in 2005). CBA is a useful tool, coupled with a qualitative assessment, for minimising the risk of regulatory failure and helping to ensure only policy initiatives with genuine long-term benefits for consumers are introduced.	Page 7	165
Section 11: Adjust for differences in the timing of the impacts				
Assessment period	Meridian	The Working Paper proposes a 20 year appraisal period for the CBA, with sensitivities for 10 year and 30 year	Page 3	166

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		<p>periods. This is in contrast to the 30 year period adopted by the Authority in its previous CBA, with sensitivities around 20 and 40 year periods. There is no rationale for the shift. Given the objective is to analyse an institutional change – independent of the life of a particular asset – Meridian considers that the longer rather than the shorter timeframe is appropriate.</p>		
	PwC for 22 EDBs	<p>The use of a 20 year period with 10 and 30 year sensitivities does not seem unreasonable. While it is desirable to align the analysis period with the life of investments made in response to TPM reform, these investments are likely to be long-lived (eg, generation and transmission assets) and it will become increasingly difficult to accurately project net benefits as the assessment period increases. Accordingly, the Authority may wish to consider the use of a terminal value at the end of the assessment period to recognise the present value of ongoing net benefits associated with long-lived assets.</p>	Page 6	167
Discount rate	Meridian	<p>The Authority proposes to use a discount rate of 8%, with a sensitivity test of plus or minus 2%. Meridian disagrees with this range, and notes that the rates proposed by the Authority conflict with (and are higher than):</p> <ul style="list-style-type: none"> the default discount rate of 7% (pre-tax real) used by the Commerce Commission under Transpower's capex input methodology (which is a rate used to assess net benefits of investments in the electricity market); and 	Pages 4-5	168

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		<ul style="list-style-type: none"> Transpower's WACC which the Authority stated as being 6% (vanilla real) in the 2013 year. In fact, the 6% is a vanilla nominal WACC and the Commission's pre-tax real WACC estimate was 4.8%. <p>Meridian does agree with the Authority that it is appropriate to use a social discount rate in assessing TPM reform rather than Transpower's WACC. The CBA is assessing institutional change, not an investment proposal, and the social discount rate is appropriate. While the rate is not known with precision, a range of 6-8% would be appropriate. It would be extraordinary for the social discount rate to lie above that range.</p>		
	PwC for 22 EDBs	<p>The use of Transpower's regulatory WACC is unlikely to be appropriate, not least because it is based on a notional 5 year bond so is unlikely to be useful as a long-term discount rate. The adoption of Treasury's discount rate may be better in this regard. However, there is some debate about using this discount rate for CBA. Recognising this, PwC supports the use of a plus or minus 2% sensitivity to ensure options are not accepted or rejected solely on a discount rate specification. PwC notes that Treasury's discount rate is a real discount rate meaning forecast prices would need to be expressed in real terms, however, the Working Paper suggests that nominal unit prices will be estimated. The Treasury discount rate will therefore need to be converted to a nominal discount rate by adding inflation.</p>	Pages 6-7	169
	Trustpower	<p>Trustpower supports the use of multiple discount rates in testing the sensitivity of results. However, Trustpower suggests that the differences in implementation risk</p>	Page 6	170

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		<p>between pricing options could be accounted for by selecting different based discount rates for different options. For example, Trustpower considers that 8% may be too low a discount rate for a proposal that deviates as much from the status quo (and any other TPM in use overseas) as the proposal in the 2012 issues paper. However, an 8% rate would be appropriate for a more modest change to the TPM more aligned with current New Zealand or international practice.</p>		
Sections 12-13: Calculating decision criteria and sensitivity analysis				
Comments on decision criteria	PwC for 22 EDBs	<p>The adoption of a set of decision criteria, taking into account the quantitative risk adjusted result of the CBA and the Authority's statutory objective, is an appropriate basis upon which to make a decision.</p> <ul style="list-style-type: none"> • Nevertheless, the decision-making process is likely to be more robust and transparent where an approach is developed for adjusting CBA net benefit results for variances and sensitivities such that they can be meaningfully ranked or compared. For example, probability weights could be attached to the likely scenarios and sensitivities to derive a single expected net benefit result for each option. While the adoption of probability weights could be contentious, they would at least be more transparent and open to scrutiny than a qualitative assessment of risk. A single net benefit result could also be used to compare each option. • A clear set of decision criteria should be developed early in the process in relation to the Authority's statutory objective. This should set out criteria for 	Page 7	171

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		ranking or scoring each option by its ability to meet the statutory objective limbs.		
Sensitivity analysis and cross-checking required	Genesis	It is critical for the result of any CBA analysis to be verifiable, and this should be a standalone step in the process. As recognised by the Authority, a good sensitivity analysis will allow stakeholders to identify specific areas of disagreement and provide input into the regulatory process that improves decision-making.	Page 4	172
	Castalia for Genesis	<p>The results of CBA are likely to be contentious. In this situation, it is important that the results of the CBA can be verified so that meaningful debate can take place on the likely costs and benefits of changing the TPM. Castalia recommends that the Authority applies two levels of verification:</p> <ul style="list-style-type: none"> • Sensitivity testing the assumptions used in the analysis that have material impact on the results; • Using multiple estimation methods to cross-check the results of the primary bottom-up CBA. 	Page 12	173
	Castalia for Genesis	<p>Sensitivity analysis needs to be robust. The steps involved in performing a good sensitivity analysis are to:</p> <ul style="list-style-type: none"> • Identify the assumptions made in the analysis; • Identify the range of plausible values for the variables used to incorporate assumptions into the analysis; • Test the impact of the extreme points on those ranges to identify which assumptions have a material impact on the results; • Report the results when the extreme points in the range for each variable have a material impact on 	Page 12	174

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		<p>the results; .</p> <p>These four steps help to answer the question: '<i>Do changes to the key assumptions change the overall results of the analysis?</i>'.</p>		
	Castalia for Genesis	<p>Top-down analysis could be used as a cross-check on the bottom-up result. Evidence of benchmarks in other jurisdictions, while an insufficient method to estimate benefits on its own, is sometimes useful as a cross-check of bottom-up methodologies. Top-down methods may also be useful to identify whether the full range of unintended consequences have been verified.</p>	Page 13	175
	Castalia for Genesis	<p>Having a cross-check approach is preferable to splitting the difference between the results of two separate pieces of analysis. It is because the result can be defended with reference to a single methodology rather than obtaining a result that is not actually generated by any of two or more approaches.</p>	Page 13	176
	MRP	<p>The results of any CBA should be independently verified.</p>	Page 6	177
	PwC for 22 EDBs	<p>A more empirically robust approach to setting the pessimistic approach is proposed in the Working Paper than under the previous CBA. PwC supports the use of sensitivity analysis to better understand the impact of the key risks and variables. PwC also supports a more robust approach to developing scenarios. However, PwC recommends attaching probability weightings with distributions to each of the key variables and sensitivities in order to derive an expected return. This will give regard not only to the magnitude of a sensitivity, but also to its probability of occurring. Finally, a</p>	Page 7	178

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		sensitivity analysis should be considered as part of the ranking of various options under the decision-making criteria, and, for that reason, needs to be conducted prior to the application of any decision-making criteria.		
Other general comments on the CBA approach				
General comments	Contact	While much of the framework proposed in the Working Paper has merit, there are a number of issues that need to be addressed.	Page 1	179
	Genesis	Further work is required for Genesis to be confident that the CBA framework will produce credible results – results that should provide certainty and confidence, not only to the sector, but for end consumers as well.	Page 1	180
	Genesis	It is critical that stakeholders have confidence in the decision-making framework, particularly the CBA framework used to assess the likely impacts of any proposed change. A transparent and verifiable CBA methodology allows parties to satisfy themselves that the impacts of change are fully understood and that the decision is likely to lead to better outcomes overall. The Authority has recognised the importance of a credible CBA framework in its own internal processes for making Code change decisions, and has publicly emphasised the importance of quantifying costs in its criticism of the Labour/Green single-buyer proposal. However, the Authority has failed, to date, to establish a best practice CBA framework for the TPM review.	Page 2	181
	Genesis	A credible CBA framework requires clear principles for defining the problem in identifying likely (and credible) options for evaluation. A credible CBA framework includes a specific problem definition, clear	Page 2	182

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		identification of a narrow set of options, the assessment methodology for those options, and the verification of results. The CBA paper reflects many of these key steps, but omits any discussion on the identification of options.		
	Genesis	While the Working Paper is a step in the right direction, a good CBA framework would be instrumental as the Authority considers the complex issues to be discussed in future working papers. Therefore, Genesis requests that the Authority responds to submitters' suggestions and comments on the CBA Working Paper before releasing any further working papers on options or components of a new TPM.	Page 4	183
	Castalia for Genesis	The CBA approach described in the Working Paper is a clear improvement on the approach used by the Authority to support the original TPM proposal. Overall, the Authority has identified important framework issues for how the options analysis is carried out, and how the results of the analysis can be tested. However, the Working Paper does not cover important framework issues in deciding on a problem definition and identifying options that would address any problems.	Page 1	184
	Castalia for Genesis	<p>The following four steps are critical to ensuring a complete and credible framework for the CBA:</p> <ul style="list-style-type: none"> • Using evidence to support the problem definition; • Deciding how options would be identified; • Ensuring that the most credible analytical method is used as the primary tool for estimating the benefits of reform; 	Page 1	185

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		<ul style="list-style-type: none"> Following a process that generates verifiable results. 		
	MEUG	<p>MEUG agrees with the ten step process set out in the CBA framework as a decision tool. Often, in commercial settings, subsequent decisions using CBA are subject to ex post review to compare actual costs and benefits with the original CBA. This serves as a means to learn lessons on how to improve future CBA. MEUG suggests that the same approach should also apply to major CBA undertaken by the Authority.</p>	Page 1	186
	NZIER for MEUG	<p>Overall the paper is not controversial and describes an approach to CBA that is generally similar to how NZIER would approach this task. It is fairly high level, uses examples to illustrate points being made, but some parts lack a firm, articulated structure.</p>	Page 1	187
	MRP	<p>The Working Paper represents a first step towards progressing the CBA, but the lack of a robust empirical basis for reform is not resolved in the current problem definition, and remains the most material issue in the process to date. Further stakeholder consultation is also a critical step prior to the application of the CBA to future options. This will be essential to develop the assumptions and inputs into a robust bottom-up assessment and avoid the previous issues with the application of the Authority's economic decision-making framework.</p>	Page 1	188
	MRP	<p>While the CBA Working Paper represents a welcome first step, much of the detail of the approach remains undefined and opaque. The role of a well-designed CBA should be to clarify and make explicit the main assumptions and reasons underpinning the</p>	Pages 4-5	189

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		<p>development of the proposal. The key learning from the protracted rounds of consultation and calls for the Authority to further explain and provide additional information on the impacts of its policy (which arose as a result of lack of consultation with the stakeholders between the announcement of the decision-making and economic framework and the revised TPM proposal, which created significant uncertainty) is that the development of the CBA should be iterative, and the Authority should continue to consult with stakeholders as the CBA is developed further.</p>		
	Pacific Aluminium	<p>The paper provides a good framework for constructing a CBA.</p>	Page 1	190
	PwC for 22 EDBs	<p>The distributors represented by the submission support the Authority's efforts to strengthen and clarify the CBA underpinning the analysis of TPM options, and the Working Paper usefully provides a greater understanding of the Authority's current thinking as to how a proposal's developer revised the CBA. However, there is uncertainty in a number of areas. PwC and the distributors represented look forward to further dialogue and detail regarding the features of the CBA as the work-stream progresses, particularly with regard to the design of the model.</p>	Page 2	191

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	Transpower	<p>The Authority has applied important parts of the broader analytical framework incorrectly, and how that framework should operate. The role of the CBA is to inform the regulator's decision over whether a change is appropriate and, if it is established that change is appropriate, then the CBA will assist the choice of which of the available options is the best remedy. The CBA straddles several stages of the policy development process – specifically, options identification, options assessment and refinement, and selection of the preferred option, detail, design and implementation.</p> <p>The CBA typically involves some iteration as options are refined and optimised. The CBA can be undertaken in isolation from the policy development but, by definition, this approach deprives the policy analysis and the decision of the benefits of the CBA, and so:</p> <ul style="list-style-type: none"> • materially reduces the value of the CBA to the policy analysis; and • risks the CBA being tailored to suit the preferred option. <p>It is important the Authority ensures that its approach to an execution of the CBA maximises the value of the CBA to the policy development process. This is particularly relevant for potentially contentious and far-reaching decisions as may be the case with its TPM investigation.</p>	Pages 4-5	192
	Transpower	The CBA is the key input to the decision-making process but is not, of itself, determinative. This is because, inevitably, there are some factors that cannot meaningfully be quantified, which are materially	Page 5	193

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		<p>uncertain, or otherwise cannot be accounted for in the CBA. This means the CBA cannot substitute for regulatory judgement and discretion. The decision-maker must balance the quantitative CBA results with a range of other factors – for example, risk, the advantages of regulatory</p> <p>certainty over continuing uncertainty for affected parties' long-term investment decisions, complexity, and non-financial transaction costs/opportunity cost (to the regulator and industry).</p>		
	Trustpower	<p>Without any policies being tested against the CBA framework, it is not easy to understand exactly how the framework would work in practice. It would have been useful if the Authority had stepped a particular TPM proposal through the process to give the participants a better idea of its practical application. Trustpower recommends that the Authority publish a further Working Paper on its CBA framework once a suite of policies is on the table, and prior to the final issues paper being released.</p>	Page 4	194
CBA needs to take into account the costs of disputes	Powerco	<p>On the face of it, the SPD method would substantially increase the scope for disputes by creating new asset class boundaries and definitional complications. In doing so, the SPD approach would incentivise some customers to oppose replacement and refurbishment of particular assets and others to support such action. Also, as the solution of "but for asset A" plus "but for asset B" plus "but for asset C" would not necessarily equal the solution of "but for A plus B plus C", Powerco would expect to see many disputes about the definition of assets and their treatment by the SPD method.</p>	Pages 3-4	195

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		Another example of where the scope for disputes would be increased is when a \$2 million+ asset that forms part of a group of assets that work together, and were commissioned before 2004, is replaced or upgraded. Careful definitions would be required to determine whether such an investment would change the status of the whole group of assets to SPD method assets or only the replaced or upgraded assets.		
	Trustpower	As Trustpower recalls, most of the opposition to the inclusion of a positive benefit from reduced dispute resolution was due to the fact that the Authority had assumed that disputes would decrease compared with the status quo if a new proposal were to be implemented. Most stakeholders (including Trustpower) believed instead that dispute costs would increase significantly. This suggests that this cost category should be included in a revised CBA.	Page 7	196
	Vector	The issue in relation to the impact of the TPM proposal and the likelihood and scale of disputes was not so much whether it could be quantified or not. Rather, the vast majority of submitters believe the TPM proposal would increase the level of disputes rather than reduce them.	Page 10	197
Consultation on CBA desirable	MRP	MRP welcomes the Authority's intent to consult on a revised CBA following consistent feedback that there were material deficiencies with the CBA from its original TPM proposal.	Page 1	198
	Transpower	Consultation on the CBA permits the stress testing of assumptions, logic and design of CBA models. Effective consultation necessitates publication of any models, source information and assumptions in a form that	Page 6	199

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		permits cost-effective scrutiny.		
	Vector	Vector urges the Authority to undertake further consultation and stakeholder engagement as it develops its proposed approach to the CBA: an iterative approach through the Authority's development of the CBA may be useful. Vector expresses concerns regarding the original CBA and the top-down CBA in particular. Vector then states that it is difficult to comment much further, beyond those previous submissions, in the absence of more detail to the methodology the Authority will apply to the top-down approach.	Pages 3, 5	200
Other comments on potential CBA inputs, approach	Meridian	The Authority is on the right track in trying to bring a long-standing issue to a close, and it should resist suggestions to open up new fronts. The issues have been explored in depth, including in submissions on the decision-making and economic framework in 2012, submissions on the TPM issues and proposals consultation paper in 2013, and at the May 2013 conference, Meridian encouraged the Authority to consider permutations to its proposal that respond to points made by participants and narrow the areas of disagreement.	Page 2	201
	Meridian	An important example of medium and longer term benefits of a beneficiaries-pay approach is the increased incentives on market participants to get involved in transmission planning and scrutinise transmission investment timing.	Page 3	202
	MRP	Significant concerns were raised by a number of wind and geothermal generators on the negative impacts of the Authority's original proposal on their current and future investments. At the recent commissioning	Page 6	203

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		ceremony for the Ngatamariki geothermal plant, the chair of the Tauhara North No.2 Trust raised directly the negative economic impacts to the Trust's beneficiaries and to future investment from the Authority's TPM proposal. Such impacts require explicit consideration in any revised CBA process.		
	Transpower	The decision-maker must balance quantitative CBA results with a range of other factors – for example: risk, the advantages of regulatory certainty, complexity, and non-financial transaction costs/opportunity costs.	Page 5	204
	Transpower	Transpower's understanding is that the Authority's view of, and position on, the pricing of grid assets is changing from a clearly stated preference for an "incentive-free" approach to avoid price motivated grid usage decisions (generally held as inefficient) to something different (perhaps the opposite). If this is correct, then Transpower states it would represent quite a shift, both in the Authority's own position and relative to orthodox economic thinking.	Page 13	205
	Transpower	The Authority produced an extraordinary amount of analysis for the October 2012 issues paper, and continues to publish new analysis throughout the consultation process. In practice, this made the process inaccessible for many, and probably detracted rather than added to the quality of the process. As a general observation, Transpower agrees with the Productivity Commission's comments that complexity is one of the overarching themes in regulatory failure.	Page 15	206
	Trustpower	The Authority's use of the term "counterfactual" may have been defined incorrectly. For <i>ex ante</i> forecasts, the more common usage is to apply the term	Page 4	207

Issue	Submitter(s)	Submission	Submission ref	Item no
		"counterfactual" to the scenario in which the policy change is not made, ie, the 'do nothing' scenario. The Authority should adopt the definition used by the ACCC/AER		
	Trustpower	Trustpower is unsure if the intention in referencing the ACCC/AER report was to suggest a range of methods that those bodies may consider in analysing proposals such as a new TPM. In general, Trustpower believes that the paper covers too broad a range of applications to be useful for comparison with an issue as specific as transmission pricing. Instead, the Authority would have been better served to survey the literature for methods relevant to the assessment of transmission pricing proposals specifically. The primary focus of the ACCC/AER report was on methods used to assess the performance of policy changes ex post rather than to forecast the likely outcome of proposed regulatory change. This should have been noted in the Authority's Working Paper.	Pages 4-5	208
	Trustpower	The Authority would be well served to examine previous beneficiaries-pay proposals and their predicted benefits in terms of efficiency, and also the definition of problems they were designed to resolve. Trustpower would expect to see at least a literature review and a summary of proposals put forward in New Zealand and around the world to date. A review of these highly relevant proposals and the subsequent decisions to implement them or not would highlight to the Authority any other implementation risks or potential benefits presumed to accrue from the mechanisms.	Page 6	209
	Trustpower	It is unclear how the Authority will address potential	Page 7	210

Issue	Submitter(s)	Submission	Submission ref	Item no
		<p>reductions in the use of load control due to network company opt-out. This could be accounted for by an explicit reduction of a top-down efficiency estimate but, in a bottom-up model, would require forecast investment in distribution assets to be increased.</p>		
	Vector	<p>The efficiency impact of a new TPM can take effect before it is implemented.</p>	Page 10	211
	Vector	<p>The value of comparator data from (quoting paragraph 10.2 of the Working Paper) "previous reforms including locational and time of use/congestion pricing reform" depends on the type of TPM charges that are being proposed. Based on the previous TPM proposal, which Vector considers would send negative locational/congestion signals, the data could be used to help measure the efficiency costs of the proposals.</p>	Page 11	212