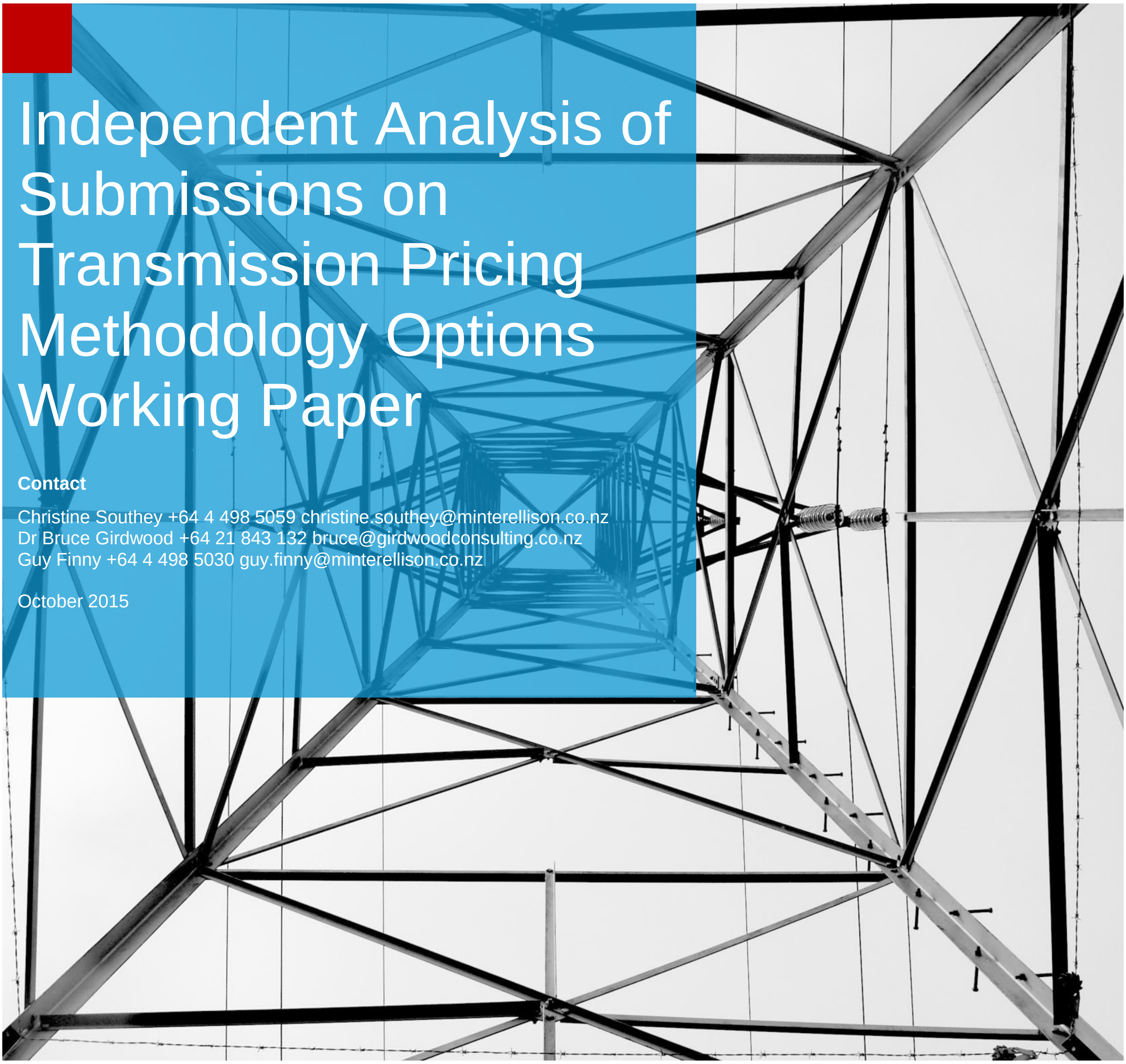

Independent Analysis of Submissions on Transmission Pricing Methodology Options Working Paper

Contact

Christine Southey +64 4 498 5059 christine.southey@minterellison.co.nz
Dr Bruce Girdwood +64 21 843 132 bruce@girdwoodconsulting.co.nz
Guy Finny +64 4 498 5030 guy.finny@minterellison.co.nz

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GIRDWOOD CONSULTING

MinterEllisonRuddWatts

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Executive summary

Purpose

Trustpower has commissioned Minter Ellison Rudd Watts and Girdwood Consulting to provide an independent review of submissions made in response to the Options Working Paper. Trustpower is keen to understand the level of stakeholder support for the proposed reform of the TPM Guidelines.

The purpose of this report is to form a view on whether the Authority's process has now led to general understanding and agreement on the problem definition, policy objectives, preferred solution and option evaluation for the development of TPM Guidelines.

Structure of the report

Our report is arranged into 17 sections:

- Sections 1 and 2 outline the context for the Authority's reform of the TPM guidelines, the process to date, next steps, a high level overview of the Options Working Paper and submitters comments in relation to the Working Paper Process;
- Section 3 provides a detailed explanation of the scope, approach and methodology we have adopted in writing this report;
- Section 4 identifies six submitter groups and summarises our overall findings; and
- Sections 5-17 provide our detailed analysis.

Approach

To determine whether the process has led to understanding and agreement on the problem definition and policy objectives, preferred solution and option evaluation we have, as best we can, identified industry views on the following propositions:

- The decision making and economic framework (DME) is fit for purpose and has been used appropriately;
- The Working Paper Options will improve the efficiency of transmission investment;
- There is agreement that the three Working Paper Options will be more durable than the status quo;
- The Working Paper Options are able to be understood and implemented;
- There is a clear preference for one of the Working Paper Options;
- Submitters agree with each of the charges as proposed;
- Submitters agree with the Working Paper Options in preference to the status quo or a more moderate proposal; and
- Submitters agree with the Application options as proposed.

In assessing the nature of the feedback received on the Working Paper Options, we found it useful to think about the submissions in terms of the following key groups:

- Regional Advocates;
- Major Electricity Users;
- National Generator-Retailers;
- Lines Companies;
- Independent Generators; and
- Other submitters.

Our methodology is outlined in Section 3.

High level findings

At a high level the responses fell into groups that were broadly supportive or broadly against the proposals in the Options Working Paper. A slight majority of submitters generally do not support the Authority's TPM options as proposed (see Table 1 below). This majority was mainly made up of lines companies; Northland, Auckland and West Coast consumers; and the Independent Generators.

In contrast, a significant minority are supportive of the options proposed by the Authority. This minority mainly consisted of Southland-based consumers and the Major Electricity Users. Even amongst the Major Electricity Users regional divisions were apparent, with the most supportive submitter being Pacific Aluminium, and the most opposed being Refining NZ.

Table 1: Distribution of Support for Working Paper Options as Proposed

	Broadly Supportive	Neutral	Broadly Against
Regional Advocates	25	-	15
Lines Companies[1]	2	-	16
Major Electricity Users	6	-	1
National Generator-Retailer	2	1	3
Independent Generators[2]	-	-	9
Other	2	1	5
Totals	**37**	**2**	**49**

If submissions from Regional Advocates are put to one side, it becomes apparent that remaining submissions have major reservations towards the Working Paper Options. This trend largely comes from the impact of submissions from Lines Companies and Independent Generators. We also note that many of those who were supportive cautioned that their support is conditional on further investigation and cost-benefit analysis of the Working Paper Options going forward.

Detailed findings

With regard to each of the propositions we posed, we make the following observations:

Proposition	Summary of responses
Feedback on DME	The DME is a critical part of the Options Working Paper as it sets out the criteria that the Authority used to establish and evaluate various TPM reform options. We note that most of the expert consultant reports applied their own analytical frameworks to the Working Paper Options, which suggests they considered that there were superior approaches to qualitatively assessing the Working Paper Options. In addition, the appropriateness and application of the DME was contested by the Lines Companies submitter group and some of the National Generator-Retailers. Criticism focussed on the categorisation of charges such as the Deeper Connection charge and the LRMC charge not being market-like, as inferred by the application of the DME.

[1] (includes Transpower, PwC, ENA).

[2] (includes IEGA and Wind Energy Association).

Proposition	Summary of responses
The discovery of more efficient transmission investment	Many submitters, directly and indirectly, raised the question of whether the Authority has the primary mandate for dynamic efficiency or whether this role lies primarily with the Commerce Commission through its obligations under Part 4 of the Commerce Act 1986. Some expert consultants had concerns that the Working Paper Options are inconsistent with good electricity market design in that they are likely to distort nodal pricing and hence short run use of electricity assets, the location and timing of generation investment and demand side management. Other submitters appeared to accept that the beneficiaries pay approach would enhance the efficiency of the TPM in relation to transmission investment. This support was, in some cases, conditional on beneficiaries and exacerbators being accurately identified, which in itself, was seen to be problematic by some.
The importance of durability	The Options Working Paper emphasised durability as an important aspect of any proposed TPM. Numerous submitters expressed views as to whether the Working Paper Options were more durable than the status quo, often linking durability to fairness, simplicity, and transparency. Southland-based submitters and some (excluding Refining NZ) of the Major Electricity User submissions emphasised that the current TPM was unfair, not cost-reflective, and therefore not durable, and submitted that the Working Paper Options (or at least one of the options) would have the potential to improve equity and hence durability. The durability, fairness and transparency of the Working Paper Options were questioned by most of the Lines Company submissions and their expert advisors, as well as the Regional Advocacy submissions and those of the Independent Generators. Their primary concerns were that complexity, potential volatility and the lack of transparency are likely to erode durability. Several submitters also expressed concern that large wealth transfers and the risk of unintended consequences would undermine the durability of the proposals. Some submitters also took the view that the current TPM, despite its faults, has proven to be durable.
Concern about complexity	Many submitters expressed concern that either the Working Paper Options were themselves too complex to be workable or efficient, or simply too complex for them to understand. A common concern was that this complexity was creating uncertainty and that complexity also called into question the durability of the Working Paper Options themselves. Half the Generator-Retailer submitters, and almost all the Independent Generators and Lines Company submitters, expressed concern over complexity. The expert consultants for IEGA, 21 of the electricity distribution businesses, Transpower and Trustpower all discussed complexity as an issue with the proposals. Several submitters who otherwise supported the Working Paper Options also commented on their complexity. A number of parties expressed a preference for the Base Option because they considered that the SPD and LRMC options were too complex.
Preferred Working Paper Option	Of the submitters who were willing to express a preference for change, overwhelming support was for the Base Option. These submitters consistently noted that the SPD and LRMC charges added extra complexity for arguably limited benefit, and have significant potential to create unintended consequences, such as distortion to short run signals in the electricity market, in the case of SPD, and overstepping into the Commerce Commission's jurisdiction, in relation to the LRMC charge. Several of the submitters who disagreed, in principle, with the Working Paper

Proposition	Summary of responses
	Options still expressed a view as to what they thought was the least damaging of the three options. It appeared this preference was mainly for the Base Option. Of the expert consultancy reports, Castalia, Compass Lexecon, Andrew Shelley Economic Consulting, Creative Energy Consulting, CEG and PwC appeared to be silent on whether they considered one of the Working Paper Options to be superior, preferring alternative approaches altogether (see Section 10). Conversely, NZIER thought the Base Option was going in the right direction.
Preference for the status quo or 'moderate' change	Many submitters were supportive of a move towards one of the Working Paper Options, particularly the Major Electricity Users and Southland-based submitters. However, half of the National Generator-Retailer submitters, along with Transpower, Compass Lexecon, PwC, ENA and IEGA, advocated either for the retention of the status quo or for more moderate changes to the existing TPM Guidelines.
Proposed deeper connection charge (DCC)	A common critique was that the DCC has been incorrectly labelled as 'market-like' as the charge does not in fact reflect contractual arrangements that would occur in a workably competitive market. Of the consultancy reports, CEG, PwC, Castalia, Professor James Bushnell, Andrew Shelley Economic Consulting, and Creative Energy Consulting questioned, or appeared to question, whether the DCC was in fact 'market-like' (amongst other issues with the charge's design and potential impacts). Compass Lexecon thought the DCC would lead to inefficiencies. NZIER and Scientia Consulting also raised potential issues with its design.
Proposed area of benefit charge (AoB)	A key area of opposition was the mechanism for allocating the AoB charge to different load. There was a split between submitters that supported beneficiaries pay, supporting the AoB, and those that did not support beneficiaries pay or the AoB charge. There was support for minimisation of overall complexity and the folding of the AoB into a modified status quo, using, for example, a tilted postage stamp methodology. The Lines Company submitters generally did not support the AoB on the basis of its discrimination between EDBs and directly connected loads, and that the AoB is distortionary and hence inefficient.
Proposed residual charge	There was little opposition to the residual charge amongst submitters per se. However, large numbers of submitters questioned the design of the charge, including most of the expert consultant reports. As with the AoB charge, criticism focussed on the allocation of the residual charge to distribution networks on the basis of deemed capacity and the allocation of the same charges to directly connected industrial load on the basis of Anytime Maximum Demand (**AMD**). This difference of allocation method was seen many submitters, particularly those in the Lines Company category, as an unfair wealth transfer from distribution load to directly connected industrial load.
Proposed SPD charge	There appeared to be a general lack of support for the SPD charge amongst submitters. Meridian would be interested in the charge forming part of a different TPM proposal, and Fonterra was a cautious supporter. Other submitters generally noted that, while an improvement on earlier iterations, the revised SPD charge would still add complexity for little benefit while creating inefficiency by distorting wholesale market prices. All of the expert consultant reports expressed some level of concern over the appropriateness, volatility or complexity of the SPD charge.
Proposed LRMC charge	Although several submitters noted that the LRMC charge is appealing in principle, none of the expert consultant reports endorsed the charge as proposed in the Options Working Paper. The consistent message across most submitter groups was that the proposed LRMC charge is likely, in reality, to provide few benefits, could introduce perverse incentives, and would add another layer of complexity to the TPM

Proposition	Summary of responses
	when it is unlikely that Transpower will undertake major new investment for some years.
Preferred application	Submitters were divided between Application A and B. Many of the submitters who supported the Base Option also supported Application A. This support was typically on the basis that preserving the current TPM would perpetuate the inefficiencies with it. While many submitters disagreed with the Working Paper Options, a number of those who disagreed in principle still expressed a view on which application they would support if they had to choose. Typically, these submitters supported Application B, citing concerns over 'retrospective' regulation and consequential impacts on investment certainty. Several of the expert consultant reports identified issues with both applications and therefore did not endorse either of them, while others appeared to prefer Application B due to its prospective nature. NZIER, for MEUG, was the only expert consultant report that explicitly favoured Application A.
Transitional arrangements	It was difficult to find consensus support for any particular transition arrangement, with limited expert comment of this topic. If the submitter had a strong view in favour of the Working Paper Options then they typically expressed a desire for implementation as soon as possible, such as the Pacific Aluminium and other Southland submissions. However, many expressed a desire for transition to reduce the impact of Application A. Some also expressed concern about the impact price shocks could have on durability and efficiency, as well as mass market consumers.
Submissions from regional advocates on different components of Working Paper Options	All the regional advocates made general submissions. Some cite complexity and the lack of resources to properly unpick complex economic proposals that are not written in plain English. Most therefore did not make detailed comment on the design of the Working Paper Options themselves. They also tended to take a local economic view. Where the proposal introduces higher prices, for example in Northland and the West Coast, the submissions did not support the proposal. In contrast, where the proposal leads to decreased prices they supported the proposal, for example in Southland. Specifically in relation to the DCC, Venture Southland submitted that it "supports the proposed deeper connection-charge to ensure the full economic costs of connecting to grid are recovered from the connecting parties".[3] In contrast, the Top Energy Consumer Trust submitted that the allocation of DCCs:[4] > "to various distributors can vary depending on whether a neighbouring load customers has significant export capacity. This effectively random allocation of costs suggests that the proposed TPM may not deliver cost-reflective pricing and may not promote efficient operation of the electricity industry". In relation to the SPD and LRMC charges, while Venture Southland stated that it believed all the Working Paper Options would improve efficiency, the Southland-based submitters consistently stated that their support for the Base Option on its own was informed by the added complexity of the SPD and LRMC add-ons. Submitters from other regions did not appear to consider the SPD or LRMC charges in any detail.

[3] Venture Southland Submission, at 2.

[4] Top Energy Consumer Trust Submission, at 3.

Conclusion

We observe two major drivers of agreement or lack of agreement with the Options Working Paper. The first is one of commercial interest. It is natural that submitters will seek outcomes that best suit their own commercial circumstances. We accept that most stakeholders will take a long-term view of their interests by seeking stable and durable regulatory arrangements. The second is a real concern about the underlying principles supporting the TPM Guideline reform, including the economic framework, problem definition and options analysis.

Many of the submissions have been well resourced and are supported by expert opinion. Others, such as consumer groups, are not well resourced and have found the complexity of the proposals hard to engage with. They have therefore been able to do little more than advocate for their interests.

In our view the expert reports generally treat the DME as a poor foundation for the TPM guidelines by applying their own analytical frameworks to the Working Paper Options. Furthermore, there is enough support for the status quo to be added as a credible option.

There seems to be a strong enough view that the large number of charges created by the application of the DME hierarchy introduces complexity and reduces transparency. As a consequence we observe concerns that it is hard to see how the stated objective of increasing dynamic efficiency can be achieved.

Overall, we observe evidence that, after reviewing the 88 public submissions, there is still a concerning level of disagreement on the design and merits of the TPM options proposed in the Options Working Paper. This appears to derive in part from commercial interests but more problematically from concerns about the justification for the proposed reform and the criteria used to identify and evaluate options to improve the TPM Guidelines. This raises questions about whether the reform to the TPM guidelines should be based on the proposals in the Options Working Paper.

Section 1: Background

Introduction and purpose

The Electricity Authority (the **Authority**) is currently reviewing the Transmission Pricing Methodology (**TPM**) Guidelines. The Authority released a TPM Options Working Paper on 16 June 2015 (**Options Working Paper**). This paper sets out the Authority's preferred options to address the problems it has identified with the current TPM.

Trustpower has commissioned Minter Ellison Rudd Watts and Girdwood Consulting to provide an independent report into the submissions made in response to the Options Working Paper. Trustpower is keen to understand the level of stakeholder support for the proposed reform of the TPM Guidelines.

Context

The Authority considers that changes should be made to the TPM Guidelines to ensure that the TPM better achieves its statutory objective of promoting competition in, reliable supply by, and the efficient operation of, the electricity industry for the long-term benefit of end-users.

It considers the current TPM:

- is not adaptive and sends the wrong price signals;
- does not appear to be cost-reflective;
- fails to support the discovery of efficient transmission investment through the transmission investment approval process; and
- may not be durable.

Process to Date

The Authority began its current review of transmission pricing in January 2012 with the release of a consultation paper on its proposed decision-making and economic framework for transmission pricing. This paper received 18 submissions and 13 cross submissions. Following review of these submissions the Authority published its reasons for its preferred decision making and economic framework (DME) in May 2012.

The Authority then released an Issues and Proposal Consultation Paper (**First Issues Paper**) outlining its proposals for TPM reform in October 2012. 54 submissions and 16 cross submissions were received on the First Issues Paper. A TPM conference was held in May 2013 with industry stakeholders to assist the Authority to further understand these submissions and cross-submissions.

The Authority then developed a set of working papers in order to more closely engage with stakeholders on the core issues. Altogether, nine working papers have been released, covering:

- Cost benefit analysis approach;
- Definition of sunk costs;
- Avoided cost of transmission payments;
- Loss and constraint criteria;
- Beneficiaries-pay options;
- Connection charges;
- Long Run Marginal Cost charges;
- Problem definition on the current TPM; and
- Options Working Paper.

The Authority has received between 14 and 37 submissions on each of these working papers, apart from the Options Working Paper, which received 89 submissions.

Next Stage

We understand the next stage of the process is likely to be preparation of a Second Issues and Proposal Consultation Paper. This is expected to be released in the first quarter of 2016.

Section 2: Options Working Paper

Overview of the Options Working Paper

As noted in the previous section, the Options Working Paper is the final paper in a sequence of consultation on the core issues associated with the TPM Guidelines proposed in the First Issues Paper.

The Authority has outlined three potential TPM reform options in the Options Working Paper (**Working Paper Options**):

- 'Base Option', which consists of the existing connection charge, a new deeper connection charge (**DCC**), a kvar charge, an area of benefit (**AoB**) charge, a capacity-based residual charge and loss and constraint excess credit;
- 'Base Option' with a long run marginal cost (**LRMC**) charge based on the estimated long-run marginal cost of incremental capacity for the interconnection service, which aims to signal the costs of future transmission investments; and
- 'Base Option' with a scheduling, pricing and dispatch (**SPD**) charge, which aims to use the SPD model to identify beneficiaries of investments.

The Options Working Paper proposed two transitional 'Applications' for the proposed Working Paper Options:

- Application A, where any new charging arrangements will apply to both existing and new assets and investments; and
- Application B, where any new charging arrangements will only apply to new assets.

The Authority also called for views on whether transitional arrangements should apply to Application A.

Comments on Options Working Paper Process

Submitters made several positive comments about the Authority's willingness to engage in the working paper process. For example:

Contact Energy stated that:[5]

> "We are also pleased to see that a number of the concerns raised by Contact and others in previous issue and consultation papers have been addressed and that the Authority is trying to find an appropriate way forward."

Mighty River Power also appreciated that "the Authority has made a significant effort to respond to many of the issues raised by stakeholders in response to its original TPM proposal released in October 2012".[6]

While suggesting more pre-consultation, Transpower submitted:[7]

> "We found the Authority's in-consultation engagement activities around the OWP to be very effective. The workshops were particularly useful in helping us to understand the very complex suite of pricing concepts in the OWP. We recognise and appreciate that the Authority, executive, staff and external advisers went to a lot of trouble to help stakeholders to understand its thinking".

[5] Contact Energy Submission, at 1.

[6] Might River Power Submission, at 1.

[7] Transpower Submission, at 7.

PricewaterhouseCoopers (**PwC**) (for 21 electricity distribution businesses) also stated:[8]

> "The distributors represented by this submission welcome the Authority's willingness to put forward detailed and considered options for consultation, including some proposals that reflect feedback made in previous consultation rounds. We also welcome the Authority's engagement with stakeholders on this matter".

However, the support was not universal, with some submitters questioning the consultation process, particularly its engagement with smaller participants. Some other submitters also questioned the lengthy nature of the consultation process and the tightness of the submissions deadline. For example, the Major Electricity Users Group (**MEUG**) noted that their ability to provide high-quality input is being tested by the length and complexity of the TPM process.[9]

The Electricity Networks Association (**ENA**) also submitted that:[10]

> "As we have also recognised in this submission, our comments are very critical of the Authority's proposed options. We would ideally prefer to engage constructively with alternative proposals. However, the ENA does not have the resources to engage at that level of complexity and we also consider it is the Authority's responsibility to develop and objectively test a broad range of proposals".

[8] PwC Submission, at [11].

[9] MEUG Submission, at [12]-[13].

[10] ENA Submission, at [55].

Section 3: Scope and approach of this report

Scope

It is expected the Authority will be undertaking its own analysis of the Options Working Paper responses, and will, in time, publish a summary of submissions. The purpose of this report is not to duplicate that analysis but instead to focus on whether the process has now led to understanding and agreement on the problem definition and policy objectives, preferred solution and option evaluation.

In order to make this assessment we set out to identify industry views on the following propositions:

- The decision making and economic framework (DME) is fit for purpose and has been used appropriately;
- The Working Paper Options will improve the efficiency of transmission investment;
- There is agreement that the three Working Paper Options will be more durable than the status quo;
- The Working Paper Options are able to be understood and implemented;
- There is a clear preference for one of the Working Paper Options;
- Submitters agree with the:
  - Deeper Connection Charge as proposed;
  - Area of Benefit as proposed;
  - Residual Charge as proposed;
  - SPD charge as proposed; and
  - LRMC charge as proposed;
- Submitters agree with the Working Paper Options in preference to the status quo or a more moderate proposal; and
- Submitters agree with:
  - Application A; or
  - Application B; or
  - Neither Application A or B; and
  - Transitional arrangements for Application A.

In preparing this report we have not assessed responses from stakeholders to earlier consultation papers, or how their response may have changed over time. As a result, there is a risk that we have not captured all current views.

Approach

This task was not a straightforward exercise. There were no specific questions for submitters in the Options Working Paper. Instead, submitters were invited to make their own comments on the TPM proposals and various matters in the Options Working Paper. As a result, many submitters did not comment on all (or even most) of the issues above, and also chose to comment on issues outside of this list.

We also recognise that the propositions overlap to some degree and there is a high level of subjectivity to our assessment. This has been unavoidable given the task at hand and the range of responses received.

Methodology

Our methodology has been to use a person within Minter Ellison Rudd Watts with a general background in law and economics, but no specific prior involvement in the TPM review process, to assess and categorise where each submitter stood relative to the propositions identified above.

Each submission was categorised as:

- in substantial agreement with;
- in partial agreement with;
- neutral towards;
- in partial disagreement with;
- in substantial disagreement with; or
- holding no view on[11],

the propositions set out above.

In determining whether a submission was broadly supportive of or against the Working Paper Options, the assessor was asked to consider whether a reasonable person would consider the submitter to be broadly supportive of, neutral towards, or against the options, taking into account their submission as a whole.

As a result of the wide range of submissions received, the assessor had to make subjective judgement calls on many issues. These were made by considering the submissions as a whole, and in light of any group the submitter had endorsed. The assessor took a conservative approach, but where a position could reasonably be inferred from the context of the submission, the assessor made that inference.[12]

This categorisation was then peer reviewed by subject experts.

[11] Where a submitter did not express a view on a proposition, or their commentary was insufficient to make an objective inference, the submitter was marked “no view expressed” for that proposition.

[12] To be clear, where a submitter was also party to a broader group submission, the assessor inferred that they supported any relevant views from that group submission.

Section 4: Overview of submissions

Nature of the submissions received

As is usual in processes of this kind, submitters differed in the degree to which they engaged with the underlying issues.

While all perspectives have value, we expect that the Authority, when considering the feedback it has received, will pay particular attention to the views of submitters which have been supported by economic experts.

This is because the *Wellington International Airport Limited v Commerce Commission*[13] decision has underscored the legal requirement for economic regulation to be supported by expert opinion and empirical evidence. We note that consultation timeframes did not permit submitters to commission any empirical work to support their views.

Therefore in compiling this report we have also paid particular attention to the submissions of various submitters' economic experts.

Submitter groups

In assessing, the nature of the feedback received on the Options Working Paper we found it useful to think about the submissions in terms of the following key groups:

- Regional Advocates;
- Major Electricity Users;
- National Generator-Retailers;
- Lines Companies;
- Independent Generators; and
- Other submitters.

(a.) Regional Advocates

Around 39 of the 88 public submissions can be characterised as regional advocacy submissions. Of these submissions, 25 were made in support of the Southland/Otago regions. The remaining 15 submissions appear to advocate for the interests of consumers from Northland, Auckland and the West Coast.

No submissions were received by advocates for other regions that did not otherwise fit into our categories.

In general the Southland/Otago submissions make the same or similar points as they appear to be based on a seven page submission written by Venture Southland. The remaining regional submissions are relatively brief.

Altogether, the 'regional' submissions tend to assert that the Working Paper Options were either 'positive' or 'negative' based on the perceived implications for their respective regional economies and consumers.

(b.) Major Electricity Users

We consider the submissions of the MEUG and its members to be a distinct category. Submissions for this group are generally supportive of the Consultation Paper, although we note this support was qualified by a desire to more fully understand the Working Paper Options.

[13] [2013] NZHC 3289.

(c.) National Generator-Retailers

Each of the generator-retailers have direct interests in the TPM reform as transmission services are a key input of their costs. Their feedback covers a full spectrum of views on the various issues raised. Their submissions were generally supported by considered commentary from both in-house and external regulatory experts.

(d.) Lines Companies

We have included all lines companies in the same group in our review. Included in this group is the ENA submission which was made on behalf of 29 electricity distribution businesses.

We note that lines companies at both the distribution and transmission level have considerable experience in setting pricing methodologies to recover their revenue requirements from network users.

This group has contributed expert analysis in the form of the PwC submission (on behalf of 21 electricity distribution businesses), the Compass Lexecon report for Vector and the CEG and Scientia Consulting reports for Transpower.

Although distribution companies pay for a significant portion of the charges allocated under the TPM, they are able to pass on these charges to their customers and thus can be seen as having less commercial interest in the TPM Reform than other parties.[14]

For convenience we have decided to include Transpower with the electricity network businesses. However, we acknowledge that Transpower has a special interest and voice in the TPM review process, which potentially means greater weight should be given to its views.

(e.) Independent Generators

Independent generators are specifically affected by the Working Paper Options due to the potential impact on avoided cost of transmission payments (**ACOT**). Their views were expressed in a detailed submission from the Independent Electricity Generators Association (**IEGA**) which was critical of the Working Paper Options and process.

In our review King Country Energy was categorised as an independent generator as its submissions supported the IEGA submission, as was the Wind Energy Generators Association as their submission emphasised distributed generation.

(f.) Other Submitters

Nine submitters did not clearly fit into the above groupings and generally comprised of concerned individuals or organisations. Of these, we consider the submissions of the NZ Council of Infrastructure Development and the Electric Power Optimization Centre to be particularly informative.

Overview of support

At a high level the responses fell into groups that were broadly supportive or broadly against the proposals in the Options Working Paper. A slight majority of submitters generally do not support the Authority's TPM options as proposed (see Table 1 below). This majority was mainly made up of lines companies; Northland, Auckland and West Coast consumers; and the Independent Generators.

In contrast, a significant minority are supportive of the options proposed by the Authority. This minority mainly consisted of Southland-based consumers and the Major Electricity Users. Even amongst the Major Electricity Users regional divisions were apparent, with the most supportive submitter being Pacific Aluminium, and the most opposed being Refining NZ.

[14] Electricity and Gas Input Methodologies Determination Amendments (No. 2) 2012 [2012] NZCC 34, at [3.1.2].

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	Broadly Supportive	**Neutral**	**Broadly Against**
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If submissions from Regional Advocates are put to one side, it becomes apparent that remaining submissions have major reservations towards the Working Paper Options. This trend largely comes from the impact of submissions from Lines Companies and Independent Generators. We also note that many of those who were supportive cautioned that their support is conditional on further investigation and cost-benefit analysis of the Working Paper Options going forward.

Overall, we observe evidence that, after reviewing the 88 public submissions, there is still a concerning level of disagreement on the design and merits of the TPM options proposed in the Options Working Paper. This appears to derive in part from commercial interests but more problematically from concerns about the justification for the proposed reform and the criteria used to identify and evaluate options to improve the TPM Guidelines. This raises questions about whether the reform to the TPM guidelines should be based on the proposals in the Options Working Paper.

[15] (includes Transpower, PwC, ENA).

[16] (includes IEGA and Wind Energy Association).

Section 5: Feedback on DME

The DME is a critical part of the Options Working Paper as it sets out the criteria that the Authority used to establish and evaluate various TPM reform options.

We note that most of the expert consultant reports applied their own analytical frameworks to the Working Paper Options, which suggests they considered that there were superior approaches to qualitatively assessing the Working Paper Options.

In addition, the appropriateness and application of the DME was contested by the Lines Companies submitter group and some of the National Generator-Retailers. Criticism focussed on the categorisation of charges such as the Deeper Connection charge and the LRMC charge not being market-like, as inferred by the application of the DME.

Regional Advocates

There was limited comment on the DME from this group of submitters. The Venture Southland submission observed that the DME was in place with industry support.[17]

None of the Regional Advocacy submissions for the other regions explicitly mentioned the DME, but several did question the Authority's philosophical approach, for example, stating that the Working Paper Options have been "based on a very narrow socio-economic model".[18]

Major Electricity Users

None of the Major Electricity User submissions discussed DME in great detail.

Pacific Aluminium appeared to endorse the DME, submitting that the Authority:[19]

> "... has developed a robust framework for evaluating alternatives to the current TPM",

and that the DME correctly reflects the statutory objective. It also stated:[20]

> "... the Authority has correctly defined the deeper connection charge as being market-like, in which case it rates highly within the Authority's DMEF".

However, NZIER appeared to be more sceptical of the DME's application, noting that:[21]

> "While the economic framework is based on sound principles it seems to us that the Authority has not provided justification for mechanisms to be classed as market based when they initially appear more administrative".

The NZIER also applied its own conceptual framework in its report for the MEUG, while Refining NZ submitted that social equity should be a consideration.

National Generator-Retailers

Castalia (for Genesis Energy) stated that:[22]

> "While we consider the DME to be a useful tool for identifying and classifying possible charging approaches, the DME does not provide a tool for assessing options."

Castalia also noted that it had carefully considered the role of the DME and concluded it was not fit for purpose and that:[23]

> "The 'waterfall' approach that results from a strict application of the DME is also not coherent because it leads to a complex, overlapping set of charges. For example, the options presented in the working paper combine two or three beneficiaries pay charges (DCC; Area

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[17] Venture Southland Submission, at 8.

[18] Vision Far North Submission, at 1.

[19] Pacific Aluminium Submission, at [4].

[20] Pacific Aluminium Submission, at [126].

[21] NZIER Report for MEUG, at [2.1.3].

[22] Castalia Report for Genesis Energy, at 5.

[23] Castalia Report for Genesis Energy, at III.

of Benefit (AoB); and Scheduling, Pricing, and Dispatch (SPD)). Carefully considering the basis for the charges, it becomes clear that they should not be used in any combination."

Trustpower considered:[24]

> "The use of the DME framework is misplaced, as it will provide little insight as to the preferred options for TPM reform".

Creative Energy Consulting (for Trustpower) submitted:[25]

> "The proposed DME framework has, in turn, been built on a poor foundation of multiple and conflicting pricing objectives. The Authority worries variously about long-term pricing efficiency, short-term pricing efficiency, revenue adequacy, planning efficiency, market verisimilitude and equity. But there is no pricing method that could possibly achieve all of these objectives. Pancaking several pricing methods, each of which is individually designed to achieve one of these objectives, does not lead to all of the objectives being achieved by the aggregate. It just leads to a mess. It becomes virtually impossible to assess whether, in a conceptual sense or empirical sense, the pancaked prices delivers anything useful or coherent in terms of price signalling."

Professor James Bushnell (for Trustpower) submitted that:[26]

> "The DME framework, while arguably providing a reasonable balance between the goals of equity and efficiency, does not necessarily achieve another stated goal of maximizing dynamic efficiency. First, the goal of mimicking market-like outcomes may not be appropriate in some situations where markets are known to not achieve efficient outcomes. Natural monopoly conditions, which are quite common in the transmission investment context, are one such situation. Second, the principles of exacerbator and beneficiaries pay align more with equity objectives and, as has been argued previously, do not necessarily promote efficient outcomes.
>
> Accepting, however, the DME framework as the EA's preferred decision criterion, several aspects of the current proposal are arguably inconsistent with that framework. In particular, the proposed Deeper Connection and LRMC charges are, in important ways, neither market-like nor dynamically efficient."

Meridian Energy was more supportive of the DME, submitting that:[27]

> "the DME provides a useful framework, but should not be treated as a strict hierarchy of preferred methods of charging. This is for two reasons. First, just because a methodology is described as 'market-like' does not mean that it perfectly matches a market charge or necessarily deserves to be ranked above other types of charges. For example, deeper connection is referred to as market-like, but the current proposal would need to be amended in order to produce outcomes generally consistent with those in an actual market".

Both Nova Energy and Mighty River Power (at least in respect of Application A) appeared to question whether the DCC would be market-like in certain circumstances.[28]

Contact Energy did not the mention the DME.

Lines Companies

Transpower submitted that:[29]

> "In our view, the DME framework should be viewed as guidance rather than a rigid hierarchy, adherence to which produces unnecessarily complex options or precludes sensible options from consideration".

CEG (for Transpower) observed that:[30]

> "The framework might be of use if key concepts such as 'beneficiary', 'private benefit', 'market-like' and so on were defined with precision. However, they are defined only very loosely in the Options Paper and are interpreted and applied differently across the various

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[24] Trustpower Submission, at [4.2.17].

[25] Creative Energy Consulting Report for Trustpower, at 30.

[26] Report of Professor James Bushnell for Trustpower, at 1-2.

[27] Meridian Energy Submission, at 14.

[28] See Mighty River Power Submission, at 2-3; and Nova Energy Submission, at 2-3.

[29] Transpower Submission, at [4].

[30] Creative Energy Consulting Report for Trustpower , at 30.

charging options. This lack of precision is problematic and is especially noticeable in the design of the SPD and AoB charges."

CEG also submitted that:[31]

> "Throughout the Options Paper the 'decision-making and economic framework for transmission pricing' continues to be applied. This tool is based on a hierarchy of preferred approaches, with 'market' and 'market-like' approaches being the most favoured, followed by 'exacerbators-pay' and 'beneficiaries-pay' approaches, and so on. In previous reports we have expressed the view that this framework is not especially helpful as a decision making tool. We remain of that opinion.
>
> The framework might be of use if key concepts such as 'beneficiary', 'private benefit', 'market-like' and so on were defined with precision. However, they are defined only very loosely in the Options Paper and are interpreted and applied differently across the various charging options. This lack of precision is problematic and is especially noticeable in the design of the SPD and AoB charges".

The ENA stated that the Authority:[32]

> "...continues to misuse its decision-making and economic framework to give unwarranted precedence to some options ... With respect to the deeper connection proposal, the Authority has deemed this to be market like and therefore given it significant status, whereas we submit that it is in fact an administrative approach".

PwC (for 21 electricity distribution businesses) stated:[33]

> "we are unconvinced that the Authority's Decision-Making and Economic Framework (DME framework) is a useful means of comparing options or deciding which approaches are preferred. Just because a charge is higher up the hierarchy in the DME framework does not necessarily mean it will score more highly on a cost-benefit analysis than other options".

Compass Lexecon (for Vector) noted that:[34]

> "the hierarchy under the DME ... seems conceptually reasonable to achieve the EA's efficiency objectives, but its successful implementation requires that charges be well designed and both exacerbators and beneficiaries be accurately identified. Otherwise, the TPM, while reflecting good policy intentions may end up implementing them erroneously".

However, it did not directly address whether it had been applied correctly or not.

Of the individual network businesses, Orion was particularly critical of the DME, stating that it did not believe the DME provided useful guidance:[35]

> "For example, the proposed deeper connection charge is described as "market-like", and therefore is highly favoured by the framework. This is based on the idea that parties could band together to separately contract with Transpower to build some of the assets that form part of the current interconnected grid, or even build and own the assets themselves. But this strikes us as more incantation than economics."

Independent Generators

None of the IEGA submissions directly commented on the DME. However, Andrew Shelley Economic Consulting (for IEGA) developed its own 'conceptual economic framework' for its report.

Other Submitters

None of this group of submitters directly addressed the appropriateness of the DME. Several submitters questioned the Authority's philosophical approach, and Electric Power Optimization Centre applied conventional market design in its analysis, which possibly suggested disagreement with the DME.

[31] CEG Report for Transpower, at [126]-[127].

[32] ENA Submission, at [2.5].

[33] PwC Submission, at [19].

[34] Compass Lexecon Report for Vector, at [22].

[35] Orion Submission, at 5.

Section 6: The discovery of more efficient transmission investment

Many submitters, directly and indirectly, raised the question of whether the Authority has the primary mandate for dynamic efficiency or whether this role lies primarily with the Commerce Commission through its obligations under Part 4 of the Commerce Act 1986.

Some expert consultants had concerns that the Working Paper Options are inconsistent with good electricity market design in that they are likely to distort nodal pricing and hence short run use of electricity assets, the location and timing of generation investment and demand side management.

Other submitters appeared to accept that the beneficiaries pay approach would enhance the efficiency of the TPM in relation to transmission investment. This support was, in some cases, conditional on beneficiaries and exacerbators being accurately identified, which in itself, was seen to be problematic by some.

Regional Advocates

Regional Advocacy submissions were divided on whether the Working Paper options would promote efficiency. Submitters from Southland consistently submitted that the working paper options would improve efficiency, as, in their view, the Southland region has been paying for transmission assets that benefit other regions.[36]

Conversely, Northland, Auckland and West Coast-based submitters argued that the working paper options were inefficient, would have a damaging effect on the national grid, and that many Northland and West Coast consumers would end up paying for transmission assets built with little direct benefit to them.[37]

Major Electricity Users

MEUG was keen to ensure that the Authority and Commerce Commission align TPM reform and Input Methodology (**IM**) reviews to:[38]

> “align any decisions to revise the TPM by the Authority with changes to the CAPEX IM by the Commerce Commission”.

Overall, NZIER (for MEUG) concluded:[39]

> “Conceptually, the mechanisms to reallocate grid costs proposed by the Authority under Application A appear to have the potential to improve the clarity of signals to grid users about the costs of access to the grid and therefore to improve the efficiency of gird use and possibly investment decisions. The caveat on this statement is that the proposed changes still require current grid users to pay for unused capacity. Overall the Authority is on the right track. We prefer to see more use of mechanisms that can identify real rather than deemed beneficiaries such as SPD, but we recognise the difficulties that come with trying to achieve this.”

Pacific Aluminium’s submission considered the Base Option as having the potential to best promote the statutory objective, and thereby the discovery of efficient investment. However, it noted that:[40]

> “If the Authority were to distort a TPM charging mechanism to compensate for perceived (rightly or wrongly) inefficiencies in the setting of revenue by the Commerce Commission, Pacific Aluminium believes this would not be consistent with the Authority’s mandate”.

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[36] Venture Southland Submission, at 4-7.

[37] For example, see Tai Tokerau Northland Economic Action Plan Advisory Group Submission.

[38] MEUG Submission, at [10].

[39] NZIER Submission (for MEUG), at

[40] Pacific Aluminium Submission, at [39].

National Generator-Retailers

Trustpower was concerned that the Authority has exceeded its statutory mandate:[41]

> "We believe that the Authority has exceeded its mandate to promote "efficient operation of the market" by seeking to influence transmission investment decisions, through the TPM, both retrospectively and prospectively in light of the Commerce Commission's explicit mandate to regulate monopoly services through Part 4 of the Commerce Act. The Commission has developed bespoke input methodologies to approve investment and regulate Transpower's allowable revenue through the IPP, which in conjunction with efficient market prices is all that is needed."

Trustpower was also concerned that the Authority is seeking to implement a TPM that is not consistent with good market design in that the Working Paper Options are likely to distort nodal prices:[42]

> "our view is that conventional LMP market design, in conjunction with administered transmission planning and revenue setting, would see transmission pricing purely as a revenue allocation exercise. In his advice, Professor Bushnell reinforces this point:
>
> "It is worth repeating that charging for historic investments, being sunk decisions, creates the risk of distorting network behaviour with no gains to efficiency. From an efficiency perspective these costs are best treated as any other regulatory rate-base recovery problem, with a goal of recovering costs while minimizing distortion of behaviour (and consequently deadweight loss).""

Castalia (for Genesis Energy) submitted that:[43]

> "the options paper fails to see transmission pricing in the broader industry context it operates in",

and went onto say that:[44]

> "Short-run transmission constraints are signalled through nodal price differences. This feature is most relevant to Long Run Marginal Cost (LRMC) pricing".

Meridian Energy was almost alone in this group of submissions in that it expressly supported a beneficiaries pay approach, the SPD method in particular. In relation to efficient transmission investment, it submitted:[45]

> "Meridian suggests that the primary goal here should be to increase the degree of alignment between transmission costs with private benefits and to improve transparency as to where private and national interests diverge."

Lines Companies

Amongst the submitter category there was concern that retrospective application of the Working Paper Options would be inconsistent with historical decisions made by the Electricity Commission and the Commerce Commission. The concern was that this would likely drive investor uncertainty, leading to a chilling of investment appetite.

Many distribution businesses were concerned that the Working Paper Options would distort transmission congestion signals in the nodal price rather than allocating in a non-distortionary manner in which they land between incremental and stand alone cost, thereby removing any inefficient signal to bypass efficient assets. They submitted that the correct signal for static and dynamic efficiency is congestion prices in the electricity market.

CEG (for Transpower) submitted:[46]

> "Applying varying mark-ups to different customers will often make sound economic sense and promote statically and dynamically efficient outcomes. In the case of the TPM, the fixed

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[41] Trustpower , at [8.1.2].

[42] Trustpower, at [3.1.2]

[43] Castalia Report for Genesis, at II.

[44] Castalia Report for Genesis, at II.

[45] Meridian Energy Submission, at 2-3,9.

[46] CEG Report for Trasnpower, at [67].

charges that recover the majority of Transpower's revenue requirement attempt to minimise distortions to grid usage. As we have explained in previous reports, the TPM therefore bears a strong resemblance to a "Ramsey-Boiteux" two-part tariff, where:

- the SRMC of transmission grid usage is reflected in the differences in wholesale spot prices between nodes; and
- the fixed costs of existing transmission assets are recovered through a series of fixed charges, with a view to minimising distortions to grid usage."

CEG also submitted that:[47]

> "there is no evidence to suggest that the Commerce Commission's new investment process has produced inefficient outcomes in the past, and no reason to think that that the TPM reforms in the Options paper will produce superior results in the future".

Some distribution businesses expressed concern that the Authority is confusing its role with that of the Commerce Commission. On this point, Buller Electricity submitted:[48]

> "Investments in long life transmission infrastructure will be inefficient unless the industry regulators provide a clear statement of who assumes the primary risks and rewards of asset ownership under the proposed TPM. ... In the case of Transpower and EDBs, the Commerce Commission in setting the revenue requirement delivers this expectation over the course of a 5-year regulatory period".

and the ENA stated that:[49]

> "The proposed TPM in the options paper would introduce incentives on parties that are not consistent with the test used by the Commerce Commission to assess capex and may increase the cost of the Commerce Commission's process. If the Authority believes that the decision process in relation to transmission investment should be made other than centrally, on a national benefit basis, then the Authority should explain the problem with this process",

and Powerco submitted:[50]

> "The Authority states that the current method "fails to support the discovery of efficient transmission investment through the transmission investment approval process", by which it means the current TPM does not encourage affected parties to engage with the Commerce Commission when it is considering transmission capital expenditure proposals, in order to promote investment options that would reduce a particular party's allocation of transmission costs. In our view, promoting additional engagement with the Commission is not an objective that the Authority should be pursuing, because additional lobbying of the Commission is unlikely to result in greater efficiency, since those incentivised to engage are likely to continue to be restricted to those with the deepest pockets and the greatest vested interests, i.e. major users (mostly direct connects) and the generators. Hence, any success at influencing the Commission's decision-making would be likely to skew investment decisions in favour of the major users and the generators, which would often not be an efficient outcome."

Independent Generators

Independent Generators all, through the IEGA and their own submissions, took the view that the Working Paper Options would undermine distributed generation investment by removing or significantly reducing the payments through the long-standing ACOT arrangements. IEGA submitted, on the basis of a member survey, that ACOT payments constitute 14.75% of total revenue and 48.23% of gross profit for its members.[51]

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[47] CEG Report for Transpower, at [3].

[48] Buller Elecricity Submission, at 5.

[49] ENA Submission, at [3].

[50] Powerco Submission, at 3-4.

[51] IEGA Submission, at 1.

Andrew Shelley Economic Consulting (for IEGA):[52]

> "In the short-term, existing local generation acts as an enabler of retail competition in constrained regions. Over the longer-term, local generation acts as an alternative to transmission and is in competition with transmission."

It also submitted that:[53]

> "A transmission pricing structure that provides no basis for payments to local generation favours transmission and inhibits competition from local generation. These payments are currently provided by way of "Avoided Cost of Transmission" (ACOT) payments, derived primarily from the reduction of charges levied on Regional Coincident Peak Demand (RCPD)."

As the above would be the consequence of the Working Paper Options, Andrew Shelley Economic Consulting concluded that those options were inconsistent with its 'conceptual economic framework' (its interpretation of the Authority's statutory objective in relation to ACOT and transmission pricing).

Other Submitters

This issue was not discussed in great detail by most of this submitter category.

[52] Andrew Shelley Economic Consulting Report for IEGA, at [2.2].

[53] Andrew Shelley Economic Consulting Report for IEGA, at [1.3].

Section 7: The importance of durability

The Options Working Paper emphasised durability as an important aspect of any proposed TPM. Numerous submitters expressed views as to whether the Working Paper Options were more durable than the status quo, often linking durability to fairness, simplicity, and transparency.

Southland-based submitters and some (excluding Refining NZ) of the Major Electricity User submissions emphasised that the current TPM was unfair, not cost-reflective, and therefore not durable, and submitted that the Working Paper Options (or at least one of the options) would have the potential to improve equity and hence durability.

The durability, fairness and transparency of the Working Paper Options were questioned by most of the Lines Company submissions and their expert advisors, as well as the Regional Advocacy submissions and those of the Independent Generators. Their primary concerns were that complexity, potential volatility and the lack of transparency are likely to erode durability.

Several submitters also expressed concern that large wealth transfers and the risk of unintended consequences would undermine the durability of the proposals.

Some submitters also took the view that the current TPM, despite its faults, has proven to be durable.

Regional Advocates

Venture Southland submitted that: [54]

> "The current system of allocation does not meet the Authority's statutory obligation as it is not cost reflective and it does not drive efficient investment decisions. The current pricing methodology is neither robust nor durable as the cost of network improvement is not born by those who benefit from such investment and therefore is a disincentive for efficient investment in the grid".

It therefore supported the Base Option as an improvement on the status quo.

The Northland, Auckland and West Coast submitters generally labelled the Working Paper Options unfair and lacking in durability, or other words to that effect.

Major Electricity Users

Pacific Aluminium was supportive of the Working Paper Options, and submitted:[55]

> "A more efficient TPM would not deliver windfall gains and losses implied by the term 'winners and losers'; it would bring to an end the windfall gains and losses that are currently occurring and have persisted for years under the inefficient TPM."

It also submitted that durability was only relevant to economic efficiency, and that there was no place for 'political durability' in the context of the Authority's statutory objective. It considered:[56]

> "An appropriate definition of the term durable in the context of the TPM would be that it continues to promote the Authority's statutory purpose - economic efficiency."

National Generator-Retailers

Genesis questioned the durability of the Working Paper Options:[57]

> "We suggest that penalising the residents of Auckland, Northland and the West Coast for historic decisions made by regulators including the Commerce Commission and the Electricity Commission, as well as Transpower, is likely to have a significant impact on the durability of the proposal. We would go so far as suggesting that this type of impact – if not carefully considered and mitigated – puts the entire market at risk."

[54] Venture Southland Submission, at 5.

[55] Pacific Aluminium Submission, at [185].

[56] Pacific Aluminium Submission, at [54]-[55].

[57] Genesis Energy Submission, at 4.

Castalia (for Genesis Energy) concluded that the DCC under Application A would reduce TPM sustainability.[58]

Nova Energy did not appear to discuss durability, but it did mention equity:[59]

> "The owners of embedded generation should be treated on an equitable basis. This can be achieved by ensuring that the owners of embedded generation receive ACOT payments for the reasonable economic life of the asset."

Mighty River Power submitted that the current TPM has undergone significant changes in a short time period, and without controversy or challenge, thereby suggesting it has durability. In its view, an improved version of the current TPM should therefore be considered.[60]

Trustpower also took a similar view, stating that:[61]

> "The survival of the current TPM under the stresses of continuous review suggests that it is durable. The requirements for durability are transparency, stability and reasonable equity. For all its faults, the current TPM clearly possesses these qualities."

Trustpower also submitted that:[62]

> "given the amount of money at stake, and the fact that many of the choices of values for design parameters are effectively arbitrary, this confirms to us that the TPM options would be highly unlikely to have the desired durability advantages over the status quo".

Creative Energy Consulting (for Trustpower) noted:[63]

> "the current regime has adapted exactly as expected [to new circumstances] and continues to meet the objective that it was designed for, which was to ensure revenue adequacy".

Contact's submission made a suggestion for how the Authority should approach durability going forward:[64]

> "in order for any change to be durable, it is important that the Authority takes a principled approach to allocating who pays for transmission. Accordingly, as the Authority undertakes further work, it must consider how to identify actual beneficiaries in the simplest way possible and whether the proposed options will be enduring. It is also important to ensure that allocated costs are consistent with actual market outcomes and behaviour. Without a principled approach, any future change to the TPM will not be durable. Not only will the Authority be lobbied around new investments but there may be perverse outcomes where parties seek to avoid charges. Any further papers should explain how the Authority intends to deal with changes to load or generation in the future".

Meridian Energy also emphasised the importance of durability in its submission, and suggested some changes to improve the durability of the Working Paper Options. In relation to fairness, it submitted that:[65]

> "In developing the next level of detail, due care needs to be taken to avoid outcomes which would be considered unfair or unreasonable",

and then cited several examples from the Working Paper Options.

[58] Castalia Report (for Genesis Energy), at 19.

[59] Nova Energy Submission, at 5.

[60] Mighty River Power Submission, at 5.

[61] Trustpower Submission, at 12.

[62] Trustpower Submission, at [6.7.9].

[63] Creative Energy Consulting Report for Trustpower, at VI.

[64] Contact Energy Submission, at 1.

[65] Meridian Energy Submission, at 4.

Lines Companies

PwC (for 21 electricity distribution businesses) submitted that:[66]

> "The level of complexity required to implement the new TPM will create increased disputes and disagreements, undermining durability of the new TPM",

and:[67]

> "the new TPM looks likely to be significantly more susceptible to lobbying and dispute than the status quo and hence we expect it would be less durable";

and:[68]

> "The balance of charges resulting from the proposed TPM is inequitable, with an excessive amount of the cost being placed on distributor".

The ENA stated the Working Paper Options would create significant inequity, and questioned the durability of the DCC. It also described the distinctions between direct and mass load in the proposed methodologies as "manifestly unfair and unreasonable".[69]

Vector submitted that:[70]

> "there is no sound rationale for this inequitable distribution of transmission costs between users of the grid and it does not guarantee efficient investments as the charges are arbitrary and do not reflect users' net benefits".

Unison stated that while it:[71]

> "is appreciative of the efforts that the Authority has gone to develop approaches that potentially would better allocate the costs of significant recent transmission investments to the beneficiaries of those investments, we do not believe that the Authority has yet identified a durable, reliable or accurate approach to achieving that objective."

Buller Electricity stated it was concerned about the stability of the proposed TPM, observing that the proposed HHI and AoB thresholds were arbitrary:[72]

> "hence relatively small changes could invoke significantly different outcomes. Because of this, there will be strong incentives for suboptimal behaviours and/or for transmission customers to game the TPM".

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[66] PwC Submission, at 14.

[67] PwC Submission, at [17].

[68] PwC Submission, at 15.

[69] ENA Submission, at 4.

[70] Vector Submission, at [8].

[71] Unison Networks Submission, at [44].

[72] Buller Electricity Submission, at 6.

Independent Generators

Andrew Shelley Economic Consultancy (for IEGA) identified that the:[73]

> "proposed charges provide incentives to disconnect and relocate away from regions with high transmission prices, incentives for industrial consumers to disconnect from distribution networks and connect instead to transmission, and insufficient incentives for peak management. Wealth transfers will arise for no clear benefit, and some charges are potentially unpredictable",

and concluded that:[74]

> "the proposed TPM Options will not achieve the Authority's statutory purpose, and are unlikely to be durable. There are too many issues remaining to be settled for any of the TPM Options to form a suitable basis for moving to the final stage of the TPM Review".

Other Submitters

Business NZ was supportive of the Base Option and Application A, but appeared to doubt whether the Working Paper Options will be durable. In its submission, the Electric Power Optimization Centre suggested an alternative approach for the TPM to be "truly future-resilient".[75]

[73] Andrew Shelley Economic Consulting Report for IEGA, at [4.10].

[74] Andrew Shelley Economic Consulting Report for IEGA, at [4].

[75] Business NZ Submission, at [5];and Electric Power Optimization Centre Submission, at [61].

Section 8: Concern about complexity

Many submitters expressed concern that either the Working Paper Options were themselves too complex to be workable or efficient, or simply too complex for them to understand. A common concern was that this complexity was creating uncertainty and that complexity also called into question the durability of the Working Paper Options themselves.

Half the Generator-Retailer submitters, and almost all the Independent Generators and Lines Company submitters, expressed concern over complexity. The expert consultants for IEGA, 21 of the electricity distribution businesses, Transpower and Trustpower all discussed complexity as an issue with the proposals.

Several submitters who otherwise supported the Working Paper Options also commented on their complexity. A number of parties expressed a preference for the Base Option because they considered that the SPD and LRMC options were too complex.

Regional Advocates

The Southland-based submitters consistently supported supported the Base Option, implicitly suggesting that the submitters did not view the Working Paper Options as too complex. However, in choosing to support the Base Option submitters typically stated that they preferred the approach for the Base Option without the added complexity of the LRMC and SPD Charges.

Conversely, most of the Northland, West Coast and Auckland submitters mentioned the fact they could not understand the Working Paper Options, and or mentioned the complexity of the Working Paper Options as an issue. For example, the Top Energy Consumers Trust stated:[76]

> “We have struggled to grasp the complexities contained within the proposed TPM and support a TPM which is more straightforward, move easily understood and less reliant on multiple assumptions that change the distribution of costs substantially. Any regulation this complex is open for ongoing debate due to questionable outcomes, reducing the desired outcome for regulatory durability”.

Major Electricity Users

Refining NZ was the only Major Electricity User to express concern at the complexity and variability of the Working Paper Options, stating that it had to hire economic consultants to understand the finer nuances of what was proposed, and that unpredictability was damaging for business certainty. Overall, it stated that:[77]

> "any revision should stand by the basic test of being able to be understood by economics and non-economists alike".

NZIER (for MEUG) sought to consider the:[78]

> complexity and transparency of what is proposed– if these changes to the TPM do not have the desired effects because they are hard to understand and implement or they are not responsive/dynamic then the whole process could well be a waste of time.

The MEUG submission and NZIER Report noted that complexity was an issue with the LRMC and SPD charges, as well as the calculation process for the DCC. However, neither said the Base Option was too complex, with NZIER concluding that “[o]verall the Authority is on the right track”.[79]

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[76] Top Energy Consumer Trust Submission, at 2-3.

[77] Refining NZ Submission, at 3.

[78] NZIER Report for MUEG, at 3.

[79] NZIER Report for MUEG, at [11].

Winstone Pulp International submitted that:[80]

> "We prefer the Base Option without the LMRC and SPD components because we believe these additional components will add minimal benefit but significant complexity. We believe a TPM that is overly complex and not reasonably understandable will be less durable".

National Generator-Retailers

Around half of the National Generator-Retailer submitters questioned whether the proposed reforms were overly complex.

Trustpower submitted that:[81]

> "the complexity of the Authority's proposals is a grave source of concern to us. Each component is complex in its own right and this is compounded by pancaking the components."

Creative Energy Consulting (for Trustpower) stated that:[82]

> "The Authority has proposed a pricing regime of breath-taking and bewildering complexity. It uses several different methods, each based on different pricing philosophies and objectives. The individual methods are complex individually and are then pancaked into a final price which users will find impossible to understand, model and respond to. The proposed prices will therefore not promote the efficiency that the Authority must seek in accordance with its regulatory objective."

Genesis Energy also expressed concern about the complexity:[83]

> All the options are overly complex for Transpower, participants, and consumers to apply and understand. Genesis Energy's view is any regulatory intervention should have the goal of implementing change that is simple and effective. Complex regulatory interventions create significant implementation costs. It creates new costs for companies who must change their processes, and for the sector as whole by building false economies for expertise that is, frankly, unnecessary. We suggest that the Authority must consider the degree to which complexity is necessary or desirable to realise the strategic objectives of the TPM. This is particularly so given better engagement in transmission investment decisions appear to be a core aim of the Authority.

Castalia (for Genesis Energy) appeared to suggest that the DME might have a bias against simpler options:[84]

> "Rigidly adhering to the DME hierarchy also restricts the ability to consider simpler options that consist of fewer charges. As a result it is worth considering if there are simpler options and how the interaction of a number of different charges influences overall signals."[85]

Mighty River Power stated that it was:[86]

> "an important question is whether the complexity of the proposal, which is far greater than that of the original October 2012 proposal, can be justified".

Contact Energy noted that the addition of LRMC and SPD both appeared to add significant uncertainty and complexity to the methodology without providing the requisite benefits or efficiency gains.[87]

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[80] Winstone Pulp International Submission, at [4].

[81] Trustpower Submission, at [9.1.3].

[82] Creative Energy Consulting Report for Trustpower, at VII.

[83] Genesis Energy Submission, at 2.

[84] Castalia Report (for Genesis Energy), at 11.

[85] Castalia Report (for Genesis Energy At 10

[86] Mighty River Power Submission, at 5.

[87] Contact Energy Submission, at 2.

The value of simplicity also appeared to be of importance to Meridian Energy in informing its support for the Base Option over the other Working Paper Options. It submitted:[88]

> "Keep it simple: While transmission pricing is a complex subject, there is a trade off between seeking perfection and introducing unnecessary complexity as this can create barriers to entry for new players. For example Meridian's preference for the base option acknowledges that a combination of connection, deeper connection, AoB, and SPD or LRMC charges, and the residual, would create unnecessary complexity, uncertainty and cost on existing parties and new entrants to the electricity sector."

Lines Companies

PwC (for 21 electricity distribution businesses) stated that:[89]

> "The proposed TPM is notably more complex than the existing TPM; there are more charges, they apply differently to different parties and they each require modelling and application judgements. This complexity is itself likely to impede the efficient operation of the electricity industry".

PwC was also concerned:[90]

> "that the complexity required may make it impossible to be confident the proposed TPM will deliver material improvements to the status quo as it not possible to be confident what the outcomes will be. A more straightforward and workable mechanism would be preferred",

and:[91]

> "The level of complexity required to implement the new TPM will create increased disputes and disagreements, undermining durability of the new TPM."

CEG (for Transpower) devoted a section of their report to the "considerable complexity" of the proposed charges.[92]

The ENA submitted that rationale for the Authority's complex approach was flawed, and:[93]

> "that the TPM proposal in the options paper is overly complex and is likely to create significant static inefficiencies and inequity, with no evidence provided to show that there will be a material dynamic efficiency gain. The Authority relies on its 'intuition' and subjective statements in the evaluation of its proposal".

The ENA therefore advocated for simpler TPM approaches.

Buller Electricity observed:[94]

> "The proposed TPM results in transmission charges that are more directed / targeted to transmission customers and are more complicated as a consequence".

However, it cautioned that these more complex arrangements do not necessarily guarantee more efficient outcomes or a fairer allocation of transmission costs.

Unison cited complexity as a factor in why it supported the retention of the status quo over the options in the Consultation Paper.

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[88] Meridian Energy Submission, at 3.

[89] PwC Submission, at [25].

[90] PwC Submission, at [34].

[91] PwC Submission, at [79].

[92] See CEG Report for Transpower, at [3.5].

[93] ENA Submission, at [3].

[94] Buller Electricity Submission, at 1.

The Lines Company was concerned about the specific impacts on electricity distribution businesses, noting:[95]

> "The proposed TPM is complex and, effectively, passes a multitude of complicated methodologies onto EDBs to incorporate into their pricing. Transpower's future pricing will then be passed onto consumers and retailers in varying forms with little transparency. This will inevitably lead to industry "blame-games" and consumers becoming increasingly frustrated. The Authority is currently asking EDBs to make things simpler for consumers and retailers, but this proposal in TLC's view, moves in the opposite direction."

Independent Generators

Andrew Shelley Economics Consulting (for IEGA) noted that the Working Paper Options are complex and unpredictable and that:[96]

> "the New Zealand experience is that complex and opaque allocation mechanisms are not durable".

Small distributed generators such as A D Harwood Limited and NZ Energy noted that the options were complex and difficult to understand, and they were unable to determine the extent to which their businesses would be impacted by the Working Paper Options. The IEGA's main submission also expressed concern that it could not establish the implications of the Working Paper Options to its members, due to the lack of quantitative assessment.[97]

Other Submitters

New Zealand Council for Infrastructure Development (NZCID) submitted that:[98]

> "In our view, the complexity of the TPM has now reached such a point as to reduce the transparency of the electricity market." Its submission also emphasised the value of simplicity.

Electric Power Optimization Centre took the position that the collection of transmission charging options is overly complex, and many of these options do not avoid incentives to alter short-run behaviour in the spot market.[99]

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95 The Lines Company Submission, at 4.

96 Andrew Shelley Economic Consulting Report for IEGA, at VII.

97 See A D Harwood Submission; NZ Energy Submission, at 2-4; and IEGA Submission.

98 NZCID Submission, at 1-2.

99 Electric Power Optimization Centre Submission, at 'Executive Summary'.

Section 9: Preferred Working Paper Option

Of the submitters who were willing to express a preference for change, overwhelming support was for the Base Option. These submitters consistently noted that the SPD and LRMC charges added extra complexity for arguably limited benefit, and have significant potential to create unintended consequences, such as distortion to short run signals in the electricity market, in the case of SPD, and overstepping into the Commerce Commission's jurisdiction, in relation to the LRMC charge.

Several of the submitters who disagreed, in principle, with the Working Paper Options still expressed a view as to what they thought was the least damaging of the three options. It appeared this preference was mainly for the Base Option.

Of the expert consultancy reports, Castalia, Compass Lexecon, Andrew Shelley Economic Consulting, Creative Energy Consulting, CEG and PwC appeared to be silent on whether they considered one of the Working Paper Options to be superior, preferring alternative approaches altogether (see Section 10). Conversely, NZIER thought the Base Option was going in the right direction.

Regional Advocates

This group was divided between supporting the Base Option (Southland/Otago) and not supporting any of the proposed options (Northland/West Coast/Auckland. The Tai Tokerau Northland Economic Action Plan Advisory Group outlined the negative economic effect the Working Paper Options will have in Northland and it particularly objected to retrospective application of regulation as bad practice.[100] This group did not want to pick up the costs associated with assets built for Auckland, from which they feel they gain little benefit. Other Northland submitters reflected these sentiments but added various local flavours to their objection.

The West Coast Electric Power Trust noted that investments made in the expectation of regional demand that did not eventuate will have their costs loaded on a small community if the Working Paper Options go ahead. This effect would further encumber economic development on the West Coast and may well even result in economic decline. The Mayors of the Buller District Council, Grey district Council, Westland District Council and the Chairman of the West Coast Regional Council, Development West Coast and major industry such as Westland Milk Products all shared consensus with the West Coast Electric Power Trust. Although, Westland Milk Products did submit that it thought the Base plus SPD would be its preference as it was the least costly for the West Coast.[101]

The Working Paper Options reflected a price decrease for Southland, which was widely welcomed on the basis that economic growth will be stimulated. Venture Southland supported the quickest transition to lower prices, being Application A with the Base Option as it is the simplest proposal. It submitted that:[102]

> "We believe any of the options would improve economic efficiency given the options would move the charges for a significant portion of transmission assets to those parties that use them. We favour the base option over the other two as it achieves most of the benefits without the additional complexity."

Major Electricity Users

NZIER (for MEUG) stated that:[103]

> "For us, Application A (Base Option) delivers the greatest progress toward an efficient re-allocation of costs for a given implementation cost".

The other Major Electricity Users, with the exception of Refining NZ, were also generally supportive of the Base Option. Refining NZ did not support the move from "postage stamp" to "user pays" charging in the first place.[104]

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[100] Tai Tokerau Northland Economic Action Plan Advisory Group Submission.

[101] West Coast Electric Power Trust Submission, at 1-2; West Coast Region Submission; and Westland Milk Products Submission, at [12].

[102] Venture Southland Submission, at [10].

[103] NZIER Report for MEUG at [5.1].

Fonterra was “cautiously” supportive of both the Base and Base plus SPD charges. However, it submitted both charges need an element of exacerbator pays in them. NZ Steel submitted that it would like more consideration given to retaining a RCPD type charge.[105]

Carter Holt Harvey supported adoption of the Base Option under Application A, stating this option would provide the benefits the Authority is seeking without the unnecessary complexity of the LRMC or SPD charges.[106]

National Generator-Retailers

Mighty River Power did not endorse any of the options, but stated that the LRMC is worth investigating further and that the SPD option should not be progressed. Overall, it urged:[107]

> “the Authority to evaluate whether there are amendments to the existing status quo TPM which could achieve increased dynamic efficiency at lesser cost”.

Contact believed the Base Option to be the best outcome with reference to overall efficiency, although it would not form a final view until a more robust numeric analysis was provided, stating that Base Option under Application A could be better refined.[108]

Meridian also supported the Base Option:[109]

> “as it is the simplest means of aligning transmission cost allocation with the benefits that parties receive from` using the national grid. We consider an overly complex option may undermine durability. Still, we consider there are a number of design issues associated with the Base option that will need careful consideration.”

Trustpower did not indicate a preferred Working Paper Option, preferring the status quo to any of the Working Paper Options. Genesis Energy submitted the DCC should discarded, which suggests it was not supportive any of the options as proposed. However, it thought the LRMC charge was a good option to take forward.[110]

Nova Energy had several critiques of the Working Paper Options, as well as suggestions for an improved TPM proposal, and did not explicitly endorse any of the Working Paper Options. However, it submitted that it:[111]

> “supports the application of the LRMC charging methodology as it focuses of future investment, and is complementary to the Area of Benefit (AoB) charge. Because the SPD charge applies after the investment is made, it does not provide the same signals for future investment”.

Lines Companies

Transpower did not state a preference amongst the Working Paper Options submitting that:[112]

> “We consider that there are non-trivial issues with the Authority’s base option that require careful consideration and resolution before the base option is taken any further.”

CEG (for Transpower) did not express a preference either, nothing that “the proposed options would be simply unworkable in their current form”.[113]

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[104] Refining NZ Submission, at 3.

[105] Fonterra Submission, at [8]; and NZ Steel Submission, at [5].

[106] Carter Holt Harvey Submission, at 1.

[107] Mighty River Power Submission, at 1.

[108] Contact Energy Submission, at 1-2.

[109] Meridian Energy Submission, at 2.

[110] Genesis Energy Submission, at 5.

[111] Nova Energy Submission, at 5.

[112] Transpower Submission, at 1.

[113] CEG Report for Transpower, at [346].

PwC (for 21 electricity distribution businesses) also did not express support for any the Working Paper Options, and submitted that:[114]

> "For an "options paper" the options presented are essentially three very similar methodologies which deliver similar outcomes in terms of the allocation of charges between different parties."

Of the lines companies only Buller Electricity and Southland-based PowerNet were supportive of the Base Option. However, both submitters qualified their support, with PowerNet submitting that:[115]

> "EA does however need to carefully consider further the submissions of parties particularly with respect to some of the real examples and quirks that will eventuate from the proposed cost recovery mechanisms".

It is also noted that:[116]

> "the proposals put forward by the EA need further development to ensure they meet the statutory objectives and do not simply worsen the existing situation through poor design"

The other individual distribution businesses were generally critical of the Working Paper Options as a whole, with The Lines Company labelling the Working Paper Options a "regressive step". It submitted that.[117]

> "at a time when the Authority is promoting competition and encouraging consumer engagement with the electricity industry, it is simultaneously creating a system so complex, even industry participants struggle to understand [it]".

The Lines Company was also concerned about the interaction between of the Working Paper Options and Electricity (Low Fixed Charge Tariff Option for Domestic Consumers) Regulations 2004, a point also discussed in the PwC submission.[118]

Counties Power was the only business in this category that appeared to express a preference. Although it was not supportive of the Options Working Paper submitted that, it submitted that:[119]

> "Of the three charges, the SPD charge would have a more equitable outcome for its consumers over the other proposed charging mechanisms, while at the same time being an economically efficient allocation of costs. The SPD charge is the most accurate mechanism for determining transmission beneficiaries, and many of the earlier issues with the application of the charge have now been resolved".

Independent Generators

The IEGA did not support any of the Working Paper Options. Andrew Shelley Economic Consulting (for IEGA) noted that the:[120]

> "proposed TPM options will not achieve the Authority's statutory purpose. Proposed charges provide incentives to disconnect and relocate away from regions with high transmission prices, incentives for industrial consumers to disconnect from distribution networks and connect instead to transmission, and insufficient incentives for peak management. Wealth transfers will arise for no clear benefit, and some charges are potentially unpredictable",

and:[121]

> "There are too many issues remaining to be settled for any of the TPM Options to form a suitable basis for moving to the final stage of the TPM Review".

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[114] PwC Submission, at [12].

[115] PowerNet Submission, at [3.7].

[116] PowerNet Submission, at [3.1].

[117] PowerNet Submission, at [6] and 2.

[118] The Lines Company Submission, at ; and PwC Submission at [69].

[119] Counties Power Submission, at 4.

[120] Andrew Shelley Economic Consulting Report for IEGA, at [4.10].

[121] Andrew Shelley Economic Consulting Report for IEGA, at [4].

A primary concern of the IEGA and the parties it represented was that ACOT payments would be removed under all Working Paper Options and this will consequently undermine investments made by distributed generators over a long time.

Tauhara North No 2 Trust was the only submitter in this group to express a preference for one of the three Working Paper Options. It submitted that:[122]

> "In principle the options presented as the Authority's base option have merit. However, we question how feasible the options are in practice.
>
> In the case of the base option plus LRMC and base option plus SPD, while the LRMC concept has merit in principle, both of these options add complexity to the base option without an obvious increase in benefit."

Other Submitters

Business NZ and the New Zealand Council for Infrastructure Development were supportive of the Base Option, although their support came with emphasis on the need for broad support and durability.

The Electric Power Optimization Centre did not express an opinion on which option it preferred, and appeared critical of the SPD Charge. It also noted that:[123]

> "The grid has multiple uses - energy transport, supply reliability, option for alternative supply - that can all be priced. However, we believe that the proposed TPM puts too high a price on the energy transport use compared to the others".

[122] Tauhara North No 2 Trust (Ringa Matau Limited) Submission, at 2.

[123] Electric Power Optimization Centre Submission, at [57].

Section 10: Preference for the status quo or 'moderate' change

Many submitters were supportive of a move towards one of the Working Paper Options, particularly the Major Electricity Users and Southland-based submitters. However, half of the National Generator-Retailer submitters, along with Transpower, Compass Lexecon, PwC, ENA and IEGA, advocated either for the retention of the status quo or for more moderate changes to the existing TPM Guidelines.

Regional Advocates

The Southland-based submitters were explicitly against the status quo, with submitters consistently labelling the status quo as inefficient and inconsistent with the Authority's statutory objective, as well as resulting in Southland consumers being overcharged.

The other Regional Advocacy submissions were not supportive of the Working Paper Options. This group is most likely to receive an increase in charges as a result of the Working Paper Options. It therefore seems implicit that they supported the status quo in the alternative. However, only a few explicitly mentioned the status quo, such as the submission for the West Coast Region, which stated that the:[124]

> "Status Quo is the preferred approach because it provides an easily understood methodology which does not create disincentive for new investment".

The EMA (Northern) strongly encouraged the Authority:[125]

> "to consider an alternative approach given Auckland and Northland energy users can do little to mitigate the dumping of costs onto them for historical grid investments in the area".

Major Electricity Users

None of the Major Electricity Users submitted that the status quo should have been included as an option in the Options Working Paper, or as a future option. However, Refining NZ did:[126]

> "maintain that a "postage stamp" pricing basis is more appropriate on the basis that electricity infrastructure has the characteristic of a "public good" rather than a "user pays" approach".

National Generator-Retailers

Three of the National Generator-Retailers submitted in favour of the status quo. Genesis suggested that the Authority consider an enhanced status quo, submitting:[127]

> "There is little real difference between the options presented in the paper. We agree with Castalia that the Authority must consider a wider breadth of options. We suggest an enhanced Status Quo option must also be considered".

Trustpower submitted that the Authority should pause and "include the status quo as an option for further assessment, as it has demonstrated practicability and durability".[128]

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[124] West Coast Region Submission, at 2.

[125] EMA Northern Submission, at 3.

[126] Refining NZ Submission, at 2.

[127] Genesis Energy Submission, at 5.

[128] Trustpower Submission, at [9.1.5].

Mighty River Power stated that:[129]

> "given the complexity of the Authority's proposed option, we urge the Authority to evaluate whether there are amendments to the existing status quo TPM which could achieve increased dynamic efficiency at lesser cost".

The Meridian Energy submission appeared to suggest that the status quo was unsustainable and appeared supportive of Base Option, while Nova Energy and Contact Energy did not mention whether the status quo should have been an option.

Lines Companies

The network business and Transpower submissions suggested that incremental or moderate change from the status quo is an option that is strongly supported by this group. Several submissions suggested the status quo or a status quo enhancement might better achieve the Authority's statutory objective, as well as the qualities of durability and certainty.

Transpower submitted that "[m]ore moderate reform options should be considered alongside or in place of the complex and radical change options in the OWP". CEG (for Transpower) set out a TPM Reform option that Transpower thought might be more moderate. [130]

The ENA submitted:[131]

> "that the Authority should give closer consideration to simpler approaches, including our suggestion of an LRMC complement to the status quo, as well as evaluating the merits of seeking greater contributions from generators to the interconnection grid, given the substantial market access benefits that generators derive from connection to the grid".

PwC (for 21 electricity distribution businesses) submitted that:[132]

> "We note the status quo is not seriously considered. As a matter of good practice, the status quo should always be assessed as an option – it is likely to score higher on measures of administrative cost savings and comprehensibility at least".

Some individual network businesses proposed their own alternatives, such as Orion, who submitted that the intent of the Working Paper Options could be achieved through a tilted postage stamp approach. Orion submitted this would be simpler and achieve the same effect as the Working Paper Options.[133]

Compass Lexecon (for Vector) suggested an entirely new proposal, stating that:[134]

> "our proposed modifications to the TPM distinguish between sunk cost recovery and funding expansions of the grid. For sunk cost recovery, the minimum distortion principle advocates for a fixed (postage stamp) charge applied to the widest possible base (including loads and generators). For new investments, on the other hand, a beneficiaries pay principle with beneficiaries playing a role in the decision making process and charges related to net benefits, would promote dynamic efficiency by developing projects for which the benefits sufficiently outweigh the costs."

Other individual network businesses, such as Unison Networks recommended that the Authority keep an open mind to the status quo, or some enhancements to it. Counties Power expressly questioned why the status quo had not been given due consideration.

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[129] Mighty River Power Submission, at 1.

[130] Transpower Submission, at 1 and 5.

[131] ENA Submission, at [54].

[132] PwC Submission, at [12].

[133] Orion Submission, at [18].

[134] Compass Lexecon Report (for Vector), at [92].

Independent Generators

Andrew Shelley Economic Consulting (for IEGA) concluded that the status quo should remain in place. In light of the issues it identified in its report, it submitted:[135]

> "there is a long way to go before a practicable and efficient pricing alternative to the Status Quo is on the table".

The IEGA itself submitted that the TPM Review should be halted until the Authority has consulted on the potential effects of the TPM Review on ACOT payments and distribution charges. King Country Energy, NZ Energy and Kawatiri Energy also supported maintaining the status quo.

The NZ Wind Energy Association submitted, with emphasis on distributed generation, that:[136]

> "At some point the status quo needs to be acknowledged and the policy framework that has guided some investments over decades needs to be recognised".

Other Submitters

The Electric Power Optimization Centre submitted that:[137]

> "If the Authority wishes to price the capital costs of transmission into the short-run market there are much simpler, more transparent ways of doing so, such as flow tracing or the explicit price in SPD".

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[135] Andrew Shelley Economic Consulting Report for IEGA, at [1.5].

[136] NZ Wind Energy Association Submission, at 1.

[137] Electric Power Optimization Submission, at [60].

Comment on Sections 11 to 15

Introduction

Sections 11 to 15 of this report address specific feedback on the different components of each of the Working Paper Options. As the Regional Advocates did not generally make any significant submissions on these components, we have addressed their comments on all charges together before considering the feedback received from other submitter groups on the DCC.

Submissions from regional advocates on different components of Working Paper Options

As noted previously, all the regional advocates make general submissions. Some cite complexity and the lack of resources to properly unpick complex economic proposals that are not written in plain English. Most therefore did not made detailed comment on the design of the Working Paper Options themselves. They also tended to take a local economic view. Where the proposal introduces higher prices such, as in Northland and the West Coast, the submissions did not support the proposal. In contrast, where the proposal leads to decreased prices they supported the proposal, for example in Southland.

Specifically in relation to the DCC, Venture Southland submitted that it "supports the proposed deeper connection-charge to ensure the full economic costs of connecting to grid are recovered from the connecting parties".[138] In contrast, the Top Energy Consumer Trust submitted that the allocation of DCCs:[139]

> "to various distributors can vary depending on whether a neighbouring load customers has significant export capacity. This effectively random allocation of casts suggests that the proposed TPM may not deliver cost-reflective pricing and many not promote efficient operation of the electricity industry".

In relation to the SPD and LRMC charges, while Venture Southland stated that it believed all the Working Paper Options would improve efficiency, the Southland-based submitters consistently stated that their support for the Base Option on its own was informed by the added complexity of the SPD and LRMC add-ons. Submitters from other regions did not appear to consider the SPD or LRMC charges in any detail.

[138] Venture Southland Submission, at 2.

[139] Top Energy Consumer Trust Submission, at 3.

Section 11: Proposed deeper connection charge

A common critique was that the DCC has been incorrectly labelled as 'market-like' as the charge does not in fact reflect contractual arrangements that would occur in a workably competitive market. Of the consultancy reports, CEG, PwC, Castalia, Professor James Bushnell, Andrew Shelley Economic Consulting, and Creative Energy Consulting questioned, or appeared to question, whether the DCC was in fact 'market-like' (amongst other issues with the charge's design and potential impacts). Compass Lexecon thought the DCC would lead to inefficiencies. NZIER and Scientia Consulting also raised potential issues with its design.

Major Electricity Users

MEUG submitted:[140]

> "We have concerns with the 'black box' nature of the deeper connection mechanism. It appears to be based on the judgements of its architects rather than representing the potential for asset users to club together and contract for these assets. Despite saying this we view flow tracing as providing an objective test of what portion of grid costs the industrial direct connects and generators were paying for compared to that parts of the grid they were using. Putting aside which allocator to use, for us this provides initial evidence that the Application A proposal offers a more efficient allocation of costs than does the status quo."

Pacific Aluminium considered the proposed DCC to be market-like, and that the efficiency of the Base Option could be improved by further extending the DCC to a greater number of assets.

Fonterra also supported the deeper connection charge as it would reflect a beneficiary pays approach, which it endorsed. Fonterra did, however, have some concerns with the design of the charge and recommended further work be undertaken.[141] Carter Holt Harvey supported DCC in principle.[142]

National Generator-Retailers

Contact was supportive of the DCC but also stated "the methodology needs to be revised to ensure that load is recognised as the principal beneficiary of reliability investments".[143]

Genesis Energy submitted that the DCC is flawed and should be dropped, with Castalia's evaluation finding that:[144]

> "under Application A, DCCs would improve the efficiency of transmission investment, but reduce efficiency in load investment, the efficiency of retail market operations, and the sustainability of the TPM."

Mighty River Power supported a DCC that would apply to new investments at the proposed HHI threshold of 5,000. It did not think that applying the HHI deeper into the grid would be efficient. However, it also noted that the LRMC could send better future investment signals.[145]

Meridian Energy supported the introduction of a beneficiaries pay methodology and supports the deeper connection charge with some modifications to the asset allocation and HHI to increase stability and durability of the charge.[146]

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[140] MEUG Submission, at [7].

[141] Fonterra Submission, at [16]-[19].

[142] Carter Holt Harvey Submission, at [4]; and Pacific Alunmiunm Submission, at [8] and 26-31.

[143] Contact Energy Submission, at 3.

[144] Castalia Report for Genesis Energy, at [3.2].

[145] Mighty River Power Submission, at 2-3.

[146] Meridian Energy Submission, at 5.

Trustpower expressed its support for "a connection charge where nodal pricing cannot provide a congestion signal. In this case the "beneficiary" is the connected party and it is generally held to be appropriate that they face the shallow connection charge as currently applied."[147]

Trustpower did not support a deeper connection charge as it "will not replicate a negotiation dynamic of a group of loads and or generators …". Overall, Trustpower concluded that "the deep connection charge is unstable and will lack durability while adding no efficiency benefit over and above the existing "deep" connection charge …"[148]

Lines Companies

It did not appear that any of the transmission businesses supported a deep connection charge, on the basis that is not market-like and is likely to distort use and investment decision-making.

CEG (for Transpower) advised that the deep connection charge may "bear no resemblance to a plausible (hypothetical) competitive market outcome". CEG went further and submitted the Authority's argument for specifically excluding the HVDC was unsound.[149]

Scientia Consulting (for Transpower) wrote a report specifically analysing the flow tracing approach used to calculate the DCC in the Options Working Paper. At a high level, its report provided analysis on how the design parameters of the DCC can significantly affect outcomes; on how the proposed approach would affect participant operational and investment incentives; and the stability of the proposed DCC. In relation to stability, it noted:[150]

> "A transparent and stable charge is desirable as it can help facilitate effective decision making where participants can understand (at relatively low transaction costs) the impact of their decisions on their transmission costs going forward.
>
> We consider that a regional aggregation of nodes could potentially assist in reducing the nodal volatility observed by the Authority in its analysis whilst still maintaining a locational dimension for charge allocation.
>
> We however also note in this report that some of the interactions created through the proposed deeper connection charge design could lead to counter-intuitive outcomes and some perverse incentives on participants which could potentially lead to unpredictable and inefficient behaviour. This could exacerbate any unpredictability and instability of the charge observed through historical analysis."

Compass Lexecon (for Vector) argued that nodal prices are sufficient for location decisions and that a postage stamp charge would best meet transmission pricing principles. They did not support a deep connection charge as consistent with these principles.[151]

The ENA considered the deep connection charge to be inefficient as it incentivises free riding and is not market-like as suggested by the Authority. The ENA supported its argument by saying that no property rights are associated with the deep connection charge as would arise in a pure contract model. The ENA also argued that the use of the HHI would create volatility and be open to manipulation by the Authority and participants, leading to uncertain outcomes and inefficient behaviours.[152]

The ENA concluded that the charge would be unlikely to be durable as there would be on-going pressure to change elements of the regime. It noted that the charge is inconsistent with the net national net benefit test used by the Commerce Commission to assess transmission capex.[153]

PwC (for 21 electricity distribution businesses) came to a similar conclusion: that deep connection charges cannot be market-like because Transpower was never able to achieve contracts for deep

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[147] Trustpower Submission, at [6.2.11].

[148] Trustpower Submission, at [6.2.12] and [6.2.15].

[149] CEG Report for Transpower, at [9] and [11].

[150] Scientia Consulting Report for Transpower, at 1-4.

[151] Compass Lexecon Report for Vector, at 5-6.

[152] ENA Submission , at [23]-[33].

[153] ENA Submission, at [23]-33].

connection assets pre 2004, which exposed the free riding incentive. As such PwC concluded that the charge would be unlikely to lead to efficient outcomes.[154]

Overall, this submitter group favoured a methodology more like the status quo – i.e. postage stamp.

Independent Generators

Andrew Shelley Economic Consulting (for IEGA) submitted:[155]

> "The proposed Deeper Connection charge has aspects that are unpredictable and create a mismatch between asset allocations and the economic contracting model that supposedly underpins the charge"

Tauhara North No 2 Trust submitted that it conservatively supporting the concept of deep connection. However, it doubted that HHI would be a stable mechanism and it thought the Authority was overestimating the influence participants would have on regulators [156]

Other Submitters

The Electricity Power Optimization Centre commented that while "[f]low-tracing charges like the deeper connection charge have support from the economic literature" using "the HHI to identify lines for flow tracing creates perverse incentives". It also observed that flow-tracing can disrupt any short-run pricing signals sent from SPD.[157]

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[154] PwC Submission, at [45]-[46].

[155] Andrew Shelley Economic Consulting (for IEGA), at VI-VII.

[156] Tauhara North No 2 Trust (through Ringa Matau Limited) , at 2.

[157] Electric Power Optimization Centre Submission, at [53]-[55].

Section 12: Proposed area of benefit charge

A key area of opposition was the mechanism for allocating the AoB charge to different load. There was a split between submitters that supported beneficiaries pay, supporting the AoB, and those that did not support beneficiaries pay or the AoB charge. There was support for minimisation of overall complexity and the folding of the AoB into a modified status quo, using, for example, a tilted postage stamp methodology.

The Lines Company submitters generally did not support the AoB on the basis of its discrimination between electricity distribution businesses and directly connected loads, and that the AoB is distortionary and hence inefficient.

Regional Advocates

See page 39.

Major Electricity Users

Pacific Aluminium was supportive of the AoB charge, but wanted it extended to "pre-2004 assets".[158]Carter Holt Harvey also supported the AoB charge. This support was on the basis that the charge would allocate the costs of assets to the parties who benefit from those assets.

NZIER (for MEUG) saw:[159]

> "the AoB charge as static rather than dynamic. The combination of the long review period for the deeper connection charges and the static nature of the AoB allocation suggest that once they are established both of these charges are unlikely to be responsive to shorter term changes in grid costs or use of the grid. This is a material weakness of the proposed options."

National Generator-Retailers

Mighty River Power was supportive of greater alignment of transmission charging and the Commerce Commission's approval process. It also agreed with the Authority that AoB charges should only be altered when a pre-determined threshold is crossed, rather than periodically.

Meridian Energy supported the AoB on the basis that it is beneficiaries pay, although it suggested some modifications to enhance the durability and stability of the charge.

Trustpower concluded that the AoB is:[160]

> "unlikely to comply with Ramsey pricing principles; likely to degrade efficiency more than necessary; likely to lack transparency and stability …; unlikely to facilitate efficient participation in the planning process; and is inequitable."

Genesis Energy encouraged the Authority to consider the AoB as part of an improved status quo, as the other:[161]

> "options in the paper all incorporate multiple elements, sometimes to the detriment of the option overall."

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[158] Pacific Aluminium Submission, at 31.

[159] NZIER Report for MEUG , at [6].

[160] Trustpower Submission, at [6.3.11].

[161] Genesis Energy Submission, at 5.

Lines Companies

PwC (for 21 electricity distribution businesses) concluded that the nature of the AoB is such that any change within customer groups would result in volatility of the charge to others in that group. This meant that parties would be subject to:[162]

> "random fluctuations in their AoB charges which are entirely unrelated to their own patterns of use. This may have implications for competition if it incentivises generating parties to exit certain regions."

PwC noted that the same issue could arise under the current TPM (for HVDC and interconnection charges) but because they apply to much larger groups the problem has not arisen.

CEG (for Transpower) was concerned that levying the charge on generators on the basis of MWh measures would have the potential to distort wholesale market outcomes and thus lead to higher prices as the AoB is not a true marginal price but a fixed cost. CEG was also concerned that the periodic assessment of beneficiaries would likely cause "ongoing and escalated disputation and controversy" and therefore affect the durability of the charge.[163]

The ENA did not support the AoB on the basis that it did not think it would improve efficiency and that it would be inconsistent with the national net benefit test applied by the Commerce Commission when assessing Transpower's Capex:[164]

> "The current test applied by the Commerce Commission for economic investments is a net national benefit test. The Authority is proposing to introduce new and potentially inconsistent incentives. If the Authority believes that the decision process in relation to transmission investment should be made other than centrally, on a national benefit test, then the Authority should explain the problem with this process."

Vector had similar concerns to those outlined by the ENA, but couched them in terms of distortion to wholesale market prices. It submitted:[165]

> "The proposed Area of Benefit (AoB) charge will be calculated on the basis of installed capacity for load (consumers) but by throughput for generators. Even in how AoB is allocated across load there is biased allocation with EDBs being allocated costs on deemed capacity and major industrials on Anytime Maximum Demand.
>
> This results in a net decrease in transmission charges to generators of $23m, and a decrease to major industrial (direct connect) consumers of $74m. It also perpetuates the bias under the current TPM of directing a lower share of costs to generators at the expense of load, who bear the higher share of the cost. As set out in the CLex paper, there is no sound rationale for this inequitable distribution of transmission costs between users of the grid and it does not guarantee efficient investments as the charges are arbitrary and do not reflect users' net benefits."

Independent Generators

Andrew Shelley Economic Consulting (for IEGA) commented that the proposed AoB charge ignores that re-contracting would occur over time in a market:[166]

> "The static version of the Area of Benefit charge is just that – static – and belongs in a single period static analysis. A charge that attempts to mimic how real markets work must be dynamic to reflect the changing patterns of use over time."

Other Submitters

The Electric Power Optimization Centre submitted that:[167]

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[162] PwC Submission, at [57]-[58].

[163] CEG Report for Transpower, at [12]-[13].

[164] ENA Submission, at [38].

[165] Vector Submission, at [8]-[9].

[166] Andrew Shelley Economic Consulting Report for IEGA, at VII and 18.

[167] Electric Power Optimization Centre Submission, at 56.

> "Measuring EDBs' offtake capacity as the sum of all ICP connections and large load customers' as AMD is a built in bias against EDBs. Some degree of bias may be justifiable on the basis of Ramsey pricing, however the partition of cost between EDBs and direct connect customers should really be made an explicit parameter of the methodology if different yardsticks are to be used for the two classes of customer."

Andrew Shelley Economic Consulting submitted, individually, that a party paying an AoB charge should also receive an LCE credit for those assets.[168]

[168] Andrew Shelley Economic Consulting Submission, at 1-2.

Section 13: Proposed residual charge

There was little opposition to the residual charge amongst submitters per se. However, large numbers of submitters questioned the design of the charge, including most of the expert consultant reports.

As with the AoB charge, criticism focussed on the allocation of the residual charge to distribution networks on the basis of deemed capacity and the allocation of the same charges to directly connected industrial load on the basis of Anytime Maximum Demand (AMD). This difference of allocation method was seen many submitters, particularly those in the Lines Company category, as an unfair wealth transfer from distribution load to directly connected industrial load.

Regional Advocates

See page 39.

Major Electricity Users

NZIER (for MEUG) commented that:[169]

> "In principle we support using access to grid capacity to allocate grid costs. However we suggest that the Authority's mechanisms (AMD for direct connect industrials and deemed capacity for EDBs) for allocating the area of benefit and residual charges needs to be refined because it directly undermines the principles of the Authority approach. It also drives the need for transition options that indirectly undermine the principled approach."

Pacific Aluminium submitted that it wanted the residual charge to be as small as possible. It considered that the proposals to use AMD for allocating the residual charge to directly connected users and deemed capacity for electricity distribution businesses could have merit, and that AMD is likely to provide a reasonable proxy for capacity.[170]

Carter Holt Harvey thought the residual should also be recovered from generators, but supported the proposed allocation method for load via AMD for directly connected customers and nominal capacity for electricity distribution businesses.[171]

National Generator-Retailers

Contact Energy observed that the residual was surprisingly large. It supported the allocation of the charge to load rather than generation, but thought that both directly connected and network load should be allocated the charge on the same basis. Mighty River Power also recommended that the Authority charge load customers consistently.[172]

Castalia (for Genesis), while noting that a more equitable or consistent approach for allocating the residual charge is likely to be possible, commented that:[173]

> "We consider that the design of the residual charge in the Authority's options working paper improves on prior TPM review papers. The intention of the residual charge is to recover the remaining costs of Transpower's services that are not paid for by other charges in a way that limits distortion in the use of the grid. Having a capacity-based charge that does not change with use of the grid is therefore more incentive-free and fits better alongside other charging options being explored by the Authority."

Meridian Energy "broadly supports the Authority's proposal for the residual" and agreed it should be based on capacity and allocated to load. Meridian did express concern about whether the capacity allocation mechanism would put disproportionate burden on the mass market[174]

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[169] NZIER (for MEUG), at [4.3.1].

[170] Pacific Aluminium Submission, at 33-35.

[171] Carter Holt Harvey Submission, at [8].

[172] Contact Energy Submission, at 3; Mighty River Power Submission

[173] Castalia Report for Genesis, at 28-29.

[174] Merdian Energy Submission, at 23.

Trustpower supported the principle of this charge in that it is based on Ramsey pricing principles:[175]

> "However, the residual charge uses the same deemed capacity measure as the AoB charge, and the same differentiation between load groups, which raises the concerns of extreme inequity [mentioned earlier in its submission]."

Trustpower also noted that there were risks inherent in shifting from the existing residual charge structure.

Lines Companies

Vector suggested that the residual charge be allocated to both generation and load. It did not agree with the Authority that the residual charge would be variabilised by generators, leading to increased retail prices. Compass Lexecon (for Vector) suggested that it was the marginal and not the fixed charges that drive generator bids. They concluded that fixed charges simply reduce the generators' locational rent, which is used to cover fixed costs.[176]

CEG (for Transpower) suggested that the residual charge as proposed would not achieve its goals because it would be allocated on a measure of notional capacity for electricity distribution businesses and on anytime maximum demand for load, a distinction that lacked a robust rationale. CEG concluded that there are compelling arguments for retaining the current RCPD charge in preference to the residual charge.[177]

The ENA concluded that there is no good reason for the charge not to be levied on generators and concluded that the different treatment between electricity distribution businesses and direct load would be distortionary. The ENA submitted that the Authority should reconsider the allocation of the charge between electricity distribution businesses, generators and direct connect customers.[178]

PWC also commented on the distorted allocation of the residual charge between distributors, directly connected load and generators.[179]

Independent Generators

ASEC (for IEGA) also expressed concern about the equity and fairness issues raised by the proposed allocation of the residual. It noted:[180]

> "The proposed treatment of directly-connected industrial customers also provides two significant incentives for industrial plants to disconnect from distribution networks and connect directly to the transmission network...
>
> Given that there is no sound economic reason to provide these incentives, these incentives are inefficient, and the different measures of capacity for distribution and for directly connected industrial loads is inefficient."

Other Submitters

In relation to measuring capacity, the Electric Power Optimization Centre commented that:[181]

> "Measuring EDBs' offtake capacity as the sum of all ICP connections and large load customers' as AMD is a built in bias against EDBs. Some degree of bias may be justifiable on the basis of Ramsey pricing, however the partition of cost between EDBs and direct connect customers should really be made an explicit parameter of the methodology if different yardsticks are to be used for the two classes of customer.

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175 Trustpower Submission, at [6.6].

176 Vector Submission at [6]; and Compass Lexecon Report for Vector, at [12]-[15].

177 CEG Report for Transpower, at [18]-[[20].

178 PwC Submission , at 12-13.

179 ENA Submission, at [3.5].

180 Andrew Shelley Economic Consulting Report (for IEGA), at [4.3].

181 Electric Power Optimization Centre Submission, at 56.

Section 14: Proposed SPD charge

There appeared to be a general lack of support for the SPD charge amongst submitters. Meridian would be interested in the charge forming part of a different TPM proposal, and Fonterra was a cautious supporter. Other submitters generally noted that, while an improvement on earlier iterations, the revised SPD charge would still add complexity for little benefit while creating inefficiency by distorting wholesale market prices. All of the expert consultant reports expressed some level of concern over the appropriateness, volatility or complexity of the SPD charge.

Regional Advocates

See page 39.

Major Electricity Users

NZIER (for MEUG) submitted that:[182]

> "While we support the use of SPD in principle [as a mechanism that can identify real rather than deemed beneficiaries], again we suggest the Authority weigh-up the complexity and cost of including this component in the TPM against the relative strength of the signal it is likely to provide."

Carter Holt Harvey considered the SPD charge was not needed due to the AoB charge, and that it therefore added unnecessary complexity:[183]

> "we consider that the SPD charge is not needed as the AoB charge effectively covers the same ground and is simpler to understand. Although the three-year rolling average proposed for the calculation will reduce its volatility, it will still be much less stable and predictable than the AoB charge."

Fonterra expressed support for the SPD charge as a means to recover more transmission charges from beneficiaries, rather than having those charges allocated through the residual. It submitted that it would support the SPD charge on the basis of net injection, and queried if the minimum threshold for embedded generation was high enough.[184]

National Generator-Retailers

Contact Energy submitted:[185]

> "While in principle we do not have an issue with using SPD as a tool for forecasting benefits, we are concerned that the SPD option is overly complex and provides an incentive for generators to offer so as to avoid transmission charges".

Mighty River Power did not support the application of the SPD charge on the basis that "the methodology has been widely critiqued and creates incentives for distortionary behaviour within the wholesale electricity market".[186]

Meridian Energy supported the SPD charge and had a view that in its current form it may be more stable and durable that the AoB charge because it:[187]

> "provides an objectively measurable assessment of the economic benefits that parties received from transmission investment" and it is flexible as it has the ability to "automatically adapt to changes in beneficiaries and their level of private benefit…"

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[182] NZIER Submission (for MEUG), at 23.

[183] Carter Holt Harvey Submission, at [7].

[184] Fonterra Submission, at [20] to [21].

[185] Contact Energy Submission, at 2.

[186] Mighty River Power Submission, at 4.

[187] Meridian Energy Submission, at 26.

Trustpower preferred the most recent SPD from earlier versions proposed by the Authority, particularly as the current proposal now applies to a different pool of assets; has a different capping arrangement; and would be calculated on the basis of estimated net benefits. However, Trustpower was still:[188]

> "not keen on any charge based on estimates of actual benefits because of the potential to interfere with offers and bids in the wholesale market".

Trustpower noted that:[189]

> "each administrative decision made by the Authority yields a different distribution of benefits."

By this Trustpower was referring to the big swing in the allocation of benefits using the SPD method in this proposal compared to the last. Trustpower noted that this:[190]

> "raises serious doubts about the extent to which this methodology is able to identify the true beneficiaries of an asset".

Lines Companies

The consensus from this submitter group was that the SPD charge was complex and would likely to lead to inefficiencies in the wholesale market.

CEG (for Transpower) concluded that the SPD method, although improved from its first iteration, would likely cause generators to alter their bidding conduct in inefficient ways to reduce their exposure to the charge. This behaviour could compromise the efficiency of the wholesale market and raise retail prices to accommodate the additional risk faced by generators.[191]

CEG also noted that overall dispute costs would likely rise since "parties can be expected to continually agitate for modelling inputs to be changed in ways that favour them".[192]

The ENA concluded that the SPD model was not designed to allocate long-term benefits to transmission users and was not an objective allocation to those beneficiaries. The ENA was concerned with the complexity, and hence the durability and acceptability, of the SPD method. It submitted that the "TPM is at risk of being made too complex, even without the addition of the particularly complex SPD method".[193]

Compass Lexecon (for Vector) was of the view that any beneficiary pays approach would be inefficient because the:[194]

> "so called beneficiaries are always defined based on location, using a beneficiaries-pay principle to allocate sunk costs may give incentives for inefficient location decisions. In a nodal pricing system ... nodal prices give all the necessary signals (reflecting losses and constraints) for location of both loads and generators. Hence, a transmission pricing mechanism that distorts such locational signals is necessarily inefficient".

Independent Generators

Andrew Shelley Economic Consulting (for IEGA) submitted that:[195]

> "The proposed SPD charge, on the other hand, is complex and not readily understandable to many transmission system users. It could, however, be gamed by those with the incentive, time, and resources to do so."

Other Submitters

The Electric Power Optimization Centre was critical of the SPD charge, noting that the charge could distort the real-time wholesale market and that it would potentially be open to manipulation by strategic bidders.[196]

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[188] Trustpower Submission, at [6.5].

[189] Trustpower Submission, at [6.5.4].

[190] Trustpower Submission, at [6.5.6].

[191] CEG Report for Transpower, at [16]-[17].

[192] CEG Report for Transpower, at [17].

[193] ENA Submission, at [3.4].

[194] Compass Lexecon Report for Vector, at [10].

[195] Andrew Shelley Economic Consulting Submission (for IEGA), at VII.

Section 15: Proposed LRMC Charge

Although several submitters noted that the LRMC charge is appealing in principle, none of the expert consultant reports endorsed the charge as proposed in the Options Working Paper. The consistent message across most submitter groups was that the proposed LRMC charge is likely, in reality, to provide few benefits, could introduce perverse incentives, and would add another layer of complexity to the TPM when it is unlikely that Transpower will undertake major new investment for some years.

Regional Advocates

See page 39.

Major Electricity Users

None of this submitter category appeared to support the LRMC charge being added to the Base Option.

NZIER (for MEUG) submitted that:[197]

> "Our assessment of this variation is that the methodology for calculation the charge is likely to be difficult to apply in practice because of its complexity and that the signal sent by this charge is likely to be weak in comparison to the grid cost signals for at least the next five years. We suggest that the Authority weigh-up the complexity and cost of including this component in the TPM against the relatively weak signal it is likely to provide."

National Generator-Retailers

National Generator-Retailers were also unsupportive of the LRMC charge, with Contact Energy submitting:[198]

> "the addition of LRMC and SPD both appear to add significant uncertainty and complexity to the methodology without providing the requisite benefits or efficiency gains."

Mighty River Power saw merit in the LRMC charge but thought that it would need further work before it could support it.[199]

Meridian Energy submitted that "[w]hile appealing in concept … a TPM with LRMC-based pricing would be unsustainable, and as unsustainable as the status quo". This view was based on Meridian's concern that there are difficulties in forecasting the inputs to the LRMC calculation and that it incentivises lobbying for early investment. Meridian was also concerned that the charge would not be durable because of its interaction with the AoB, which, in Meridian's view, could result in double charging.[200]

Trustpower, quoting Professor James Bushnell, was of the view that:[201]

> "in a LMP [locational marginal price] market the most efficient long run signal for users of the network is in fact the sequence of LMPs from now and into the future that those users face."

Along with LMP congestion prices, the Commerce Commission administers a process for transmission investment, which had not been show to be deficient. Therefore Trustpower did not see the need for an additional LRMC charge, as it would likely be distortionary. Trustpower also believed that the proposed LRMC charge was neither stable nor transparent, and, as proposed, would be "particularly volatile".[202]

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[196] Electric Power Optimization Centre Submission, at [34]-[39].

[197] NZIER Submission (for MEUG), at 22.

[198] Contact Energy Submission, at 2.

[199] Mighty River Power Submission, at 4.

[200] Meridian Energy Submission, at 25.

[201] Trustpower Submission, at [6.4], [5.1.4] and [2.2.10-2.2.11].

[202] Trustpower Submission, at [6.4.9].

Lines Companies

CEG (for Transpower) concluded that:[203]

> "although we agree that a LRMC price signal can promote dynamic efficiency *in principle*, we do not consider that there would necessarily be material benefits in this *particular instance*, given the point in the investment cycle. Moreover, as we explained in section 2.1, the existing RCPD charge already as the capacity to provide a signal to users to reduce peak usage when a region become susceptible to congestion. It is therefore not altogether clear what additional value an LRMC charge would add in any event."

The ENA suggested that an LRMC may be better than a beneficiary pays approach. However, it noted that it did not suggest in earlier submissions that a LRMC charge might be useful merely as a short term signal of short-run congestion as that signal is provided by nodal prices. The ENA also suggested that the tilted postage stamp is a good proxy for an LRMC charge and should be investigated further by the Authority.[204]

Independent Generators

Andrew Shelley Economic Consulting (for IEGA) submitted that the proposed LRMC charge does not behave like long run marginal cost:[205]

> "The proposed LRMC charge does not mimic the economic concept of Long Run Marginal Cost. The proposed charge is paid in the first year that an action (such as increased embedded generation) is taken to reduce demand, but in the example provided by the Authority no payment is made in the following year if the same reduction occurs. A charge based on true Long Run Marginal Cost would reward the same action in both years. The proposed charge also drops to zero once the relevant transmission investment is commissioned, but true Long Run Marginal Cost does not change. As a consequence, the proposed charge is likely to be somewhat unpredictable and cannot be relied on fund generation capacity that is provided as an alternative to transmission capacity. In some instances, generation that was built to defer transmission capacity may then be required to pay for that capacity once it is commissioned. "

Other Submitters

Business NZ expressed concern that "a practical difficulty with LRMC pricing for transmission is that forecasts can be uncertain and volatile".[206]

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[203] CEG Report for Transpower, at [296].

[204] ENA Submission, at [3.3].

[205] Andrew Shelley Economic Consulting Report for IEGA, at VI and [4.6].

[206] Business NZ Submission, at 2.

Section 16: Preferred Application

Submitters were divided between Application A and B. Many of the submitters who supported the Base Option also supported Application A. This support was typically on the basis that preserving the current TPM would perpetuate the inefficiencies with it.

While many submitters disagreed with the Working Paper Options, a number of those who disagreed in principle still expressed a view on which application they would support if they had to choose. Typically, these submitters supported Application B, citing concerns over 'retrospective' regulation and consequential impacts on investment certainty.

Several of the expert consultant reports identified issues with both applications and therefore did not endorse either of them, while others appeared to prefer Application B due to its prospective nature. NZIER, for MEUG, was the only expert consultant report that explicitly favoured Application A.

Regional Advocates

Southland-based submitters collectively endorsed Application A, on the basis that the current TPM is defective and that the Base Option should therefore be brought into effect as soon as practicable.

Most of the Northland, Auckland and West Coast submissions opposed Application A or 'retrospective' regulation in general.

Major Electricity Users

The Major Electricity Users generally supported Application A over Application B, with the exception of Refining NZ.

NZIER (for MEUG) submitted that:[207]

> "For us, Application A (Base Option) delivers the greatest progress toward an efficient re-allocation of costs for a given implementation cost." ... "We do not regard Application B as a preferable alternative to Application A because the re-allocation is minimal."

Fonterra submitted that Application A had some merit, and stated Application B would preserve existing imbalances in transmission charges. Winstone Pulp International also agreed that Application A had potential.

Carter Holt Harvey labelled Application B untenable. It supported: [208]

> "the use of Application A. Application B achieves almost nothing and, for the foreseeable future, essentially perpetuates the existing TPM. The existing TPM is not fit for purpose, is continually challenged and is therefore not durable".

Pacific Aluminium disagreed with Application B "because it would preserve the flawed RCPD and HAMI charges for the long-term". [209]

Refining NZ was the only Major Electricity User that appeared to object to Application A. It submitted that:[210]

> "if changes to transmission prices are to be made, whether it be one of the proposed options or something different, we do not support the inclusion of sunk costs in revised methodologies".

National Generator-Retailers

Nova Energy submitted that the "retrospective nature" of Application A was of "primary concern". It submitted that applying new charges on existing investments would result in an increase in the risk premium on new investments, resulting in an increase in long run energy costs for consumers. Nova Energy therefore supported Application B.[211]

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[207] NZIER Report for MEUG, at [5.1].

[208] Carter Holt Harvey Submission, at [11].

[209] Pacific Aluminium Submission, at [14].

[210] Refining NZ Submission, at 3.

[211] Nova Energy Submission, at 1.

Genesis Energy and Trustpower also preferred Application B. Genesis Energy submitted that Application B would provide dynamic efficiency benefits while avoiding the significant wealth transfer from industrial and residential consumers that would occur under Application A.

Castalia for Genesis Energy found:[212]

> "..that under Application B the charges being considered by the Authority have the same or better efficiency impacts than Application A for a DCC, or an AoB or SPD charge. The reasons for the differences in expected efficiency impacts are described below—in essence changes stem from the fact that applying the charges to new assets only ensures that price signals are only sent to parties that can change their behaviour to reduce transmission cost."

Although it questioned the merits of the Working Paper Options, Trustpower submitted that "should the Authority insist on progressing with its new options, our firm preference would be for application B on the basis of our retrospectivity arguments".[213]

Creative Energy Consulting (for Trustpower) submitted that:[214]

> "Application B contains an inherent transition mechanism, whereby prices gradually adjusts as new assets are built and existing assets are depreciated away. Therefore, a separate transition mechanism would not be needed under application B, which is one less thing to think about."

Professor James Bushnell concluded that:[215]

> "It is hard to escape the conclusion that the application B proposal dominates with respect to economic efficiency."

Mighty River Power's submission appeared to be opposed to Application A. Its:[216]

> "primary concern is with the large price increases forecast for some mass market consumers, particularly in the upper North Island and West Coast of the South Island. This impact arises solely under an application of the proposed methodology to historic transmission assets."
>
> "Mighty River Power has consistently argued any changes to the TPM should be applied prospectively. We therefore strongly support the proposal to apply the options to future transmission investments only. This will mitigate the price impacts for mass market consumers and ensure investments are subject to efficient signals."

In contrast Meridian Energy strongly supported Application A as:[217]

> "The Authority has identified a range of problems with the current TPM that can only be addressed for the long term by supporting Application A. Meridian considers that Application B (where the new TPM only applies to new assets) must be rejected because it would perpetuate all of the problems with the current TPM for another 20-plus years."

Contact submitted that it generally agreed with Application A.

Lines Companies

Lines Companies generally did not express support for either Application, with the more substantive submissions commenting that there were issues with both approaches. Only three of this submitter group appeared to endorse Application A.

The ENA, while not expressing support for either Application, submitted:[218]

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[212] Castalia Report for Gensis Energy, at [4.2].

[213] Genesis Energy Submission, at 2; andTrustpower Submission, at [7.1.5].

[214] Creative Energy Consulting Report for Trustpower, at 27.

[215] Report of Professor James Bushnell for Trustpower, at III.

[216] Mighty River Power Submission, at 1.

[217] Meridian Energy Submission, at 1.

[218] ENA Submission, at 5.

> "that it is generally considered poor regulatory practice to implement retrospective change (i.e. for existing assets, as in Application A)."

It suggested that it could support Application B if it consisted of a pure LRMC charge (as proposed in its submission) rather than beneficiaries pay charges,

PwC did not agree with either Application, noting that:[219]

> "Application A would apply regulation retrospectively and assigns price signals to assets that cannot now be avoided; while Application B would not consider the allocation of costs of recent major investments."

Transpower also did not endorse either Application. CEG (for Transpower) submitted that the different Applications posed a dilemma:[220]

> "From an efficiency perspective, the choice between Applications A and B primarily boils down to the potentially competing impacts upon dynamic and static efficiency from changing the way that the sunk costs of existing assets are recovered ... the Options Paper appears to suggest that Application B would not result in enough rebalancing, i.e., the 'wedge' between 'prices and benefits' would remain too great; but on the other hand, the implication seems to be that there may be too much rebalancing under Application A, i.e., the magnitude of the price changes may cause parties to change their behaviour in inefficient way".

Vector submitted that Application A was "inequitable and inefficient". It stated that:[221]

> "The Authority's proposed Application A would retrospectively reallocate the sunk cost of recent grid investments, shifting the bulk of the share of costs to consumers in the upper North Island. In particular: ... Regulatory uncertainty contributes to inefficient investment decisions, as parties cannot be confident about the implications of their choices. Poor investment decisions can negatively affect both the long-term efficiency and reliability of the grid. Grid distortions will occur as users make inefficient locational or consumption decisions based on the desire to avoid higher transmission fees."

Compass Lexecon (for Vector) submitted that:[222]

> "The EA argues that charging so called beneficiaries for the recovery of sunk investments promotes efficiency. Although at first sight making beneficiaries responsible for sunk cost recovery seems reasonable, there are no efficiency gains from applying a beneficiaries-pay principle to recover sunk investment costs because past investment decisions cannot be changed. On the contrary, sunk cost recovery through beneficiaries-pay charges creates additional, rather than minimizes, inefficiencies."

Of the individual electricity distribution businesses only a few supported Application A, including Unison Networks (despite endorsing the ENA and PwC submissions). PowerNet expressed a desire for Application A to apply beyond 2004. Buller Electricity also appeared to give its qualified support to Application A, stating it preferred the "Base Option with retrospectivity over transmission assets to 2004".[223]

Other submitters endorsed the ENA and or PwC positions, with some expressing a preference for Application B if they had to choose.

Independent Generators

Andrew Shelley Economic Consulting (for IEGA) concluded that neither Application A or B could be supported. In relation to Application A, it noted that:[224]

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[219] PwC Submission, at [79].

[220] CEG Report for Transpower, at [21]-[22].

[221] Vector Submission, at [6].

[222] Compass Lexecon Report for Vector, at [8].

[223] Buller Electricity Submission, at 2.

[224] Andrew Shelley Economic Consulting Report for IEGA, at [1.5].

> "As proposed, Application A has some charges that are unpredictable, provides incentives for disconnection, and is unlikely to be durable. There are potentially large wealth transfers created for questionable benefit. In its current form Application A also eliminates the current basis for paying ACOT, which makes it inconsistent with the conceptual economic framework discussed above".

And in relation to Application B:[225]

> "Application B avoids the immediate impact of most of these issues by having a slowly staggered implementation as transmission assets are replaced. In effect, two TPMs would be implemented for the foreseeable future, which is in itself an undesirable situation. Further, Application B does not avoid the fact that as Application A is introduced over time the undesirable effects of Application A would become increasingly important."

Other Submitters

The New Zealand Council for Infrastructure Development submitted that:[226]

> "We support the introduction of Application B and will support Application A where there is appropriate phasing-in of historic investment charges which recognises the long term nature on infrastructure investment."

It also stated that: [227]

> "Application B alleviates our concerns about the "fairness" of backdating transmission charges and would, in our view, satisfactorily support the Authority's objective to promote the long term interest of consumers."

Business NZ did not believe Application B will solve the TPM problems identified by the EA. The other submitters did not appear to express a view on which Application they preferred.

[225] Andrew Shelley Economic Consulting Report for IEGA, at [1.5].

[226] New Zealand Council for Infrastructure Development Submission, at 1.

[227] New Zealand Council for Infrastructure Development Submission, at 3.

Section 17: Transitional arrangements

It was difficult to find consensus support for any particular transition arrangement, with limited expert comment of this topic.

If the submitter had a strong view in favour of the Working Paper Options then they typically expressed a desire for implementation as soon as possible, such as the Pacific Aluminium and other Southland submissions. However, many expressed a desire for transition to reduce the impact of Application A. Some also expressed concern about the impact price shocks could have on durability and efficiency, as well as mass market consumers.

Regional Advocates

Southland-based submitters collectively opposed transitional arrangements, on the basis that they:[228]

> "do not believe a transition is consistent with the Authority's statutory objective as it would allow inefficient prices to persist. Southland is already paying for infrastructure it gets no benefit from and has been doing so for the past seven years".

The other Regional submitters generally did not appear to mention transitional arrangements, with the exception of West Coast Electric Power Trust, which called for 10 year phase-in period for charges, and Westland Milk Products, which submitted that the EA needs to consider a realistic timeframe for introducing any changes as well as transitional arrangements. Most of the Northland, West Coast and Auckland submitters were expressly or implicitly opposed to Application A in the first instance.

Major Electricity Users

Major Electricity Users were generally opposed to transitional arrangements altogether, with NZIER (for MEUG) stating:[229]

> "the smoothing mechanisms themselves simply phase in the re-allocation of costs and therefore perpetuate the current inefficient allocation of charging."

Pacific Aluminium submitted that transition would: [230]

> "fail to meet the Authority's statutory objective because it would serve to further delay the transition to more economically efficient transmission pricing."

Carter Holt Harvey was also opposed to transitional arrangements, but suggested that price smoothing for some electricity distribution businesses might be appropriate.

National Generator-Retailers

While Nova Energy supported transitional arrangements if Application A went ahead, it also noted that:[231]

> "While the application of a transition cap during the phase in of Application A over five years would reduce the rate shock associated with shifting the charging basis, it does not address the underlying fact that under the TPM options, consumers and generators are being required to pay charges that were never contemplated when they made investments".

Nova Energy also suggested transition specifically for the DCC:[232]

> "An equitable way of transitioning the Deeper Connection Charge would be to defer the imposition of the charge on all existing generation assets for a period of twenty years from the date the generator was connected to the grid".

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[228] Venture Southland Submission, at 14.

[229] NZIER Report for MEUG, at

[230] Pacific Aluminium Submission, at [15].

[231] Nova Energy Submission, at 1.

[232] Nova Energy Submission, at 2.

Trustpower submitted that:[233]

> "If the Authority were to progress implementation of application A, however, best-practice regulatory change management principles should apply. Any transition period should be significantly longer than the five years contemplated in the Consultation paper".

Trustpower also noted that transition mechanisms contemplated by the Authority should take into account both "those directly affected by TPM proposals and those indirectly affected".[234]

Contact and MRP were silent on transition, with Meridian supporting sensible transition arrangements to manage price shocks.

Lines Companies

The ENA did not comment on the length of transition arrangements but noted that "[i]n principle, transitions should be considered depending on the basis of the costs and benefits attributed to a change in TPM".[235]

PwC's (for 21 electricity distribution businesses) only comment on transition was that it was:[236]

> "notable that most of the transitional options allocate the costs of transition to load or distributors only. We are not aware of any valid reason why only one set of consumers should bear the costs of transitioning to a new methodology".

Transpower submitted that cost allocation should be time neutral under any TPM option and large transfers of wealth should therefore "be subject to appropriate transition mechanism".[237]

CEG for Transpower concluded that:[238]

> "the proposed transition mechanisms appear to be an attempt to reach a 'middle ground' between these two extremes, i.e., to facilitate a reallocation of sunk costs, but to soften the impact of price changes. The trouble is that neither capping the rate of change nor the prices applied to EDBs will prevent static efficiency from being impaired".

Transpower therefore suggested a modified TPM proposal would be superior to the Working Paper Options.

Orion submitted that Application B should also have transition arrangements as:[239]

> "... application B has the implication that, for example, upper South Island consumers could end up paying for both past upgrades in other areas, and future upgrades locally. We propose that, at the very least, as new investments are completed the allocation of cost is revisited so that over time the TPM does not lock in this double-dipping feature."

Buller Electricity suggested a glide path to prevent price shocks, while Westpower and Unison Networks respectively submitted for 10 and 5 year transition periods.

Unison Networks also submitted that:[240]

> "The Authority may also wish to consider applying a prudent discount policy in some instances. This option may be particularly relevant for the West Coast scenario where investment was originally driven by the expanding mining sector; however this demand appears to be set to decrease."

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[233] Trustpower Submission, at [7.3.13].

[234] Trustpower Submission, at [7.3.13].

[235] ENA Submission, at [3.7].

[236] PwC Submission, at [73].

[237] Transpower Submission, at 4.

[238] CEG Report for Transpower, at [340].

[239] Orion Submission, at [50].

[240] Unison Networks Submission, at [42].

Independent Generators

Independent Generators generally did not express a view on transitional arrangements. Most did not support Application A in the first instance. While not commenting on the length of transition, Tauhara North No 2 Trust submitted that transition would be warranted. It argued:[241]

> "that transition costs are too quickly ignored in CBAs or the economic impact of price shocks underestimated. In the case where dynamic efficiency improvements are expected over time but static inefficiencies are incurred in the short term then transitions can minimise the static losses. There is also a strong argument that price shocks can lead to inefficient dynamic outcomes in the short to medium term where having time to prepare can lead to greater efficiency".

The NZ Wind Energy Association also submitted that:[242]

> "Recognising the status quo and having a clear transition pathway that respects previous investment decisions made in good faith will go some way to reducing industry concerns and reduce uncertainty".

Other Submitters

Business NZ assumed that transitional arrangements would feature across all aspects of any future TPM, and submitted that particular attention should be paid to the impact of any transitional arrangements on SMEs. NZCID submitted that the five year transition proposal was too short, and suggested 10 years would be better.

[241] Tauhara North No 2 Trust (through Ringa Matau Limited), at 3.

[242] NZ Wind Energy Association Submission, at 1.

Appendix: Material change in circumstances

As with the DME, a large number of submitters did not express a view on the question of whether there has been a material change in circumstances. Indeed, several submitters stated that there were issues with the current TPM and engaged with the Options Working Paper at a detailed methodological level, suggesting they implicitly agreed with the need for a TPM review.

However, it was notable that at this stage of that the group submission for 21 of the electricity distribution businesses was still doubtful of whether the threshold for reviewing the TPM had been met.

Regional Advocates

The Southland Regional Advocacy submissions each agreed that there has been a material change of circumstances for the reasons given by the Authority in the Options Working Paper.

None of the Northland, Auckland and West Coast Regional submissions expressed a direct view on whether there had been a material change in circumstances. However, three submitters did question the basis of the TPM Review, with the Auckland Energy Consumer Trust stating that the EA has not proven that there is any real problem with the current TPM.

The Auckland Chamber of Commerce submitted it had difficulty following the Authority's logic for why the pricing for the national grid need to be redesigned. Other than distance from generation assets, the Employers and Manufacturers Association (Northern) did not think there was a demonstrable justification for the proposed changes except an "urge to do so".

Major Electricity Users

Pacific Aluminium explicitly submitted that it believed a material change in circumstances had occurred, for the reasons given by the Authority.[243] The other submitters were silent on this topic.

National Generator-Retailers

Most of the National Generator-Retailers were silent on whether the material change in circumstances threshold had been met. Contact Energy agreed that a review of the TPM is warranted, while Trustpower commented that it continues to hold the view that the Authority has not identified a material change in circumstances.[244]

Lines Companies

While the ENA submission did not discuss the material change in circumstances threshold, the PwC submission (for 21 electricity distribution businesses) questioned each of the three developments cited by the Authority as being material changes in circumstances, contending that:[245]

> "It would have been known to the designers of the TPM that Transpower would spend more money in future – indeed, as paragraph 3.11 of the Options Paper says, the major investments were approved by the Electricity Commission around the same time as the current TPM was determined. It is plausible that the designers of the TPM intended it to be durable to changes in the quantum of costs being allocated";
>
> "A change in regulatory responsibilities does not materially change the underlying conditions of the market or of Transpower's activities";and
>
> "It is not clear that the Authority's proposals would have been unable to be implemented in 2007 due to a lack of computational power. The SPD-charge proposal seems to be the element of the proposal that requires the most computational power and the SPD model was operational in 2007."

PowerCo and Northpower also submitted that the material change in circumstances threshold had not been met.

While not commenting on the material change of circumstances threshold, Vector did submit that "[t]he problems identified by the TPM Proposal are either mischaracterised or overstated, making them

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[243] See Pacific Aluminium Submission, at [56]-[59].

[244] Contact Energy Submission, at 1; and Trustpower Submission, at [1.2.2].

[245] PwC Submission, at [15].

appear material when they are not". CEG (for Transpower) made the same point, and also appeared sceptical that there was in fact a problem with the current framework for transmission investment, while Counties Power submitted the Authority had not undertaken the necessary financial modelling to prove that a change is required to the status quo.[246]

In contrast, PowerNet explicitly agreed that there has been a material change in circumstances for the reasons provided by the Authority, while Buller Electricity accepted there was a case for changing the TPM in order to reduce free-riding; redress the disconnect between localising investment and localised transmission charges; provide for fairer allocators; and restore "sanity to the ACOT industry". Unison Networks also agreed the Authority was "justified in re-examining the basis for allocating transmission charges due to the significant investments that have been made which ostensibly benefit specific parties".[247]

Independent Generators

Tauhara North No 2 Trust was the only submitter in this group to discuss this issue. It submitted:[248]

> "We acknowledge that there are demonstrated inefficiencies with the current TPM but this does not mean that a case for change has been demonstrated. We cannot see that the Authority has met the test for a material change in circumstances. However, if a robust case is made that it is clearly and empirically economic to address inefficiencies in the current TPM then we would, in principle, accept this".

Other Submitters

No submitter in this category expressed a clear view on whether there had been a material change of circumstances, as outlined by the Authority.

[246] Vector Submission, at 10; CEG Submission, at [2.3.1]; and Counties Power Submission, at 4.

[247] PowerNet Submission; Buller Elecricity Submission; and Unison Networks Submission,

[248] Tauhara North No 2 Trust (through Ringa Matau Limited) Submission, at 2.

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