

Improving Electricity Market Performance

Review of comments on restructuring options

Report to the Major Electricity Users' Group

5 October 2009

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Executive summary

The preliminary report of the Electricity Technical Advisory Group (ETAG) discusses options for improving the performance of the New Zealand electricity market. Its recommendations include restructuring state owned enterprise (SOE) generator-retailers by reallocating their assets to broaden their distribution by region and type of generation. Currently, the SOE generator-retailers tend to concentrate their retail activities in the regions where they have generation capacity, which reduces the scope for competition within regions, especially when transmission constraints occur. The capacity of the SOE generator-retailers is also not well balanced between hydro and thermal generation, which reduces the scope for competition between types of generation, especially in dry years.

At this time, our objective in reviewing comments on the ETAG's restructuring recommendation is not to debate the details of its three restructuring options and their costs and benefits, but to assess the need for further analysis of the options alongside further consideration of other measures.

Our review of comments on the restructuring recommendation finds a wide range of views amongst government officials, generator-retailers, consumers/users and others interested in the electricity sector. These views differ on how restructuring compares with other measures, implemented alone or in combination and before or after other measures, whether the benefits of restructuring outweigh the costs and which is the superior restructuring option. These are all questions that further analysis should address.

We consider the ETAG's preliminary analysis of its restructuring options satisfactory at this stage for the purpose of initial options identification and consultation, provided that the options are subject to more comprehensive, detailed and precise analysis following submissions. Almost half the submissions that commented on the restructuring options explicitly called for further analysis. For the remainder, the lack of consensus on the merits of restructuring endorses the need for further analysis of restructuring relative to other measures and of the restructuring options available. These options should include feasible and practical alternatives, including variations suggested in submissions.

Further analysis of restructuring alongside other measures recommended by the ETAG should clarify how the measures compare in terms of costs and benefits. This further analysis should also explore the extent to which measures are complementary in achieving greater benefits in combination than separately and the most effective sequence of implementation. These are important questions which should not be pre-empted.

We await this further analysis with interest. We believe that, despite other measures, without restructuring, substantial market power would persist in some regions, given that the imbalance in location of generation and retail activities, and therefore the

dominance of generator-retailers in some regions, would largely remain. We believe that restructuring, provided that it is appropriately designed and implemented and accompanied by availability of transmission hedges, has potential to alter the incentives and therefore behaviour of generator-retailers by increasing the number of competitors they face in each region and in dry years. Just how much remains to be shown by the further analysis.

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1. Purpose

On 12 August 2009, the government released a discussion paper on options for improving the performance of New Zealand's electricity market¹. This was the preliminary report of the Electricity Technical Advisory Group (ETAG) and Ministry of Economic Development (MED) to the Ministerial Review of Electricity Market Performance. The ETAG, with MED's assistance, has been tasked with reviewing the performance of the electricity market, its institutions and governance, and recommending how these could be improved.

In reviewing wholesale and retail prices, the ETAG considers, amongst other evidence, recent analysis of the performance of the wholesale electricity market undertaken by Professor Frank Wolak for the Commerce Commission². The Major Electricity Users' Group (MEUG) previously commissioned NZIER to review the comments made by the ETAG on Wolak's analysis and to advise on whether the discussion paper, and therefore its recommendations, has given sufficient weight to Wolak's findings on market power in the wholesale market³.

From our review, we do not believe that the options presented by the ETAG would have differed without the criticisms of Wolak's analysis, with the exception that the debate about the validity of Wolak's analysis may have tempered the reallocation of assets in the ETAG's recommendation to restructure state owned enterprise (SOE) generator-retailers. We therefore advised that, in making its submission on the discussion paper, MEUG might wish to pay particular attention to the restructuring options presented and advocate investigating a more aggressive reallocation of assets.

MEUG has now asked NZIER to review comments on the ETAG's restructuring options. First, we review comments in a briefing paper to ministers by MED and Treasury, which preceded release of the discussion paper and provided additional advice to ministers on including the restructuring options in the discussion paper. Second, we review submissions on the discussion paper for comments relating to the need for further analysis of the restructuring options. Our objective in reviewing comments at this time is not to debate the details of the restructuring options and their costs and benefits, but to assess the need for further analysis of the options alongside further consideration of other measures.

¹ Electricity Technical Advisory Group and Ministry of Economic Development (2009) *Improving Electricity Market Performance*, preliminary report to the Ministerial Review of Electricity Market Performance, http://www.med.govt.nz/templates/StandardSummary_41689.aspx

² Wolak, F. (2009) *An Assessment of the Performance of the New Zealand Wholesale Electricity Market*, public version, report to the Commerce Commission, <http://www.comcom.govt.nz/BusinessCompetition/Publications/Electricityreport/DecisionsList.aspx>

³ NZIER (2009) *Improving Electricity Market Performance – Discussion Document's Comments on Wolak's Analysis*, report to MEUG.

2. ETAG's findings and recommendations

2.1 Market objective

In the discussion paper, the ETAG reviews the performance of New Zealand's electricity market relative to the ultimate objective that⁴:

A well-functioning electricity market should provide a reliable supply of electricity at competitive prices, that is, prices which are as low as possible consistent with ensuring reliable supply over the long term.

2.2 Current deficiencies

With regard to reliable supply, the ETAG considers that sufficient new generation is being built to meet increased demand and the quality of investment in generation is generally good. It notes that New Zealand's hydro-dominated system remains vulnerable to dry years and, at such times, demand savings from public conservation campaigns can occasionally be a lower cost solution than building expensive spare generating capacity to cover every contingency.

With regard to competitive prices, the ETAG considers that the observed price rises of recent years are largely justified, given that the cost of generating electricity has increased, particularly with the run down of the Maui gas field, and the cost of building new capacity to meet increasing demand for electricity has risen sharply and is continuing to rise.

The ETAG does, however, find that the rate at which retail prices have risen, especially for residential consumers, seems excessive compared with the increase in the cost of new supply. It considers that improvements are possible in dry year management, as well as the reliability and capacity of the transmission system.

It identifies the main causes of these problems to include insufficient competition in the retail market, especially outside the main centres, combined with occasional opportunity to exercise market power in the wholesale market. These causes are exacerbated in dry years by incentives for some market participants to try to shift increased costs onto consumers through public conservation campaigns rather than to manage the risks themselves.

In particular, the SOE generator-retailers tend to concentrate their retail activities in the regions where they have generation capacity. This is due in part to the risk of transmission constraints, which, although relatively infrequent, can severely disadvantage generator-retailers that do not have local generation capacity available to meet their local retail load obligations. For example, Meridian operates almost exclusively in the South Island and Genesis and Mighty River Power in the North Island, in terms of both generation capacity and retail activity. This reduces the scope

⁴ Electricity Technical Advisory Group and Ministry of Economic Development (2009), p.5.

for competition within regions, especially when transmission constraints occur. Furthermore, the capacity of the SOE generator-retailers is not well balanced between hydro and thermal generation. For example, Meridian has most of New Zealand's hydro storage capacity and no thermal capacity, whilst Genesis has almost all of the SOE thermal generation capacity. This reduces the scope for competition between types of generation, especially in dry years.

2.3 Recommendations for improvement

The ETAG makes a number of recommendations in the areas of improving retail competition and helping restrain prices, improving dry year management, helping restrain upward pressure on generation costs, improving procedures for upgrading transmission services, and, to support these changes, improving governance of the electricity sector.

The recommendations for improving retail competition and helping restrain prices include (recommendation 17):

Restructure some of the State Owned Enterprise (SOE) generator-retailers (by transferring SOE assets) to increase competition in the retail and wholesale markets.

Under this recommendation, the ETAG presents three restructuring options to broaden the distribution of SOE generator-retailers by region and type of generation⁵:

- **Option One – new SOE plus asset swaps.** Set up a new SOE comprising Huntly and Manapouri and transfer Tekapo A and B hydro stations to Genesis and, possibly, Whirinaki to Meridian. This option would increase the number of generators in both islands (one in the North Island and two in the South Island) and spread flexible generation capacity more widely. Thermal capacity would be spread around four of the main competitors in the market (versus three at present). The new SOE would be a substantial participant in both the wholesale and retail markets.
- **Option Two – transfer Huntly to Solid Energy plus asset swaps.** Transfer the Huntly gas/coal-fired plant from Genesis to Solid Energy, transfer the Manapouri hydro station to Genesis and transfer the Whirinaki plant to Meridian. This option would increase the number of substantial thermal generators from two to three and improve competition in both islands. There are also potential integration efficiencies between Solid Energy and Huntly.
- **Option Three – asset swap between Meridian and Genesis.** Transfer the e3p and p40 power plants (both located at Huntly) from Genesis to Meridian and transfer Manapouri hydro station and White Hill wind farm from Meridian to Genesis. This option would have the effect of creating a significant new North Island generator, Meridian, and a significant new South Island generator, Genesis (even net of its share of Rio Tinto obligations). It would therefore reduce

⁵ Electricity Technical Advisory Group and Ministry of Economic Development (2009), p.45.

Meridian's dominance in the South Island and achieve a better spread of flexible thermal and hydro resources.

The ETAG recommends that these options be subject to further analysis following submissions, but does provide some preliminary analysis of the restructuring costs, risks and competition effects of each option. Although the ETAG does not explicitly estimate the options' benefits, it does identify the minimum levels of benefits required for the options to cover their restructuring costs. The ETAG indicates that Option One would incur the highest restructuring costs, but also achieve the largest increase in numbers of competitors. Option Three would be the least costly and achieve the smallest increase in competitors. The ETAG assesses all three options as appearing likely to deliver sufficient competition benefits to exceed their restructuring costs, with "considerable upside potential"⁶.

3. Briefing paper

Before the discussion paper was released, MED and Treasury provided additional advice to ministers on including the ETAG's restructuring options in the discussion paper for consultation at this time⁷.

3.1 Concerns

Officials at MED, Treasury and Department of Prime Minister and Cabinet (DPMC) were largely agreed on the package of measures recommended in the discussion paper, with the exception of restructuring SOE generator-retailers.

In the briefing paper to ministers, Treasury and DPMC expressed concerns about the extent to which restructuring would address the problems identified by the ETAG and whether the ETAG had given sufficient consideration to regulatory alternatives.

Treasury and DPMC also expressed concerns about the wider costs and risks of restructuring, including effects on the wider SOE framework and SOE performance, and whether these had been sufficiently reflected in the ETAG's preliminary analysis. These wider costs and risks include costs to other parties such as for renegotiating contracts and reassigning resource consents, risks to the Rio Tinto Alcan contract if restructuring involves transfer of the Manapouri power station, risks to new investment during restructuring, diverting the focus of SOE boards from their core business to restructuring, replacing dissenting SOE board members, undermining the SOE model and time required for the new SOE to develop expertise and to become established as an effective competitor.

⁶ Electricity Technical Advisory Group and Ministry of Economic Development (2009), p.50.

⁷ *Electricity Market Review*, briefing by the Ministry of Economic Development and the Treasury to the Prime Minister, Minister of Finance, Minister of Energy and Resources, Minister for State Owned Enterprises and Associate Minister for Infrastructure, 31 July 2009, released under the Official Information Act.

3.2 Response

MED's response to these concerns, after consultation with the ETAG chairman, is also included in the briefing paper and its appendices.

Appendix A of the briefing paper discusses the ETAG's other recommendations. It concludes that, if restructuring was excluded, the remaining recommendations would still help improve competition and downward pressure on prices, but "fall short of an enduring solution because considerable regionalisation of the market would remain"⁸.

Appendix B of the briefing paper summarises the competition effects of restructuring. It reiterates from the discussion paper that the international literature on electricity market design and experience concludes that structural options to increase competition at source provide the best approach to addressing market power. Structural options address the source of market power, in a one-off event, which, unlike regulatory options, does not require subsequent ongoing interventions and monitoring⁹.

Appendix B highlights that the ETAG chose not to undertake a full cost-benefit analysis of the restructuring options at this stage because the benefits would be difficult to quantify with certainty and depend on the assumptions adopted. Instead, the ETAG provided preliminary estimates of the costs, from these it indicated the minimum level of benefits required to exceed costs and it then assessed the plausibility of achieving these benefits¹⁰.

MED and ETAG acknowledge that this preliminary analysis does not include all of the wider costs and risks identified by Treasury and DPMC. They note, however, that their cost estimates are "conservative" in terms of being high side estimates, have been directly informed by experience in separating Contact in 1996 and restructuring ECNZ in 1999, and consultation on the discussion paper's recommendations is intended to provide more information on costs and benefits¹¹. Risks to the Rio Tinto Alcan contract, should restructuring involve transfer of the Manapouri power station which supplies the Tiwai Point smelter, would require careful management, but similar risks were successfully addressed in both the 1996 and 1999 restructures. As regards risks to new investment, none of the significant generation investments planned for commissioning over 2010 to 2014 involve the SOEs directly affected by restructuring.

The consequences of the concerns raised in the briefing paper were that although the discussion paper was indeed released and all three of its restructuring options were retained, subject to further analysis following submissions, these options were

⁸ P.9.

⁹ P.11.

¹⁰ P.11.

¹¹ Pp.4-6.

the subject of specific comment in the release of the discussion paper. The ETAG chairman's preface to the discussion paper includes the acknowledgement that:

Our recommendations relating to restructuring some State Owned Enterprise assets cover complicated issues on which preliminary views and judgements, including within ETAG, will almost inevitably differ. Our initial analysis leads us to conclude that options for restructuring merit serious consideration. We are very interested in feedback that will inform further detailed analysis and final views.

In its media release accompanying release of the discussion paper, the government signalled its views on the restructuring options, more to counter criticism that restructuring is to pave the way for privatising the SOEs than based on any further analysis¹²:

Ministers have discussed restructuring SOE generation assets and have ruled out option one and two as too costly and risky, and need to be convinced about the third option (ie asset swaps between Meridian and Genesis...

3.3 Our review

We consider that MED's response adequately addresses the concerns raised by Treasury and DPMC.

Where feasible and provided that they are well-designed, structural options at source can offer a superior approach to regulatory options in that structural options can address the root cause of market power, in a one-off adjustment which can produce results relatively quickly and does not require subsequent ongoing involvement of the regulator in the market. In other words, structural options seek to correct the concentration or imbalance that enables market power and thereby to achieve a competitive market, which, ultimately, can be left to operate according to market forces without further need for restraint. Regulatory options typically require ongoing monitoring by the regulator for the *symptoms* of market power (performance¹³) and penalising and correcting the *exercise* of market power (conduct or behaviour), where detected, but do not address its *cause* (structure).

We view restructuring generally as quite an extreme measure, to be considered only where less intrusive measures are inadequate to address the market failure and where the benefits of restructuring over the long run justify what can be substantial

¹² *Electricity Review released*, media release by Gerry Brownlee, 12 August 2009, <http://www.beehive.govt.nz/release/electricity+review+released>

¹³ In the standard structure-conduct-performance framework used by competition authorities around the world, including New Zealand's Commerce Commission, to assess market competition. This framework is founded on the principle that market performance follows from the structure of the market and the conduct of its participants. Competitive structural conditions encourage competitive conduct, through efficient incentives and signals, which promotes competitive and efficient performance outcomes.

costs in the short run. We consider the ETAG's preliminary analysis satisfactory at this stage for the purpose of initial options identification and consultation, provided that the options are indeed subject to more comprehensive, detailed and precise analysis following submissions.

The ETAG's approach of "break-even analysis" is not unusual where benefits or costs, or sometimes a key component thereof, are difficult to quantify or value. Even where all costs and benefits are quantified explicitly, break-even analysis can be a valuable component of sensitivity analysis in determining the threshold that options must clear and by how large or small a margin they appear likely to do so. Given that there is inevitably some uncertainty around future costs and benefits of proposals, this is a useful means to gauge how confident we can be that benefits are likely to outweigh costs or that the preferred option is likely to achieve greater net benefits than alternatives.

We await the ETAG's further analysis with interest. We believe that, without restructuring, substantial market power would persist in some regions, given that the imbalance in location of generation and retail activities, and therefore the dominance of single generator-retailers in some regions, would largely remain. Furthermore, we believe that restructuring, provided that it is appropriately designed and implemented and accompanied by availability of transmission hedges, has potential to alter the incentives and therefore behaviour of generator-retailers. Further analysis of the restructuring recommendation alongside other measures recommended by the ETAG should clarify how the measures compare in terms of costs and benefits. This further analysis should also explore the extent to which measures are complementary in achieving greater benefits in combination than separately and the most effective sequence of implementation.

We consider that further analysis of restructuring should not be limited to Option Three, which is indicated to be the least costly but also least effective of the options presented by the ETAG. From the ETAG's preliminary analysis, all we know so far is that Option One and Option Two appear to have both higher costs and higher benefits than Option Three and that each of the three options appears to have higher benefits than costs. This says nothing about which option provides the highest net benefit or rate of return. If Option One and Option Two are inferior, further analysis will reveal this. If Option Three is shown to be inferior and ministers still select this option, at least this decision would be informed and transparent about the costs and risks and the benefits forgone. Although necessary to limit full cost-benefit analysis to a shortlist of the most promising options, these should include options that represent feasible and realistic alternatives. These may include the ETAG's alternative options and variations suggested in submissions.

4. Submissions

MED received 128 submissions on the discussion paper¹⁴. Many did not comment specifically, or express a view, on the recommendation to restructure the SOE generator-retailers. We limit our review to submissions that made substantive comments on the restructuring recommendation and its options. Inevitably, this means we focus most on submissions from generator-retailers and consumers/users.

Our particular objective in reviewing these submissions at this time is not to debate the details of the restructuring options and their costs and benefits, but to assess whether there is a case for further analysis of the options alongside further consideration of other measures.

Table 1 presents relevant extracts from submissions.

The views expressed are in many cases complex and conditional, but in broad terms around half of these submissions oppose restructuring or prefer other measures and around half favour restructuring or are neutral pending further investigation. Generator-retailers are mostly, although not all, opposed or prefer other measures. The majority of commercial and industrial users are in favour or neutral pending further investigation. Residential users are opposed, preferring re-amalgamation of the three generator-retailer SOEs into one.

¹⁴ Available at: http://www.med.govt.nz/templates/Page_____41966.aspx

Table 1 Submission comments on restructuring options

Direct quotes; any text we have paraphrased is shown in italics.

Submitter	Extract
Generator-retailers	
Contact	<p>State owned enterprises (SOEs) must compete on a level playing field with their private sector rivals such as Contact and Trustpower. Gas supply underwrites, emissions underwrites and use of the reserve energy policy to alleviate SOE energy shortages discriminate in favour of SOEs and are equivalent to playing with two sets of rules. Ultimately, this increases the likelihood of suboptimal investment decisions which drives up the overall cost of electricity supply, albeit through an indirect cost on the taxpayer. In this context, Contact believes that the Government should ensure that Whirinaki is sold and not re-assigned to an SOE as this discriminates against private sector parties who could have better options for redeploying or utilising the Whirinaki plant. Less constrained transmission lines are key to delivering a market place over which generator/retailers can compete with limited barriers. Contact believes that a strong grid and mechanisms to deal with locational price risk are likely to provide a greater boost to competition than any SOE restructuring proposals. Contact also notes that there are eight retailers currently competing for customers, which is reasonable by world standards, especially given New Zealand's stand alone electricity system and nodal price risk. However, should this restructuring go ahead, Contact would wish to ensure that any changes to SOE asset bases did not negatively affect Contact's current hedging arrangements with SOEs.</p>
Genesis	<p>Genesis Energy considers that transferring ownership of assets within the SOE portfolio is a more promising measure than regulated hedging, and could potentially deliver a more sustainably competitive outcome than the existing asset ownership distribution.</p> <p><i>Did not consider Option One and Option Two in detail.</i></p> <p>We agree that option one would be more costly than option three, and expect that it would not offer materially greater competitive benefits than option three. We also note that, based on our experience in the retail market, it takes considerable time for a new entrant to establish itself as a viable competitor... .. with respect to option two, we note:</p> <ul style="list-style-type: none"> • we understand that Solid Energy has no motivation from a business perspective to enter the electricity generation and retailing markets; • based on our knowledge of operating costs for Units 1 to 4 at Huntly, it would not be possible to build a viable retail business based solely on ownership of those units; and • transferring Manapouri to Genesis Energy without other structural adjustments would not improve retail competition in the South Island due to that plant's other contractual commitments. <p>Genesis Energy expects that transmission upgrades and transmission hedging mechanisms will reduce the severity of basis risk over coming years, but will not eliminate it. In other words, Genesis Energy does not anticipate the market developing to a point where retailers will be completely agnostic regarding geography. In particular, transmission upgrades and trading or allocation of congestion rentals will not eliminate basis risk between islands, or between the core grid and some peripheral networks. Given this, Genesis Energy considers that there is substance to the premise that retail bases will continue to follow asset bases.</p> <p>If option three includes thermal assets, then it also broadens Meridian Energy's fuel diversity, and alters the fuel mix for Genesis Energy. This in turn would alter the cost structures of each firm, and could increase the number of significant players, and the level of competition, in the gas market. It would also alter the incidence of any windfall gains accruing to generators due to the emissions trading scheme.</p> <p>Genesis Energy considers that transferring assets could alter wholesale market dynamics, and lead to a more competitive market for investment in new generation.</p> <p><i>Presents two variations on Option Three, involving transferring ownership of parts of the Waitaki system, given the existing contractual arrangements governing the output of Manapouri.</i></p> <p>Genesis Energy's preliminary view is that it <i>[the asset transfer]</i> is feasible and that it would be likely to enhance competition. However, the options clearly warrant further analysis from a policy perspective and further due diligence from a commercial perspective. ... Genesis Energy also considers that the high-level assessment of costs is roughly correct, although some of the costs may be over-stated.</p>

Meridian	<p><i>Focuses on Option Three.</i> The objectives of the asset swap are improved competition in the residential retail sector, and dry year risk management. While the proposed asset swap may achieve those objectives, we are concerned that the costs to New Zealand, once fully assessed, will outweigh the benefits that can be achieved. Identifies logistical, cost and timing risks to address under Option Three. Meridian is aware that a number of parties have suggested that an alternative asset swap may be more appropriate: swapping Tekapo A and B power stations rather than the Manapouri power station and White Hill wind farm. Meridian has not considered this suggestion in detail, but would note that there are a number of hydrological features that would either need to be addressed, or the costs incurred (through a less efficient use of water on the Waitaki Chain) included in any restructuring assessment...</p> <p>Meridian has considered whether an alternative to the asset swap proposed here could achieve the Crown's objectives.</p> <p><i>To achieve a liquid contracts market:</i> Meridian supports the development of a compulsory trading requirement on an approved New Zealand electricity futures trading exchange for generators over a certain size.</p> <p><i>Next steps:</i> MED and Treasury to consider further the costs and benefits of the proposed asset swap. Meridian submits the EMA should consider developing a rule to require generators over a certain size to sign a market maker agreement with an approved New Zealand electricity futures trading exchange.</p>
Mighty River Power	<p><i>Mighty River Power considers that the benefits of an asset swap are unlikely to outweigh the costs, for the following reasons:</i></p> <ul style="list-style-type: none"> • Much of the perceived problem, as acknowledged by the Review, is that the New Zealand electricity system operates almost as two markets due to the risk of transmission constraints (and consequently wholesale price separation) across the HVDC. The HVDC has had its northward and southward capacity restricted since late 2007. After 2012, when the HVDC has been upgraded, these risks should be reduced somewhat, although not eliminated. • An asset swap is a one-off event. If, due to later investments by generators, the "balance" between fuel types and locations changed, government would not want to be in the position of having to direct assets to be moved around again. An asset swap could be seen as a signal of government's willingness to take responsibility for investment decisions. • The costs, both direct and indirect, should not be underestimated. It is now widely accepted that one of the reasons for the dearth of investment in generation in the first part of this decade is that management's focus (both ECNZ and the new SOEs) was diverted to dealing with institutional change. <p>It should also be noted that there could be some support for asset swaps purely on the basis that it allows for more attractive assets to be swapped for less attractive assets at less than market prices.</p> <p>A better way to achieve the same objective would be by contract, backed with increased disclosure.</p> <p>Other options (asset swaps; regulated hedge contracts) may be simplistically appealing, but would be technically difficult and have significant potential for unintended consequences.</p> <p>We consider the best way to approach the issue is by way of support for the existing Energy Hedge mechanism. ... Energy Hedge, in our view, could with very little cost provide the platform and mechanism to facilitate some form of mandatory hedging.</p>
Trustpower	<p>None of the recommendations, including the alternatives discussed in the appendices are necessary if SOE generators have the same commercial drivers that a publically listed company would have.</p> <p>The alternative compulsory hedging options presented in Appendix 20 in paragraph 453 is not necessary because as is stated in paragraph 453 this is a logical commercial arrangement and if commercial drivers were in place the appropriate level of inter generator hedging would occur.</p>
Consumers/users	
Business New Zealand	<p>Agree that the issue of restructuring of SOE assets be analysed further. While a legitimate tool worthy of more substantive analysis and debate, it is Business New Zealand's preference that it only proceeds as a part of this round of changes if a much more compelling case can be made. In general, Business New Zealand considers that there is 'option value' in waiting to see if the range of other recommendations set out in the report deliver the improvements expected of them. Business New Zealand looks for clear evidence that the competitive benefits in the wholesale and retail markets outweigh the costs associated with the swap of assets. Business New Zealand remains to be convinced that an asset swap option should be implemented, at least as a first-best option. Other solutions exist that are incentive-based, likely to be better targeted at the underlying problems and as, if not more, likely to deliver the expected benefits. Clear evidence of different commercial behaviour in response to the new incentives faced from the balance of the proposals is needed Without clear evidence, the option of assets swaps (and other options for that matter) should clearly come back into play.</p>
Employers and Manufacturers Association	<p>We think that there is merit in the idea of an asset swap but that this is not an action that should occur in advance of other recommendations in the discussion paper. We believe that before any decisions are made about the detail of an asset swap there is a need for further work on principles and practice around how such asset and retail share reallocations might best be done. This work should be done sooner rather than later.</p>

New Zealand Chambers of Commerce	<p>... NZCCI believes that if market participants are provided with the right commercial incentives to change their commercial behaviour they will deliver appropriate outcomes for consumers. In a market-setting, this generally means setting the overarching policy framework within which the market participants operate, rather than restructuring and forcing SOEs to compete in a certain way.</p> <p>That is, NZCCI questions whether a complex restructuring of the SOEs aimed at achieving greater competition will in fact achieve the competitive benefits expected from it. As a next step, NZCCI would like to see a business case setting out a benefit-cost assessment, including costs of restructuring and potential for disruption to the SOEs current performance.</p> <p>In the absence of a clear cut business case supporting SOE restructuring to achieve greater competition, NZCCI suggests that in the first instance it may be more prudent to implement the other reform proposals, and in particular those aimed at greater competition in the transmission area set out in the previous section. Pending a review in say three years of the success of the other proposals the suggestions for forcing increased competition at the wholesale level could be looked at in such a further review. If the benefits of increased competition in the transmission area do not materialise, there could be value in re-looking at the notion of further restructuring including to force increased competition among the wholesale companies.</p>
New Zealand Council for Infrastructure Development	<p>NZCID supports the intent of the recommendations to improve retail competition and restrain prices. However, there is a need for a business case to be developed in respect of the three swap options proposed to establish which option - or whether any of the options - will in fact result in the desired improvements. Overall, however, we strongly support the thrust of this group of recommendations seeking a more accountable, responsive, transparent and customer-focussed industry.</p>
Major Electricity Users' Group	<p>Supports further work on asset and retail share re-allocations between State Owned Enterprises (SOE) as a structural solution to promote retail competition and a deeper hedge market. MEUG strongly supports an immediate and comprehensive study to deal with the three options (and other options that may emerge from the consultation phase) as structural solutions are most likely to provide long term benefits. MEUG believe this new piece of work should be given highest priority of any of the new work items. In addition MEUG supports existing work considering what type of financial instruments can be introduced to manage locational price risk.</p>
Federated Farmers	<p>Federated Farmers is cautious about restructuring the SOE generators at this time. While agreeing that this should be an option, and supportive of further investigation, it would be costly and disruptive to establish a new SOE and swap/transfer plant between new or existing generators. The discussion paper acknowledges that while the benefits from the various options are 'achievable' it recognises that it would be impossible to guarantee that they would be achieved.</p> <p>Further work is needed on SOE asset reallocation and we want this work done. However, we would prefer this work to not delay implementation of other high priority proposals. Therefore, in the short-term we would prefer to allow the other measures in this discussion paper to take effect. If there continues to be problems with the electricity market then the asset reallocation option could be implemented promptly.</p> <p>Federated Farmers would not support re-amalgamating the SOEs or abandoning the market in place of central planning. Re-amalgamating the SOEs would increase market concentration (one organisation would have more than 66% of New Zealand's generation capacity and a similar share of the retail market) and New Zealand's previous experience of central planning showed that it would neither reduce the costs of generation nor guarantee security of supply.</p>
Fonterra Co-operative Group	<p>Whilst SOE asset swaps may seem attractive at face value, in all likelihood the outcomes will not be materially different from today. Greater regional generation competition is needed and this should be achieved through divestment or further desegregation. If neither of these two choices are palatable then Meridian could be required to auction off Virtual Power Plants (VPP's) to facilitate more retail competition in the South Island.</p>
Norske Skog	<p>With regards to the reallocation of assets we note that the ep3 power station is a base-load thermal plant. Transferring this to Meridian is futile because this would have no effect on how it is operated. It would be much better to transfer ownership of Huntly units 3 and 4 to Meridian and Manapouri to Genesis. This would create two South Island hydro generators with North Island backup plant...</p>
Pan Pac Forest Products	<p>Pan Pac supports an immediate and comprehensive study to deal with the three options (and other options that may emerge from the consultation phase) as structural solutions are most likely to provide long term benefits.</p> <p>Pan Pac supports option 2.</p> <p>New Zealand has significant reserves of coal. Solid Energy has a strong motivation for the development of these coal resources and is therefore the ideal owner of Huntly. Issues with the carbon emissions from consumption of coal are best left to Solid Energy.</p> <p>If New Zealand is to advance the wealth and well being of its citizens it needs to exploit its comparative advantages, one of which is our reserves of coal.</p>

Rio Tinto Alcan	<p>We have assessed the three options in the paper and do not support any of them. None of them will significantly enhance the goal of increasing competition in the South Island because the output of Manapouri is significantly constrained to supplying the smelter. This is exacerbated by Manapouri further being used to maintain system security in the Otago-Southland region due to constraints in the transmission system which is limiting power transfer south from Roxburgh. This is not expected to be alleviated until at least 2015.</p> <p>We also believe that the contribution of asset reallocations to improving security of supply needs to be assessed. It is our view that the options presented are more likely to reduce this security.</p> <p>Genesis may thus not be as effective a competitor in the South Island generation market as its new size would indicate</p> <p>However, we have done some very preliminary analysis that suggests a variation of Option 3 may provide a significant new competitor in the South Island and thus satisfy one of the Government's main goals.</p> <p>The Report (Page 50 Paragraph 140) concludes that, "Overall, the benefits of restructuring appear likely to exceed costs, with considerable upside potential." Given this conclusion, RTANZ considers that it is essential that further detailed analysis is undertaken with the view to implementing the option with the highest net benefit.</p>
Winstone Pulp International	<p>Restructuring of the SOE assets as proposed by ETAG and MED should be urgently considered and without restriction i.e. all three options should be considered along with other proposals put forward by submitters. We support further work on asset and retail share re-allocations between SOE as a structural solution to promote competition and a deeper hedge market. Detailed cost versus benefit analysis must be undertaken for each option versus the status quo.</p>
Wood Processors Association	<p>WPA members remain to be convinced that the costs and benefits of the proposed options have been fully assessed and that there are sufficient assurances the electricity sector will contribute to economic growth through secure supply at efficient prices. Further, it is not clear that all reasonably practicable options have been identified and analysed.</p> <p>There is support amongst WPA members for the notion that, when ECNZ was split, a less than optimal allocation of assets was carried out. It may be that the lack of availability of hedges and the lack of competition at the wholesale level are manifestations of this underlying structural problem.</p> <p>The WPA supports further investigation of the asset swap recommendation and further consideration of the development of options. In particular WPA considers that options 1 and 2 should not be dismissed because, in WPA's opinion, following further study, there is likely to be additional benefits identified from those options. Some WPA members consider that the establishment of a new SOE generator (possibly Solid Energy) may stimulate the development of energy capacity related projects such as pump storage. Detailed cost benefit analysis must be undertaken for each option and comparisons drawn with the status quo.</p>
Domestic Energy Users' Network	<p>Unstated but implied throughout the Review is an objective of privatising the three state owned generator retailers. Such a move is totally rejected by DEUN and all domestic consumers. The suggestion of restructuring the SOEs in this recommendation appears to be aimed at making them easier to sell.</p> <p>DEUN rejects all restructuring options that attempt to retain the oligopoly in gentailing. Customers do not switch because they sense the gentailers are not really competitive.</p> <p>DEUN would however provisionally support merging the retailing operations of the three SOE gentailers into one, allowing the two remaining gentailers to compete at the margin, provided the SOE Act is amended to clarify the public purpose of state ownership.</p> <p>Rearranging generation assets will achieve very little. The present distribution <i>[of]</i> retail activity reflects the original allocation of incumbency at least as much as the location of generation. Strengthening the grid will do far more to reduce the problems created by transmission bottlenecks than shifting ownership around.</p>
Consumer NZ	<p>We support the proposed restructuring of SOE generating assets if and only if it leads to greater competition and more price pressure on retailers – we are neutral about which of the three options is chosen provided it achieves this goal in both the North and South Islands.</p> <p>The new structure must be subjected to a rigorous cost-benefit analysis against alternatives before it is implemented. If the proposed restructuring goes ahead, we suggest it is reviewed within five years to assess whether the desired improvements in price and service have been achieved. If not, then we believe serious consideration should be given to the one SOE model with competition coming from Contact, Trustpower and any other non-SOE generator/retailer.</p>
Individuals	<p><i>There were also a number of submissions by individual consumers. In most cases, these disagreed with the restructuring options and instead called for the SOE generator-retailers to be re-amalgamated into one.</i></p>

Others	
Energy Centre	<p>Apart from practical issues (potentially splitting management of integrated sites and river chains), some research shows that wholesale competition under transmission constraints can have counter-intuitive effects. It is possible the same aims can be reached by other means, eg improved transmission and hedging/risk management options. It is felt therefore that the option of asset swaps should not be “off the table”, but should be studied in further detail, including other swap options. Also the impact on positions in the gas market and exploration incentives should be included, in order to avoid pushing market power issues from the electricity into the gas market by significantly weakening players in that market.</p>
Energy Link	<p>The concept and logic behind this recommendation has some merit. Meridian's control and management of around 60% of New Zealand's hydro storage capacity has a major impact on electricity prices and the market in general. Reducing Meridian's generation asset base would reduce market concentration and therefore have a beneficial effect on competition. Introducing another major generation presence in the South Island would effectively enable increased retail competition in the South Island.</p> <p><i>Raises concerns about transferring ownership or control of Manapouri, suggests alternative involving the Tekapo system.</i></p>
Energy Trusts of New Zealand	<p>ETNZ does not support the concept of an asset swap between SOEs. Noting that the Government appears to have already discounted the first two options for restructuring SOEs, ETNZ is not convinced that the asset swap proposals represent a solution that will necessarily improve retail competition. Rather, ETNZ strongly recommends that the mandatory offering of hedges by generators is adopted instead, as the liquidity of the hedge market is key.</p>
Institution of Professional Engineers New Zealand	<p>IPENZ does not support restructuring the SOE assets as this would be very disruptive and costly – with benefits that are marginal at best. Also, some generators have developed a particular brand that would be lost. It may be better for the SOEs to contract among themselves to better manage their risks and resources – that is, arrange better hedges between each other to cover the difference between dry years and wet years. Other market design changes such as VoLL pricing and transmission hedging would achieve similar outcomes at a lower cost.</p>
New Zealand Wind Energy Association	<p>The intent of any reallocation of assets appears to be to try and create more diversity in the generator-retailer asset and customer bases between the North and South Islands. We note however that Contact Energy appears to have the type of asset and customer spread that the reallocation is seeking to achieve, yet over the 2008 winter had serious difficulties managing its dry year risks.</p> <p>The main culprit in this appears to have been the restricted capacity on the HVDC link and it appears likely that this significant risk will remain until the upgrade of the cable is completed. NZWEA suggests that it is more appropriate to ensure that barriers to dry year risk management such as this link are removed before thinking about trying to ‘force’ a certain outcome through asset reallocation.</p> <p><i>No comment on Option One and Option Two (NZWEA understands that the Government has ruled out this option).</i></p> <p><i>On Option Three:</i></p> <p>NZWEA notes that the generator-retailers plan their future generation activities to align with their existing portfolio and customer base. Meridian and Genesis have both invested in establishing future generation options – such as potential wind farm projects – accordingly. In the event of an asset reallocation these options may no longer be an appropriate fit with the new generation portfolio, and the consents and/or expertise for developing them might sit in the ‘wrong’ company. The resulting delays in investment as these companies try to determine what organisational and investment strategy changes are needed as a result of reallocation could be significant for both ensuring security of supply and the longer term viability of these companies.</p> <p>As discussed ... above, NZWEA does not believe that asset reallocation will provide an effective improvement to the operation of the market (especially while other constraints exist that would negate the potential benefits of such an approach).</p>
New Zealand Windfarms	<p>The proposed shuffling of SOE assets appears to be an unnecessarily complicated way of forcing competition and addressing the fundamental issue that limits geographical competition – the availability of suitable hedging. NWF believes that this issue can be addressed more effectively by requiring generators to offer hedges to “all comers” on the same basis as they are provided to their own captive retail arm. Obviously this would require some transition period so that generators could ensure their risk position is managed.</p>

Powerco	<p>Some shifting around of assets would seem likely to enhance competition and alleviate market power issues. However, Powerco remains unconvinced that moving around assets would necessarily alleviate the issues over the long term.</p> <p>A significant issue with the current arrangements is the ability for gentailers to create internal hedges by balancing their retail demand with their generation capacity. Unless there are some limits on the ability of gentailers to create internal hedges, or alternatively there is some arrangement for mandatory offering of hedges to the market by generators, over time the market is likely to reach some kind of equilibrium which may replicate the status quo but with a different allocation of assets.</p> <p>Powerco notes that paragraph 452, Appendix 2 of the Report comments that mandatory offering of hedges by generators would be an option worth developing further if SOE restructuring is not possible. Paragraph 453, Appendix 2 of the Report discusses another discarded option – inter-generator hedges. Powerco submits that both of these options may well deliver better and longer-term benefits than the proposed SOE restructure.</p> <p>Powerco recommends that the possibilities of creating the mandatory offering of hedges and inter-generator hedges are further explored before, and regardless of whether, any SOE restructuring proceeds.</p>
Todd Energy	<p>Todd Energy supports the restructuring of the assets of the SOEs on grounds that this will improve the depth of the gas market. In addition to the asset swap / restructure proposal, Todd Energy believes development of a more liquid hedge market should also be made a priority to improve retail competition. Todd Energy supports mandatory participation of large generators in the hedge market to promote more liquidity. Mandatory hedges should be considered in parallel with, restructuring of SOE assets.</p>
Vector	<p>The asset swap is presented as a “game breaking” solution that is likely to achieve improvements in retail competition. However, Vector is not convinced that any of the proposed restructuring options are likely to lead to a sustained improvement in retail competition with increased downward pressure on retail prices. The key to improving retail competition is to remove the barriers to entry that face potential new entrants into the generation and retail markets. ... We do not believe the changes proposed in this paper, including the asset swap proposals, are sufficient to create the necessary conditions to encourage potential new entrants such as ourselves from entering these markets.</p> <p>The key reform potential new entrants require is the instigation of measures to ensure retailers can either access sufficient volumes of hedge product on the same terms and conditions as other retailers in the market (or can own generation that physically covers their spot exposure). ... Asset swaps will not provide the necessary hedging availability.</p> <p>Instead of assets swaps, Vector recommends a two-stage process. The first stage should be for restrictions on distributor entry into retail and generation to be removed ... and for operational separation of generation and retail to be implemented. ... The second stage should be to consider in more detail the option of mandatory hedging arrangements ... if the market fails to perform effectively after the ‘first stage’ options above are implemented, it should be seriously considered. Analysis and development of this option should begin now to ensure that there is a proposal ready to be implemented if necessary.</p>

Source: Submissions, http://www.med.govt.nz/templates/Page_41966.aspx

As Table 1 shows, there are a wide range of views on how restructuring compares with other measures, implemented alone or in combination and before or after other measures, whether the benefits of restructuring outweigh the costs and which is the superior restructuring option. These are all questions that further analysis should address.

Given the government's statement upon release of the discussion paper that it has ruled out Option One and Option Two, most submitters focused on Option Three. Several suggested variations on this option, particularly around transfer of the Manapouri power station, although in some cases stemming from a misunderstanding of the ETAG's Option Three. The ETAG should consider practical variations for inclusion in further analysis of the restructuring options.

Fourteen (almost 50%) of the submissions listed in Table 1 explicitly called for further analysis of the options for restructuring. For the remainder, the lack of consensus on the merits of restructuring endorses the need for further analysis of restructuring relative to other measures and of the restructuring options.

Although this further analysis should be undertaken as soon as possible, to minimise delays in implementing improvements, we believe that important questions for this analysis include which measures should be implemented in combination and the optimal sequence of implementation. These should not be pre-empted.

In particular, restructuring and transmission hedges are examples where implementing one without the other would provide only modest benefits. Restructuring without availability of transmission hedges would expose generator-retailers to the price risk from transmission constraints, to which their current regionalisation has been the response. The scope for transmission hedges to promote competition without restructuring would be limited by transmission capacity into regions and dominant generators remaining in some regions.

Deferring restructuring until after other measures have been tried and proven insufficient could delay substantive improvement in the wholesale and retail markets and, in some cases such as transmission hedges, limit the success of these other measures. Other measures, without restructuring, would still allow substantial market power to persist in some regions, due to the imbalance in location of generation and retail activities and continuing dominance of generator-retailers in some regions. The combination and sequence of measures are, however, questions that the further analysis should address.

In particular, some submissions suggested that the ETAG's rejected option of introducing mandatory offering of hedges should be implemented ahead of considering restructuring, whilst the ETAG recommended that this option be considered further only if restructuring does not proceed. Compulsory hedging seeks to "force" trading as a way to increase the liquidity of the hedge market and thereby to facilitate new entrants, which currently have difficulty securing hedge contracts to manage the financial risk they would face from price volatility. In Appendix 20 of the

discussion paper, the ETAG outlines why it considers this option inferior to its recommended measures. Compulsory hedging carries significant risk of subversion if not carefully designed. Restructuring, by increasing the number of competitors in each region and reducing the market power of incumbents, would assist new entry directly as well as enhance incentives for efficient use of hedging without compulsion. Further analysis should clarify the extent to which these benefits could be achieved by the restructuring options. Given the amount of interest in compulsory hedging, it may be appropriate for the further analysis to include a direct comparison between restructuring and compulsory hedging.

Pending the further analysis, it seems unlikely that restructuring, supported by availability of transmission hedges, would not have significant benefits. The ETAG's restructuring options do not represent solely a change in ownership, but constitute a change in the operating environment of generator-retailers. The restructuring options would not just alter the names of their competitors, but have been designed specifically to increase the number of competitors they face in each region and in dry years, which would affect their incentives and behaviour. Just how much remains to be shown by the further analysis.

5. Conclusions

At this time, our objective in reviewing comments on the restructuring options presented by the ETAG in the discussion paper is not to debate the details of the restructuring options and their costs and benefits, but to assess the need for further analysis of the options alongside further consideration of other measures.

Our review of comments on the restructuring options shows that there are a wide range of views amongst government officials, generator-retailers, consumers/users and others interested in the electricity sector. These views differ on how restructuring compares with other measures, implemented alone or in combination and before or after other measures, whether the benefits of restructuring outweigh the costs and which is the superior restructuring option. These are all questions that further analysis should address.

We consider the ETAG's preliminary analysis of its restructuring options satisfactory at this stage for the purpose of initial options identification and consultation, provided that the options are subject to more comprehensive, detailed and precise analysis following submissions. Almost half the submissions that commented on the restructuring options explicitly called for further analysis. For the remainder, the lack of consensus on the merits of restructuring endorses the need for further analysis of restructuring relative to other measures and of the restructuring options available. These options should include feasible and practical alternatives, including variations suggested in submissions.

Further analysis of restructuring alongside other measures recommended by the ETAG should clarify how the measures compare in terms of costs and benefits. This further analysis should also explore the extent to which measures are

complementary in achieving greater benefits in combination than separately and the most effective sequence of implementation. These are important questions which should not be pre-empted.

We await this further analysis with interest. We believe that, despite other measures, without restructuring, substantial market power would persist in some regions, given that the imbalance in location of generation and retail activities, and therefore the dominance of single generator-retailers in some regions, would largely remain. We believe that restructuring, provided that it is appropriately designed and implemented and accompanied by availability of transmission hedges, has potential to alter the incentives and therefore behaviour of generator-retailers by increasing the number of competitors they face in each region and in dry years. Just how much remains to be shown by the further analysis.