

Within-island basis risk: Proposed approach

Summary of submissions

22 October 2013



Executive summary

Participants in the New Zealand wholesale electricity market are exposed to the risk of unpredictable variations in the spot price of electricity between different nodes throughout the country. The introduction of financial transmission rights (FTRs) between Otahuhu (OTA) and Benmore (BEN) has been introduced to assist participants in the New Zealand wholesale electricity market to manage spot price risk between the two islands. However, participants are still exposed to locational spot price risk between nodes within the same island (WIBR, within-island basis risk).

The Electricity Authority (Authority) is tasked by its statutory objective to promote more competitive and efficient outcomes provided doing so delivers long-term benefits to consumers. The Authority therefore considers that there is a case to introduce a mechanism (or mechanisms) to help participants manage WIBR.

The Authority has consulted on options for helping participants to manage WIBR, and received twelve submissions.

The consultation paper asked whether submitters agreed that the multi-point FTR option would best support the Authority's statutory objective. The majority of submitters that responded to this question (six out of eleven) agreed with this view.

Some parties suggested that the Authority should do more work before deciding on a preferred option; conversely, others considered that the Authority had already gone beyond its mandate and that FTR market development was the responsibility of the FTR manager, through its review of the FTR allocation plan.

The majority of submitters expressed caution about the large number of FTR products that would be offered, and the impact of the resulting complexity on market monitors and/or participants.

Following consideration of submissions, the Authority has concluded that the multi-point FTR is the option most consistent with its statutory objective.

The Authority will therefore write to the FTR manager requesting that it proceed to design and implement a multi-point FTR solution. The Authority will also make non-binding recommendations to the FTR manager on how new FTR products should be designed. This will include adding new FTR points at Haywards, Invercargill and Islington.

In addition, the Authority will assess future responses to locational price risk as outlined in a road map for periodic consideration. The split between FTR and non-FTR loss and constraint excess (LCE), as specified in Schedule 14.6 of the Code will also be reviewed as part of the road map.

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1 Purpose of this report

- 1.1 Participants in the New Zealand wholesale electricity market are exposed to the risk of unpredictable variations in the spot price of electricity between different nodes throughout the country. The introduction of FTRs between Otahuhu (OTA) and Benmore (BEN) has assisted participants in the New Zealand wholesale electricity market to manage spot price risk between the two islands. However, participants are still exposed to locational spot price risk between nodes within the same island (WIBR).
- 1.2 The Authority is tasked to introduce a mechanism (or mechanisms) to help participants manage this risk.
- 1.3 On 25 June 2013, the Authority published a consultation paper titled “Within-island basis risk: Proposed approach”¹, which considered options for helping participants to manage their WIBR.
- 1.4 The consultation period closed at 5pm on Tuesday, 6 August 2013. The Authority received twelve submissions. A list of submitters is shown in Table 1 below.
- 1.5 This paper summarises the feedback received in submissions and outlines the Authority’s response.

2 Overview of submissions

- 2.1 The Authority received twelve submissions, from the parties listed in Table 1.

Table 1 List of submitters

Number	Submitter
1.	Contact Energy (Contact)
2.	Energy Market Services (EMS)
3.	Genesis Energy (Genesis)
4.	Major Electricity Users’ Group (MEUG)
5.	Meridian Energy (Meridian)
6.	Mighty River Power (MRP)

¹ Available from <http://www.ea.govt.nz/our-work/consultations/priority-projects/within-island-basis-risk/>

Number	Submitter
7.	Nova Energy (Nova)
8.	NZX
9.	Pulse Utilities New Zealand (Pulse)
10.	Transpower
11.	TrustPower
12.	Vector

Source: Electricity Authority

- 2.2 Table 2 shows a high-level pictorial simplification of whether parties agree or disagree with the questions posed by the Authority in the consultation paper.
- 2.3 The consultation paper set out four high-level options:
- (a) the *two-node hybrid* – implementing a locational rental allocation (LRA) within each island
 - (b) the *three-node FTR* – adding a new FTR node at Haywards (HAY), in addition to the existing FTR nodes at OTA and BEN
 - (c) the *three-node hybrid* – adding LRAs within each island *and* a new FTR node at HAY
 - (d) the *multi-node FTR* – adding multiple new FTR nodes and/or hubs (collectively “points”) around the country.
- 2.4 The consultation paper asked whether submitters agreed that the multi-point FTR option would best support the Authority’s statutory objective. The majority of submitters that responded to this question (six out of eleven²) agreed with this view. Of the remaining six submitters:
- (a) two did not agree
 - (b) one expressed conditional support
 - (c) two responded on issues of process only.
- 2.5 The two parties that did not agree were:
- (a) TrustPower, which favoured a modified version of the *two-node hybrid*
 - (b) Contact Energy, which considered that

² Transpower did not respond to this question

“the consultation paper does not adequately demonstrate that the multi-point FTR would promote enough competitive and efficient outcomes to justify the cost”.

- 2.6 Some parties suggested that the Authority should do more work before deciding on a preferred option; conversely, others considered that the Authority had already gone beyond its mandate and that FTR market development was the responsibility of the FTR manager, through its review of the FTR allocation plan.
- 2.7 The majority of submitters expressed caution about the large number of FTR products that would be offered, and the impact of the resulting complexity on market monitors and/or participants.

Table 2 Simplified diagram showing agreement or disagreement with the propositions in the consultation questions

#	Issue	Contact	EMS ³	Genesis	MEUG	Meridian	MRP	Nova	NZX	Pulse	Transpower	TrustPower	Vector
1	Problem definition correct?	Disagree	Agree	Agree	Other response	Agree	Agree	Agree	Agree	Agree	No response	Agree	Agree
2	Short-list of options is sufficient?	Agree	Conditional	Agree	Agree	Agree	Agree	Agree	Agree	Agree	No response	Disagree	Agree
3	Other options need not be considered?	Disagree	Disagree	Agree	Agree	Disagree	Agree	Agree	Agree	Agree	Conditional	Agree	No response
4	Two-node hybrid described well?	Agree	Conditional	Agree	Agree	Agree	Agree	Agree	Agree	Agree	No response	Conditional	Conditional
5	Three-node FTR described well?	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Conditional	Conditional	No response	Agree	Agree
6	Three-node hybrid described well?	Agree	Conditional	Agree	Agree	Agree	Agree	Agree	Conditional	Agree	No response	Agree	Conditional
7	Multi-point FTR described well?	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	No response	Agree	Agree
8	All four options feasible?	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Agree	Other response	No response	Agree	Disagree
9	All four options would avoid distortion?	Disagree	Disagree	Agree	Other response	Disagree	Agree	Conditional	Conditional	Other response	No response	Agree	Disagree
10	Criteria are appropriate?	Other response	Conditional	Conditional	Other response	Agree	Agree	Agree	Disagree	Conditional	No response	Conditional	Agree
11	Multi-point FTR would best support statutory objective?	Disagree	Agree	Other response	Other response	Agree	Agree	Conditional	Agree	Agree	No response	Disagree	Agree
12	Multi-point FTR would produce the greatest net benefit?	Disagree	Agree	Conditional	Conditional	Agree	Conditional	Agree	Other response	Agree	No response	Disagree	Agree
14	Prefer nodes to hubs?	Agree	Other response	Agree	Conditional	Agree	Agree	Disagree	Agree	Disagree	No response	Agree	Conditional
15	Prefer point-to-point to radial?	Agree	Agree	Agree	Agree	Other response	Conditional	Conditional	Agree	Disagree	No response	Disagree	Agree
16	Offer both options and obligations?	Agree	Agree	Agree	Agree	Agree	Agree	Disagree	Agree	Agree	No response	Agree	Other response
17	Proceed according to the Authority's roadmap?	No response	Disagree	Other response	Agree	Conditional	Conditional	Disagree	Conditional	Agree	Disagree	Agree	Conditional
18	Develop objective criteria for adding/removing FTR nodes?	Other response	Disagree	Agree	Agree	Agree	Agree	Agree	Agree	Disagree	No response	Conditional	Disagree

Source: Electricity Authority

- Notes:
1. Question 13 is not included in the table because it was an open ended question
 2. Colours are as follows:

	Agree (possibly with further comments or clarification)
	Conditional, qualified or partial agreement
	Disagree
	Other response
	No response

³ EMS is currently the FTR manager

3 Summary of specific questions

- 3.1 This section briefly summarises responses to each of the questions posed in the consultation paper. General comments that do not relate to a specific question are summarised in Section 4.

Question 1 – Do you agree that the Authority has characterised the problem of WIBR correctly? If not, how could the problem be better described?

- 3.2 All but two of the submitters that responded to this question agreed that the Authority had accurately characterised WIBR.

- 3.3 Pulse agreed, and added that:

“there is no liquid hedge market at locations other than OTA and BEN and this stifles competition in many parts of the country”.

- 3.4 Genesis agreed, but noted that:

“the characterisation emphasises the lower North Island risk... it is also important to recognise the intra-island risk present in the upper and lower South Island”

- 3.5 Contact disagreed, commenting that:

“the Authority has provided little supporting evidence that WIBR is negatively impacting competition to the long-term disbenefit of consumers. In the absence of such analysis, Contact believes it is difficult to see where the value of introducing more complexity to the market is derived from.”

- 3.6 In development of the consultation paper the Authority conducted a considerable amount of analysis⁴ that indicated WIBR is a material risk that is limiting competition. There was no new information or evidence that was provided in submission that indicated to the Authority that this was not the case. Therefore, the Authority concludes that WIBR is a material problem and was appropriately described in the consultation paper.

Question 2 - Do you agree that these four options are an appropriate shortlist? If not, are there other options that should be considered?

- 3.7 All but two of the submitters that responded to this question agreed that the Authority had compiled an appropriate shortlist of options.

- 3.8 EMS commented that options involving LRAs should not have been shortlisted and that they should not be considered further.

- 3.9 TrustPower suggested that the Authority:

⁴ See: <http://www.ea.govt.nz/our-work/programmes/priority-projects/locational-hedges/within-island-basis-risk/>

“also investigates the potential to hold auctions for shares of the loss and constraint excess, analogous to the Settlements Residue Auction (SRA) in Australia”.

- 3.10 The Authority concludes that the short-list of four options was appropriate and that LRAs should not be discounted as an efficient response to managing WIBR in the future.
- 3.11 The Authority takes the view that SRAs are not consistent with the existing FTR regime, and therefore considers that SRAs are out of scope at this stage.

Question 3 – Do you agree that the three options in Table 2 need not be considered at this stage? If not, which of them should be considered and why?

- 3.12 The options in Table 2 of the consultation paper were:
 - (a) zonal pricing
 - (b) full FTR coverage, with FTRs offered between all pricing nodes
 - (c) Adding multiple new FTR points *and* LRAs.
- 3.13 The majority of submitters agreed that these three options should not be considered as part of this project.
- 3.14 Contact asserted that zonal pricing *should* have been considered, while Transpower:

“agrees that zonal pricing is not an option for further consideration in the FTR context but suggests it is more appropriately contemplated as a fundamental market design issue.”
- 3.15 Meridian and EMS both suggested that full FTR coverage should have been a shortlisted option, though neither party expressed whole-hearted support for full FTR coverage at this point.
- 3.16 The Authority concludes that the short-list of four options was sufficient.
- 3.17 The Authority considers that it is too early to move to full FTR coverage, for the reasons set out in the consultation paper (i.e. complexity, implementation designs and concerns about market incentives). This view is reinforced by submissions that have emphasised concerns regarding increased complexity if too many FTR points are added.
- 3.18 Zonal pricing is not within the scope of the WIBR project.

Questions 4 through 7 – Do you agree that the *two-node hybrid, three-node FTR, three-node hybrid and multi-point FTR* options have been characterised correctly? If not, how could they be better described?

- 3.19 All but one of the submitters that responded to this question agreed that these four options were described appropriately in the consultation paper. Some submitters took this opportunity to comment on the relative desirability of the four options.
- 3.20 TrustPower noted that the consultation paper contained an error on table 3, which stated that surplus and deficit revenue in the FTR market is currently

dealt with by scaling. TrustPower correctly pointed out that net surplus in the FTR market is not scaled, but passed back to Transpower's customers.

- 3.21 TrustPower also noted that it favoured a modified version of the *two-node hybrid* – a mandatory, one-sided LRA (as opposed to the two-sided LRA described in the consultation paper).
- 3.22 The Authority notes TrustPower's view, and considers that LRAs should continue to be considered as an option in the future.
- 3.23 The Authority concludes that the short-listed options were appropriately described, for the purpose of high-level consultation.

Question 8 – Do you agree that all four high-level options are feasible? If not, why not?

- 3.24 All the submitters agreed that the two “pure FTR” options are feasible.
- 3.25 All but two of the submitters that responded to this question agreed that the two LRA-based options are feasible. Vector disagreed, and Pulse did not express a view (on the basis that the *multi-point FTR* is preferable anyway).
- 3.26 The Authority concludes that no new information was raised in submissions to suggest that the four high level options are not feasible.

Question 9 – Do you agree that all four options would avoid distortion to price signals? If not, why not?

- 3.27 With two exceptions, the submitters that responded to this question fell into two groups:
 - (a) those that agreed (cautiously, in some cases) that all four options would avoid distortion to price signals to a reasonable extent
 - (b) those (including EMS, NZX and Meridian) that commented that LRAs would distort price signals.
- 3.28 The exceptions were:
 - (a) Contact Energy, which expressed concerns about the interaction between new FTRs and pivotal pricing
 - (b) TrustPower, which commented that:

“developing the FTR market to manage intra-island risk could suffer from a lack of liquidity and/or exacerbate market power issues”
- 3.29 The Authority concludes that the “pure FTR” options would not significantly distort price signals. Distortionary effects (if any) of an LRA based option will be considered if LRAs are considered to be a more efficient response to locational price risk in the future, as per the Authority's road map in section 3.79.

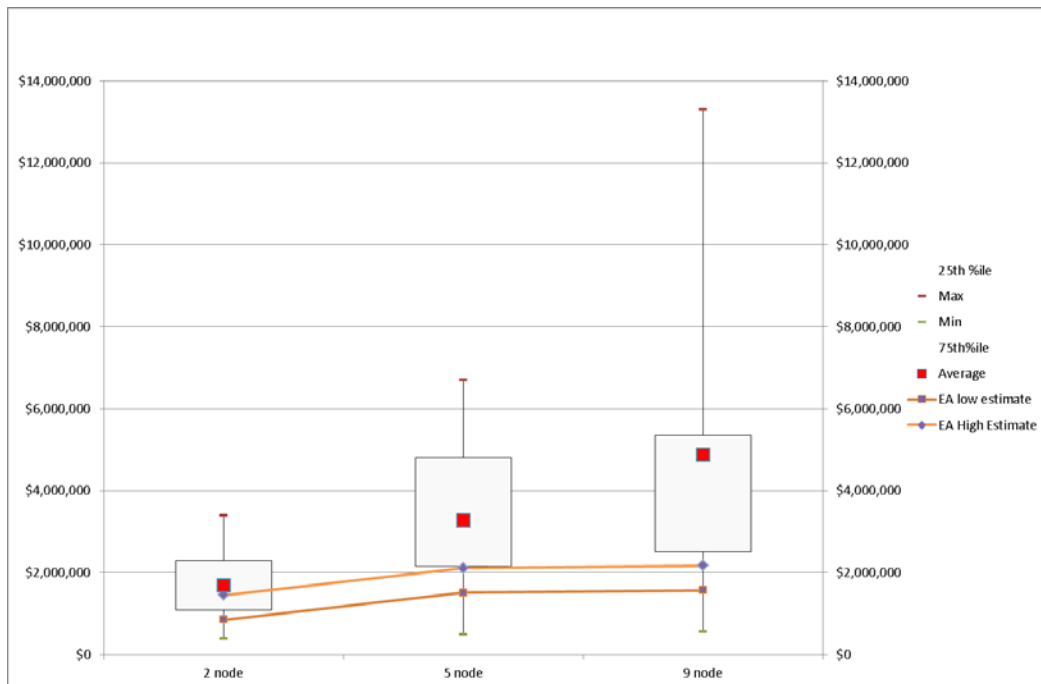
Questions 10 and 11 – Do you agree that the *multi-point FTR* would promote the Authority’s statutory objective most effectively? If not, why not, and which option do you think would most support the statutory objective?

- 3.30 Table 7 of the consultation paper set out that, in order to support the Authority’s statutory objective, an option should:
- (a) be simple and understandable for traders
 - (b) assist participants to manage WIBR in the lower North Island
 - (c) assist participants to manage WIBR associated with local spikes in various parts of the grid
 - (d) be tradable
 - (e) be flexible
 - (f) be new-entrant friendly
 - (g) be able to be implemented soon.
- 3.31 The consultation paper proceeded to evaluate the four short-listed options against these criteria, and concluded that the *multi-point FTR* would be most effective in promoting the statutory objective.
- 3.32 The majority of submitters that responded to this question (including EMS, Meridian, MRP, NZX, Pulse and Vector) agreed that the *multi-point FTR* would best support the statutory objective.
- 3.33 Nova expressed cautious agreement, while raising concerns about the number of new FTR products (this issue is discussed in Section 4). Nova’s responses to other questions make it clear that it does support the *multi-point FTR* over the other three short-listed options.
- 3.34 Some parties did not take a view:
- (a) Genesis commented that further work was needed before reaching a conclusion
 - (b) MEUG considers that the question should be resolved through cost-benefit analysis rather than through a qualitative evaluation.
- 3.35 TrustPower did not agree, instead supporting a modified *two-node hybrid*. See comments in 3.21.
- 3.36 Contact did not agree, commenting
- “we do not believe the consultation paper adequately demonstrates that multi-hub FTRs would promote enough competitive and efficient outcomes to justify the cost”.*
- 3.37 The Authority responds to this comment in respect of Question 12 and considers there is now sufficient evidence to conclude that the *multi-point FTR* is the option most consistent with the competition limb of its statutory objective.
- 3.38 The Authority notes Nova’s concerns and acknowledges that further work will be needed in order to design and implement new FTR products.

Question 12 – Do you agree that the *multi-point FTR* would produce a greater net benefit than any of the other options? If not, why not, and which option do you consider would produce the greatest net benefit?

- 3.39 EMS, Meridian, Nova, Pulse and Vector agreed that the *multi-point FTR* would produce a greater net benefit than any of the other options considered.
- 3.40 MRP expressed cautious agreement, while raising concerns about the number of new FTR products (this issue is discussed in Section 4).
- 3.41 Genesis, MEUG and NZX were unable to determine which option would produce the greatest net benefit given the information available. Both Genesis and MEUG suggested that further analysis should be carried out in order to obtain a conclusive result.
- 3.42 TrustPower did not agree, instead supporting the *two-node hybrid*.
- 3.43 Contact did not agree, commenting
“we are concerned that the net benefit is still less than the cost to industry”.
- 3.44 Contact provided detailed analysis of its own costs to support its contention that the costs of the *multi-point FTR* were understated in the consultation paper.
- 3.45 The Authority sought to gain a better understanding from FTR participants of the costs imposed on them to enter and trade in the current FTR market, and the likely costs for an expanded FTR market. Accordingly, the Authority requested cost information from FTR participants and potential participants. The aggregated cost information received by the Authority is shown in Figure 1.

Figure 1 Box and whisker chart of cost estimates supplied by participants



Source: Electricity Authority

Notes: 1. 20 year NPV compared with EA consultation paper estimates

3.46 As can be seen above in Figure 1, the Authority received a range of cost estimates. In order to revise the cost information for the CBA, the Authority used the following sensitivities for each existing FTR participant. :

- worst case scenario (the highest participant response was used for all existing FTR participants)
- average cost scenario (the average cost of all estimates provided was used for all existing FTR participants)
- the upper bound (75th percentile was used for all existing FTR participants)
- the lower bound (25th percentile was used for all existing FTR participants)

3.47 The revised cost breakdowns are shown in Table 3 below.

Table 3 Revised cost table for multi-point FTRs

Item	Consultation CBA	Revised estimate (mean of participant responses)	Estimate using 25 th percentile of participant responses	Estimate using 75 th percentile of participant responses	Estimate using highest of participant responses
Implementation cost incurred by service providers	\$0.2 M	\$0.27 M	\$0.27 M	\$0.27 M	\$0.27 M
On –going resource incurred by participants and the Authority.	\$3.0 M	\$6.2 M	\$4.5 M	\$18.0 M	\$25.0 M
Implementation resource incurred by participants	\$0 M	\$1.44 M	\$0.42 M	\$4.96 M	\$6.4 M
Total	\$3.2 M	\$7.91 M	\$5.19 M	\$23.92 M	\$31.67 M
Required reduction in cost to serve.	0.010 c/kWh	0.025 c/kWh	0.016 c/kWh	0.070 c/kWh	0.096 c/kWh

Source: Electricity Authority

Notes: 1. Cost estimates based on adding 3 new FTR points
2. Required reduction in cost to serve is based on 20% of load over a 10 year period starting after 3 years from now.

3.48 The Authority considers that the worst-case scenario and the 75th percentile do not provide a true reflection of costs to all FTR participants.

- (a) The one off set up cost in the worst-casse scenario based on five FTR points is almost certainly excessive as it is close to the set up costs for EMS for the inter-island FTR
- (b) \$500,000 should be sufficient to provide a significant modelling capability for analysing a company's FTR strategy either in house or through external providers
- (c) some of the capability required for participating in FTR auctions is also required to trade in the electricity hedge market

- 3.49 Accordingly, the Authority considers that the average cost provides a much more realistic (whilst still conservative (on the high side)) reflection of costs likely to be incurred by existing FTR participants.
- 3.50 In order for the multi-point FTR to deliver productive efficiency gains of at least \$7.9M PV over ten years, it would be sufficient for it to reduce cost-to-serve by 0.025 c/kWh for 20% of load throughout New Zealand, beginning three years from now. The reduction in cost-to-serve required to deliver efficiency gains has increased from 0.010 c/kWh as a result of the revised cost data. However, the Authority still considers that it is highly likely that a multi-point FTR would deliver productive efficiency gains of at least \$7.9M PV, equalling or exceeding the costs.
- 3.51 Note that the net benefit of a multi-point FTR is likely to be substantially less than the Authority's estimate of the net benefit of introducing inter-island FTRs, which was \$14–25M (NPV over ten years). This is consistent with the Authority's finding that inter-island price risk is more significant than within-island price risk.
- 3.52 These calculations are sensitive to various parameters, including the modelling horizon and discount rate⁵ – however the scale of the reduction in cost-to-serve is the key uncertainty. The Authority notes that a substantial amount of analysis and commentary on the mechanisms through which benefits arise was completed for the inter-island FTR market, and will be relevant to intra-island FTRs also.
- 3.53 The Authority also considers that this cost-benefit analysis may understate the benefits of proceeding with an FTR solution, since it does not include the option value associated with the multi-point FTR (which allows more flexibility for future development than the two-node hybrid)
- 3.54 The Authority's Consultation Charter⁶ states that a quantitative cost benefit analysis will be used to assess the long term benefits for consumers. However, the Consultation Charter also recognises that a quantitative cost benefit analysis will not always be possible. In this instance the Authority has decided not to quantify a reduction in cost to serve, due to the difficulty in estimating this value accurately. Instead the Authority considers that this break even analysis, and the sensitivities used, are sufficient information to support a decision.

Question 13 – If the decision is to proceed with the *multi-point FTR*, which FTR points do you consider should be added at this point, and why?

- 3.55 Responses to this question can be divided into:
- (a) comments relating to the process that should be followed to determine where new FTR points should be added
 - (b) suggestions as to where new FTR points should be located.
- 3.56 Process suggestions included that:

⁵ A discount rate of 8% has been used

⁶ Available from <http://www.ea.govt.nz/about-us/documents-publications/foundation-documents/>

- (a) objective criteria should be established before selecting new FTR nodes (Genesis)
 - (b) the Authority should provide the industry with more information on how FTRs would work before selecting new FTR nodes (MRP)
 - (c) the locations of new FTR nodes should be determined through the FTR manager's review of the FTR allocation plan, rather than by the Authority (MEUG, Vector).
- 3.57 The Authority, in conjunction with the FTR manager, will develop objective criteria for adding/removing FTR points⁷. However, the Authority considers that there is sufficient evidence and support to make a recommendation to the FTR manager for initial expansion of the FTR market.
- 3.58 Half the submitters agreed that about 7-8 new FTR points should be added at this stage. Counter views were that:
- (a) Contact expressed a preference for only two new FTR points
 - (b) EMS expressed a preference for a greater number of new FTR points.
- 3.59 Suggestions as to the location of new FTR points from submissions are shown below in Table 4.

Table 4 Suggestions for the location of new FTR points

WIBR Region	Node	Other possible regions covered	Support
Wellington	HAY	Manawatu, Taranaki	Universal
Southland	INV	Otago	Majority
Upper South Island	ISL/STK	Canterbury, Upper South Island	Majority
Taranaki	SFD	Taupo, Volcanoes	Minority
Bay of plenty	KAW/TRK/TGA	Taupo, East cape	Minority
Taupo	WRK/WKM	East cape, Bay of plenty	Minority
East Cape	GIS/RDF	-	Minority
Lower West Coast	GYM	-	Minority
Manawatu	BPE	Taranaki,	Minority

⁷ The statistical analysis contained in Appendix H of the consultation paper will assist the development of objective criteria for adding and removing FTR points.

		Wellington	
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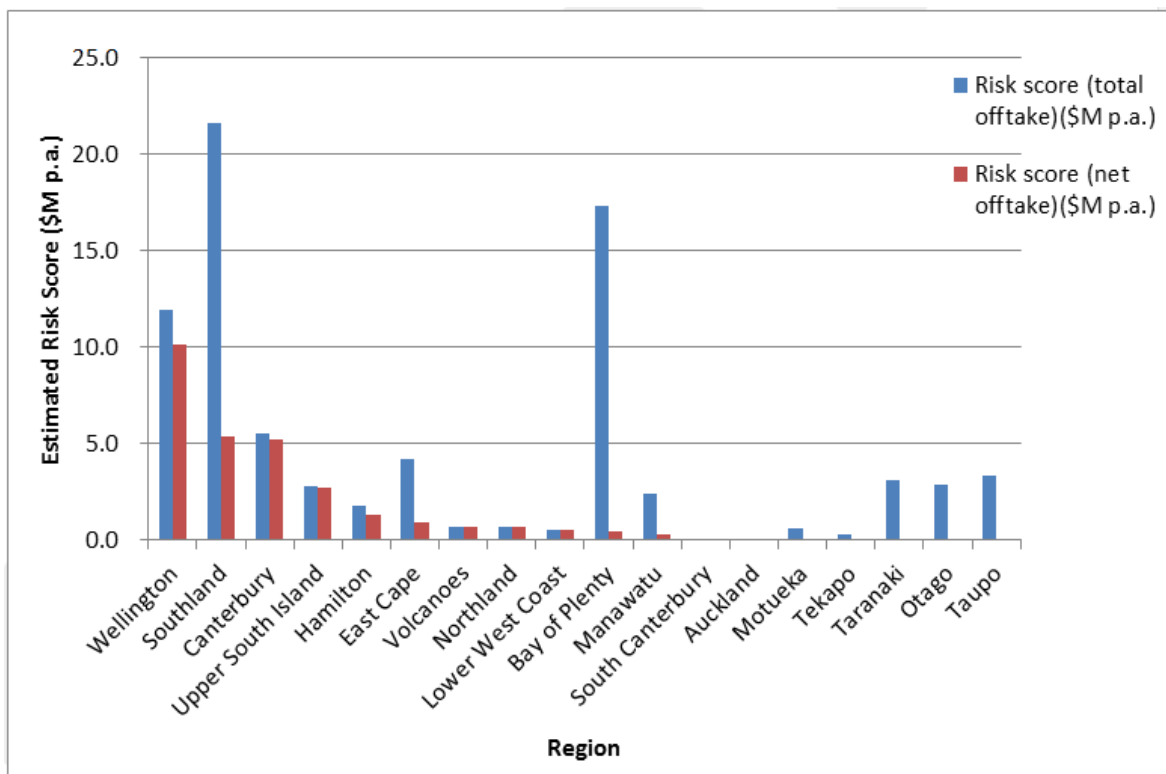
Source: Electricity Authority

- Notes:
1. The addition of a new FTR node at Kinleith has also been suggested recently.⁸
 2. Stoke and Islington have been included together as an upper South Island region as an FTR at one of these locations will benefit the other location.

3.60 Virtually all submitters agreed with the Authority’s assessment that adding an FTR point covering the lower North Island region was likely to be beneficial. In addition, a majority of submitters suggested that the addition of lower South Island and upper South Island points would also be desirable.

3.61 Figure 2 shows the regions with the greatest potential benefit from improved locational price risk management. The Authority’s preference is for the initial new FTR points to be located at load centres, rather than generation centres, to ensure that growth of retail competition is maximised. Accordingly, Figure 2 has been ranked according to net offtake. This ranking confirms submitters’ views that Wellington (lower North Island), Southland (lower South Island) and Canterbury (upper South Island) are the preferred centres for new FTR points.

Figure 2 Regional potential benefit based on net regional off-take following inter-island FTR implementation



Source: Electricity Authority

⁸ See <http://www.ea.govt.nz/dmsdocument/15531>, <http://www.ea.govt.nz/dmsdocument/15532>.

- 3.62 Therefore, the Authority intends to recommend that the FTR manager add these three additional FTR points in its 2013 FTR allocation plan. This is at the lower end of the number of new FTR points suggested for a multi-point FTR in the consultation paper.
- 3.63 In making this decision the Authority is mindful that the number of new FTR points should not lead to an overly complex market for participants. In addition, the Authority is also cautious of adding new FTR points in regions that might be subject to temporary episodes of market power⁹. The Authority considers this recommendation finds the balance between complexity and locational price risk coverage.

Question 14 – Do you agree that, if the decision is to proceed with the *multi-point FTR*, the new FTR points should generally be nodes rather than hubs? If not, why not?

- 3.64 Several submitters (EMS, MEUG and Vector) commented that this was a decision for the FTR manager rather than the Authority.
- 3.65 Nonetheless, the majority of submitters agreed that nodes should be preferred to hubs (at least at this point).
- 3.66 Nova and Pulse considered that hubs would be preferable to nodes, on the basis that they would be more effective in supporting retail competition.
- 3.67 Nova commented that:
- “hubs provide a more representative spread of retailer’s exposure across regions than single nodes. Nodes at key generation points give generators at those points a competitive advantage when offering products adjusted for price risk over generators not closely aligned to those nodes. Retailers are generally exposed across all nodes in a region and a demand weighted hub within the region will help retailers’ better manage their risk exposure across the region. Significant price differences can occur between two nodes within a region; a single node offers no protection from regional spikes, whereas a hub can reflect the overall exposure to the region.”*
- 3.68 Pulse commented that
- “Pulse’s preference would be hubs if this increases the FTR grid volume available... we also note suggested nodes are based on generator locations and not customer demand locations. Moving to a hub may also remove this anomaly as Pulse looks to hedge based on customer demand locations not generator locations.”*
- 3.69 The Authority considers that nodes would be simpler than hubs and therefore would be preferable at this stage. However, the Authority also recognises that there may be instances where a hub would be preferable to a node, as outlined in the consultation paper¹⁰. The Authority has concluded that the FTR manager is best placed to decide on a case by

⁹ This is relevant when considering new FTR points in the East Cape or Bay of Plenty regions.

¹⁰ See page 52 paragraph 5.3.5

case basis (through a consultative process) whether new FTR points should be nodes or hubs.

Question 15 – Do you agree that, if the decision is to proceed with the *multi-point FTR*, the new FTRs should be point-to-point rather than radial? If not, why not?

- 3.70 As in previous questions, MRP encouraged the Authority to engage further with the industry before forming a view, and Vector commented that this was an issue for the FTR manager rather than the Authority.
- 3.71 Nonetheless, half the submitters agreed that point-to-point arrangements would be preferable.
- 3.72 A common theme (both among those who supported point-to-point arrangements and those that did not) was that the point-to-point approach would lead to rapid growth in the number of FTR products and increased complexity. This issue is discussed in Section 4.
- 3.73 Only Pulse and TrustPower indicated a preference for radial arrangements. Pulse commented that
- “a fundamental of the [radial] design is its alignment with the futures market and this ensures generators have to compete with market participants using the future market instead of allowing them to bypass the traded futures nodes. This creates simplicity and liquidity by increasing trading volume across the FTRs as well as the futures.”*
- 3.74 Meridian considered that either point-to-point or radial arrangements could be suitable, but encouraged the Authority to come down on one side or the other at this point and stick to it – rather than transitioning at some future date.
- 3.75 The Authority considers that it is the FTR manager’s role to decide (through a consultative process) in this case whether new FTR products should be radial or point-to-point. As set out in Section 5, the Authority will make non-binding recommendations to the FTR manager to offer FTRs between the additional points on a point to point basis and ultimately has responsibility for approving the FTR allocation plan.

Question 16 – Do you agree that, if the decision is to proceed with the *multi-point FTR*, the new FTR products should include a full selection of options and obligations? If not, why not?

- 3.76 With one exception, all the submitters that responded to this question agreed that both options and obligations should be offered.
- 3.77 The only party to express a counter view was Nova, which recommended that only options (not obligations) should be available between new FTR points. Nova considered that adding obligations would add little value and would increase the number of products.
- 3.78 The Authority considers that it is the FTR manager’s role to decide (through a consultative process) whether new FTR products should include options, obligations or both. As set out in Section 5, the Authority will make non-

binding recommendations to the FTR manager to offer both option and obligation FTRs between the additional points.

Question 17 – Do you agree that, if the decision is to proceed with the *multi-point FTR*, the Authority should proceed according to the roadmap set out in Figure 7? If not, how should the Authority proceed?

- 3.79 Figure 7 of the consultation paper presented the Authority's proposed road map for future work on WIBR, showing how the Authority might approach further development of FTRs or LRAs.
- 3.80 Several submitters (including EMS, Meridian, MRP, Transpower and Vector) commented that any further consideration of LRAs should be ruled out at this point.
- 3.81 Otherwise, there was reasonable support for the roadmap, with the majority of submitters expressing some degree of agreement.
- 3.82 Several parties had process suggestions:
- (a) EMS commented that further development of FTRs should be led by the FTR manager rather than the Authority
 - (b) Genesis encouraged the Authority to consult on a *multi-node FTR* proposal before proceeding further
 - (c) Nova, who had proposed that new FTR points should be hubs rather than nodes, commented that an important part of regular review should be to review the set of nodes covered by each hub.
- 3.83 The Authority considers that it does still have a continuing role in overseeing the development of locational price risk mechanisms, in order to ensure that its statutory objective is best met.
- 3.84 Should the Authority simply hand over to the FTR manager and step away it would effectively preclude any development of alternative location price risk management mechanisms, for example Locational Rental Allocations (LRAs), Settlement Residual Auctions (SRAs), etc. As such, additional FTR points would be the only response available to manage any new material locational price risk. This may not be the most efficient response to any future locational price risk.
- 3.85 The road map identified in Figure 7 of the consultation paper outlines an approach for the Authority to conduct periodic reviews to identify whether or not new and material levels of locational price risk have developed. The process allows the Authority to consider which response (additional FTRs, LRAs, SRAs etc) best aligns with its statutory objective.
- 3.86 In addition, Schedule 14.6 of the Code partitions the pool of LCE between FTR and non-FTR LCE. One of the reasons for partitioning the LCE pool was to maintain the option value in ensuring the availability of future funding for other locational price risk mechanisms. Any change to this allocation would require the Authority to make a Code amendment.
- 3.87 The Authority considers that any decisions on the provisions of Schedule 14.6 should be made in conjunction with any decisions on future locational

price risk management mechanisms. Accordingly, the Authority considers that Schedule 14.6 should be reviewed as part of the road map for periodic review.

- 3.88 The Authority has determined that it will conduct periodic reviews as follows:
- (a) if less than 5 new FTR points are added in the 2013 FTR allocation plan, then a review would be conducted as part of the 2015 FTR allocation plan process
 - (b) if more than 5 nodes were added then a review be deferred until the 2016 allocation plan to allow the market time to function prior to any more potential changes
 - (c) reviews would be deferred at the Authority's discretion if the FTR manager proposes to add or remove nodes as part of the on-going FTR allocation plan process.

Question 18 – Do you agree that, if the decision is to proceed with the *multi-point FTR*, the Authority should develop objective criteria for adding and removing FTR nodes in future years? What should be taken into account in developing these criteria?

- 3.89 Several of the responses to this question raised issues of process. In particular:
- (a) EMS and Vector commented that further development of FTRs should be led by the FTR manager rather than the Authority
 - (b) Genesis and Meridian, while supporting the development of objective criteria, commented that the Authority should consult with the sector before establishing criteria.
- 3.90 Several submitters made suggestions as to what criteria might be used (for instance, that a net benefit should be shown, or that the addition of new FTR points should be based on an identified need by FTR participants).
- 3.91 The Authority will develop objective criteria for adding/removing FTR points in conjunction with the FTR manager.¹¹ The objective criteria will ensure that only FTR nodes that are economically beneficial to the market are added and that any FTR nodes that have become uneconomical will be removed. It is intended that the objective criteria will be developed in time for the FTR manager's consultation on the 2014 FTR allocation plan.

¹¹ The statistical analysis contained in Appendix H of the consultation paper will assist the development of objective criteria for adding and removing FTR points.

4 Other comments received in submissions

- 4.1 The majority of submitters expressed caution about the large number of products that would be offered in a point-to-point design with both options and obligations. These submitters considered that introducing many new products would increase the complexity of the market, increasing difficulties for participants and market monitors.
- 4.2 Comments focusing on risks to competition included that:
- “the multi-point FTR option... creates a risk of having so many market products that only the largest generator / retailers have the specialist resources to manage a portfolio of products”* (Nova)
- “adding even a few FTR nodes will increase the level of complexity in the market, and place a barrier to entry for a new-entrant retailer”* (TrustPower)
- “the Authority should satisfy itself that... increased complexity would not impact on... the ability for new entrants to reasonably participate in the market”* (MRP).
- 4.3 Proposed solutions included:
- (a) offering only two new FTR nodes (Contact)
 - (b) at least considering radial FTR arrangements (Meridian, MRP, Nova, NZX, TrustPower)
 - (c) offering options only (Nova).
- 4.4 The Authority is concerned that the costs and resources required for participation in an overly complex FTR market may inhibit or even prevent new parties from trading in the FTR market. In addition, the Authority does not wish to see an FTR market where the complexity results in the costs to existing participants outweigh the benefits.
- 4.5 Accordingly, the Authority will recommend that three new FTR points¹² are added in the 2013 FTR Allocation Plan. Haywards, Invercargill and Islington have been carefully chosen as new FTR points in order to maximise the benefits to retail competition whilst minimising additional complexity.
- 4.6 Objective criteria for adding and removing FTR points will be developed by the Authority, in conjunction with the FTR manager, to achieve an enduring balance between complexity and comprehensive LPR coverage.
- 4.7 Other comments received in submissions are listed in Table 5.

¹² See section 3.62

Table 5 Other comments (in no particular order)

Comment	Submitter(s)	Authority response
A mid-2014 date for introducing the new FTR products seems too rushed – there should be a longer interval between policy being set and new products becoming available.	Contact	The Authority sought advice from its Locational Price Risk Technical Group (LPRTG). The Authority has concluded that a period of six months, from the release of technical specification data from the FTR manager, would be required by participants to prepare for an expanded FTR market. The Authority will outline this to the FTR manager in its letter of recommendation.
The FTR manager, participant and/or Authority costs associated with the introduction of new FTRs may be understated.	EMS, Contact	The Authority has revised its CBA with updated cost information. See sections 3.39 to 3.53
As suggested in the consultation paper, the practice of partitioning LCE into “FTR LCE” and “non-FTR LCE” using the method set out in Schedule 14.6 of the Code could be abandoned.	EMS, Meridian	The Authority considers it is not desirable to review Schedule 14.6 of the Code at this stage. See section 3.86 to 3.87
As a matter of priority, the capacity, liquidity and/or firmness of existing FTR products should be improved.	Genesis, MRP, Meridian	The Authority notes these concerns. They are out of scope for this consultation, but can be addressed through the 2013 review of the FTR allocation plan.
Further FTR development should be driven by the FTR manager.	Transpower, EMS, Vector	The Authority considers that it is the FTR manager’s role to decide (through a consultative process) the design of new FTR products. However, as per section 3.83, the Authority considers that it does still have a continuing role in overseeing the development of locational price risk mechanisms, in order to ensure that its statutory objective is best met.

Source: Electricity Authority

5 Outcomes and next steps

5.1 The consultation paper set out the Authority's proposed next steps as follows.

"If (following consultation) the Authority concludes that the multi-point FTR is the option most consistent with its statutory objective, it will proceed to advise the FTR manager of this decision through a letter of expectation.

"No Code amendment would be necessary to expand the FTR market. However, the Authority would take this opportunity to make (non-binding) recommendations to the FTR manager on how new FTR products should be designed.

"The FTR manager could then consider the Authority's advice in its 2013 review of the FTR allocation plan. Under the contract this review is to be completed by October 2013, but that date could be pushed back if necessary.

"The Authority will continue to monitor WIBR. If WIBR continues to inhibit retail competition in affected areas, the Authority will consider taking further steps to assist participants to manage it.

"It may eventually be appropriate to review the split between FTR and non-FTR loss and constraint excess (LCE) [as specified in Schedule 14.6 of the Code]."

5.2 Following consideration of submissions, the Authority has concluded that the *multi-point FTR* is the option most consistent with its statutory objective. Whilst the Authority was not able to complete a quantitative CBA, the qualitative CBA indicates a positive benefit. The multi-point FTR also supports the Authority's Tie-breaker principles 4-8 (used when a positive quantified CBA is inconclusive as to the best option). In particular, a multi-point FTR is small scale, easily reversible and will increase competition.

5.3 The Authority will therefore write to the FTR manager to:

- (a) request that the FTR manager proceed to design and implement a *multi-point FTR* solution
- (b) make the following (non-binding) recommendations to the FTR manager on how new FTR products should be designed:
 - (i) add Haywards, Invercargill and Islington as additional FTR points in the FTR market as part of the 2013 FTR allocation plan review
 - (ii) develop, in conjunction with the Authority, objective criteria to determine where FTR points should be added/removed
 - (iii) offer the both option and obligation FTRs between the additional points.
 - (iv) offer the FTRs between the additional points on a point to point basis

- (v) hold the first Auction of the additional nodes not less than 6 months after publishing the final technical specification.
- 5.4 The Authority sought feedback on whether new FTR points should be added as hubs or nodes. The Authority has concluded that whilst new FTR points based on nodes would be simpler, there may be some instances where, for technical reasons, a hub may be preferable. Accordingly, the Authority considers that the FTR manager is best placed to judge whether a new FTR point should be based on a hub or node.
- 5.5 The Authority will follow its road map for periodic consideration of locational price risk. The Authority has determined that it will conduct periodic reviews as follows:
- (a) if less than 5 new FTR points are added in the 2013 FTR allocation plan, then a review would be conducted as part of the 2015 FTR allocation plan
 - (b) if more than 5 nodes were added then a review be deferred until the 2016 allocation plan to allow the market time to function prior to any more potential changes
 - (c) reviews would be deferred at the Authority's discretion if the FTR manager proposes to add or remove nodes as part of the on-going FTR allocation plan process.
- 5.6 It is not yet necessary to review the split between FTR and non-FTR LCE (as specified in Schedule 14.6 of the Code). The Authority will review Schedule 14.6 as part of the road map process outlined above.
- 5.7 The Authority and the FTR manager will develop objective criteria for adding/removing FTR points. The objective criteria will ensure that only FTR nodes that are economically beneficial to the market are added and that any FTR nodes that have become uneconomical will be removed. It is intended that the objective criteria will be developed in time for the FTR manager's consultation on the 2014 FTR allocation plan.

Glossary of abbreviations and terms

Authority	Electricity Authority
BEN	Benmore (node)
FTR	Financial transmission right
HAY	Haywards (node)
LCE	Loss and constraint excess
LPRTG	Locational Price Risk Technical Group
LRA	Locational rental allocation
<i>Multi-point FTR</i>	Option involving adding multiple new FTR nodes and/or hubs (collectively “points”) around the country
OTA	Otahuhu (node)
<i>Three-node FTR</i>	Option involving adding a new FTR node at HAY, in addition to the existing FTR nodes at OTA and BEN
<i>Three-node hybrid</i>	Option involving LRAs within each island <i>and</i> a new FTR node at HAY, in addition to the existing FTR nodes at OTA and BEN
<i>Two-node hybrid</i>	Option involving implementing a LRA within each island
WIBR	Within-island basis risk