21 January 2022

Submissions
Electricity Authority

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Electric Kiwi welcomes the 2021 dry year review

Electric Kiwi and Haast Energy Trading (Haast) welcome and support the Electricity Authority undertaking reviews of how well the market has operated during times of stress, such as the 2021 dry year.

We welcome that the Authority has also signalled it is looking into the circumstances behind the high prices in January 2022.[1] We consider that hydro conditions exacerbated the core underlying problems of market concentration and exercise of market power in 2021;[2] while in January 2022 lake levels are more than adequate but we are still seeing the underlying market concentration problems manifest.

Scope of the review

We recognise the Authority's intent is that the dry year review does not include "market structure" or "trends within wholesale prices, except in the context of the acute impact of wholesale pricing on securing the outcomes sought by the security of supply regime", which are covered by the wholesale market review (WMR).

The issues the Authority has identified as part of the WMR, however, directly impact of how well dry years are managed and vice versa. The overlap in issues between the dry year review and the WMR are such that our submission is relevant to both reviews.

The tight link is highlighted by Meridian's attempt to somehow use the Authority's 2021 dry year review as evidence there is no market power problem in relation to the WMR e.g.:

> The Authority commissioned an independent review of 2021 by Martin Jenkins (overlapping with the last six months of the Authority's own wholesale market review). The independent review of 2021 found: …
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> "The system worked as intended. …"
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> We encourage the Authority to consider the independent review findings alongside its own analysis.

The dry year review should not be considered in a policy silo

The dry year review, WMR and hedge market development are all highly inter-related projects.

The Authority's comment that "the role of higher prices is recognised as an appropriate means of rationing to ensure we get through the dry year, including promoting efficient operation in the event of dry-year scarcity and efficient investment in generation and demand response to manage dry years" naturally leads to the question about whether or not price increases are efficiently justified by scarcity, and/or reflect significant/substantial market power resulting in inefficient management of dry years.[3]

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[1] https://www.ea.govt.nz/about-us/media-and-publications/market-commentary/market-insights/high-wholesale-electricity-prices-in-jan-2022/

[2] Axiom (on behalf of Meridian) has noted that "the demand and supply conditions that can lead to high spot prices in a well-functioning competitive spot market … are also the most likely to encourage the exercise of market power" and "Specifically, it is in that same environment in which market participants can have the strongest incentives to engineer price spikes through creating – or signalling – contrived scarcity" i.e. market power problems can exacerbate the impact of dry-year situations on spot prices etc. Axiom (on behalf of Meridian), Economic Review of the Electricity Authority's Analysis of Spot Prices, December 2021.

[3] See Axiom's observations at footnote 2.

The interlinkages are made very clear by Meridian's WMR submission (including its consultant reports; particularly Axiom). The Meridian submission explains that wholesale market pricing outcomes, and how efficiently dry year risk is managed, are a function of the commercial decisions and judgements it makes. For example:

- Meridian has stated that its "prudent" storage management is "a driver of high offer prices" and "the spot prices observed in the wholesale market over the period … reflect … prudent storage management decisions in response to gas market issues":[4]

  > "The very close correlation between actual generation and modelled optimal volumes is direct evidence that the supposedly unexplained uplift in prices is (at least for Meridian's part) not attributable to the exercise of market power but rather the offers that were required to deliver prudent storage management in the face of increased uncertainty about gas generation and limited gas flexibility."
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  > "… the statistically unexplained uplift in prices is (at least for Meridian's part) not attributable to the exercise of any market power but rather the offers that were required to deliver prudent storage management in the face of increased uncertainty about gas generation and limited gas flexibility."

  Axiom similarly commented that "managing scarcity" can have a "strong influence … on … "expected spot prices".[5] Meridian (and Axiom) err in trying to distinguish between exercise/use of market power and the purported purpose that "offers that [Meridian considers] were required to deliver prudent storage management".

- Meridian says that it adopts a more conservative approach to storage management than other generators; particularly thermal generators.

- Meridian effectively implies it acts as de facto regulator determining the level of dry year risk the market should be exposed to: "Meridian is fortunate to hold around 40 percent of New Zealand's hydro storage in Lakes Pūkaki and Ōhau (1766GWh). With that storage, comes the responsibility of ensuring that storage is prudently managed … The assessment made by Meridian is that storage management that applies modest risk aversion is in the best interests of New Zealand and in the best interests of Meridian commercially".

- How dry year risk is managed is a function of Meridian's contractual (vertically-integrated) position. This reiterates the position the Brattle Group (on behalf of Meridian) has previously enunciated about how Meridian offers its generation plant to ensure its generation meets its retail customer demand and prices high beyond that:[6]

  > Meridian has, over the past several years, consistently employed the same bidding strategy. It typically offers its hydro generation into the pool in three main groups of tranches. The first group is offered at or near $0/MWh to ensure that it is picked up by the market, and is intended to be roughly equal to Meridian's contracted load requirements. This usually represents the majority of Meridian's hydro generation capacity. In the second group, Meridian offers a smaller amount of generation based on the availability and opportunity cost of water at various prices (typically less than $350/MWh).

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[4] Meridian, Meridian submission: Review of competition in the wholesale market, 22 December 2021.

[5] Axiom's submission highlights well that if Meridian has significant or substantial market power and adopts a "conservative" approach to hydro storage it can result in substantially higher prices. A principal proposition of Axiom's is that the "'scarcity management' strategies" of "different generators" "have the potential to result in prices that exceed the generators' operating and maintenance costs". What Axiom (and Meridian) fail to acknowledge is that this is only possible if a generator has significant or substantial market power, otherwise their individual decisions would not impact spot prices.5

For example, Axiom used an example where there is a 98% probability that there will be enough existing generation capacity to meet an additional unit of demand, the short run operating and maintenance cost of the marginal generator in that scenario would be $10/MWh, and the opportunity cost to customers who consequently miss out (due to scarcity) at time t would be $10,000/MWh (the assumed VoLL).

Axiom noted: "With these simplifying assumptions, the expected spot price at time t would be: (98% x $10/MWh) + (2% x $10,000/MWh) = $209.50/MWh". Using this example, if Meridian is gross pivotal and adopted a conservative approach to dry-year management assuming a 4% probability of shortage, the SRMC would nearly double to $409.60/MWh.

[6] The Brattle Group, New Zealand Electricity Authority's Preliminary Decision on UTS, 18 August 2020.

Electric Kiwi and Haast prefer a workably competitive market where the management of dry year risk is managed by the interplay of many market participants on the supply and demand side, none of whom can materially influence price and market outcomes, rather than being beholden to the commercial decisions and judgements of Meridian as the largest and most dominant generator.

A representative selection of market participants should have been interviewed, and not just large market participants

We consider that it would have been preferable for Martin Jenkins to have interviewed a broader cross-section of market participants – including independent retailers and large users – rather than limiting the interviews to large generators (plus Pioneer and Nova), Transpower, the Authority and MBIE.

The limitations of the narrow interview group are reflected in Martin Jenkins "[o]verall" conclusion "larger market participants were prepped for a dry year and had plans to manage the risk". What about smaller market participants and everyone else?

Summary of Electric Kiwi and Haast's views

- **Efficient management of dry years requires: (i) prices which reflect genuine scarcity only; and (ii) market particpants have tools available to efficiently manage dry year risk.** Problems with significant or substantial market power in the wholesale market resulting in artificially high spot prices are well telegraphed in the Authority's wholesale market review, while problems with hedging arrangements have been extensively detailed by independent retailers, including in the Electricity Price Review.

- Market arrangements that rely on high prices to (efficiently) signal scarcity can be put at risk if prices also reflect significant/substantial market power, and if prices rise to levels well above that justified by market conditions/scarcity of supply.

- **Market power problems harm the wholesale electricity market's ability to efficiently manage dry year risk:** The dry year and wholesale market reviews should not be conducted in isolation of each other.

- **Meridian's size and market power means how well dry year risk is managed depends on its commercial decisions and judgement:** Meridian's WMR submission (including Meridian's consultant reports), if taken at face value, indicates Meridian adopts a "conservative" approach to storage management – which is more conservative than its competitors such as Genesis – and this can explain why spot prices were so high in 2021 (and adjoining years).

  What can be taken from the Meridian submission is that the market outcomes in 2021 were not simply a function of price discovery or the multiple competing suppliers making individual judgements about the dry year situation in a workably competitive market. Rather Meridian's significant or substantial market power meant it was able to raise prices in 2021, and the efficiency of dry year management was a function of Meridian's judgements. If Meridian gets it wrong, New Zealand gets it wrong.

- **Implications of the structure of the market and, specifically, Meridian should be considered:** The Authority should specifically consider the impact of Meridian's size, and control over the majority of water storage in New Zealand. Meridian has been left with 55-to-60% of New Zealand's hydro generation capacity and 35% of New Zealand's generation supply.[7]

  As part of next steps, the Authority should consider the implications of Meridian's statements that how the dry year is managed is a function of the mix of generation plant it owns and operates, and its contract position/level of vertical-integration:

[7] The Authority's WMR noted "Meridian has 30 percent of the market-generating capacity (from its South Island hydro generation) but is needed to meet demand over 90 percent of the time"

"In respect of all these statements, the distinction is obviously that Meridian and Mercury do not have thermal plant to turn on, so manage storage lakes to reduce shortage risks using higher offers. The commercial implications of shortage are significant for hydro generators who would be short and purchasing from spot to cover contracts at very high prices."[8]

"… when Manapōuri experiences low lake levels, additional storage from lake Pukaki can be used to cover Meridian's contract position."[9]

"Different generators may also have contrasting expectations about future supply risks and varying approaches to managing them. … For example:

▪ hydro generators with discretionary thermal generation (e.g., Genesis and Contact) may have a greater appetite for risk, safe in the knowledge they can rely on those assets as 'back-up' if water levels run low; whereas

▪ Meridian does not own any thermal 'firming' plants that it can fall back on if its southern storage lakes start to run dry, which may diminish considerably its willingness to needlessly elevate longer-term supply risks."[10]

- **Market participant conduct and market participant statements about their conduct are relevant:** Meridian has been very clear "Spilling … is consistent with the normal operation of the wholesale market"[11] and the Authority's December 2019 UTS determination concluded that Contact/Meridian hydro spill resulted in greater operation of Mercury's hydro resulting in reduction in North Island hydro storage[12] e.g. "excess spill in the South Island … increased security of supply risks in the North Island". It could be useful to test whether, or the extent to which, this impacted the extent of the 2021 dry year situation.

- **The Authority should review the Consumer Compensation Scheme:** Electric Kiwi and Haast consider that, as part of consideration of how well the market manages dry year risk, the Authority should review the role and function of the Consumer Compensation Scheme (CCS). The Authority last undertook what it labelled a "limited" review of the scheme in 2016.

  The scheme is biased against independent retailers who are required to compensate consumers in a dry year situation even though independent retailers have no control over the situation. The vertically-integrated retailers are insulated from the cost of the scheme as they can fund CCS payments through higher wholesale electricity prices.

- Mercury Energy's terms and conditions should specifically be looked at as part of the review of the CCS. The Mercury terms and conditions mean that if a dry year situation arises, including a requirement to make CCS payments, Mercury can simply raise their retail prices with only 48 hours notice.

Efficient management of dry years requires: (i) prices which reflect genuine scarcity only; and (ii) market particpants have tools available to efficiently manage dry year risk

It is appropriate (high) prices signal scarcity, but this is undermined where market participants and consumers don't have confidence that heightened prices reflect genuine scarcity rather than (or as well) significant or substantial market power.

These issues are well telegraphed in the Authority's wholesale market review.

For example, we agree with the Authority WMR finding that "There is some evidence of an increased incentive and ability for electricity generators to structure their offers into the market in a way that keeps prices high

[8] Meridian, Meridian submission: Review of competition in the wholesale market, 22 December 2021.
[9] Meridian, Meridian submission: Review of competition in the wholesale market, 22 December 2021.
[10] Axiom (on behalf of Meridian), Economic Review of the Electricity Authority's Analysis of Spot Prices, December 2021.
[11] Meridian Submission, Preliminary decision on claim of an undesirable trading situation, 18 August 2020.
[12] The Authority noted: "Water was spilled that could have been used to generate electricity. Had this generation been dispatched, the Authority's analysis indicates that there would have been a significant impact on electricity spot prices and North Island fuel (water) would have been conserved to deal with impending outages. As well as adversely impacting the spot market, excess spill in the South Island thus increased security of supply risks in the North Island". Electricity Authority, Proposed Actions to Correct Undesirable Trading Situation 2019, Consultation paper, 11 March 2021.

(economic withholding)" and there is "evidence to suggest that prices may not have been determined in a competitive environment".[13]

The 2021 dry year review is out of step with the WMR e.g. the WMR consultation paper uses UTS language and talks about a "confluence of factors that lead to prices that were higher than average in the first half of 2021" but Martin Jenkins not consider the WMR findings that high prices cannot be fully explained by legitimate supply and demand conditions, and evidence prices were substantially higher than they needed to be reflecting the use of significant/substantial market power.

The interlinkage between the Authority's WMR, and consideration of how well the market managed the 2021 dry year, is also reflected in the Authority's observation of growing market power problems leading up to the dry year e.g. "Meridian … was gross pivotal in the South Island around 77 percent of the time in each year from 2016 to 2018. This increased to around 90 percent to 95 percent in 2019 to 2021 (to 30 June)". This means that 90 to 95% of the time Meridian has market power enabling it to set the spot price by withholding electricity capacity or raising offer prices (which the Authority describes as "economic withholding").

We saw this vividly in December 2019 when the Authority found Meridian (and Contact) unnecessarily spilt water resulting in higher spots and an Undesirable Trading Situation.[14]

Meridian's WMR submission (including Meridian's consultant reports; particularly that of Axiom) indicates Meridian adopts a conservative approach to storage management – which is more conservative than its thermal generation competitors such as Genesis – and this can explain why spot prices were so high.

Meridian (and Axiom) is dancing on the head of a pin in its attempt to distinguish between between exercise of market power and the purported purpose that "offers that were required to deliver prudent stoarage management in the face of increased uncertainty about gas generation and limited gas flexibility".[15]

A correct interpretation of Meridian's (and Axiom) submission is that Meridian is exercising significant or substantial market power in applying judgement about how hydro storage should be managed on the market, rather than "that those offers could have been an exercise of market power to increase revenue" [emphasis added] per se. The Meridian (and Axiom) story is essentially that higher spot prices are an outcome (or byproduct) of the (benevolent) exercise of market power to manage dry year risk on behalf of the market, but not the "purpose" of the exercise of market power.

Whether or not market power is exercised to reflect judgements about prudent storage management or to extract higher prices doesn't change that Meridian exercised significant or substantial market power during the 2021 dry year and beyond.

Axiom (for Meridian) articulate well that "… different generators may have contrasting expectations about future supply risks, (i.e., these are not 'facts' – there is an unavoidable element of subjectivity). Hydrological conditions, the nature of drought and the intensity of spill all vary across the different catchment systems. Generators' approaches to managing those perceived risks may also be coloured by a plethora of other factors, including the combination of generation technologies comprising their respective profiles".[16] This is what you want and should expect in a workably competitive market. What you don't want, and what would be inconsistent with workably competitive market outcomes, is if any individual generator has significant or substantial market power which means its expectation about future supply risks, and how they should be managed, etc materially impacts prices or how well the dry year risk is managed.

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[13] Similarly, according to The Brattle Group, acting for Meridian, "The concentrated structure of the New Zealand market" results in prices deviating from cost. Meridian has similarly been clear "there are no requirements to offer based on costs" and it is "economically rational" for generators to seek to generate "at prices the market will support".
[14] The Authority found that Meridian (and Contact) didn't breach the high standard of trading conduct rules that existed at the time because it was "shielded" by the safe-harbour provisions which existed at the time. Meridian unsuccessfully complained to the Broadcasting Standards Authority when Radio NZ correctly made the point that Meridian got off on a "technicality".

The Trading Conduct rules have been amended to remove the safe-harbour provisions and this loophole.
[15] Meridian, Meridian submission: Review of competition in the wholesale market, 22 December 2021.
[16] Axiom (on behalf of Meridian), Economic Review of the Electricity Authority's Analysis of Spot Prices, December 2021.

What can be taken from the Meridian submission is that market outcomes in 2021 were not simply a function of price discovery or multiple competing suppliers making individual judgements about the dry year situation in a workably competitive market. Rather Meridian's significant or substantial market power meant it was able to raise prices in 2021, and the efficiency of dry year management was a function of Meridian's judgements. If Meridian gets it wrong, New Zealand gets it wrong.

Further, for "efficient management of a medium-term energy scarcity situation" a level playing field is needed where market participants (not just vertically-integrated incumbents) can access appropriate hedge/risk management tools. This is particularly the case where prices not only reflect scarcity, but also the exercise of significant/substantial market power.

These issues have been well telegraphed in independent retailer submissions on hedge market reform, and the risk of price squeezes (particularly, in response to the internal transfer price disclosure consultation).[17] The issues have manifest in a reduction in the level of retail competition with independent retailers forced to manage dry year risk through curtail of customer growth.[18]

Strawman arguments and claims

The Martin Jenkins report makes a number of strawman arguments which aren't substantiated and detract from the report e.g. claims that "confidence was threatened in the later stages of the dry year event by building media and political pressure", and "If the rules were to be rewritten on the fly, market certainty would have been shattered".

The Authority similarly talked axiomatically about "the gap between actual risk and perceived risk" without providing evidence of this gap, or detailing what the gap actually is. It appears to be implicit that the Authority considers 'perceived' risk is higher than actual risk.

The Authority also raised concerns about the regime being "undermined by interest groups" and that this could "compromise the efficiency and effectiveness of the system, ensuring the regulatory and market arrangements are durable". Electric Kiwi and Haast consider that if the "system" is efficient and effective then regulatory and market arrangements should be durable. Durability is undermined where substantial market or regulatory failures exist and these are not addressed. Our views on durability issues are detailed in our submission, and the joint independent retailer submission, on the WMR e.g. the independent retailer submission noted "It is the continued (and/or increasing) exercise of market power that undermines confidence in the market".

The Authority should review the Consumer Compensation Scheme

Electric Kiwi and Haast consider that, as part of consideration of how well the market manages dry-year risk, the Authority should review the role and function of the Consumer Compensation Scheme (CCS). The Authority last undertook what it labelled a "limited" review of the scheme in 2016.

Electric Kiwi and Haast consider the scheme to be anachronistic, and unsuitable for a market where there is a mix of vertically-integrated and independent retailers.

The scheme is based on the flawed premise that it is needed "to strengthen a retailer's incentives to hedge". This turns the problems in the electricity market on their head. The problem isn't that retailers do not have sufficient incentives to hedge. The problem is lack of availability of adequate hedging arrangements for

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[17] In order to test whether independent or new entrant retailers can compete on a level playing field, or whether there are price squeezes, what matters is comparing the wholesale input price the vertical-suppliers use for retail pricing purposes to what prices third party retailers could reasonably access.
[18] The independent retailer submissions on the WMR detail how Electric Kiwi ceased marketing, Flick Electric ceased accepting new customers altogether, various independent retailers withdrew from Powerswitch, as well as worrying changes in market concentration statistics during 2021 (particularly in the South Island).

independent retailers. This has been well documented in independent retailer submissions and the recent Electricity Price Review.

The management of dry year risk is a function of incumbent generator/vertically-integrated retailer decisions as made clear by the Meridian WMR submission cited above.

The scheme is biased against independent retailers who are required to compensate consumers in a dry year situation even though independent retailers have no control over the situation. The vertically-integrated retailers are insulated from the cost of the scheme as they can fund CCS payments through higher wholesale electricity prices.

Mercury Energy's terms and conditions should specifically be looked at as part of the review of the CCS. The Mercury terms and conditions mean that if a dry year situation arises, including a requirement to make CCS payments, Mercury can simply raise their retail prices with only 48 hours notice:[19]

21. **Temporary Supply Emergency**

21.1 If at any time we reasonably consider that a serious Energy supply shortage or other threat to our ability to supply Energy exists or is imminent we may declare a "Temporary Supply Emergency", either by written notice or in a public notice in a local newspaper or on our website (www.mercury.co.nz). Any declared Temporary Supply Emergency shall continue in force until either the date (if any) stated in the notice declaring the Temporary Supply Emergency or the date upon which the Temporary Supply Emergency is subsequently declared to be ended as advised by us in a written notice or Public Notice or on our website, as contemplated by clause 11.

21.2 Notwithstanding any other provision in these standard terms and conditions, during any Temporary Supply Emergency we may make temporary changes to the standard terms and conditions and/or our prices by giving you at least 48 hours' notice ('Shortened Notice of Change'), either by written notice or in a public notice in a local newspaper or on our website (www.mercury.co.nz). Any changes made using a Shortened Notice of Change will automatically expire at the end of the Temporary Supply Emergency, at which time the standard terms and conditions and our prices shall revert to those in force immediately prior to the giving of the Shortened Notice of Change. For the avoidance of doubt, any change made by giving you at least 30 days' notice will not constitute a Shortened Notice of Change.

Concluding remarks and next steps

Electric Kiwi and Haast do not consider Meridian acting as de facto regulator determining the level of dry year risk the market should be exposed to is an efficient way to manage dry year risk. Rather, efficient management of dry year risk requires a workably competitive market – with prices which reflect genuine scarcity only – and the ability of all market participants to efficiently manage dry year risk e.g. through hedging arrangements. These are two gaps in the current market which need to be addressed. Electric Kiwi and Haast consider that the WMR is likely to be a good vehicle for doing so. We note independent retailer submissions have highlighted that the Authority should consider how market concentration problems in the wholesale market manifest in closely related (hedging) and downstream (retail markets).[20]

The dry year review and the wholesale market review should not be conducted in isolation of each other, and the wholesale market review should feed into the dry year review.

As part of next steps, the dry year review should specifically consider:

- The impact of significant or substantial market power on the efficient management of dry year risk; including:
    - The extent to which dry year management deviates from workably competitive market outcomes;
    - The extent to which dry year management depends on the commercial decisions and judgements of Meridian;

[19] https://www.mercury.co.nz/terms-conditions/residential/standard-terms-and-conditions-for-residential-cust.aspx
[20] The European Union has observed "Where [a supplier] has significant market power on a specific market, it may also be deemed to have significant market power on a closely related market, where the links between the two markets are such as to allow the market power held in one market to be leveraged into the other market, thereby strengthening the market power of the [supplier]".

Article 14(3) of Directive 2002/21/EC: https://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX:32002L0021.

- The implications of Meridian's statements that how the dry year is managed is a function of the mix of generation plant it owns and operates, and its contract position/level of vertical-integration:

> "In respect of all these statements, the distinction is obviously that Meridian and Mercury do not have thermal plant to turn on, so manage storage lakes to reduce shortage risks using higher offers. The commercial implications of shortage are significant for hydro generators who would be short and purchasing from spot to cover contracts at very high prices."[21]
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> "… when Manapōuri experiences low lake levels, additional storage from lake Pukaki can be used to cover Meridian's contract position."[22]
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> "Different generators may also have contrasting expectations about future supply risks and varying approaches to managing them. … For example:
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> ▪ hydro generators with discretionary thermal generation (e.g., Genesis and Contact) may have a greater appetite for risk, safe in the knowledge they can rely on those assets as 'back-up' if water levels run low; whereas
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> ▪ Meridian does not own any thermal 'firming' plants that it can fall back on if its southern storage lakes start to run dry, which may diminish considerably its willingness to needlessly elevate longer-term supply risks."[23]

- The implications of Meridian's allegations about "the possibility of economic withholding by thermal generators";
- The impact of the 'Tiwai contract' on the 2021 dry year;
- How the extended dry year situation impacted retail competition, including the extent to which market particpants (particularly independent retailers) have tools available to efficiently manage dry year risk;
- The role and function of the Consumer Compensation Scheme; and
- Mercury Energy's terms and conditions should specifically be looked as part of the review of the CCS. The Mercury terms and conditions mean that if a dry year situation arises, included a requirement to make CCS payments, Mercury can simply raise their retail prices with only 48 hours notice.

Yours sincerely,

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[21] Meridian, Meridian submission: Review of competition in the wholesale market, 22 December 2021.
[22] Meridian, Meridian submission: Review of competition in the wholesale market, 22 December 2021.
[23] Axiom (on behalf of Meridian), Economic Review of the Electricity Authority's Analysis of Spot Prices, December 2021.