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Consultation: Advancing New Zealand's energy transition
Energy and Resource Markets
Building, Resources and Markets
Ministry of Business, Innovation and Employment
Wellington

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Stronger competition is key to affordable electricity and a successful energy transition

2degrees, Electric Kiwi, Flick Electric and Pulse Energy (the independent retailers) consider that a much more competitive electricity market is needed.

Well-functioning and highly competitive markets are vital for ensuring the right investment is made, at the right time and at the right place for new electricity generation at an efficient and affordable cost for consumers. Highly competitive retail markets are the best way to ensure Kiwi households and businesses receive affordable electricity and to encourage electrification/substitution away from other fuel sources.

We agree with MBIE that a "key competition issue in the electricity market is the prospect of increased market concentration" and "the potential for weakened competition … warrants further consideration". Our submission details evidence of existing problems that could get a lot worse and need to be addressed urgently.

Our submissions to the Electricity Authority, in relation to its wholesale market review and the MDAG 100RE project, traverse issues that overlap the MBIE market measures consultation and are part of our submission.[1] These submissions provide evidence of structural problems in the electricity market, competition isn't working as well as it should and of the risks to the electricity market and energy transition if existing problems are not adequately addressed. One of the key themes of the

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[1] 2degrees, Electric Kiwi, Flick Electric, Haast Energy Trading (Haast) and Pulse Energy, There is a substantial 'risk of unintended consequences' if the transition to greater reliance on renewables isn't well managed, 3 March 2023, at: https://www.ea.govt.nz/documents/2519/Haast__Independent_retailers_-_MDAG_submission_-_100RE_Options_-_2023_03_03_FINAL.pdf

Electric Kiwi, Flick Electric, Pulse Energy, and Vocus, MDAG has highlighted well the importance of addressing competition problems to enable efficient operation of the wholesale electricity market and successful transition to 100% renewables, 11 March 2022, at: https://www.ea.govt.nz/documents/1101/Independent-retailers-MDAG-100RE-issues-submission.pdf

2degrees, Electric Kiwi, Flick Electric, Haast Energy Trading (Haast) and Pulse, The Authority has robustly identified large, structural problems in the wholesale electricity market, 14 December 2022, at: https://www.ea.govt.nz/documents/2300/Haast___Independent_Retailers_-_WMR2_-_2022_12_14_-_1382982.pdf

2degrees, Electric Kiwi, Flick Electric, Haast Energy Trading (Haast) and Pulse, The Authority action to ban Tiwai-type deals is necessary to protect and enhance the integrity of the electricity market, 21 October 2022, at: https://www.ea.govt.nz/documents/2273/2degrees_-Electric-Kiwi_-Flick_-Haast-Energy-and-Pulse-Energy-1380054.pdf

Electric Kiwi, Flick Electric, Pulse and Vocus, The Authority has provided robust evidence of fundamental, structural problems in the wholesale market, 17 December 2001, at: https://www.ea.govt.nz/documents/2178/Independent-retailers-submission_6WBeKy6.pdf independent retailers' submissions is that a strongly competitive market is required so that households and businesses can afford to use more electricity and switch from other fuels.[2]

The energy transition presents both opportunities and risks

The ACCC inquiry into electricity supply in Australia[3] has useful parallels to the MBIE energy transition consultation.

Similar to MBIE's views, we agree with the ACCC that "Maintaining and developing competition in electricity markets throughout the transition to renewable energy is of paramount importance. Well-functioning competitive markets are critical to delivering the investment needed for new electricity generation and storage capacity at an efficient cost to consumers."

MBIE has noted "Transitioning to an expanded and more highly renewable electricity system brings opportunities for Aotearoa New Zealand". The ACCC has similarly noted the "opportunity to achieve a greater level of competition in the market through the diversification of generation types and ownership", BUT also warns about "the risk … the transition sees existing generation ownership trends retained or worsened".[4]

This risk is highlighted well by the Electricity Authority in a range of different independent versus incumbent generator build outcomes. The different scenarios result in an HHI from 2030 onwards up to 2,310. The Authority concluded "it appears unlikely under current market conditions that any new independent generators will be able to achieve the scale and flexibility required to substantially change the market structure" and "<u>Even with most investment projects coming from independent developers … the structure of the market will remain such that it is dominated by four large generators</u>. These four large generators will also have control of most flexible generation. <u>The presence of market power is – and will continue to be – a reality in the New Zealand wholesale electricity market</u>" [emphasis added].[5]

There is clear evidence of competition problems in the retail market

The competition problems in the wholesale market have spilled over into an increasingly fragile electricity retail market. On any reasonable or objective metric, the strength of competition has gone backwards; particularly over the last two years e.g.:

- Twenty-three electricity retailers have exited the market in the last five or so years.
- Independent retailer market share has stalled around 11% since May 2021.
- HHI for the overall NZ electricity retail market is about the same as it was in December 2019.
- CR1 is about the same as January 2021.
- CR2 is about the same as August 2021.

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[2] We also discuss this point in our submission to the Energy Hardship Panel, Competition is the best way to protect consumers from paying too much and to reduce harmful practices, 28 April 2023.
[3] ACCC, Inquiry into the National Electricity Market, November 2022, available at: https://www.accc.gov.au/system/files/Inquiry%20into%20the%20National%20Electricity%20Market%20-%20November%202022%20report.pdf.
[4] Ibid.
[5] Electricity Authority, The Authority's response to submissions on the 2021 Market Monitoring Review of Structure, Conduct and Performance in the Wholesale Electricity Market.

- CR3 is about the same as October 2018.

- CR4 is about the same as November 2017.

- All national market concentration statistics have deteriorated over the last two years e.g. HHI was 2,085 at the end of September 2021 and increased to 2,265 at the end of September 2023.

- Market concentration has also worsened at the regional level. The HHI has increased in 82% (32 out of 39) of the regional electricity markets in the last two years. CR4 (CR3) has increased in 97% (87%) of regional markets.[6]

- Switching rates have been declining since 2018 and are now back at 2000s levels.

While industry regulators shouldn't necessary be concerned about the plight of individual competitors, the ability to survive or meaningfully grow market share can be symptomatic of wider industry and competition problems. We agree with the ACCC that: "It is expected that businesses will enter and exit well-functioning markets. For example, businesses operating based on higher risk strategies or whose innovations fail will be prone to exiting the market at any time, particularly when disruptions occur. However, large numbers of retailers exiting the market (or becoming inactive) may negatively impact competition".[7]

Evidence the retail market suffers from competition problems and is concentrated or highly concentrated is provided in the Appendix to this submission.

A lot more could be done to promote competition for the long-term benefit of consumers

If current market problems are not resolved the window of opportunity to create a more vibrant, competitive market, driven by the need for a large uplift in generation capacity, could be lost. There is too much at stake to jeopardise the energy transition by adopting tentative or incrementalist reforms that lack ambition for New Zealand's future.

The independent retailers have advocated for a long-time that the Electricity Authority prioritise workstreams targeted at addressing competition issues.

We agree with the ACCC that "Access to exchange-traded and over-the-counter hedging contracts is critical to allow electricity retailers and generators to manage their exposure to price and volume risk." We consider that the incumbent gentailers should be required to provide access to hedge products to third party/independent retailers on a non-discriminatory basis relative to their own retail business. We support development of standardised 'shape' products and cap products, and support market-making in caps or other shaped products. Regulation is needed as the incumbent market-makers have limited incentives or interest to offer profiled or capacity products.

The Electricity Authority has been very clear some reform options for promotion of competition are beyond its jurisdiction. MBIE's wider remit means it is well-placed to consider these types of options in the near-term.

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[6] At the residential level, the HHI has increased in 85% (33 out of 39) of the regional electricity markets in the last two years. The CR4 (CR3) has increased in 100% (87%) of the RESIDENTIAL regional electricity markets in the last two years.
[7] ACCC, Inquiry into the National Electricity Market, November 2022, available at: https://www.accc.gov.au/system/files/Inquiry%20into%20the%20National%20Electricity%20Market%20-%20November%202022%20report.pdf.

The independent retailers continue to advocate for structural reform as the "gold-standard". There is merit in MBIE looking at both horizontal and vertical-separation options. The focus of horizontal reform should be on hydro storage (particularly Meridian and Mercury). If upstream (wholesale) market power is addressed there will be less need for vertical-separation. Vertical-integration should not cause competition problems if the vertically-integrated suppliers don't have market power in either up or down-stream markets.

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Summary of the independents' views

Let the market do the heavy-lifting for the energy transition [Q1/2]

- A positive trait of "Our electricity system [is that it] relies on a multitude of different parties each making their own investment and operational decisions based on their own assessments of costs and benefits, and all using different sources of information".

- The safest way to ensure the expected generation investment will come forward in sufficient time and quantity to enable electrification, while maintaining security and affordability, is to ensure it is developed by a wide range of generators.

- It is better for there to be a wide range of competing electricity suppliers making private, commercial decisions than to continue to be beholden to the whims and decisions of the incumbent, legacy generator-retailers (gentailers). The incumbents are part of the problem not the solution.

- The independent retailers consider the best way to manage the energy transition in an affordable, efficient and sustainable manner is to rely on a market-based approach centred around a highly competitive electricity market and harnessing the Emissions Trading Scheme (ETS) to its full potential. Competition can ensure electricity is affordable and encourage electrification, while the ETS can make sure New Zealand industry and consumers bear the cost of the emissions they are responsible for and incentivise activity and actions which minimise emissions in the lowest cost manner.

- The priority focus of the Government's energy transition policy should be around making sure market mechanisms work as well as they can.

Competition issues could hamper the energy transition [Q18]

- We agree with MBIE "competition issues … may arise in the electricity market during the transition", "Market concentration … could increase" and the "Resulting reduction in competition could adversely affect electricity prices and reliability during and after the transition".

- It is important to consider the state of competition in the here and now as the policy implications of an increase in market concentration would be markedly different if the market was starting from a highly competitive base, rather than with the pre-existing competition and market concentration problems the New Zealand electricity industry faces. Current competition problems could undermine a successful transition.

- The persistently high and record company (and wholesale) profits extracted by the incumbent gentailers raises questions about the intensity of competition.

The energy transition creates both risks and opportunities [Q19]

- There has not been enough new independent generation over the last 25-years to reduce market concentration and the market power of the 'baby-ECNZs'.

- The need for a large increase in generation capacity creates an opportunity to organically increase competition through diversification of generation types and ownership. If generation investment continues to be dominated by the incumbent gentailers this window will be lost and existing market concentration further entrenched.

- Market and regulatory settings need to be conducive to a substantial increase in the relative level of new entrant and independent generation investment.

- There has been a lot of emphasis on the "risk of unintended consequences" trope by incumbent vested interests to argue against major or transformative reforms. This thinking needs to be turned on its head. There is substantial risk of unintended consequences from regulatory inertia and incrementalism if issues that could jeopardise a successful energy transition and affordable electricity are not adequately addressed.

- We agree with MBIE "… the electricity sector in New Zealand will need to adapt rapidly if it is going to maintain its social license to operate. If people lose trust in the market and market participants … then the political process may explore alternatives to the current market. Such alternatives exist and are being used in other jurisdictions."[8] If underlying problems are not addressed, they could result in need for more substantial regulation further down the line.

Summary of the independents' views on reform options [Q21-25]

- The independent retailers have clear and unified views about the problems in the electricity market and what the solutions should be. We are all being harmed by the same things.

- A lot more could be done to promote competition for the long-term benefit of consumers. The independent retailers have advocated for a long-time that the Electricity Authority prioritise workstreams targeted at addressing competition issues/barriers to competition.

- We consider that gentailers should be required to provide access to hedge products on a non-discriminatory basis.

- We support development of standardised 'shape' products and cap products, and support market-making in caps or other shaped products. Regulation is needed as the incumbent market-makers have limited incentives or interest to offer profiled or capacity products.

- Regulation of access services in vertically-integrated industries where there is monopoly or market power is orthodox and should not be seen as a significant intervention. As MBIE notes such arrangements apply to some wholesale telecommunications services in New Zealand. A wholesale regime (including Code of Conduct and penalties for breaches) is being developed for the duopoly grocery sector.

- The Electricity Authority has been very clear many reform options for promotion of competition are beyond its remit. MBIE is well-placed to consider these types of options in the near-term as part of the energy transition.

- Structural reform remains the "gold-standard". We agree with MDAG that "If structural solutions are ultimately required, they should be put in place with the least possible delay. That means

[8] MBIE, Investigation into electricity supply interruptions of 9 August 2021, 2021: https://www.mbie.govt.nz/dmsdocument/17988investigation-into-electricity-supply-interruptions-of-9-august-2021

some initial scoping work would make sense as a precautionary step, even if it turns out structural options were not ultimately needed". We strongly support MBIE undertaking this work in the near-term.

- There is merit in looking at both horizontal and vertical-separation options. The focus of horizontal reform should be on hydro storage (particularly Meridian and Mercury). If upstream (wholesale) market power is addressed there would be less need for vertical-separation. The options for vertical-separation include ownership separation (preferred) and corporate operational separation with arms-length rules (2nd best option).

Some reform options could harm competition [Q26]

- We do not support Retailer Reliability Obligations (RRO). RROs would impose additional barriers to competition from new entrant and independent retailers without addressing underlying problems in the wholesale market.

  We consider the best way to "grow use of retail tariffs that reward flexibility" is to ensure: (i) monopoly network (distribution + transmission) pricing sends appropriate signals to respond to (MBIE noted they need to be strong enough to make it worthwhile to respond); and (ii) competition in the electricity retail market is strong enough to create opportunities for retailers to gain a competitive edge (lower network costs/lower costs for their customers) through dynamic pricing that rewards flexibility and/or to manage flexibility on behalf of consumers.

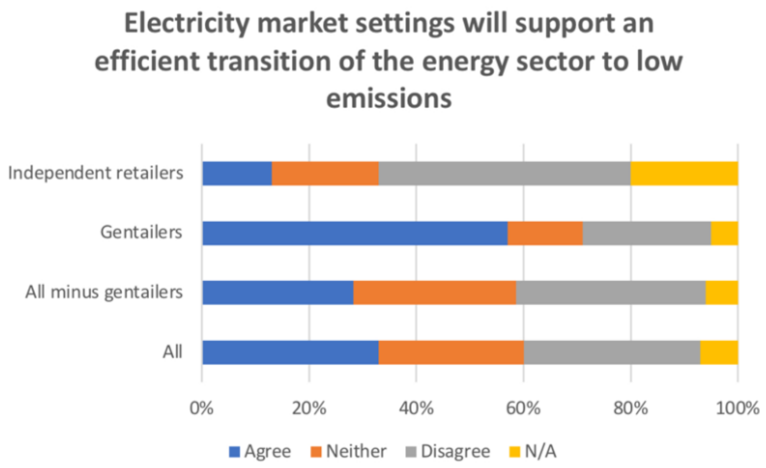
  Regulation of pricing should be avoided (consistent with Part 4 Commerce Act tests) in markets that are competitive or potentially competitive.

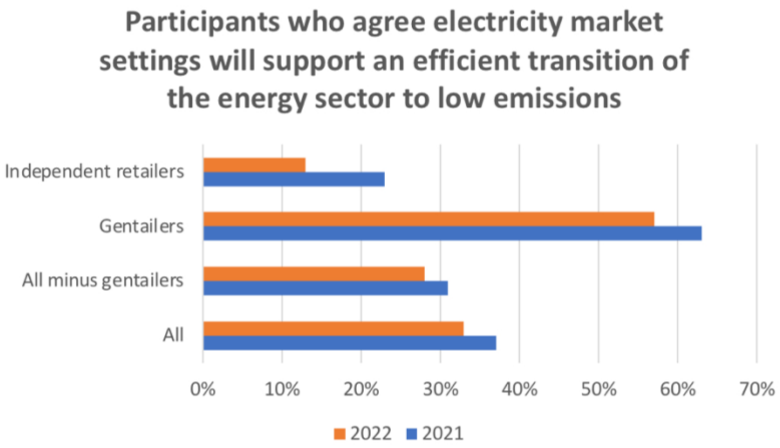
- We do not support a capacity mechanism. We agree with MBIE "The implementation of a capacity market mechanism into New Zealand's current energy-only market could be very disruptive". We also share the Electricity Authority and MDAG's concerns about this option.

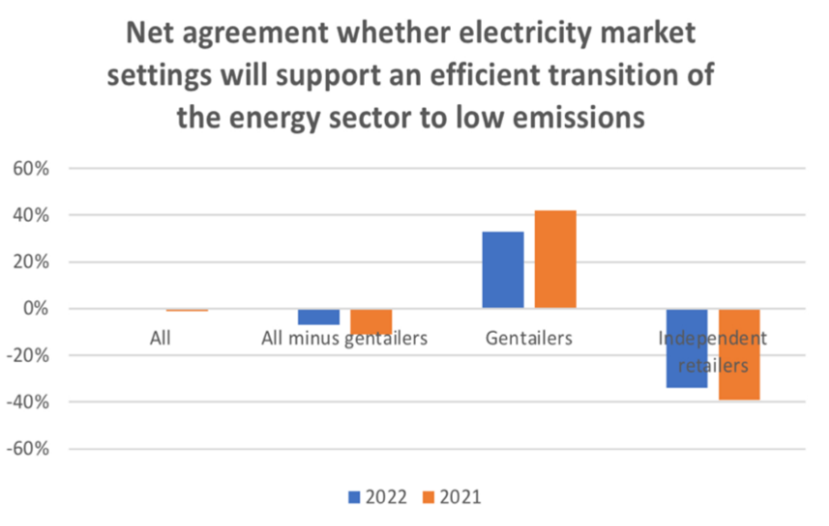
- Options such as RROs, capacity mechanisms and single buyer market would undermine competition and would signal the Government considers the market has failed and it cannot rely on competitive market processes.

Market participants have low confidence current market settings will support an efficient energy transition

The Electricity Authority's market participant surveys show there is low confidence current market settings will support an efficient transition. Basically, the only market participants who have confidence electricity market settings will support an efficient transition are incumbent gentailers, and even their confidence has dropped.

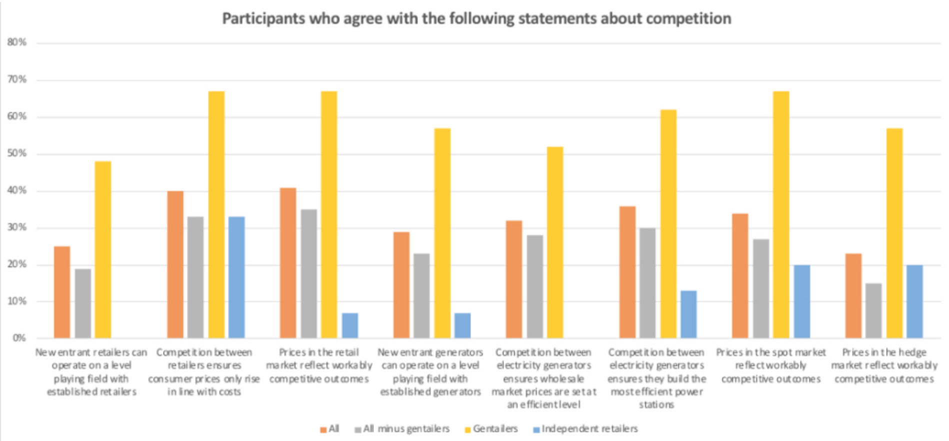


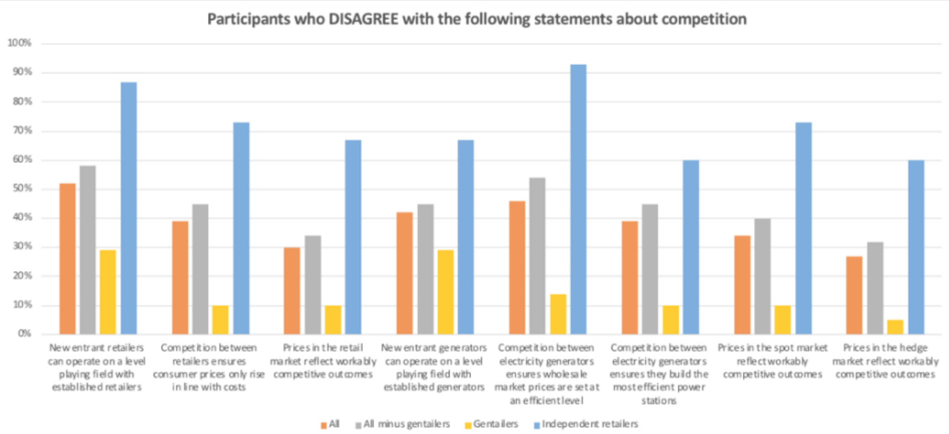


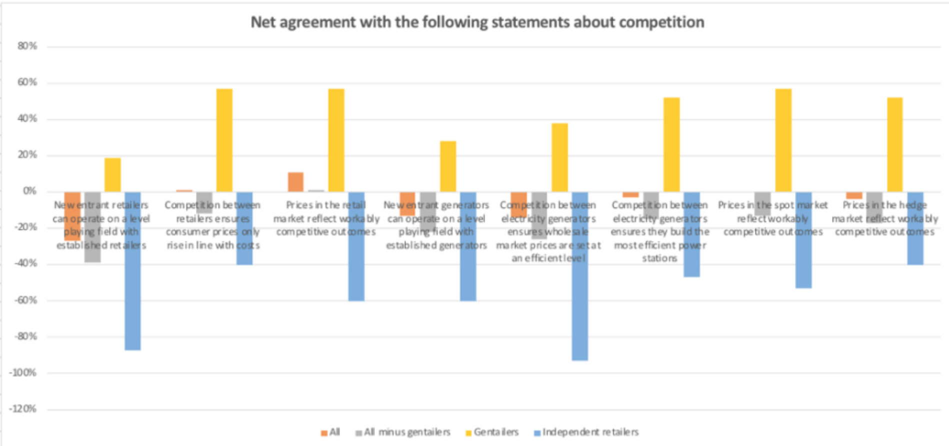


Market participants DO NOT consider competition is working well [Q19/20]

The Electricity Authority's market participant surveys show market participants do not consider competition in either the wholesale or retail markets is working well. This includes a majority that consider competition in the wholesale market is not resulting in efficient prices and does not reflect workably competitive market outcomes. Most survey participants also consider that competition is not ensuring electricity generators build the most efficient power stations.[9]







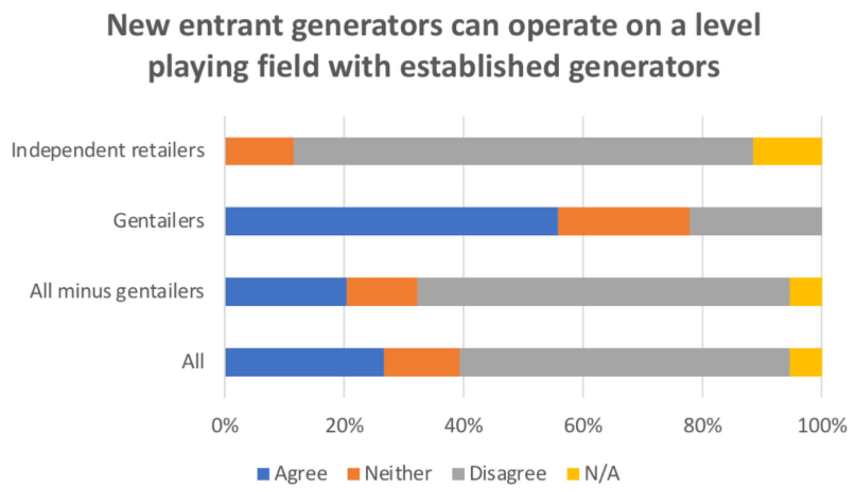
[9] Electricity Authority, Electricity Authority survey of electricity industry participant perceptions 2021/22. Breakdown of survey results by participant type provided under the Official Information Act.

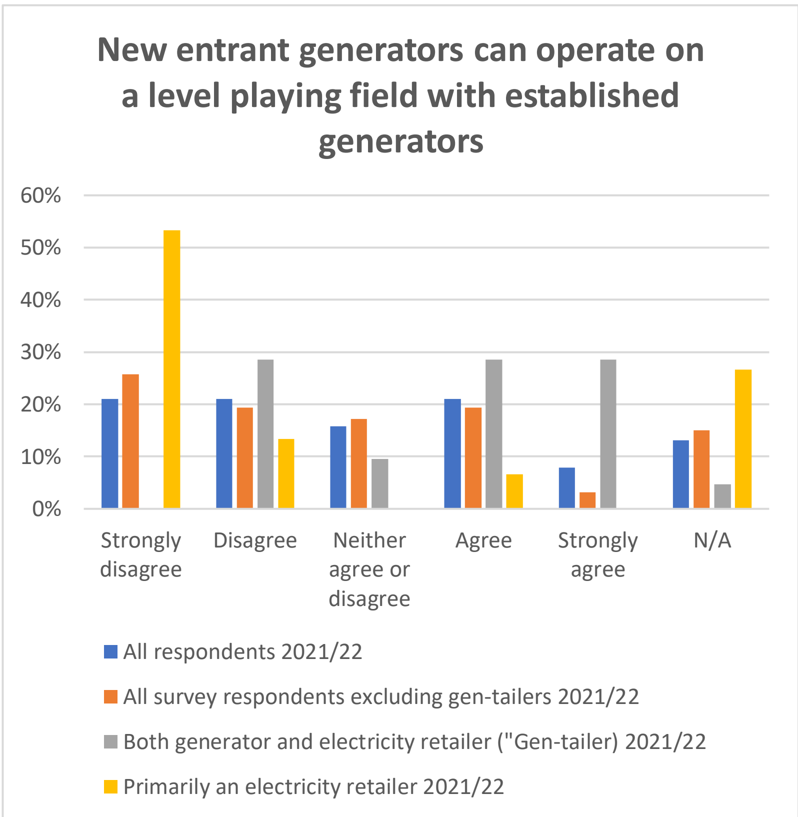
Market participants don't consider there is a level playing field for new entrants

The Electricity Authority's market perception surveys indicate the market is far from providing a level playing field. If this situation continues generation investment is likely to be dominated by the incumbent gentailers further locking in (ie worsening) market power/concentration issues.

The Authority's 2022 survey highlighted only 25% of all market participants agree there is a level playing field for independent retailers (52% disagree), and this result is skewed upwards by the gentailers. When the gentailer views are excluded, the result dropped to just 19% of market participants agreeing there is a level playing field (58% disagree).

The survey essentially shows only incumbent gentailers consider that there is a level playing field. If you dig deeper into these statistics, what is clear is that not only do most market participants not agree there is a level playing field, but the majority also strongly disagree.





There are enduring market power issues in the wholesale market [Q19/20]

The Commerce Commission determined in 2009 that "...each of the four largest gentailers – Contact, Genesis, Meridian and Mighty River Power – is likely to have held substantial market power on a recurring basis, particularly during dry years ... Each of these companies has the ability and incentive unilaterally to exercise market power and increase wholesale prices during certain periods ... the gentailers are using that market power to maximise their profits ..."[10]

These findings have essentially been confirmed by the Electricity Authority's wholesale market review, and other related work including in relation to the December 2019 UTS.

In relation to the December 2019 UTS, for example, the Electricity Authority determined generation had been "effectively withheld from the market" resulting in substantially elevated spot prices for a sustained period e.g.:[11]

> "... Meridian's use of what it terms "non-clearing tranches" **means that generation is effectively withheld from the market**.
>
> " ... **Meridian was able to increase its offer prices and withhold generation when spilling** despite what Sapere terms "the massive increase in fuel available to [South Island] hydro generation".
>
> " ... As Sapere points out, an increase in available fuel should have shifted the supply curve outwards, implying lower offers, lower prices, and more generation from South Island generators. But, in the event, the opposite happened. ...
>
> "We found that the UTS extended from 3 December 2019 to 27 December 2019. During this time … we estimate the average extra generation Meridian could have achieved is 82MW, and **around one third of the spill at Benmore could have been used to generate. We estimate the spot market impact of this was $70m.**
>
> " ... this is a lower bound estimate for the excess spill. ..." (emphasis added)

In the WMR, the Electricity Authority found "evidence to suggest that [wholesale electricity market] prices may not have been determined in a competitive environment" (2021 WMR) and there has been a "persistence of high spot and forward prices, well above the cost of new renewable supply" (2022 WMR) e.g.:

> "The market is dominated by a few large firms, with Meridian needed to meet demand over 90 percent of the time."
>
> "[There is] evidence to suggest that generators have an increased incentive and ability to exercise market power, and may have been doing so over the review period."
>
> "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 (economic withholding)."
>
> "[There is] evidence to suggest that prices may not have been determined in a competitive environment."
>
> "Both Meridian and Contact were able to profit from selling to NZAS because they benefit from increased revenue from the rest of New Zealand … However, only a generator about the size of Meridian could sell to a customer on those terms … these issues arise from the scale of generation (particularly in the South Island) …"

The Electricity Authority sought expert independent advice from Munro Duignan on its WMR and its "overall conclusion" which it considered could be reasonably drawn "is that the evidence provided

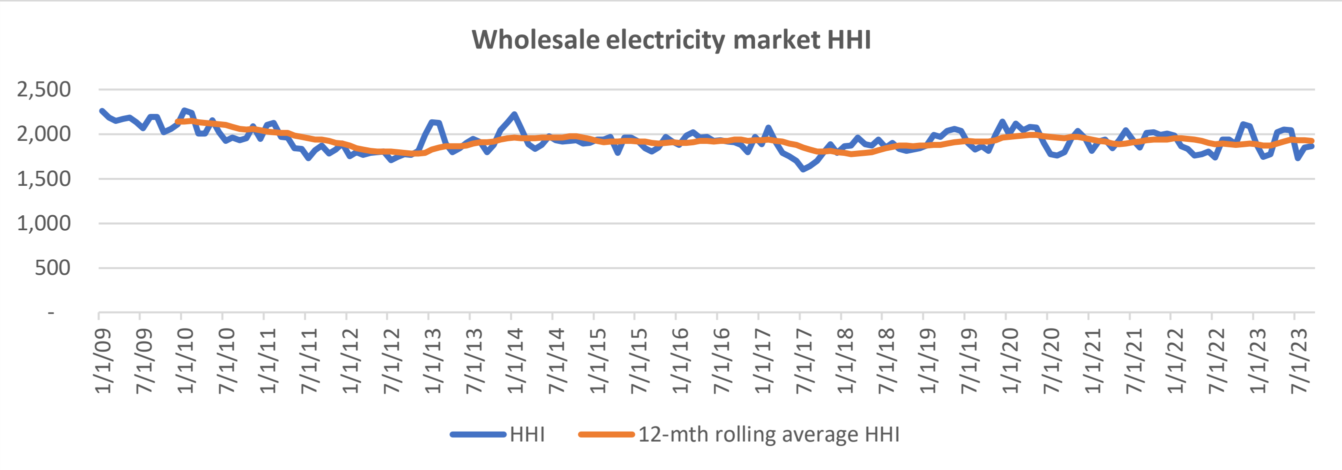
[10] https://comcom.govt.nz/news-and-media/media-releases/archive/commerce-commission-finds-that-electricity-companies-have-notbreached-the-commerce-act

[11] Electricity Authority, The Authority's final decision on claim of an undesirable trading situation, 22 December 2020.

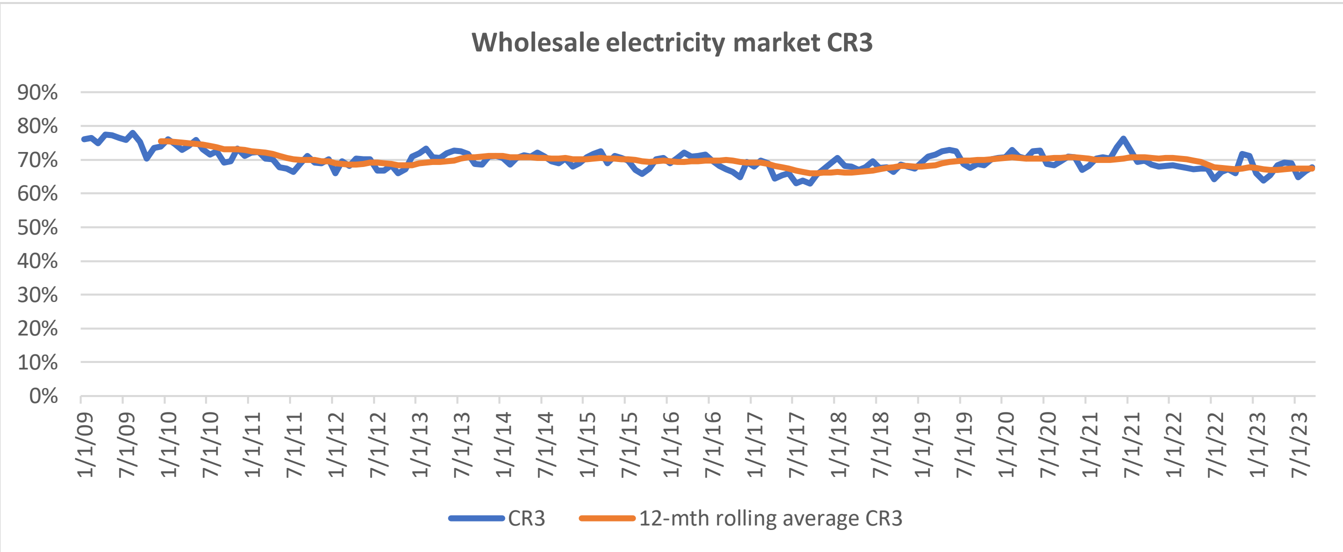
by analysis of the structure, conduct and performance analysis of the electricity generation market indicates that one (and sometimes more than one) generator has had the ability to exercise substantial market power, as that term is defined in the economic literature, for significant periods since the Pohokura outage ("the outage") in 2018".[12]

Wholesale market concentration has not improved in the last decade

The Electricity Authority has noted "The HHI for generation in New Zealand has been hovering around 2,000 since 2014, with slight decreases when storage has been low … However, it may increase with the recent announcements by Contact and Meridian regarding investment in Tauhara and Harapaki, respectively, and Mercury developing Puketoi and Turitea, and acquiring Tilt's New Zealand generation assets."[13]



It is also notable the market share of the largest 3 generators is currently approximately 68%, and annually fluctuates over the 70% threshold the Commerce Commission uses to determine whether a market is concentrated.



The above graphs clearly show there has been no improvement in wholesale market concentration over the last decade. The market share of the incumbent gentailers has not materially changed.

[12] Munro Duignan Limited, Review of Electricity Authority paper "Market Monitoring Review of structure, conduct and performance in the wholesale market (since the Pohokura outage in 2018)", 19 October 2021.
[13] Electricity Authority, MARKET MONITORING REVIEW OF STRUCTURE, CONDUCT AND PERFORMANCE IN THE WHOLESALE ELECTRICITY MARKET SINCE THE POHOKURA OUTAGE IN 2018, Information Paper.

Incumbent profits raise questions about the state of competition [Q19/20]

The extent of excessive or supranormal profits has been one of the key focusses of the various market studies the Government has asked the Commerce Commission to undertake.

For example, the Government has observed – very similar to the electricity market – "New Zealand's banking sector is dominated by a small number of big players. Four major banks make up around 85 percent of the mortgage and other lending market and hold a 90 percent share of total bank deposits. Loans by smaller lenders are growing but remain small in comparison" and "There have been long standing concerns that the market is not working well for New Zealanders. Banks have consistently made high profits over several years and their returns have outperformed their peers in other countries." As part of the banking sector study, "the Commission will examine banks' profitability and other financial measures to assess competition in the sector."[14]

There has been a similar focus on profits in the other Commerce Commission market studies.

This focus on profits is important. For example, the UK Competition and Markets Authority considers that:[15]

> The purpose of conducting profitability analysis, therefore, is to understand whether the levels of profitability (and therefore prices) achieved by the firms in the reference markets are consistent with levels we might expect in a competitive market. If excess profits have been sustained over a relatively long time period, this could indicate limitations in the competitive process.

The High Court Part 4 Input Methodologies Merit Appeal decision usefully provides guidance on what workable competition should be expected to look like in relation to profits e.g.:[16]

> A workably competitive market is one that provides outcomes that are reasonably close to those found in strongly competitive markets. Such outcomes are summarised in economic terminology by the term "economic efficiency" with its familiar components: technical efficiency, allocative efficiency and dynamic efficiency. Closely associated with the idea of efficiency is the condition that prices reflect efficient costs (including the cost of capital, and thus a reasonable level of profit).
>
> ...
>
> … In a workably competitive market no firm has significant market power and consequently prices are not too much or for too long significantly above costs.
>
> …
>
> In our view, what matters is that workably competitive markets have a tendency towards generating certain outcomes. These outcomes include the earning by firms of normal rates of return, and the existence of prices that reflect such normal rates of return, after covering the firms' efficient costs.

Assessment of incumbent profits is a gap in recent electricity reviews

Assessment of incumbent profits remains a gap in the various reviews of the electricity market, including the Electricity Price Review and the Electricity Authority's wholesale market review.

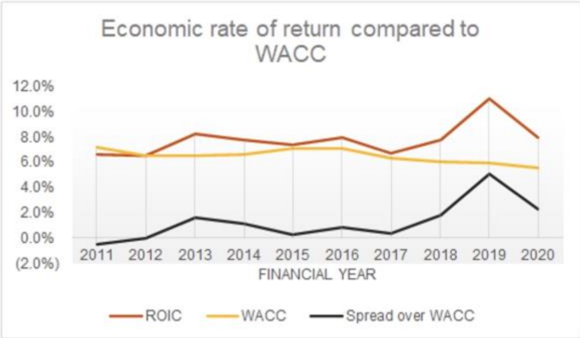
[14] https://www.beehive.govt.nz/release/market-study-investigate-banking-competition

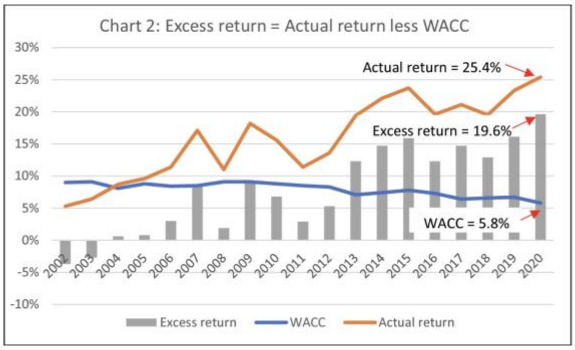
[15] Competition and Markets Authority "Energy Market Investigation, Approach to Financial and profitability analysis" (8 December 2014) at [8].

[16] WELLINGTON INTERNATIONAL AIRPORT LTD & ORS v COMMERCE COMMISSION [2013] NZHC [11 December 2013], paragraphs [14] – [18].

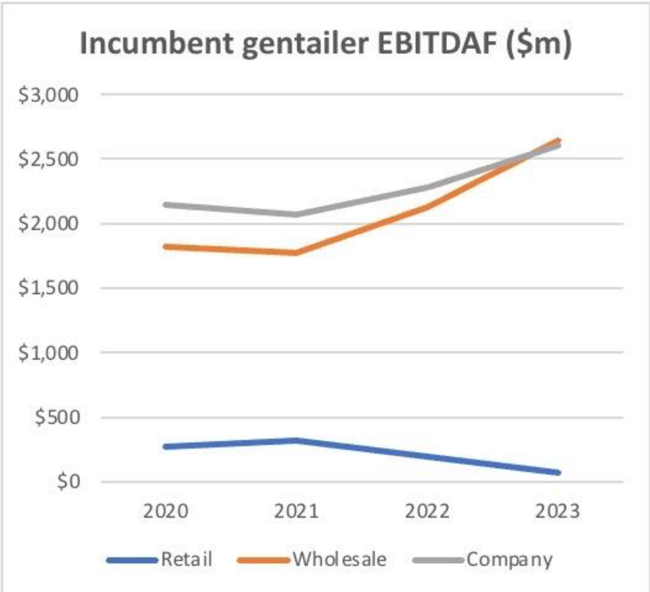
MEUG undertook profitability analysis of Meridian (and Contact) to full this vacuum.

The charts below show profit analysis by Meridian (PwC)[17] – on the left – and MEUG (IWA)[18] – on the right. The results are notable for the consensus that Meridian has been earning supranormal (above WACC) returns for a sustained period, though different labels are used. The main point of difference between MEUG and Meridian comes down to the size of the supranormal profits Meridian has extracted.





Meridian (and incumbent gentailer) profits have risen significantly since this analysis was undertaken and are at new record highs.[19]



[17] https://www.meridianenergy.co.nz/news-and-events/pwc-report-meridian-energy-limited-economic-profit-calculations
[18] http://www.meug.co.nz/node/1160
[19] Note that the wholesale and retail EBITDAF reflects each of the incumbent's categorisation of their wholesale and retail businesses and are not necessarily electricity-only. The Electricity Authority did not fully adopt the EPR recommendation for financial separation of electricity wholesale and retail, so this information is not in the public domain,

Competition in the retail market is severely stressed [Q19/20]

We agree with the ACCC that "Competition in retail markets is essential for ensuring consumers' best interests are supported and promoted. ... The threat smaller retailers pose improves value for consumers and incentivises product innovation."

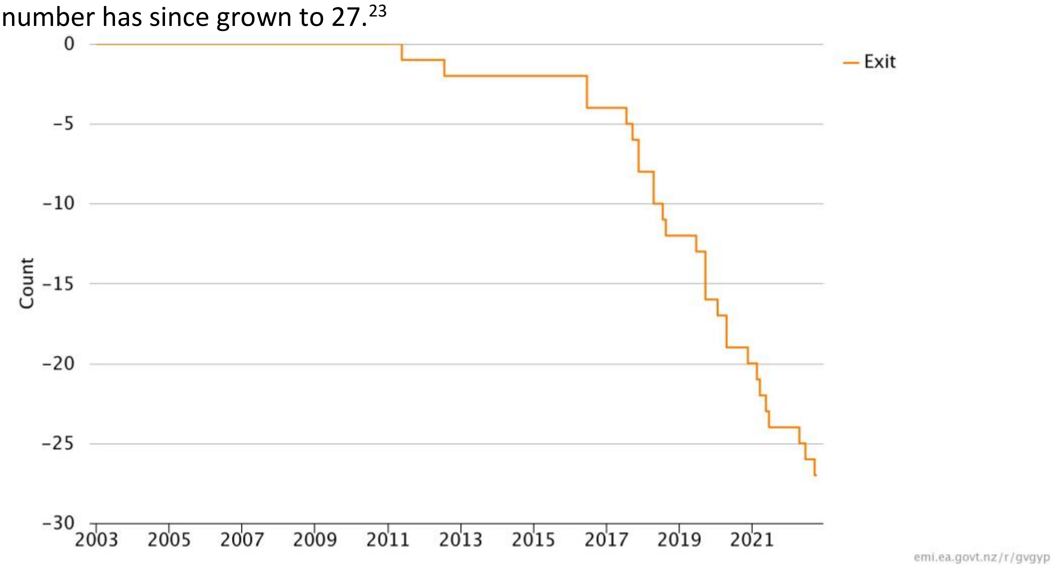
The success of incumbent and independent retailers should hinge on who can 'out-compete' their competitors through superior innovation, better products, lower prices and/or efficiency. This will only happen if there is workable competition and "To that end there must be an opportunity for each participant or new entrant to achieve an equal footing with the efficient participants in the market by having equivalent access to the means of entry, sources of supply."[20]

Vertical-integration is adversely impacting competition in the retail market

The European Union recognises "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]."[21] In short, what this says is that problems of market power in the wholesale electricity market can result in heightened market power problems in the retail market. This is consistent with our observations and experience.

Independent retailer market share has been stuck at around 11% for the last 3 years, after an extended period of small, slow but steady increases.[22]

Independent retailer growth has slowed or stalled at times during record high wholesale prices. It is notable, also, that only 4 electricity retailers had exited the market up to 30 June 2018 and this number has since grown to 27.[23]



[20] Bruce G Donald and JD Heydon Trade Practices Law: Restrictive Trade Practices, Deceptive Conduct and Consumer Protection (Law Book Co, Sydney, 1978) as cited in Auckland Regional Authority v Mutual Rental Cars (Auckland Airport) Ltd [1987] 2 NZLR 647 (HC) at 671; and Fisher & Paykel Ltd v Commerce Commission [1990] 2 NZLR 731 (HC) at 757-758.

[21] https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32002L0021:EN:HTML

[22] The MBIE consultation statement that "As of April 2023, the combined market share of the four main retail companies was 84 per cent, with independent retailers making up the other 16 per cent" is incorrect as it includes Nova as an independent retailer.

[23] https://www.emi.ea.govt.nz/Retail/Reports/3CL0V1?DateFrom=20040101&DateTo=20230831&seriesFilter=X&_rsdr=ALL&_si=tg|market-structure,v|3

None of this should come as a surprise given the differential between wholesale and retail prices is resulting in price squeezes for independent retailers. The incumbent gentailers can offset loss of retail margins through increased wholesale margins (cross-subsidisation). Independent retailers cannot. There is no level playing field. The actions of various independent/new entrant retailers such as withdrawing from Powerswitch, limiting customer growth or putting a pause on new customers haven't been taken lightly or absent very severe problems in the market. None of these actions are consistent with a healthy, workably competitive market.

At a minimum, this provides a prima facie basis for concerns about discriminatory behaviour, price squeeze issues and about the health of competition in the retail market.

The Consumer Advocacy Council has summed up retail market problems well

We welcome the Consumer Advocacy Council's recognition of the competition problems in the electricity market:[24]

General comments

3.5. We were disappointed with the EAs response noted in paragraph 4.13

> *Some submitters, most notably independent retailers, claimed that Over the Counter (OTC) hedges (or off-exchange trading) were either unavailable to them or more costly than can be justified. However, the submitters did not provide sufficient new evidence in support of these claims to justify expanding the scope of this investigation to include OTC contracting between generator-retailers and independent retailers. However, the efficiency of OTC markets will continue to be monitored as part of the Authority's on-going hedge market development programme.*

3.6. The availability of hedges to new entrants and smaller retailers appears to have had an impact since late 2018. Since 31 October 2018, 15 retailers have left the electricity market[1] and another five have remained at minimum customer numbers. While there may be valid reasons for such a large turnover, we understand that wholesale pricing and lack of competitive hedging arrangements is one of those reasons.

3.7. The Electricity Market Information (EMI) shows prices increasing significantly and remaining high. The long dated forward price curve increased from about $80/MWh to close to the current $170/MWH.[2] We agree with the independent retailers that there is a possibility of a form of price discrimination in the market.

3.8. Any price discrimination that may exist in availability and prices of hedges may directly impact consumers by removing or limiting competition from the electricity market. This may remove consumer choice and in the long term could remove downward pressure on electricity prices.

Recommendation:
The Council recommends that the EA reconsider investigating the over the counter contracting between generator-retailers and independent retailers.

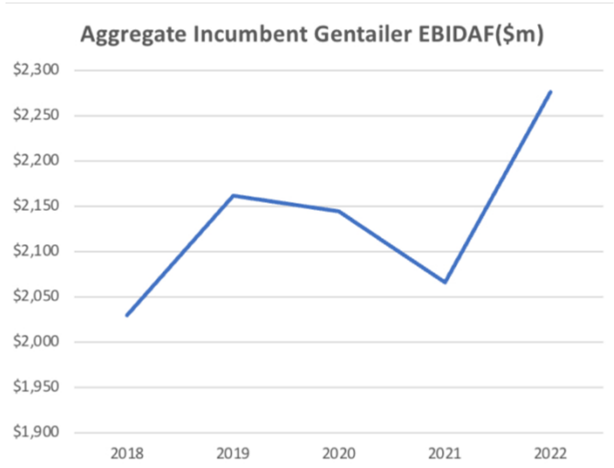
Incumbent gentailer gross margin and ITP disclosures highlight price squeeze problems

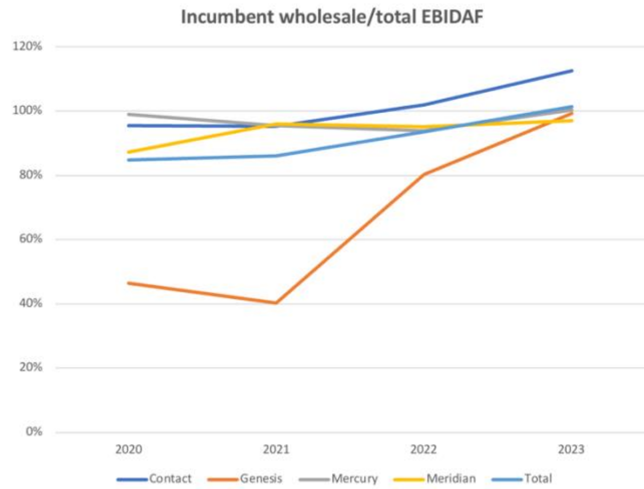
We consider retailer gross margins and disclosure of internal transfer prices (ITPs) by vertically-integrated gentailers is an area that warrants a deeper dive.

The gross margins and ITPs have a symbiotic relationship – the lower the ITP the higher the retailer gross margins will appear to be.

[24] Consumer Advocacy Council, Re: Propose Code Amendment - Inefficient Price Discrimination in very large electricity contracts, 31 October 2022.

Based on incumbent gentailer financial reporting, what we have seen is their overall profits increasing substantially while, at the same time, profits are shifting from retail to wholesale.[25] This has gotten to the point now that the gentailers are making losses on their retail businesses and record profits in wholesale. The size of both the retail losses and profitability of wholesale is likely to be substantially suppressed by artificially low ITPs from wholesale to retail.[26]





MBIE has "note[d] that the range of benchmark ITPs [used by the Authority] appears large relative to the retail gross margins needed for a retailer to be competitive. This makes any definitive conclusion about retail competition difficult".

We agree the benchmarks do not provide a useful comparator. We consider it necessary to use benchmarks that are realistically achievable by independent retailers, or at least a hypothetical efficient retailer, to determine whether there is a price squeeze/price discrimination/competition problem.

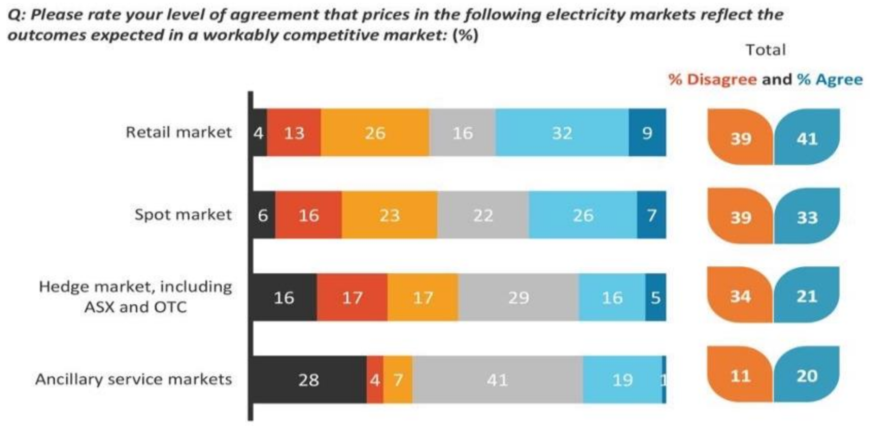
We agree with MBIE "The Authority's comparative assessments of retailer gross margins and ITPs may not provide definitive assurance that retail market competition is workable or effective". The opposite is true. The gross margin and ITPs provide clear evidence of substantial price squeeze/barriers to competition problems in the electricity retail market. The disclosures can only be "expected to help build confidence in the market" if the problems they highlight are addressed and not masked by artificially low and unrealistic ITPs and benchmarks.

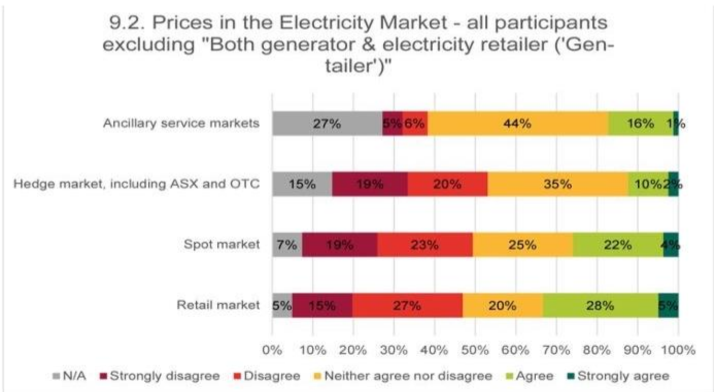
By way of illustration, the reason Mercury and Meridian's ITPs are within the Authority's benchmark range is principally because the range includes an implausible "Minimum of monthly hedge prices (overall minimum)" benchmark, and a backward looking "Average hedge prices for 12 quarters to the quarter prior to the target financial year". It is disconcerting Mercury's FY22 ITP includes a reduction of $13/MWh attributed to "management discretion".[27] We submit that the ITPs highlight there are clear and substantial price squeeze/barriers to competition problems in the electricity retail market.

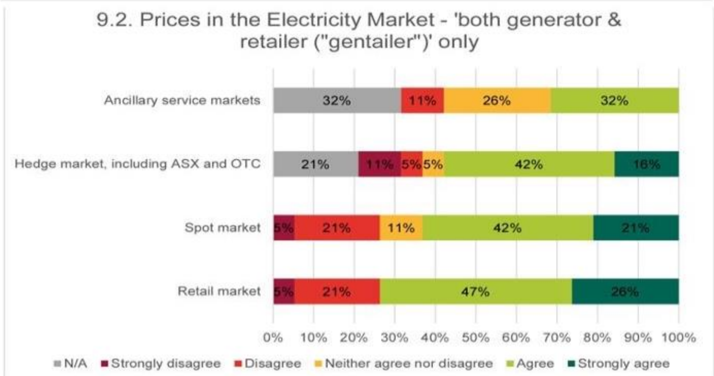
[25] We have had to rely on gentailer annual reports which don't split wholesale and retail into electricity only, as the Authority did not fully implement the EPR recommendation for wholesale-retail financial separation.
[26] We don't consider that the ITPs would satisfy the Commerce Commission ITP/related party transaction rules under Part 4 Commerce Act.
[27] "'Management discretion: ITP kept the same as FY21 with an adjustment for management discretion to reflect volatility during the budget process caused by disruptions from Covid-19 lockdowns in New Zealand." Source: https://www.emi.ea.govt.nz/Retail/Datasets/InternalTransferPricing/2022

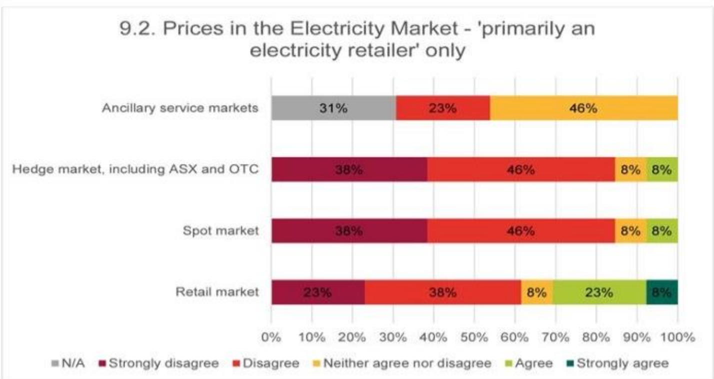
Market participants don't believe hedge prices reflect workably competitive outcomes

The concerns about how well competition is functioning in the hedge market are also clearly highlighted by the Electricity Authority's market participation surveys. There is a high degree of concern prices in the hedge market, including ASX and OTC, do not reflect workably competitive market outcomes.









Reform of access to risk management/hedge products is critical for enabling a level playing field and competition in support of the energy transition [Q23/24]

We consider that measures should be adopted to improve liquidity in contract markets and to limit generator market power being used in retail markets. The independent retailers consider one of the primary pre-requisites for a well-functioning, competitive electricity market that can support the energy transition and delivery of affordable electricity is that independent retailers have access to flexible hedge contracts on terms equivalent to a gentailers' retail arms. The risk premiums gentailers add to products they sell on the ASX or OTC markets should also be paid by the gentailer's retail arm – especially as the fixed price variable volume (FPVV) product sold to this retailer includes 'shape' and a 'cap' and is higher risk than a base-load product. Essentially, the generator's generation business should be indifferent between selling to its related retail business or any third party.[28]

We consider that a wholesale access regime should be developed, which requires the regulator to determine the risk/hedge products the incumbent gentailers must provide. The principles of "non-discrimination" and "equivalence of inputs" – contained in the Telecommunications Act – are key principles that should be adopted to regulation of access of hedge products. The Grocery Industry Competition (Grocery Supply Code) Amendment Regulations 2023 also includes universal good-faith and non-discrimination obligations.[29]

Regulation of access services in vertically-integrated industries where there is monopoly or market power is an orthodox part of competition laws internationally and should not be seen as a significant intervention.

Our lived experience is that problems in the contract market stem from vertical-integration

Consistent with vertical-integration in other jurisdictions and network industries, sub-optimal hedging and risk management is due to weak (present) market-making arrangements and the incentives of vertically-integrated incumbent suppliers i.e. it is a supply-side problem.

The independent retailers have been consistently clear about the desire to be able to hedge on a level playing field and that the inability to do so has curbed the growth of independent retailers and insulated incumbent retailers from competition. In highly vertically-integrated markets wholesale liquidity doesn't develop without mandatory market-making.

Hedging contracts are essential to managing risk for market participants. MBIE has summarised well the issues independent retailers (and generators) face in relation to risk management and ability to compete on a level playing field. We agree with MBIE that:

[28] Our understanding is that this may be Contact Energy's current approach.
[29] The Code includes useful requirements such as good faith dealing obligations (with a highly prescriptive definition) and related requirements to avoid unreasonable discrimination or distinction between suppliers: https://legislation.govt.nz/regulation/public/2023/0220/latest/096be8ed81db0c51.pdf.

“A competitive retail market, where independent retailers can access wholesale supply in an equivalent way to a vertically integrated gentailer, will provide innovative products, service and pricing and help to support retail affordability and equity”.

"As the volume of intermittent generation grows over time, spot prices are expected to become more volatile. Concerns over exposure to spot prices may grow and it will become more important to strengthen the market for risk management tools or products to help participants manage price risk effectively. This will assist retailers and consumers in managing their price risk which is important requirement to incentivise electrification.“

“ ... the provision of shaped hedge products could improve the ability of independent renewable investors to manage risk. However, ensuring sufficient liquidity and competition in this market will be key. The Authority and MDAG note a concern that as thermal generation retires during the transition, the market concentration of flexible hydro resources that underpin some of these contracts may increase.”

“… the range of available hedge products is narrower than in larger markets like Australia and the UK. Thus, the kinds of products needed for a renewable generator to lock in a price for its intermittent generation are currently less likely to be available for the time frame investors might require.”

“… MDAG and the Authority recognised that vertical integration between generation and retail businesses has the potential to limit liquidity in the contracts needed to manage price risk, and they considered a range of measures to improve contract market liquidity and price discovery, including a flexibility access code (non-price elements) and market-making for shaped hedge products (peak or cap products).”

Structural reform is the best option for competition and a successful energy transition [Q21/22]

Structural changes should be looked at now to address competition issues. Structural reform would directly address the underlying problem that the market is highly concentrated/the large, incumbent generators have substantial/significant market power.

We agree with Prof. Paul Joskow: "Market power is a significant potential problem in electricity markets, but the cure can be worse than the disease. Try to deal with potential market power structurally ex ante rather than ex post"[30] and Prof. Stephen Littlechild that, given the difficulties of satisfactorily defining and proving anti-competitive conduct, it is better to focus on structure and incentives in designing remedies (new entry, enforced divestment, contracts markets and the like), rather than on conduct.[31]

We agree with the Electricity Authority it is not "appropriate to always rely on the current incentives of incumbent firms to do what is best for wider society" and "Market design and structure may require change to ensure commercial incentives promote the efficient operation of the electricity industry for the long-term benefit of consumers".[32]

We consider there is merit in looking at both horizontal and vertical-separation options. If upstream (wholesale) market power is addressed there would be less need for vertical-separation. Vertical-integration should not cause competition problems if vertically-integrated suppliers don't have market power in either up or downstream markets.

We agree with MDAG that "If structural solutions are ultimately required, they should be put in place with the least possible delay. That means some initial scoping work would make sense as a precautionary step, even if it turns out structural options were not ultimately needed" [emphasis added].[33] MDAG are also exploring virtual options which might be worth considering.

Ultimately, we also agree with Manawa Energy (nee Trustpower) that structural reform is the "gold-standard".[34] If structural reform is not considered viable, for political or other reasons, then a higher degree of industry regulation, including wholesale input access, non-discrimination and equivalence of inputs rules, arms-length dealing rules etc, will be needed to curb market power and ensure competition can develop and thrive in the near and long-term.

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[30] Joskow, 2007, Lessons Learned from Electricity Market Liberalization, page 12 - http://econwww.mit.edu/files/2093 cited in Investigation Report: Commerce Act – Electricity Investigation", Commerce Commission 21 May 2009 at 665.
[31] As cited in MDAG, Price discovery in a renewables-based electricity system, OPTIONS PAPER, 2 December 2022, available at: https://www.ea.govt.nz/assets/dms-assets/31/MDAG-options-paper-final-2.pdf.
[32] Electricity Authority, Inefficient Price Discrimination in very large electricity contracts, Proposed Code Amendment Consultation Paper, 18 August 2022.
[33] MDAG, Price discovery in a renewables-based electricity system, OPTIONS PAPER, 2 December 2022, available at: https://www.ea.govt.nz/assets/dms-assets/31/MDAG-options-paper-final-2.pdf.
[34] https://www.ea.govt.nz/assets/dms-assets/26/26736Trustpower-Submission-MDAG-HSOTC-discussion-paper.pdf.

Boundary issues between industry regulators should be addressed

The Electricity Authority should apply the same interpretation of "long-term benefit of consumers" as the Commerce Commission and the Courts [Q63]

We have had a long-standing concern that the Commerce Commission and Electricity Authority apply different interpretations to the same statutory objective with the Electricity Authority adopting an efficiency only interpretation that largely excludes wealth transfers.[35] We consider the Authority should adopt the same consumer welfare approach as the Commerce Commission and, if needed, would support legislative change to clarify this.

Price control should be the sole domain of the Commerce Commission

During the Authority's recent consultation on distribution pricing, it expressed the view that both the Commerce Commission and Electricity Authority have powers and jurisdiction over price regulation of electricity retail services:[36]

> The Authority has a broad power under section 32 of the Electricity Industry Act 2010 to make Code that is consistent with the Authority's statutory objectives and that is necessary or desirable to promote any of the matters in section 32(1) of the Act (including competition in the electricity industry, the reliable supply of electricity to consumers, the efficient operation of the electricity industry.
>
> …
>
> However, under Part 4 of the Commerce Act, the Commerce Commission's current role in the electricity industry is only to regulate electricity lines services as defined under s 54C of the Commerce Act, which does not include the electricity retail market. The Authority is therefore not constrained by section 32(2)(b) of the Act to regulate retailers if the requirements of section 32 are met.

We queried that the Authority's position "seems to imply the Authority could regulate electricity retail prices because the Commerce Commission isn't doing so at this moment, which seems to imply a 'first in gets to regulate' boundary between the Authority and Commerce Commission". The Authority confirmed this accords with its views:

> If the Commission was authorised or required to regulate electricity retail under Part 4 of the Commerce Act in future, then the Authority would no longer be able to regulate it under the Code.

We would be very concerned if both the Commerce Commission and Electricity Authority potentially have powers to price regulate electricity retailers (or other electricity services not presently regulated by the Commerce Commission) and consider price control is the appropriate responsibility of the Commerce Commission. Electricity retailers should not be subject to regulatory 'double jeopardy'.

If the Electricity Authority's interpretation of its jurisdiction and price control powers is correct then the Electricity Industry Act/Commerce Act should be amended to limit jurisdiction for price control of electricity services to the Commerce Commission under Part 4 Commerce Act.

[35] e.g. https://www.ea.govt.nz/documents/3057/Independent_retailers-202324-Levy-funded-appropriation.pdf
[36] https://www.ea.govt.nz/projects/all/distribution-pricing/consultation/targeted-reform-of-distribution-pricing/

Concluding remarks

The independent retailers consider it highly likely “Market concentration of providers of dispatchable generation or other flexible resources [will] increase as the use of fossil fuel generation reduces” unless reforms are introduced to resolve the ongoing, structural problems that already exist in the electricity market. We agree the “the risk of increased market concentration in dispatchable renewable generation” is “particularly” prominent in relation to “hydro generation with long term storage - during the transition” and “This could result in weaker competition, higher prices and/or lower reliability”.

There is a very real risk or likelihood the electricity market will move from an already concentrated market to an even more severely concentrated market and incumbent gentailer market power will be further entrenched. While there may be new and independent generators entering New Zealand, nervousness about market power and the incumbents’ ability to manipulate prices to benefit their larger portfolio of assets will quickly see this turnaround. New Zealand’s attractiveness as a place to invest in renewables has declined.

The “Resulting reduction in competition” could not only “adversely affect electricity prices and reliability during and after the transition” but the transition itself. High and less affordable electricity would make the economics of electrification and fuel substitution less attractive. The issues aren’t just about whether prices would be too high, and exceed the levels expected in a workably competitive market, but the implications for NZ Inc of being beholden to the investment decisions of a limited number of incumbent suppliers. The outcome would likely be delayed investment in new generation (a classic market power problem) and less diversity in the type and range of investments being made.

There is a lot more that can and should be done under existing legislative and regulatory settings to deal with the challenges and opportunities of the energy transition. Greater and more in-depth scrutiny of incumbent gentailer behaviour is warranted (including, for example, in relation to their ITPs). Hedge market reform is also urgently needed to ensure independent retailers to have access to flexible hedge contracts on terms equivalent to a gentailers’ retail arms e.g. gentailers should be required to provide access to hedge products on a non-discriminatory basis.

The work that Government/OCEP officials commissioned in the 1990s to explore options for break-up of ECNZ would provide a sound, quantitative, evidence-based approach to horizontal separation; including the price outcomes that could be expected under different levels of wholesale competition.

Yours sincerely,

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Pavan Vyas Chief Executive pavan.vyas@flickelectric.co.nz	Sharnie Warren Chief Executive sharnie.warren@pulseenergy.co.nz

APPENDIX: There is clear evidence of competition problems in the electricity retail market

Much of the evidence we use mirrors evidence the Electricity Authority used to claim the opposite in advice to the Petitions Committee.[37] Contrary to the Electricity Authority's claim "There is clear evidence of thriving competition in the retail market" the evidence the Authority relied on objectively showed the market is concentrated and competition is going backwards. Attempts to downplay problems in the market are likely to undermine trust in the market.

Summary of evidence that competition metrics are stalling and/or going backwards

- Independent retailer market share (September 2023) = 11.16%
- Independent retailer market share has stalled around 11% since May 2021.
- Independent retailer market share (ICP basis) has grown by about 0.73% per annum in aggregate over the last 15 years.

- HHI for the overall NZ electricity retail market is about the same as it was in December 2019.
- CR1 is about the same as January 2021.
- CR2 is about the same as August 2021.
- CR3 is about the same as October 2018.
- CR4 is about the same as November 2017.

- All national market concentration statistics have deteriorated over the last 2 years.

	CR1	CR2	CR3	CR4	HHI
31/08/18	39.07%	59.18%	73.59%	83.23%	2,449
31/08/19	37.63%	57.29%	71.51%	81.21%	2,308
31/08/20	36.12%	55.47%	69.56%	79.35%	2,180
31/08/21	34.88%	54.14%	68.20%	78.16%	2,085
31/08/22	36.09%	57.81%	73.46%	85.02%	2,267
31/08/23	35.43%	57.36%	73.27%	84.99%	2,265

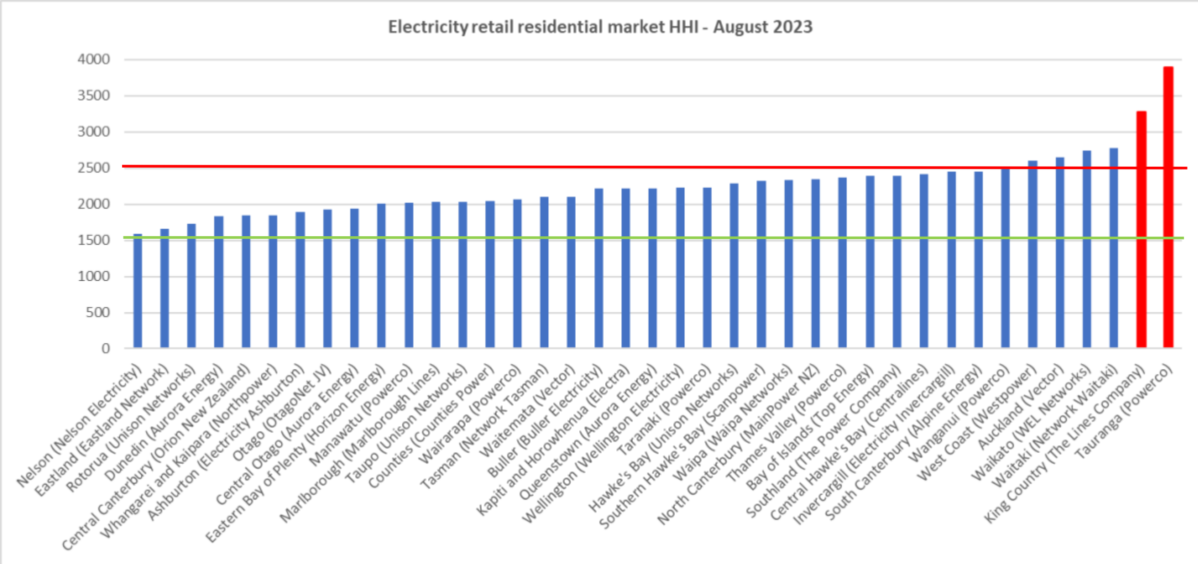
- Switching rates have been declining since 2018 and are now at levels that haven't been since since the 2000s.

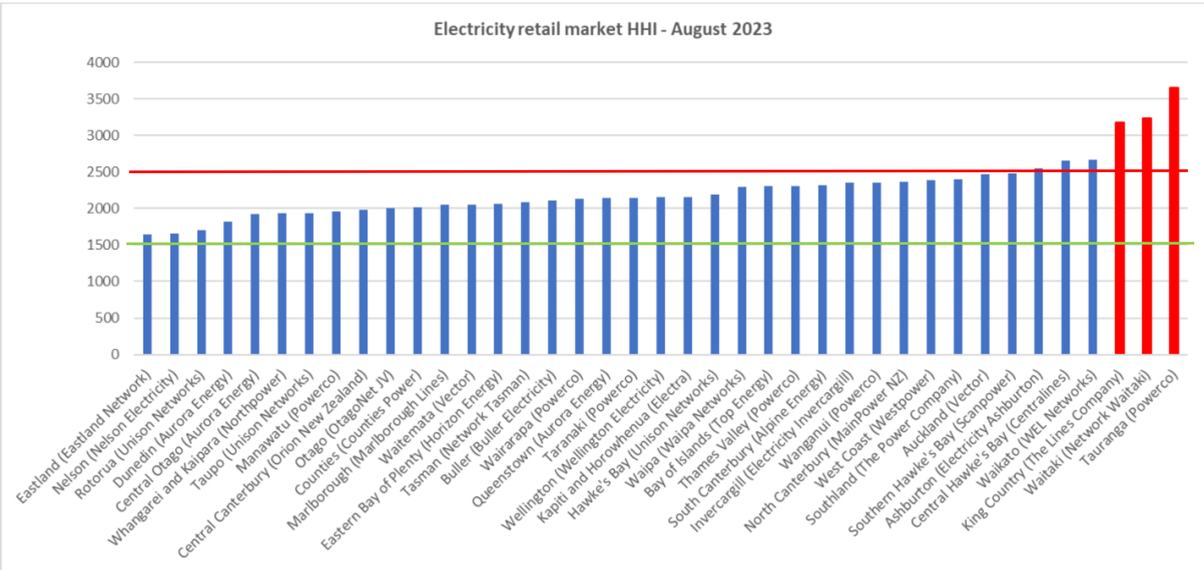
- The number of retailers has stalled – 38 in September 2018 and the end of September 2023.

- 4 electricity retailers had exited the market prior to 30 June 2018. The number has grown to 27 that have exited (nearly equally matched by new entrants).

[37] Electricity Authority, Re: Flick Electric submission to the Petitions Committee on market pricing and vertical-integration in the electricity market, 27 May 2022: https://www.parliament.nz/resource/en-NZ/53SCPET_EVI_117739_PET2706/4e96bd74b10e0b312a3c75e4ff66aa7a604233d8

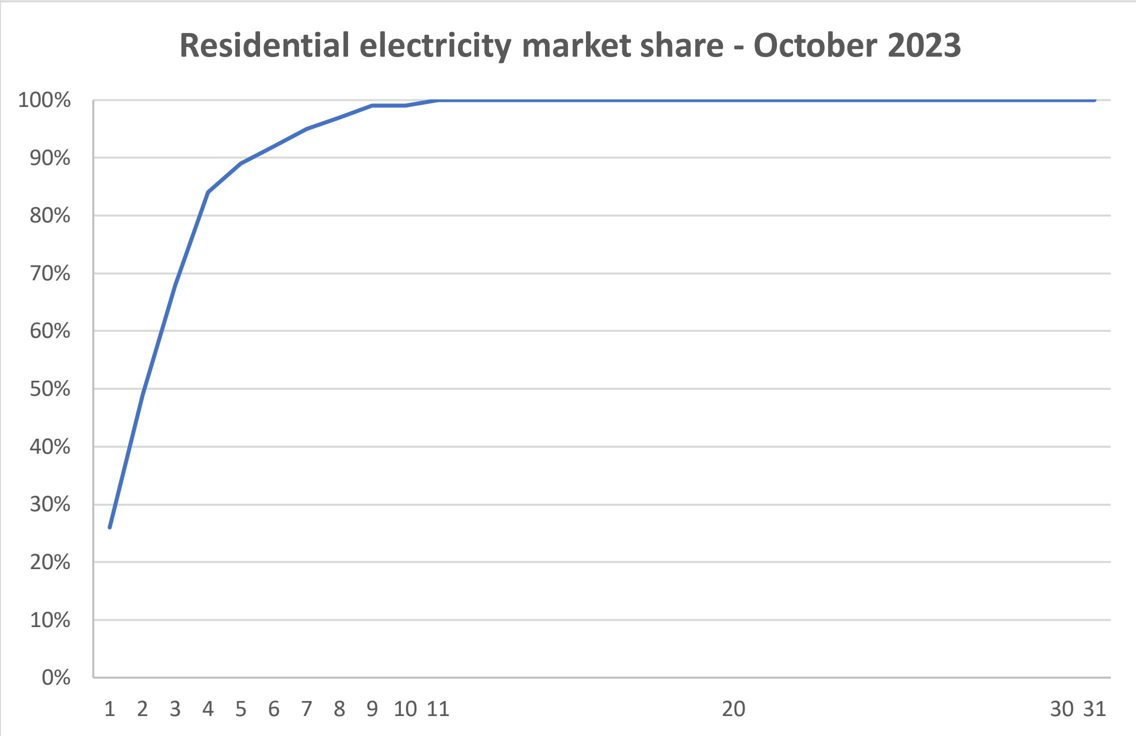
Proposition 1: The electricity retail market is concentrated or highly concentrated





- No regional retail market (residential or all ICPs) meets the Authority definition of a competitive market (HHI under 1500 – the green line in the above graphs).
- 33 out of 39 of the regional markets (residential or all ICPs) meet the Authority definition of a concentrated market (HHI between 1500 and 2500).
- 6 out of 39 (residential or all ICPs) meet the Authority definition of a highly concentrated market (HHI above 2500), with Central Hawke's Bay (2412), Invercargill (2445), South Canterbury (2448) and Wanganui (2496) on the margin.
- Two residential markets have an HHI more than 3,000: King Country (3276) and Tauranga (3894). Three of the retail markets (all ICPs) have an HHI more than 3,000: King Country (3176), Waitaki (3230) and Tauranga (3652).

Proposition 2: The large number of very small retailers does NOT reflect a highly competitive market

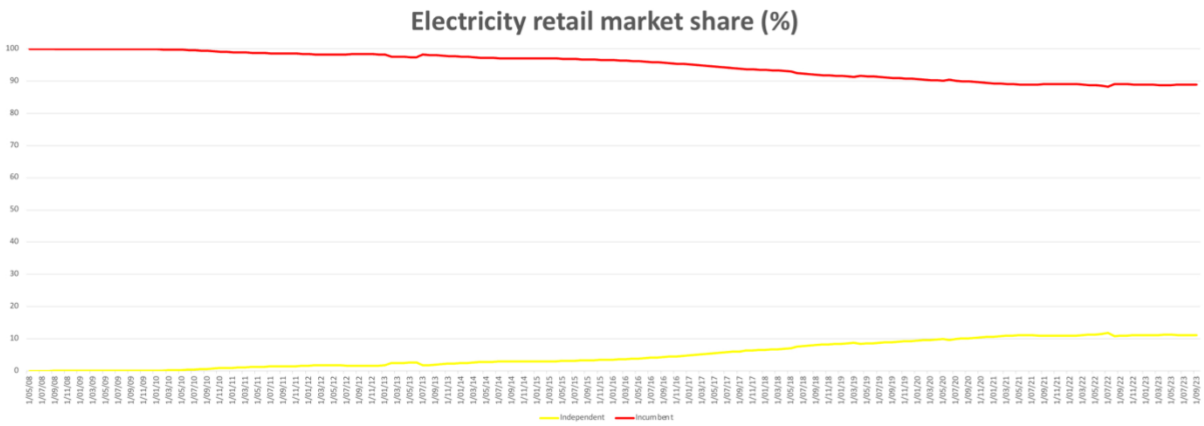


- The residential electricity retail market has many retailers (31) across New Zealand. However, we shouldn't be beguiled by the large number of retailers now in the market. This reflects the large number of retailers with very small market share:

    - Outside the 10 largest retailers, no electricity retailer has a national market share of more than 0.35%
    - Nearly a 3rd of all electricity retailers (9 out of 31) have less than 10 customers
    - Nearly half of all electricity retailers (15 out of 31) have less than 100 customers
    - Nearly two-thirds of all electricity retailers have less than 1,000 customers

  This highlights that there may be low barriers to entry but there are high barriers to growth and competition.

Proposition 3: New entrant market growth is very slow



Source: EMI

- Independent retailer market share growth has been glacial.
- Independent retailer market share (ICP basis) has grown by about 0.73% per annum in aggregate over the last 15 years.
- Independent retailer market share has stalled around 11% since May 2021.

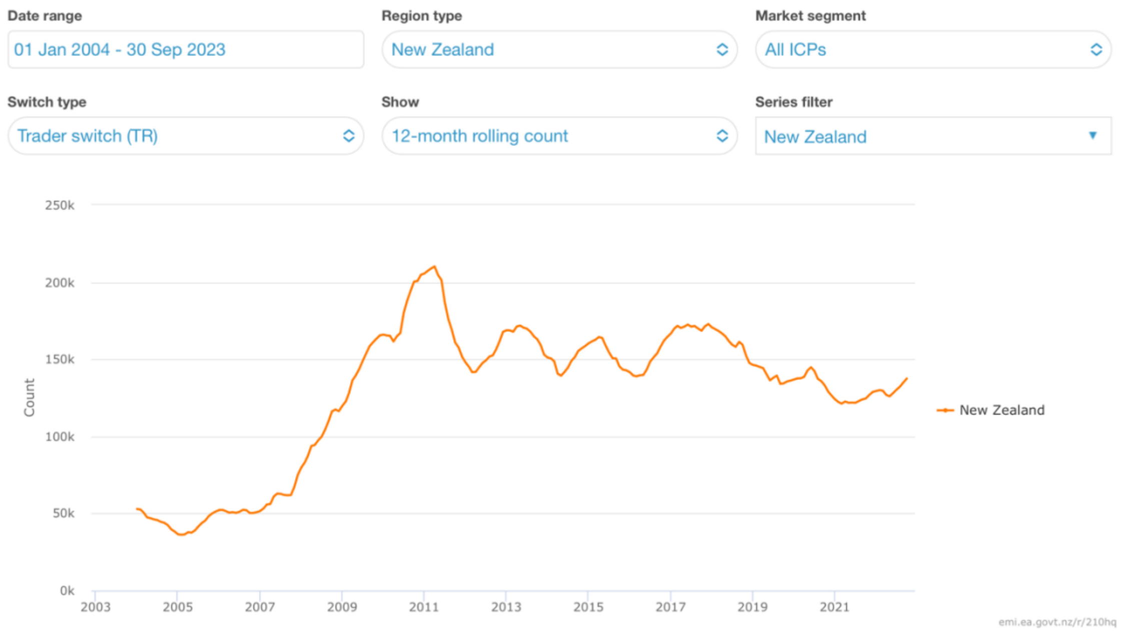
Share of Electricity Demand (MWh) - Including Direct Connected Industrial and Tiwai						
Year	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Total Volume	**41,169,924**	**41,173,325**	**41,701,610**	**41,161,759**	**41,288,217**	**34,718,104**
Independent	1,768,916	1,968,451	1,886,712	1,997,601	2,122,873	1,802,455
Gentailer	32,015,657	31,496,240	31,962,035	31,655,962	31,506,778	26,767,977
Tiwai	4,998,765	5,060,145	5,247,089	4,996,946	4,956,065	4,169,031
Other Industrial DC	2,386,586	2,648,488	2,605,775	2,511,251	2,702,501	1,978,641
Independent % Total	4.3%	4.8%	4.5%	4.9%	5.1%	5.2%
Gentailer % Total	77.8%	76.5%	76.6%	76.9%	76.3%	77.1%
Tiwai % Total	12.1%	12.3%	12.6%	12.1%	12.0%	12.0%
Other Industrial DC %	5.8%	6.4%	6.2%	6.1%	6.5%	5.7%

Share of Electricity Demand (MWh) - Excluding Direct Connected Industrial and Tiwai						
Year	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
Total Volume	33,784,573	33,464,691	33,848,746	33,653,563	33,629,650	28,570,432
Independent	1,768,916	1,968,451	1,886,712	1,997,601	2,122,873	1,802,455
Gentailer	32,015,657	31,496,240	31,962,035	31,655,962	31,506,778	26,767,977
Independent % Total	5.2%	5.9%	5.6%	5.9%	6.3%	6.3%
Gentailer % Total	94.8%	94.1%	94.4%	94.1%	93.7%	93.7%

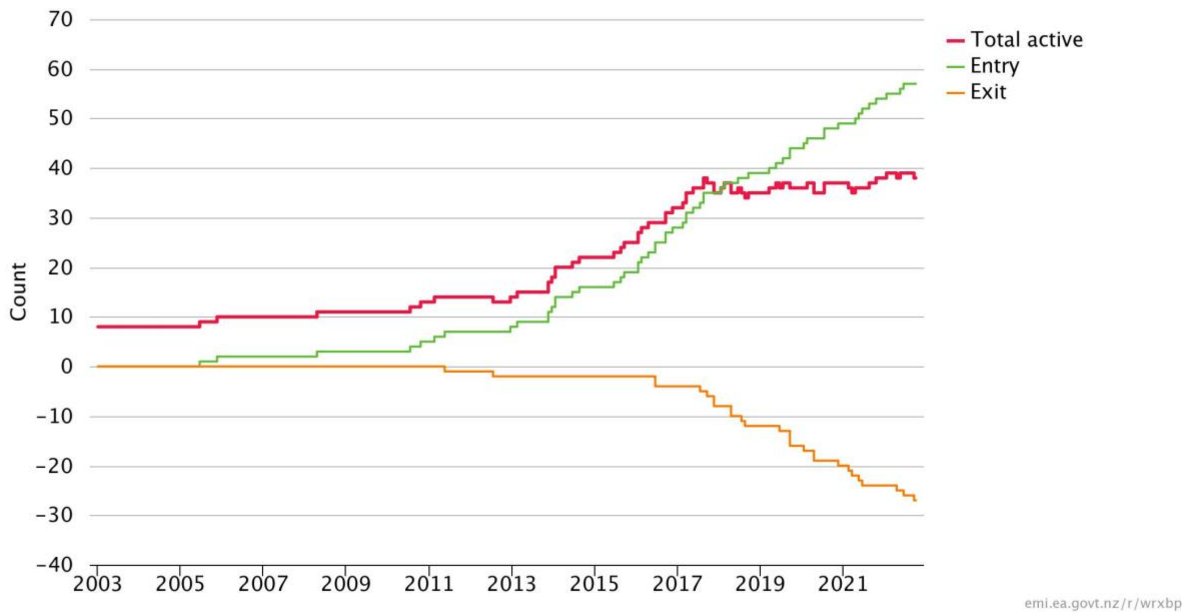
- The independent retailer market share outcomes are even worse when measured on a MWh basis rather than an ICP basis. Independent retailer market share sits at just 5.2% (including direct connect customers) or 6.3% (excluding direct connect customers).[38]

[38] Data sourced from EMI portal at: https://www.emi.ea.govt.nz/Wholesale/Datasets/Volumes/Reconciliation/2022, as at 05/12/2022.

Proposition 4: Competitive market activity is declining



- The level of customer switching peaked in 2011 for the South Island and 2012 in the North Island.
- Switching rates have been declining since 2018 and are now at levels that haven't been seen since the 2000s.



- The number of retailers has stalled – 38 in September 2018 and 38 at the end of September 2023 – during the current period of record high wholesale prices.
- 4 electricity retailers had exited the market up to 30 June 2018. The number has grown to 27 that have exited (nearly equally matched by new entrants).

Proposition 5: There are worrying reversals in market concentration statistics

- All national market concentration statistics have deteriorated over the last 2 years.

	CR1	CR2	CR3	CR4	HHI
31/08/18	39.07%	59.18%	73.59%	83.23%	2,449
31/08/19	37.63%	57.29%	71.51%	81.21%	2,308
31/08/20	36.12%	55.47%	69.56%	79.35%	2,180
31/08/21	34.88%	54.14%	68.20%	78.16%	2,085
31/08/22	36.09%	57.81%	73.46%	85.02%	2,267
31/08/23	35.43%	57.36%	73.27%	84.99%	2,265

Deterioration in market concentration in regional electricity markets

- The HHI has increased in 82% (32 out of 39) of the regional electricity markets in the last 2 years.
- The CR4 (CR3) has deteriorated in 97% (87%) of the regional electricity markets in the last 2 years.
- The HHI has increased in 28% (11 out of 39) of the regional electricity retail markets in the last 5
- The CR4 (CR3) has deteriorated in 69% (56%) of the regional electricity markets in the last 5 years.

% of regional markets where concentration has worsened	**HHI**	**CR1**	**CR2**	**CR3**	**CR4**
2 years	82%	62%	67%	87%	97%
5 years	28%	18%	38%	56%	69%

Deterioration in market concentration in the RESIDENTIAL regional electricity markets

- The HHI has increased in 85% (33 out of 39) of the RESIDENTIAL regional electricity markets in the last 2 years.
- The CR4 (CR3) has deteriorated in 100% (87%) of the RESIDENTIAL regional electricity markets in the last 2 years.
- The HHI has increased in 33% (13 out of 39) of the RESIDENTIAL regional electricity retail markets in the last 5 years.
- The CR4 (CR3) has deteriorated in 56% (51%) of the RESIDENTIAL regional electricity markets in the last 5 years.

% of regional residential markets where concentration has worsened	**HHI**	**CR1**	**CR2**	**CR3**	**CR4**
2 years	85%	62%	79%	87%	100%
5 years	33%	23%	44%	51%	56%