NERA Peer Review of Frontier Economics Final Report on New Zealand Market Performance

Final Report

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1. Response to Main Recommendations

The Ministry of Business, Innovation and Employment (MBIE) asked us to prepare this report to provide peer review of Frontier Economics's recommendations. We have based our review primarily on the draft report and final reports over a four-week period (two weeks for each report) and our own prior experience. We have not had the opportunity to engage with industry stakeholders in the way that Frontier has. The conclusions we draw are specific to the New Zealand context and the information provided in Frontier's report.

We have focussed this opening section of our peer review on Frontier's five main recommendations. We provide responses to Frontier's detailed claims and arguments by chapter in Table 2.1, below.

Frontier's remit was extremely broad and required it to assess electricity retail, wholesale and contract markets, as well as upstream fuel markets. MBIE also asked Frontier to assess and identify reforms for distribution and transmission networks, and assess the roles and responsibilities of the regulatory bodies. Perhaps partly due to covering so much ground, Frontier does not present detailed evidence to support each of its recommendations. Given that some of those recommendations are likely to have material impacts on the sector, MBIE could reasonably require further evidence and analysis to support the proposed interventions.

The first three of Frontier's five main recommendations concern the formation of New Co. New Co would be a new, government-owned entity which funds (either through contracting or direct ownership) and controls dispatchable, thermal plant. New Co would offer priority access to independent retailers and generators. The Crown would either acquire or contract with the existing and new dispatchable plant from the proceeds of selling its stakes in the existing gentailers in the market.

Frontier bases its proposal on its premise that private investment in gas infrastructure will not be forthcoming absent government intervention.[1] Frontier states that it bases that premise on its stakeholder engagement which indicates the importance of policy risk in inhibiting investment in gas plant. Whether MBIE should accept Frontier's position that intervention is necessary depends on the validity of its premise, which it is not possible to verify from Frontier's report.

If MBIE were to accept that intervention were necessary, Frontier does not provide a detailed and objective evaluation of its proposal against alternatives. For instance, the report does not explain why a capacity mechanism would fail to motivate investment in gas plant. Internationally, policymakers have adopted capacity mechanisms to support dispatchable power. Capacity contracts, including multi-year contracts for new plant, allow the government to provide incentives to invest in capacity and mitigate policy risk. In its assessment Frontier simply asserts – based on a superficial assessment against six criteria - that a capacity mechanism could not overcome the policy uncertainty problem it identifies without further explanation.[2] Frontier also does not weight the costs of a capacity mechanism against the costs of its proposed alternative. The costs of New Co include, for instance, a potential distortion to competition because the state owns all

1 Frontier defines the "core problem in New Zealand" as "the policy risk and preferences of shareholders mean that there is a disincentive to invest in the thermal assets needed to support dry year risk". Frontier Final Report, p.64.

2 Frontier's assessment of alternative options is provided in Appendix B of its final report.

dispatchable plant and offers priority access to that capacity to some market participants. Given the incomplete assessment of alternatives, Frontier's report provides an inadequate basis for decision-making over a material change to the ownership structure of capacity in the New Zealand electricity market.

Frontier's fourth main recommendation is that the number of Electricity Distribution Businesses (EDBs) be reduced to five. Frontier's high-level argument that New Zealand's 29 EDBs are frequently too small to deliver economies of scale is plausible, albeit weakly evidenced in its report. In particular, Frontier does not provide clear evidence that five is the optimal number (particularly if New Zealand were to adopt comparative benchmarking), that the total benefits of amalgamation are high given the small number of customers connected to the smallest EDBs, and that costs of amalgamation are low.

Frontier's fifth main recommendation is to amalgamate the Gas Industry Company with the Electricity Authority to create a new Energy Authority. Given the interlinkages between the gas and electricity markets, Frontier's recommendation could well result in better decision-making. It follows international precedent in a range of jurisdictions.

In addition to the five main recommendations, Frontier advocates removal of the electricity sector from the ETS on the basis that the ETS inflates prices with no environmental benefit.

Frontier is right that the ETS will inflate prices and consumers will pay more. In particular, only thermal generators pay the ETS at the margin and all generators benefit from the resulting increase in price. The ETS may therefore be an expensive method for achieving environmental benefits. However, it is unclear why Frontier alleges that there is no environmental benefit.

In the short run, environmental benefits may arise from the increased utilisation of gas as opposed to coal plant. Frontier analyses the merit order in 2021 and shows that the ETS did not, on average, change the relative marginal costs of coal and gas peaking plant. Frontier bases its analysis on a single, average gas and coal price from a single year. If relative gas and coal prices or ETS prices were to shift, the ETS may incentivise the dispatch of lower carbon plant.

In the long run, higher prices resulting from the ETS increases profits to renewable plant and incentivises investment in renewable plant.

Both long and short-run environmental benefits may be minor empirically and come at a heavy price for consumers. Frontier does not demonstrate that the environmental benefits, particularly over the investment timeframe, are minor relative to the costs in its report. For the New Zealand government to have confidence in Frontier's recommendations, it would need to undertake further analysis of options for achieving environmental objectives in place of the ETS.

2. Response to Wider Frontier Recommendations

In Table 2.1 we provide our key review findings for each Frontier recommendation. For clarity, we have only included Frontier's key recommendations and our comments on each. More information on each option can be found in the corresponding Section of Frontier's final report.

Table 2.1: Summary of key NERA reviewing findings for each Frontier recommendation

Final #	Frontier Draft Recommendation	Original NERA Commentary	Frontier Changes for Final Recommendation	Updated NERA Commentary
3.5.1	There is **no need to introduce large changes to New Zealand's market design** as there are sufficient investment incentives for renewable investment.	• We agree with Frontier's assessment that the current market design provides incentives for investment in renewables. • We agree that demand, supply, and policy uncertainty could in principle discourage investment. However, we understand from Frontier's assessment that its concerns regarding demand and supply uncertainty have been resolved. It is unclear whether Frontier expects an increase in investments following this development.	No change.	• Frontier has added material in Chapter 3 on ongoing policy uncertainty including that the prospect of the re-election of the current Opposition would risk the reintroduction of bans on fossil fuels and exploration of oil and gas.
3.5.2	The Government **should sell its stake in three of the main gentailers**.	• Privatisation typically leads to stronger commercial incentives. In general, private owners have stronger incentives to improve operational efficiency, to innovate and to undertake profitable investments. Government-owned enterprises often face weaker efficiency pressures and, depending on the specific arrangements, are more subject to political pressures and conflicting objectives (e.g., to keep prices low). • Frontier bases its argument that government ownership of the gentailers distorts investment incentives on	No change.	• As suggested, Frontier provides quantitative analysis (Figures 14 and 15) to support its claims that the private gentailer (Contact Energy) invests more than the gentailers with government ownership. • However, Frontier indicates that it did not observe any evidence to substantiate its claims that Government's demand for high and stable dividends distorts investment incentives. Instead, Frontier grounds the dividends claim in economic theory *(clientele effect)*. • We agree in principle with Frontier that the presence of Government ownership does not

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		stakeholder discussions. Frontier acknowledges that no counterfactual exists where there is no government ownership to confirm its claims that government ownership distorts investment incentives. Without further analysis, it is unclear to what extent the stakeholder statements are true. If data availability permits, the report would benefit from a quantitative comparison of the claims that Frontier has made. For instance, Frontier could compare the proportion of load contracted under PPAs for other vertically-integrated retailers that are privately owned. • While privatisation can enhance efficiency, it can also introduce market power risks. These risks can be ameliorated by strengthening the Electricity Authority's market monitoring and enforcement role. • Frontier states that it does not have material concerns with competition and notes that it believes the gentailers act to protect customers at the expense of their own margins. Frontier relies primarily on discussions with the gentailers and does not provide		in itself prevent abuse of market power. The discussion in Chapter 11 (see below) is consistent with the recommendation to strengthen the Electricity Authority's market monitoring and enforcement role. • Frontier provides an analysis of gentailers' behaviour in Chapter 5, concluding that gentailers are "shielding consumers at the expense of their own margins". • Frontier does not appear to consider how privatisation could impact gentailers' competitive behaviour and whether gentailers would continue to behave in the same way under private ownership. • If we accept that the Gentailers are currently sacrificing margins to protect customers, one reason could be the presence of a state shareholder. As a result, Frontier's conclusion that it does not have material concerns with competition based on historical market performance is unsafe in a world where the ownership of the gentailers is materially different.

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		compelling evidence to support its position. Frontier assumes generator behaviour in the counterfactual of private ownership would not change. For MBIE to rely on Frontier's findings, Frontier would need to demonstrate that (a) it had correctly diagnosed gentailers existing competitive behaviour and (b) generators would continue to behave in this way under private ownership.		
3.5.3	Authorities should **improve information available to investors**.	• In principle we agree that increased information can facilitate greater investment. Information can also facilitate strategic behaviour (e.g. it may facilitate tacit or explicit collusion). Frontier does not acknowledge the trade-offs in providing information to market participants, which may render its conclusions unreliable. See also our comments in recommendation 7.5.1.	No change.	• Frontier has made no changes to this recommendation. However, Frontier now discusses the trade-offs in providing information. Specifically, Frontier contends that this specific information does not present a material collusion concern. We agree that the greater provision of information of this nature (as described in Section 7.5.1 and 7.5.2) may improve decision making.
3.5.4	**The Emissions Trading Scheme (ETS) should be removed from the electricity sector**, as it does not affect dispatch outcomes or investment	• Frontier focuses on the impact of the ETS on the merit order. It argues that because thermal generators are already higher in the merit order than renewables, the ETS does not affect environmental outcomes and results in higher prices. However, economic theory would suggest that an ETS	Update: If the Government chooses to retain the ETS, it should recycle revenue back to consumers. Otherwise, the Government may consider directly subsidising specific	• Frontier has included new analysis showing the merit order based on 2021 data. This shows that the SRMC of coal is higher than the SRMC of peakers without an ETS. Frontier relies on this merit order to support its argument that the ETS would not lead to fuel-switching between coal and gas.

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	incentives and increases prices for consumers.	would have an environmental benefit through (i) encouraging fuel switching between coal and gas and between more and less efficient gas generators; and (ii) incentivising greater investment in renewables due to greater inframarginal rents. • Frontier provides no analysis to support the claim that the ETS neither results in coal to gas switching nor incentivises investment into renewables. For MBIE to rely on Frontier's recommendations, Frontier would need to demonstrate that – the ETS does not result in a change in the merit order; and – higher inframarginal rents for renewable plant resulting from the ETS has no impact on investment.	technologies instead of relying on an ETS.	• However, the SRMC of coal and peaking plant is close and Frontier's analysis is based on 2021 data, which does not consider the increase in gas prices since 2022. If higher gas prices were modelled, the merit order (without an ETS) between gas peakers and coal may have switched. The ETS could then have an environmental effect by inducing a change in the merit order between peakers and coal. • Frontier claims, based on empirical analysis, that in 2024 the ETS led to consumers overspending $1.5 billion without generating equivalent Crown revenue ($223 million). This discrepancy emerges because only polluting plants pay the ETS, but the ETS raises prices for the whole electricity market, resulting in inframarginal rent for renewable plants. We agree that the ETS is likely to be a high cost means of achieving reductions in carbon emissions, at least in the short term. • Frontier does not explain why an increase in inframarginal rent has no impact on investment decisions in renewable plant in the long term.
4.5.1	**The Government should secure and sell access to thermal capacity** to manage dry year	• Government seeking direct control of thermal plant would represent a material change to the market. The New Zealand market has relied on a decentralised approach to reliability.	Update: • The Crown to initially fund thermal generation resources through either	• Frontier suggests that New Co would preserve the market signals and the operations of the energy-only market, while resolving the dry year problem. Frontier recommends the

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	risk and ensure energy security.	The changes proposed by Frontier would represent a shift towards centralisation which is likely to have long-term impacts on the market including the ability of the market to deliver market-based entry. This recommendation requires careful consideration of the long-term impacts and the potential costs to New Zealand consumers and taxpayers. • Frontier's report would benefit from further evidence that policy uncertainty means that the market is unable to provide incentives for new thermal capacity. We have not had access to the stakeholders in the market necessary to appraise Frontier's claim. However, Frontier's claim is internally inconsistent: Frontier claims that high prices specifically in dry years are what makes the owner of Huntly keep its gas and coal plants in its portfolio. Huntly remaining open for potential dry years suggests that participants *are* responding to price signals. • The Guardian Power solution may also be inconsistent with New Zealand's 2050 net zero goals. As described, Guardian Power would strengthen the	contracting or ownership of assets. • Introduction of robust governance arrangements to ensure New Co (formerly Guardian Power) only procures sufficient capacity to address dry year and firming shortfalls. • New Co to retain option to own assets to guarantee capacity to build.	Crown funds thermal plants either through contracting or ownership. • New Co would participate in the market as all other generators and would be subject to robust governance arrangements. However, Frontier suggests that in the long term the Crown may retain the right to acquire the relevant assets. Frontier does not discuss the long-term impacts that the recommended shift towards centralisation may have on incentives for private investors to invest in the market in the future. • Frontier substantiates its claim that policy uncertainty prevents the market from investing in new thermal capacity by including a quote from an investor survey. We acknowledge the impact that policy uncertainty has on investment decisions. However, it is not clear from the evidence provided by Frontier whether policy uncertainty means that the market is unable to provide incentives for new thermal capacity. • We agree that there may be market power risks associated with granting the four gentailers control over the dry-year risk. Further, we recognise that such agreement, in combination with the alleged inability to

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		role of thermal units without providing a transition to more sustainable and renewable solutions. • Frontier suggests that there is a free-rider problem that exists in contracting for dry-year risk. Frontier argues that there are shared benefits from contracting (in the form of lower spot prices) so that individual participants may choose not to cover their load. Frontier concludes that there is likely less contracting than is socially optimal. However, the risks of any uncovered load is privately borne by the under-contracted market participant. Greater evidence of the free-rider problem is required for MBIE to have confidence in Frontier's recommendation.		invest in thermal plants, may reduce investment incentives for market participants. • Frontier provides further explanation and evidence on the free rider problem, as per our recommendation. However, the results are not unambiguous as Frontier notes that large industrials may be free riding, but retailers are covering their loads with contracts. We note that to the extent that industrials are underhedged during spot price spikes that they will wear the cost (while hedged parties will not). It is not clear to us that this is a free rider problem because the industrial loads face the cost of price spikes should they occur. Price spikes could, in principle, present a free-rider problem in circumstances where industrial loads were likely to become insolvent during price spikes. Frontier does not identify insolvency as a source of free-ridership. • We acknowledge the concerns raised by Frontier regarding the exclusive reliance on intermittent renewables to mitigate dry-year risk, which were not addressed in the draft report. However, Frontier does not provide a plan to transition to a renewables-based solution or explain how their recommendation for New Co is consistent with the 2050 net zero goals.

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4.5.2	In the short term, Guardian Power **should buy existing "firm capacity options"** from Huntly Power Station. In the mid-term, Guardian Power **should take over fuel procurement**. In the long-term, Guardian Power **should invest in new generation assets**, and **domestic gas supply**.	• Frontier has not adequately evidenced its assumption that the market will not deliver sufficient investment in firming capacity and fuel supply. • Regarding the assumption that policy uncertainty prevents a market response, the Government could consider other options for supporting investment in firming capacity and fuel supply. Frontier claims to have assessed alternative options but has not provided an adequate explanation for why these options were dismissed (see also our response to Recommendation 4.6). • In the long term, Guardian Power could focus on progressively substituting thermal generation with low carbon sources (wind, solar and geothermal) and storage.	No change.	• No further commentary.
4.6 and Appendix B	**Alternative options** (capacity market, mandatory contracting, tradable certificates and/or a strategic reserve) **will not**	• Frontier does not provide any substantive evidence for why alternative options fail to address dry-year risk (including in the Appendix which only focuses on how each considered jurisdiction adopts its approach). • For example, Frontier notes that it considered but dismissed the options	Update Frontier considers two additional alternative options: • Implementing the status quo	• Frontier assesses seven options for addressing dry-year risk against six assessment criteria in Appendix B. We generally agree that Frontier's six assessment criteria are reasonable for assessing options for market design. • However, Frontier omits an important constraint which options for market design in

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	address the dry-year risk.	of a capacity market, tradable certificates and a strategic reserve. Frontier argues that none of these options overcomes the fundamental risk of policy uncertainty. Internationally, governments have turned to capacity markets and tradable certificates to support security of supply. Frontier does not explain why contracting with the government through such interventions is insufficient and therefore that direct ownership by the government of firming capacity is necessary.	• Obliging Genesis to be a regulated default provider of firm capacity	the NZ electricity sector are subject to, namely legal and regulatory requirements. In particular, Frontier does not assess whether the options are compatible with NZ's target of net zero emissions by 2050 under the Climate Change Response Act. • While we have not undertaken a full reassessment of the options, we find that Frontier's assessment exhibits multiple shortcomings, and a thorough, independent assessment is required for MBIE to have confidence in Frontier's recommendations. For example, Frontier's assessment: – Contains double-counting, i.e., making the same assessment under multiple criteria. For example, if an option does not score well under the first criterion, it appears that it will automatically not score well under the final criterion. For both criteria, Frontier awards low scores with the claim that the assessed option "does not fix the long-term investment issue" (see Table 14 in Appendix B.2 and Table 24 in Appendix B.7). – Is sensitive to how flexible the option is. Frontier's assessment favours a model like New Co which is bespoke and contains multiple phases, such that it is both implementable in the short term and flexible to address long-term needs. In

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				contrast, the specific capacity market design which Frontier assesses scores badly in part because Frontier does not appear to consider a design customised to the needs that Frontier identifies: - Frontier claims that "technologies that are less firm than thermal generation" would receive capacity market contracts, leading to "the prospect that capacity paid under the scheme is unable to deliver when needed". However, capacity markets typically employ de-rating factors, which could be based on the ability of the plant to deliver energy in periods of system stress.[3] This would mean that capacity market contracts are awarded in proportion to their likely availability during period of system stress. - We agree with Frontier's assessment that the design of a capacity market in NZ would take years. The capacity market therefore does not score well under "timely implementation" (criterion 6). However, similar to the New Co design containing both short-term and long-

[3] There are well established methods for determining derating factors for renewables in capacity markets. For example, the Federal Energy Regulatory Commission (FERC) uses Equivalent Load Carrying Capacity (ELCC) in the PJM capacity market and National Grid ESO uses Equivalent Firm Capacity (EFC) in the UK capacity market.

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				term components, a capacity market could be the long-term component of a bespoke model combined with another option. For example, the short-term component in this bespoke model could be the 10-year Heads of Agreement for the Huntly generator, which, as Frontier states, "can be implemented relatively quickly". – Is based on the assumption that only government ownership can lead to appropriate risk allocation (criterion 4). Most alternative options receive a score of zero for this criterion because "policy uncertainty risk would remain with generators who are unable to adequately manage that risk". However, Frontier recognises that long-term contracting is an alternative to government ownership in its assessment of the strategic reserve (see Table 18 in Appendix B.4). Frontier does not explain why long-term contracting cannot manage policy uncertainty risks under other options. – For example, there are several cases of thermal plant that has been built (or

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				returned-to-service) after securing multi-year capacity market contracts.[4]
5.5.1	**The Government should provide priority access** of government-owned firm capacity to independent retailers and generators.	• Frontier's recommendation appears to be inconsistent with Frontier's finding that there are no major competition concerns and that the structure of the market supports effective competition. If gentailers currently have the ability to hoard capacity and freeze out competitors, Frontier's report does not explain what is preventing them from doing so already. • Frontier's analysis of competition and the structure of the market also seems incomplete. For instance, Frontier only considers gentailers' retail margins when concluding that gentailers earn lower margins than independent retailers. Frontier could consider gentailers' generation margins to give a full view of gentailer profitability. • Priority access schemes are either ineffectual or a subsidy. If the scheme results in independents accessing contracts on the same commercial terms as would be achieved in the	No change.	• Frontier maintains its findings that there are no major competition concerns and the structure of the market supports effective competition. In fact, it raises new concerns that the Competition Task Force analysis was not sufficiently robust to ascertain that a competition problem exists. Nevertheless, Frontier does not clarify in its final report why it believes there is a risk of gentailers hoarding capacity in order to freeze competitors out of the market, nor does it explain what is preventing them from doing so already. – In a separate response to our queries, Frontier raised an example of a gentailer intervening to take over a PPA that was being developed by an independent provider specifically for a large industrial customer. However, this particular example does not appear to be clearly articulated in either the draft or final report. – In that separate response, Frontier also explained its view that even if gentailers are not hoarding new capacity, it is clear that the market is dependent on them for

[4] For example, see historical T-4 auction results (broken down into existing and new capacity) for the UK capacity market here: https://emrdeliverybody.nationalenergyso.com/IG/s/article/Auction-Results

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		contract market, there is no benefit to the scheme. If the scheme results in independents achieving more favourable terms, then this is an implicit subsidy to independents. • In many market circumstances, it can be in consumers' interest to subsidise entry *in the short-run*. However, international experience, such as that in Great Britain, suggests that subsidising entry of independent suppliers in the short-run *may not be in consumers' long-run interests*. For a summary of the British experience, see the NERA White Paper, *Energy Retail in Great Britain: Moral Hazard and the Illusion of Competition.*[5] • The focus on the long-term interests of consumers is recognised in the statutory objective of the Electricity Authority which is set out in Section 15 of the Electricity Industry Act 2010: "To promote competition in, reliable supply by, and the efficient operation of, the electricity industry for the *long-term* benefit of consumers".		firming. It said that its recommendation will therefore provide confidence to independents and new entrants and "reduce perceived barriers to entry and expansion" – however it does not discuss these perceived barriers anywhere in the report, and in fact concludes that there are low barriers to entry based on the number of entries and exits (see our next comment). • Frontier's analysis of competition and the structure of the market remains incomplete. For example, Frontier adds text referencing "the apparent ease of entry and exit in the retail market", yet this finding remains based on a high-level overview of the number of entries and exits. In the new Chapter 11 which recommends the EA undertakes more sophisticated competition analysis, Frontier identifies four categories of entry barriers which it says exist for electricity generation and retailing – however it does not address any of these potential entry barriers in its own assessment. • Frontier explains that it considered analysing wholesale margins, but that it had difficulty calculating these due to data limitations, so it was restricted to a high-level review of annual

[5] See Anstey, G., Christian, S., Newell, M., *Energy Retail in Great Britain: Moral Hazard and the Illusion of Competition*. A NERA White Paper. 16 December 2021.

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				reports. Regardless, Frontier notes that gentailers' wholesale margins appear positive (based on annual reports). However, Frontier does not consider how this might offset gentailers' relatively low observed retail margins or revise its interpretation that gentailers are "shielding consumers at the expense of their own margins". Frontier does elaborate on why it believes margin squeeze is an unlikely alternative explanation, but Frontier provides minimal evidence for this belief, which is based on: – its finding of low barriers to retail entry; – an observation that independent retailer margins do not appear low enough to have been squeezed; and – a view that it is unlikely all four gentailers would act in a highly coordinated and illegal manner. • Frontier does not engage with our commentary around the effects of a subsidy, except to add a comment that quarantining capacity "does not mean that independent retailers are subsidised or can procure capacity at a discount." It does not elaborate further on this comment in the final report. – In a separate response to our queries, Frontier explained that there is "no intention that the priority access will deliver

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				a subsidy", however this does not change the reality that it will have the impact of a subsidy. Frontier suggests that, instead of providing a subsidy, the scheme will help to reduce perceived barriers to entry and expansion, but as above, Frontier does not establish anywhere that these perceived barriers exist.
5.5.2	**The Energy Competition Task Force's (ECTF) proposals** regarding non-discrimination and virtual vertical disaggregation **should not proceed**.	• Frontier argues that the ECTF could have unintended consequences and could increase overall costs. We have not specifically examined the ECTF in detail. • In principle, non-discrimination obligations could, depending on the implementation of the obligation and assuming the gentailers possess market power, incentivise gentailers to increase the price of their internal contracts. • Similarly, it is in principle possible that if vertical integration delivers efficiency benefits, these benefits could be reduced under the ECTF virtual disaggregation proposal.	No change.	• No further commentary.
5.5.3	**Retailers should provide consumers immediate access**	• Providing consumers with greater access to information should improve their ability to understand and compare different offers in the retail market and	Update: This recommendation can be achieved through the implementation of the new	• It does appear that the new Customer and Product Data Bill would be an effective channel for this intervention.

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	to their usage data, including the instant release of this data to price comparison websites.	is therefore likely to be a low-regrets intervention.	Customer and Product Data Bill.	
5.5.4	The Electricity Authority should **impose obligations on retailers to include certain information on bills** (e.g. savings opportunities), and should work with retailers to achieve bill consistency.	• Bill standardisation could help consumers understand and compare retail offers and is unlikely to have downsides provided that the standardisation does not prevent retailer innovation. There should, for example, be consideration of how bill standardisation can apply to spot price passthrough offers and other time-varying tariffs.	No change.	• No further commentary.
6.5.1	The Government should give **priority access to independent retailers and generators** to contracts from Government-owned firm capacity to level the playing field with	• See our response to Recommendation 5.1.1.	No change.	• See our response to Recommendation 5.1.1.

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	gentailers (who are more shielded against wholesale price volatility).			
6.5.2	The Electricity Authority should undertake a **detailed annual assessment** of the hedge contract market to support its conclusions about the effectiveness of risk management	• Greater access to contract information would likely help the Electricity Authority in their market monitoring role. However, there should be careful consideration of whether and how this information is published to avoid facilitating strategic behaviour from market participants.	Update: • The proposed assessment will require visibility of the position of generation units for each trading interval, but there are limitations to this visibility, so the EA should work to resolve these gaps where possible. • Frontier does not support EA proposal to collect data on individual bids and offers in OTC markets.	• We agree in principle that the EA should try to fill gaps in its visibility for the purposes of market monitoring, provided the benefit generated by the information is not outweighed by the costs of collection and/or the risks of publication in terms of facilitating strategic behaviour among incumbents. – In a separate response to our queries, Frontier says that its proposed analysis is common in energy markets it is familiar with, and so it does not perceive there to be a material risk of the EA publishing commercially sensitive information. This sounds reasonable, but an example would be helpful. • We agree in principle that information on commercial negotiations may not bring additional benefit compared to information on settled transactions, and its publication could create additional risks around facilitating strategic behaviour. However, we have not specifically examined the EA's proposed use case for this information nor whether it intends to publish the information.

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7.5.1	The Gas Industry Co should **centralise historical gas market supply and demand information** in a "gas market dashboard" to enhance transparency and enable the market to respond to changing conditions in a timely manner and improve decision-making.	• A central gas market dashboard could provide additional information to participants which can, under certain conditions, improve the functioning of the market. Transparency may not *necessarily* level the playing field and remove the imbalance in bargaining power that users face when negotiation with producers. Increased transparency could in some cases facilitate strategic behaviour from producers, resulting in reduced competition and higher prices. Frontier's report does not acknowledge or assess the risks that greater transparency could bring.	No change.	• We agree that the greater provision of information as described in Section 7.5.1 and 7.5.2 may improve decision making and is unlikely to facilitate collusion.
8.5.1	Rationalise the existing 29 EDBs into **five "Super Electricity Distribution Businesses (EDB)"** based on proximity to attract the necessary skill set, facilitate raising capital for	• A consolidation and harmonisation of EDBs could achieve economies of scale, facilitate effective regulation and potentially improve quality of service to customers at lower prices. • Further detail is required on how the optimal number and size of Super EDBs can be determined.	Update: The identification of the new "Super EDBs" should be based on pragmatic principles rather than scientific methods. A more technical approach might lead to false precision and might ignore relevant local factors.	• No further commentary.

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	investments and contain transaction costs for customers.			
8.5.2	The Commission should **reform the price-quality regulation framework** to apply individual price-quality determinations for the reduced number of EDBs to address inefficient investments in distribution networks.	• Frontier recommends a regulatory reform because it observes an underinvestment problem, leading to aging and unreliable distribution networks. • Frontier's claims that there is a "significant upward trend in the system average interruption duration index (SAIDI) associated with unplanned outages caused by defective equipment for several EDBs". The data presented by Frontier shows a moderate trend in unplanned SAIDI due to defective equipment. • Frontier's analysis provides no evidence that the underlying regulatory framework and the size of EBDs influence ageing trends. • Frontier's analysis would benefit from an exploration of how reforms of the price-quality regulation framework could incentivise necessary investments under the status quo, i.e., in the absence of amalgamation.	No change.	• Frontier has not addressed any of the points raised in our original commentary.

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8.5.4	The Commission should set **regulated prices or revenue caps for EDBs based on comparative efficiency benchmarking**, providing incentives for the EBDs to increase their efficiency.	• Frontier draws a causal relationship between comparative benchmarking and efficiency without compelling empirical evidence. • The international benchmarking study which Frontier considers to support its claims may not reflect the heterogeneity of the sample resulting in potentially biased efficiency values. • The recommendation for five Super EDBs would provide a limited sample for benchmarking between distribution businesses.	Update: Frontier clarifies that benchmarking studies should deal as a source of information for the regulator, rather than a tool to set actual prices. In Frontier's view, amalgamation will facilitate benchmarking as EDBs in NZ become more comparable to those in Australia.	• We agree that benchmarking results can – if not taken at face value – be a source of information for regulators. • Expanding the benchmarking sample to also include Australian EDBs will not fully solve the problem of a small sample size. Furthermore, the addition of Australian EDBs might add further heterogeneity to the sample which, combined with the small sample, will reduce the validity of the results.
9.5.1(a)	Create a new **streamlined version of the Investment Test** for augmentation projects between $8 million and $30 million to provide greater confidence in Transpower.	• Frontier does not empirically support its claim that the current threshold of $30 million is not working well. Similarly, Frontier does not provide any views as to whether the Australian regime is working well, apart from a high-level comparison of efficiency improvements. • Frontier does not acknowledge that the Australian threshold for a full-fledged RIT-T ($54 million) is higher than the equivalent New Zealand threshold.	No change.	• Frontier has not addressed any of the points raised in our original commentary.
9.5.1(b)	Transpower should produce an **Electricity Opportunities**	• Frontier does not consider the differences in the strength of co-location signals between a REZ scheme and an annual EOS but claims the two	No change.	• Frontier has clarified that the purpose of New Zealand's nodal pricing is to ensure strong locational signals for generation (unlike Australia, which has a REZ scheme but no

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	Statement (EOS) to provide effective locational signals for generation investment and decline proposals to introduce a Renewable Energy Zone (REZ) since it is an intrusive and expensive solution.	options achieve the same outcome at different costs. Further analysis is required to give MBIE confidence in this claim. • Frontier could expand on how nodal pricing provides locational investment incentives to clarify the drawbacks it has identified regarding the REZ scheme.		nodal pricing). This addresses our second comment and helps to explain why Frontier believes a REZ scheme would not bring sufficient additional benefit in New Zealand. • However, Frontier has not added any evidence around the effectiveness of an annual EOS, so the cost-benefit comparison remains unclear.
9.5.2	Take **no action for the new Transmission Pricing Methodology** (TPM) until further outcomes from the stakeholder consultation emerge.	• Frontier suggests that extra time is needed to assess whether further changes to the TPM are required and that the Electricity Authority should continue to monitor outcomes from the recent changes. This would be a prudent approach given recent changes.	No change.	• No further commentary.
9.5.3	**Update the North Island Winter Capacity Margin (NI-WCM) standard** to provide greater flexibility and align with Australia's	• We have not undertaken specific analysis on the security standards. Adopting an expected unserved energy metric like Australia and Great Britain is likely to better reflect the nature of reliability events in the future (e.g., by taking account of energy constraints in	No change.	• No further commentary.

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	expected lost load approach.	addition to capacity constraints) than the status quo.		
10.5.1 (new in final)			**Create a new energy regulator** that combines the functions of the Electricity Authority and the GIC.	• Amid increasing interdependencies between the gas and electricity sectors, Frontier's recommendation of a combined regulator is likely to yield efficiency gains through economies of scale and synergy effects. • We agree that international precedents can provide helpful use cases to form a combined energy regulator. At the same time, MBIE should evaluate these cases to understand potential risks and challenges of a combined regulator, including conflicting internal priorities or rigid regulatory processes.
10.5.2	The Electricity Authority should **create a code change process** based on the model used by the Australian Energy Market Commission in Australia.	• Frontier's recommendation to adopt a code change process is likely to address the concerns raised by Frontier by requiring the Electricity Authority to assess code changes requested by any stakeholder.	No change.	• Frontier has not addressed any of the points raised in our original commentary.
11.5.1	Transpower should use their expertise and access to data to play an active role in **supporting**	• Frontier's recommendation for Transpower to play a more active role in market monitoring is likely to improve the quality of market monitoring of the electricity market.	Update: The EA should retain independent capability to monitor the market to not introduce dependencies	• We agree that the EA's market monitoring should not be overly reliant on data provided by Transpower.

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	the Electricity Authority in market monitoring.	Transpower's specialised expertise and access to data would complement the Electricity Authority's capabilities.	between the EA and Transpower.	
11.5.2 (new in final)			The EA should adopt a **more sophisticated approach** to competition analysis.	• Frontier's recommendation for the EA to rely on more contract data from gentailers and improve their capability to analyse this data is likely to facilitate the monitoring of the market (see our commentary on recommendation 6.5.2). • Frontier could provide more detail on the specific competition metrics and indicators it seeks the EA to apply. Frontier itself questions the validity of the different competition metrics it presents throughout the section. For MBIE to rely on Frontier's recommendations, Frontier would need to outline more clearly what its proposal of a "sophisticated approach" consists of and whether this approach contains any regulatory burden for market participants.

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