SUBMISSION TO ELECTRICITY AUTHORITY ON ENABLING MASS MARKET PARTICIPATION IN THE ELECTRICITY MARKET

CREATING A NEW
ENERGY FUTURE

CONTENTS

EXECUTIVE SUMMARY

1. Vector has a portfolio of businesses that provide a range of services to enable mass participation. From our successful roll-out of smart meter technology to our focus on enabling solar generation, Vector is continuously creating opportunities for increased control and optionality for consumers. Vector's majority owner is a consumer trust. Consequently, Vector is committed to evolving amid disruption to ensure our long-term resilience for the benefit of our customers, of whom many are our owners.

2. A period of transformative change is currently occurring in the energy system. The efficiency and cost competitiveness of alternative energy technologies is increasing. It is not a matter of if, but when, such alternative energy sources will become equivalent in both function and cost, to the centralised energy system. Customers will be empowered to choose how and from whom they will satisfy their energy needs – with grid supplied energy but one of many competing alternatives.

3. The Commerce Commission's (the Commission) 'Emerging Technology' work-stream as part of its Input Methodology review (IM review) considered the impact of emerging technologies in detail. The Commission noted:

> *the 'trio' of emerging technologies, new business models, and changing consumer behaviour has the potential to create viable substitutes to lines services, or at least erode their natural monopoly characteristics.*[1]

4. Much of the Electricity Authority's (the Authority) Mass Market Participation Paper (the Consultation Paper) appears to unnecessarily relitigate issues considered last year by the Commission's emerging technology work-stream. The Commission's IM review found that Part 4 of the Commerce Act was a fit for purpose regime that expressly contemplated evolving requirements for networks and for investments to have optionality. The Commission noted:

> *Indeed Part 4, through s 52T(3), requires that our cost allocation rules do not unduly deter investments by suppliers of regulated services in the provision of other services.*[2]

5. It is surprising that the Authority dedicated so much of its Consultation Paper to hypothesising about distribution sector network management, which does not appear to have a direct link to enabling consumer participation. The Authority's focus is made more confusing with the lack of a problem definition or evidence of perverse outcomes. It therefore appears to Vector the process is not as robust as

[1] Commerce Commission, *Topic 3: the future impact of emerging technologies in the energy sector,* 20 December 2016, p. 12
[2] Ibid, p.70

it could have been when considering all the opportunities that could enable mass participation in the electricity market.

6. The Authority's focus on relitigating work undertaken by the Commission seems to be at the expense of several issues that could significantly influence mass participation, including: resistance to the provision of customer data, stalling of smart meter roll-outs, perverse outcomes in the wholesale energy market and customer disengagement.
7. It is important to note that while considering advocacy from lobby groups to impose "structural interventions", the Commission suggested such interventions are the responsibility of law makers and not statutory bodies.
8. In this period of transition, it is important to ensure regulation and policy do not obstruct the sector's natural evolution and ability to innovate. The more adaptive energy regulation is to innovation, the less disruptive the transformation will be for the industry. Prescriptive policy is 'fragile by design' and a policy or regulatory strategy based only on one view of the future is unlikely to survive for long.
9. The key points raised by Vector in this submission are outlined in **table 1** below.

Table 1: Summary of Vector views on key topics

Topic	***Vector view***
Problem definition	• Vector is surprised with the direction taken by the Authority in a Consultation Paper targeted at mass consumer market participation. It appears to be focussed on networks despite identifying no evidence of any problems with network regulation. • More importantly the network service is the jurisdiction of the Commission under the regulatory framework provided by Part 4 of the Commerce Act. • The Commission has already considered the topic of new technologies and networks at length (and determined the current regime is fit for purpose) as part of its emerging technologies work-stream during the recent IM review.
Missed opportunity	• Vector is concerned the Consultation Paper is a missed opportunity as it ignores areas that are real barriers to mass consumer participation.
Key barriers to mass participation	• The Authority needs to consider the following areas, which are key barriers to mass participation in the market: - Challenges for innovators delivering data insight innovation;

Topic	*Vector view*
	- Stalling smart meter penetration; - Mistrust in New Zealand's wholesale energy market; - Limited transparency with integrated generator / retailer businesses - Limited customer benefits from retail competition; and - Disengaged customers.
Potential opportunities	• This is an opportunity for the Authority to reconsider the current rules for enabling innovation, which are designed on legacy customer retail models. • The Authority should facilitate opportunities for greater use of energy information by parties wishing to innovate and customers wishing to proactively engage with the energy system.

THE NEED FOR A COMPREHENSIVE REVIEW

10. Vector notes the Competition and Markets Authority in the United Kingdom has recently conducted a comprehensive review into the energy market, additionally the Commonwealth Treasurer of Australia has tasked the Australian Competition and Consumer Commission (ACCC) to review, inter alia, the benefits of competition in Australia's retail electricity markets.

11. These jurisdictions have recognised systemic problems with the operation of their markets, including: sustained high market shares among integrated generation / retail incumbent businesses, difficult barriers for new entrants, tariff complexity and misalignment causing customers to pay more than necessary, low pass-through of cost savings to final bills, and low levels of customer trust.

12. Such issues cannot be assumed to be absent in the New Zealand electricity market, which operates on a similar design to the electricity markets in these jurisdictions. The last government review into New Zealand's electricity market design was in 2009, almost 10 years ago. We believe there is an urgent need to thoroughly review the effectiveness of New Zealand's electricity market design and investigate whether it is delivering for customers.

INTRODUCTION

13. This is Vector's submission on the Electricity Authority's (the Authority) Consultation Paper, Enabling Mass Participation in the Electricity Market: How can we promote innovation and participation (Consultation Paper).

14. No part of this submission is confidential and Vector are happy for it to be publicly released.

15. Vector's contact person for this submission is:

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RESPONSE TO QUESTIONS

Question 1: What is your view of the potential competition, reliability and efficiency benefits of more participation?

16. Mass participation in energy markets will continue to occur at an accelerating rate. Technology is empowering customers to make more choices about how they consume their energy and from whom. Accordingly, facilitating more mass participation in the electricity supply chain will ensure customers see continuing value in their electricity connection.

17. Customers will be the ultimate arbiters of the future of the electricity grid and the relative benefits it offers to competitive alternatives. It is more important than ever that customers are not disenfranchised. This requires customers to have confidence that they are not "locked" into their current arrangements and that their energy is being delivered free from market manipulation. Ultimately such perceptions will encourage customers to exercise their power and choose alternatives to their current electricity connection.

18. This view is outlined in a report from the Commonwealth Scientific and Industrial Research Organisation (CSIRO) and Energy Networks Association of Australia, the *Electricity Network Transformation Roadmap,* which noted:

> *Ultimately, customers exercising their grown energy choice – and not the technologies themselves are driving this transformation.*[3] *Technology change and not regulation – will drive competition in energy markets*

19. Vector agrees with the Authority that technology change will drive competition for energy services. The level of investment in new energy technologies is significant with customer take up of technologies accelerating.

20. Energy Minister, Hon Judith Collins, recently noted:

> *the rate of technology change, which is evolving at pace, will have big implications for the electricity sector, especially distribution companies.*[4]

21. The global investment in renewable technologies, excluding large hydro schemes was $241 billion in 2016.[5] Indeed, this figure was 23 percent lower than investment the year before. However, 2016 is the single largest year for the installation of renewable power capacity. Accordingly, the decline in investment is not from less

[3] ENA CSIRO*, Electricity Network Transformation Roadmap – Interim Report*, December 2015, p.7
[4] Energy Minister Hon Judith Collins, Address to Energy Trusts of New Zealand Autumn Conference, 11 May 2017: https://www.beehive.govt.nz/speech/address-energy-trusts-new-zealand-autumn-conference
[5] Frankfurt School FS-UNEP Collaborating Centre for Climate and Sustainable Energy Finance, *Global Trends in Renewable Energy Investment 2016*, 2016, p.11

commitment to renewable technology but the sharply declining costs for technologies – especially solar power.

22. Investment in energy transformative technologies is generally targeted at improving the efficiency and cost effectiveness of competitive alternatives to grid connected energy. The quantum of investment targeting this sector will ensure the rate of innovation will accelerate and not abate. The recent independent review of the Australian national energy market (NEM), the 'Finkel Report', by Australia's Chief Scientist, Alan Finkel, noted:

> *An increasing proportion of investment in new generation assets comes from individual consumers. In the NEM consumers have installed more than 1.44 million rooftop solar photovoltaic systems. AEMO forecasts that by 2036, the annual electricity generation from rooftop photovoltaic solar will increase by 350 percent from current levels."*[6]

23. Alternative energy investment is not limited to solar photovoltaics with investment in storage systems including limited lithium-ion storage. Bloomberg anticipates in Australia that:

> *100,000 battery storage systems to support solar photovoltaic generation predicted to be installed by 2020.*[7]

24. Any attempt to forecast the rate of technological change to commercialisation, mass market adoption, and impact on consumer demand for both innovation and traditional energy services, will invariably be wrong by some margin. The failure involved with underestimating the impact of new empowering technologies will be much more catastrophic than any other scenario.

Reliability

25. Where customers are choosing alternatives to the electricity grid, they will need to have sufficient confidence in their competing alternative to deliver the same reliability as the grid. As discussed above, the level of investment in competing alternatives to the grid mean the capability to deliver this level of reliability is a matter of not if, but when, this will occur.

26. In the interim, there is also an exciting opportunity for emerging technologies to deliver benefits for the grid connected electricity system. Emerging energy technologies harnessed and aggregated with intelligent systems have powerful capabilities to mitigate the impact of peak energy demand, ensure power continuity

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[6] Dr Alan Finkel Chief Scientist Chair of Expert Panel, *Independent Review into the Future Security of the National Electricity Market: Blueprint for the Future,* June 2017 p. 137

[7] Ibid n7, p.137

during outages and possibly mitigate the consequences of frequency events leading to cascade failure.

27. The benefits of such intelligent capability will reduce the need for grid-augmentation and deliver more reliable electricity for customers. Therefore, customers will benefit with their electricity being delivered at a lower cost than without such capability.

Questions 2 & 3: What is your view of the opportunities to promote competition and more participation in the electricity industry? What other issues might inhibit mass market participation? Please provide your reasons.

28. The Authority's paper expends significant effort devising hypothetical scenarios on how networks may manage their regulated service in the future. However, the Authority has not considered the following issues for encouraging more participation in energy markets:

    a) The stalling of smart meter penetration limiting customer choice;

    b) Challenges innovators have with delivering innovation based on data insight;

    c) Mistrust in New Zealand's wholesale energy market;

    d) Retail competition delivering limited benefits; and

    e) Disengaged retail customers.

29. Each of these issues is significant for more customer participation in energy markets. Failure to address these issues even at a cursory level in the Consultation Paper, reflects a missed opportunity to fully explore the issues genuinely impacting customer participation in energy markets.

30. Vector discusses each of these issues below, outlining how they can improve outcomes for customers, support innovation and encourage greater consumer mass market participation.

Stalling smart meter penetration

31. While smart meter penetration at a national level is at 75 percent, there are some regions in New Zealand where the penetration is significantly lower. The low regional penetration appears to have the characteristics of an incumbent retailer strategy looking to "lock-out" competition. Accordingly, for New Zealand to reach a higher percentage of smart meter penetration, such behaviour must be addressed.

This issue is not based on speculation but the experience of two new energy retailers looking to expand their customer offering.[8]

32. Vector recommends the Authority consider what measures it can take to further accelerate the smart meter roll-out to the remaining parts of New Zealand's population, ensuring customers are not missing out on the innovation this technology enables.

Greater accessibility of energy data

33. The ability to provide energy data at the most granular level is critical to ensuring innovation is occurring to meet the long-term needs of customers. Greater dissemination of energy data will unlock innovations that will promote competition and participation in the energy sector and the energy system.

34. The issue of data accessibility was a recommendation of the Finkel Report. The Report found:

> *Service providers, including a range of new technology providers, require increased access to electricity consumption and other data, in order to assist consumers and find ways to help them save money.*[9]

35. The greater understanding interested parties have about customer energy usage, the more appropriate innovation will be to service customer needs. Parties, such as incumbent retailers, resisting providing energy usage information or limiting customer information to aggregated energy usage (rather than providing more insightful half hourly energy consumption), is obstructing innovation.

36. Data will also ensure the energy system can deal with transformative technology change and customer adoption in an orderly manner, instead of reacting or second guessing the impact of the changes.

37. We recommend the Authority work with parties, such as retailers and meter equipment providers, to enable greater data driven energy innovation.

Increasing trust and liquidity in New Zealand's wholesale energy market

38. If the public loses trust with the wholesale energy market, it is unlikely to be operating to the benefit of consumers. Concerns about market manipulation, risks crowding out innovative electricity service models. Customers may feel "locked" into choosing between a select few integrated generator / retailer businesses for fear such businesses will exercise their ability to manipulate wholesale energy

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[8] Susan Edmonds, Electricity newbie says big player stifling competition by sticking with old-style meters, 1 April2017:http://www.stuff.co.nz/business/91046057/Electricity-newbie-says-big-player-stifling-competition-by-sticking-with-old-style-meters

[9] Ibid n7, p. 142

prices. This perception will discourage new entrants from wanting to compete in this space.

39. An example could be the recent increase in the average wholesale energy prices at North Island reference nodes. The current reference node prices are three times the equivalent average price from the same time last year. While the increases in wholesale energy prices have been attributed to below average South Island water storage, the extent of the increase appears to be out of step with the risk attributed to the level of storage, currently having only a one to two percent risk by the System Operator.[10]

40. In 2010 the Major Energy Users' Group (MEUG) alleged:

> *it is likely big generator-retailers like Meridian Energy and Genesis Energy are taking advantage of elevated spot prices to lift their profits.*[11]

41. At the time MEUG noted:

> *There is something strange about such high wholesale prices when the Waitaki hydro lakes have risen to average levels in the past week after heavy rain in the Southern Alps.*[12]

42. The number of 'undesirable trading situations' occurring in New Zealand's wholesale energy market also undermines any confidence non-integrated retailers and customers have in the market to consistently produce outcomes in line with competitive markets. The fact that such situations are still arising suggests there needs to be further work done to ensure public confidence in the market. Specific examples are outlined below.

Meridian Energy trading on 2 June 2016

43. The Authority was required to investigate the conduct of integrated generator / retailer, Meridian Energy, for its actions on 2 June 2016 which resulted in wholesale energy prices reaching $4000 per MWh. The conduct related to Meridian's re-bidding 350MW of generation.

44. Retailer Electric Kiwi alleged the trading period was an undesirable trading situation due to manipulation by Meridian. In a National Business Review article, Electric Kiwi Director Phil Anderson suggested:

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[10] System Operator, Hydro Risk Curves, 10 July 2017: https://www.transpower.co.nz/system-operator/security-supply/hydro-risk-curves

[11] Paul Gorman, High spot prices hint at power price rise, 4 April 2010: http://www.stuff.co.nz/business/3525130/High-spot-prices-hint-at-power-price-rise

[12] Ibid

Meridian had deliberately manipulated wholesale electricity prices in a way that suits it.[13]

45. While the Authority concluded the event did not constitute an undesirable trading situation, it found:

Meridian's trading conduct on 2 June 2016 was not of a high standard[14]

46. Indeed, the Authority found Meridian had used its privileged position as an integrated generator / retailer to cover an exposed risk to its business. The Authority's investigation noted:

Meridian used its pivotal position to cover its unhedged North Island risk on 2 June 2016 which essentially resulted in the cost of the risk being met by other parties.[15]

47. The issues raised by the 2 June 2016 actions of Meridian highlight the inherent challenges the public, especially non-integrated retailers, have with trusting the ability of the wholesale market to consistently produce outcomes that would occur in a competitive market.

48. The concerning aspect of the 2 June 2016 experience is that it occurred after reforms were put in place by the Authority to improve trader conduct. However, these reforms are likely to be inadequate if they are not well understood by the industry. In this respect, Meridian has requested:

The Authority provide greater clarity around the Electricity Industry's trading code of conduct for the wholesale market.[16]

Genesis Energy trading on 26 March 2011

49. On 26 March 2011, the wholesale energy market price exceeded $19,000 MWh. This resulted in approximately 35 undesirable trading situation claims in relation to the prices for energy generation requested by Genesis Energy.

50. The price spike during the trading period generated $50 million. At the time ASB Bank noted in an article on Stuff:

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[13] Patrick Smellie, Electric Kiwi seeks disciplinary action against Meridian for price spike, 21 June 2016, https://www.nbr.co.nz/article/electric-kiwi-seeks-disciplinary-action-against-meridian-price-spike-b-190609

[14] Electricity Authority, Notice of the Authority's decision under regulation 29 of the Electricity Industry (Enforcement) Regulations 2010 - Meridian Energy Limited, 4 May 2017

[15] Ibid

[16] Meridian Energy Limited, Meridian seeks clarification of the Electricity Authority's trading code of conduct, 25 May 2017: https://www.meridianenergy.co.nz/news-and-events/meridian-seeks-clarification-of-the-electricity-authoritys-trading-code-of-conduct

the financial magnitude of the impact will significantly affect our profitability.[17]

51. The NZ Herald also noted a wide range of businesses were affected:

> *The actions also caught a wide range of Auckland businesses, schools, hospitals, commercial buildings and institutions, including the Auckland Museum, Television New Zealand, and Telecom* [18]

52. In that situation, the Authority retrospectively amended the trading period spot prices. However, significant manipulation of market prices remains a concern for energy users.

53. More recently the Authority announced an investigation into Mercury Energy for its trading conduct on 8 December 2016. This suggests the issues with the wholesale market are systemic. The ability of one party to remove capacity and create stress on the market highlights the high degree of power a few parties have on the operation of the market.

54. The manipulation of market prices highlights the inherent challenges with the wholesale energy market to consistently produce outcomes aligned with competitive markets. The extent to which parties operating integrated generation / retail businesses possess the ability to manipulate market outcomes raises concerns for parties wishing to compete on a level footing in dependent markets or purchase their energy needs directly from the wholesale market.

55. In this respect, Vector supports the steps taken by integrated generation/retail business Contact Energy to separately report on its generation and customer segments.[19] There is an important public need to understand more transparently how these different sectors operate and whether they are delivering value to customers. Therefore, Vector recommends the Authority adopt and enforce greater transparency across all integrated generator/retailers. This will allow for greater cross-sector comparison about the profitability of the different activities and address long-standing public concern about cross-subsidies between the two activities. Any perverse trends in reporting could highlight a need for structurally separating generation businesses from retail electricity businesses.

56. We also see merit in prescribing obligations for generators to bid a significant portion of their available capacity. A significant concern with the operation of the

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[17] James Weir, Call for action on spot power spikes, 4 April 2011: http://www.stuff.co.nz/business/industries/4847037/Call-for-action-on-spot-power-spikes

[18] BusinessDesk, Electricity Authority strikes down Genesis price spike, 6 May 2011: http://webcache.googleusercontent.com/search?q=cache:Q6vl0oztuysJ:www.nzherald.co.nz/business/news/article.cfm%3Fc_id%3D3%26objectid%3D10723856+&cd=4&hl=en&ct=clnk&gl=nz

[19] Contact Energy Limited, Contact Energy changes reporting segments, 8 February 2017: https://contact.co.nz/AboutUs/Media-Centre/2017/05/02/Contact-Energy-changes-reporting-segments

wholesale energy market is that a few parties can unilaterally exercise power through their ability to withdraw or provide capacity on uncommercial terms. Creating more liquidity in the market should help remove the ability of parties to create stress on the market and exercise their unilateral market power.

Customers not seeing the benefits of retail competition

57. The Authority's Electricity Market Performance for 2015 found the four largest incumbent electricity retailers in New Zealand still retain close to 80 percent share of the market. The high concentration of market share by incumbent retailers creates the ability for such businesses to retain and not pass through cost savings to customers whether they relate to network charges or lower energy prices.

58. Concern about customers not seeing the benefits of retail electricity competition was raised by the European Commission in a report to the European Parliament. The report found that despite significant reductions in European wholesale energy prices during the period between 2008-2015, customers were only seeing limited pass-through in the energy component of their electricity bills. The report concluded:

> *This change, small in comparison with the major changes in wholesale prices, suggests that competition in retail markets may not be completely effective.*[20]

59. The issue of high profit margins of electricity retailers in Australia prompted the Australian Prime Minister to recently announce an independent inquiry to be conducted by the Australian Competition and Consumer Commission (ACCC) into the effectiveness of the Australian retail electricity market. In launching the inquiry Australian Prime Minister Malcolm Turnbull said:

> *There have been a number of reports, notably by the Grattan Institute, which have indicated that there is excessive profit margins being made by retailers in the electricity market. We need to get to the bottom of this. We need to get to the bottom of this in a way that protects Australian families and Australian businesses.*[21]

60. The Commonwealth Treasurer provided the terms of reference for the ACCC, *inter alia*:

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[20] European Commission, Report from the Commission to the European Parliament, The Council, The European Economic and Social Committee and the Committee of the Regions, *Energy Prices and Costs in Europe*, 30 November 2016, p.5

[21] Prime Minister Hon Malcolm Turnbull, Joint Press Conference with the Treasurer, the Hon Scott Morrison MP and the Minister for the Environment and Energy, the Hon Josh Frydenberg MP, 27 March 2017: https://www.pm.gov.au/media/2017-03-27/joint-press-conference-treasurer-hon-scott-morrison-mp-and-minister-environment-and

a) The existence and extent of any barriers to entry, expansion and/or exit in retail electricity markets;

b) The extent and impact of vertical integration in the NEM;

c) The existence of, or potential for, anti-competitive behaviour by market participants and the impact of such behaviour on electricity consumers; and

d) The impediments to consumer choice, including transaction costs, a lack of transparent information, or other factors.

61. The Finkel Review also provided guidance on what it expected retail markets need to do. The Review listed the following features for well-functioning retail markets:

a) Provide real value to customers from their choice of providers and products;

b) Support service innovation that unlocks technology and simplifies choice for consumers;

c) Open new opportunities for all consumers, including vulnerable and less-engaged consumers; and

d) Deliver prices that reflect costs and risks, including reasonable returns for the provider.

62. The Competition and Markets Authority (CMA) investigation of the energy market in the United Kingdom reached troubling conclusions about the benefits retail competition was delivering to customers in the United Kingdom. The CMA concluded:

> *Our view is that the Six Large Energy Firms enjoy a position of unilateral market power over their inactive customer base and the ability to exploit such a position through pricing their standard variable tariffs materially above a level that can be justified by cost differences from their non-standard tariffs.*[22]

63. Given the fundamental questions being asked of retail electricity competition in Australia, the United Kingdom and in Europe, it is important to assess whether the New Zealand market is delivering for customers. We find it insufficient to consider the number of retailers and churn information as assumptions of the "functioning" of the market. This is especially the case given our market is designed on similar principles to the United Kingdom and Australia.

[22] Competition and Markets Authority, *Energy Market Investigation: Final Report*, 24 June 2016, p. 38

64. The review in the United Kingdom considered customer outcomes to see whether customers were realising the benefits of competition. This included measuring the extent of pass-through of cost savings (whether in energy or network charges) to end-user bills and the extent of customer tariff misalignment causing customers to artificially pay more than necessary for their electricity.

65. The terms of reference of the Australian review also requires the ACCC to consider whether barriers to entry can be related to vertical integration in the NEM.

66. We recommend New Zealand undertake a similar comprehensive review of its retail electricity markets as has been done in these jurisdictions. Given the energy market is on the precipice of generational change it is necessary to consider whether there are impediments to competition and if the current level of competition is delivering value for customers. Having the right foundations is important to ensuring customers are empowered to participate and are not disenfranchised by the market.

Disengaged customers

67. Dissatisfied customers are the ultimate indicator of a market failing to deliver to customer expectations. Accordingly, Vector finds the low levels of customer satisfaction with energy retailers as an indicator that there are problems with retail competition.

68. Vector notes a recent Consumer NZ survey found:

> *customer satisfaction with energy providers has found the big five power companies continue to deliver underwhelming service.*[23]

69. The research found that less than 50 percent of customers were satisfied with their energy retailer. Consumer NZ noted:

> *This satisfaction rating is lower than rates we've found in the banking and general insurance industries, and dragged down largely by the performance of the big five – Contact, Genesis, Mercury, Meridian and Trustpower.*[24]

70. More concerning, Consumer NZ research found that some customers are given the impression they have limited choice with their electricity supplier. Consumer NZ Chief Executive Ms Sue Chetwin noted:

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[23] Consumer New Zealand, Big powercos fail to impress customers, 6 July 2017: https://www.consumer.org.nz/articles/big-powercos-fail-to-impress-customers

[24] Ibid

Bosco's power price is a third more than the national average and some tenants in apartment buildings are being given the impression they have no option but to get their power from the company.[25]

71. The findings of the Consumer NZ research are consistent with international research on customer satisfaction with energy retailers. In the United Kingdom the CMA investigation found:

> *There have been considerable concerns about the quality of service offered by the six large energy firms. We asked them to provide information on the number of complaints they had received, broken down by type of complaint. The results indicated the number of recorded complaints increased six-fold between 2008 and 2014 before falling by 20 percent in 2015.*

72. The CMA investigation discovered:

> *Our domestic customer survey suggests that there are substantial numbers of customers who are disengaged from retail energy markets."*

73. More specifically the CMA research had the following insight:

> *The survey results also suggest that those who have low incomes, have low qualifications, are living in rented accommodation or who are above 65 are less likely to be engaged in the domestic retail energy markets against a variety of indicators of engagement.*

74. In Australia, the Finkel Report also noted:

> *Several studies have found the retail market is not offering the same value or benefit as other markets.*[26]

75. A recent study of more than 2000 consumers, conducted by the Energy Consumers Association of Australia, had the following insight:

> *Households and small businesses rank electricity behind banking, mobile phone and internet services for value for money.*[27]

76. While customer switching has often been discussed as a measure of competition, the analysis by the CMA in the United Kingdom concluded there was a strong level of customer disengagement despite retail switching activity. Our understanding of New Zealand switching data is that switching activity is not generally undertaken

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[25] Ibid
[26] Ibid n7, p. 139
[27] Energy Consumers Australia, Energy Consumers want benefits of competition, 6 July 2017: http://energyconsumersaustralia.com.au/news/energy-consumers-want-benefits-competition/

for a better “deal” but where customers are moving house. The CMA Investigation found there was a significant number of customers on tariffs that were not in their best interests. The CMA Investigations observed:

> *For the six large Energy Firms, gas and electricity revenues per KWh from standard variable tariffs are consistently higher than average revenue from non-standard (generally fixed-price) tariffs. Despite this, around 70 percent of customers of the six large energy firms are currently on a standard variable tariff.*

77. Vector recommends the Authority further investigate the issues of customer engagement. We believe it is important to discover why there is low customer satisfaction, high levels of disenfranchisement and whether this is contributing to tariff misalignment to the detriment of consumers.

78. We recommend customer engagement be explicitly considered as part of a thorough review of the benefits of competition in the retail electricity market, as discussed above.

Question 4: What is your view of the opportunities for network businesses to obtain external help to provide aspects of the network service using competition or market mechanisms?

79. Vector notes there are no restrictions on the ability for networks to obtain external assistance with providing network services. Question 4 appears to be suggesting the Commission is failing to discharge its obligations as required by Part 4 of the Commerce Act.

80. Part 4 of the Commerce Act has the purpose of ensuring suppliers of regulated network services produce outcomes consistent with competitive market, such that network businesses:

    a) have incentives to innovate and invest, including in replacement, upgraded and new assets;

    b) have incentives to improve efficiency and provide services at a quality that reflect consumer demands;

    c) shares with consumers the benefits of efficiency gains in the supply of the regulated good or service, including through lower prices; and

    d) are limited in their ability to earn excessive profits.[28]

81. The technology agnostic and incentive principles behind the Part 4 Commerce Act regulatory framework encourage network suppliers to use the most efficient

[28] Section 52A of the *Commerce Act 1986*

combination of inputs either insourced or from third-parties (i.e. via competitive markets) for delivering the network service.

82. Vector supports the continuance of a technology agnostic approach for dealing with the transformative changes posed by emerging technology developments. The *Electricity Transformation Roadmap* noted:

> *No single player or industry sector can 'engineer' the energy system transformation. To survive and prosper in this context, network businesses, energy institutions and diverse market actors alike need to learn, collaborate and innovate*.[29]

83. Accordingly, Vector considers the current principles underpinning Part 4 of the regulatory framework will ensure consumers are not denied the opportunities that new technology investments can deliver to the network. The Finkel Report noted:

> *There is a debate about who is best placed to develop offerings to consumers using new technologies – the competitive retail sector regulated network businesses. Service providers, whoever that may be, should have incentives and the ability to maximise revenue by finding opportunities along the whole supply chain in cooperation with consumers and other energy businesses.*[30]

84. The Commission also considered the issue of network investment for the regulated services and found:

> *The precise nature of future electricity distribution networks is uncertain and currently subject to wide international debate. We consider imposing regulatory restrictions on EDBs' ability to efficiently respond to the changing environment is not appropriate at this stage given the current legislative framework.*[31]

Question 5: What do you think are the main challenges to be dealt with to increase the use of competition in supplying network services? What are your reasons?

85. Vector do not believe there are any significant impediments for the "use" of competition in supplying network services. Considerable third-party resources are already leveraged to deliver the network service.

86. Vector values the importance of inter-generational equity when deciding upon investment for our network. This includes taking advantage of any innovative third-party services. However, delivering to inter-generational equity requires the ability to consider all options for network investment. A fettered right to investment

[29] Ibid n3 p.3

[30] Ibid, n7 p.142

[31] Ibid n1, p.52

fundamentally derogates from the guiding principles of Part 4 to innovate and invest in upgraded, replaced, or new assets.

87. Vector do not see any reason to derogate from the current principles of Part 4. We see such changes to be unwarranted and risk limiting the ability of networks to adapt to customer changing preferences. This issue of evolving customer needs has already been recognised by Energy Minister, Hon Judith Collins who noted:

> *if you drop the ball and are unable to adapt to these challenges, and to meet the evolving needs of consumers, then the value of the community assets entrusted to you will erode.*[32]

88. An example of where a fettered right to investment was intended to create markets but failed to do so was the rollout of electric vehicle charging infrastructure in the state of California.

89. The state of California attempted to limit participation in the roll-out of commercial electric vehicle (EV) charging infrastructure. Initially, the California Public Utilities Commission (CPUC) barred utilities from participating in the market. However, California then faced difficulties enticing third-party providers to invest on a meaningful scale. Ultimately, the CPUC and had to backtrack and permit utility provision of EV charging infrastructure to support EV take-up.

90. New Zealand cannot miss innovation opportunities. Where a viable party with both the technical expertise and will is prohibited from delivering innovation it will have an even more detrimental impact on consumers given the relatively small size of our country.

91. A worse outcome would be where unnecessary restrictions result in the need for public government subsidies to stimulate the necessary innovative activity. A recent Australian Financial Review (AFR) article discussed the development of battery systems in the Australian market. The AFR noted:

> *At the moment, most of the battery systems operating or planned in Australia require some form of government subsidy or assistance.*[33]

Question 6: What is your view on whether open access is required and what would be the elements for an effective open access framework?

92. This question suggests that open access is not the status quo, however open access does exist for participation on distribution networks. In Auckland, there are more than 400 embedded/customer networks, 2500 distributed generators

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[32] Ibid n5

[33] Derek Parker, Australian Financial Review, Grid batteries can offer a smoother path, 13 May 2017: http://www.afr.com/news/special-reports/energy-future-of-australia/grid-batteries-can-offer-a-smoother-path-20170510-gw1gmd

connected since 2013, and over 25 retailers operating on Vector's network. The requirements of Part 3 of the Electricity Industry Act limit the participation of local electricity distribution networks to participate in generation or retailing on their networks. Under the current framework retailers on Vector's network can be confident they are on equivalent terms with their competitors, and that core terms are transparent.

93. Furthermore, anyone can connect solar technology to the distribution network, anyone can connect a battery to the distribution network, anyone can start peer to peer electricity trading on the distribution network, and anyone can start a digital platform aggregating demand on the distribution network.

94. Contrary to the scenarios outlined in the Consultation Paper, distribution businesses do not want to discourage competition in markets for electricity services. Where there are opportunities for distributors to provide new innovative services, they should be able to do so. This is because:

    a) The participation of a distributor in contestable electricity markets does not exclude the entrance of other participants.

    b) Prescriptive regulation is widely regarded as inefficient in an industry facing increasing rates of change and innovation.

    c) In a market as small as New Zealand's electricity sector, no credible player should be prohibited.

95. Distribution businesses are responsible for managing the stability of networks under growing complexity - shifting demand, changes in technology, policy mandates, a diverse energy supply, customer demands, and more. Distributors are not corrupting the market by providing load-levelling products and services that are more efficient than poles and wires.

96. Regulation should not limit distributor's ability to respond and evolve naturally. Prescriptively regulating and limiting innovation goes against Minister Collins publicly stated view that lines companies must deliver new services for their customers or risk losing them during the coming decade.

> *There is a risk that regulated monopolies may focus on protecting their positions rather than meeting the evolving needs of their customers.*[34]

97. The Authority is seeking synthetic competition, rather than the interests of consumers. Limiting the ability of distributors to provide increased customer optionality and cost-saving technologies is a significant decision in a country the

[34] Energy Minister, Hon Judith Collins, Commerce Select Committee, 22 June 2017

size of New Zealand, where no credible player should be prohibited from innovating.

98. Attempting to pre-emptively regulate represents a systematic overconfidence about the ability to predict and control the best market outcomes. With the introduction of distributed generation, renewable sources, energy storage, and microgrids, the classic distributor model is changing. Stimulating a transition from the one-way street of electricity delivery to a more complex model that manages multiple points of variable supply and consumption. Digital platforms that service these omni-directional flows will evolve to enable mass participation. As platforms increase in value the more participants engaged, future electricity platforms will be incentivised to be technology agnostic and encourage competition. There will always be new participants ready and able to overtake. This creates exciting opportunities for mass participation in future.

Question 7: How effective are the existing arrangements for open access? What are the problems?

99. The existing arrangements enable open access. As previously stated, embedded networks exist, anyone can connect solar or battery technology to a distribution network, anyone can start peer to peer electricity trading on a distribution network, and anyone can start a digital platform aggregating demand on a distribution network.

100. Increased participation in the electricity market could be enabled however, with increased data availability and exchange. Distributors need to leverage data to proactively improve grid planning and operations, determine asset life, optimize asset investments, prioritize reliability planning, integrate distributed energy resources, and pre-emptively address common causes of asset failures. Accurately sensing and verifying the flow of energy across the electricity network not only drives efficiency, but provides robust justification and business validation for utility investment decisions and regulatory compliance. The consumer loses if utilities do not receive the appropriate data to manage these complexities. Access to meter data specifically, is an enabler for several new services encouraging mass participation; peer to peer retailing, smart home energy management, electric vehicle charge scheduling, load shed participation, and electricity brokerage and generation and battery aggregation. It is positive to see that *data and data exchange* is a central work programme for the Authority.

Question 8: What types of distributor behaviours and outcomes should the Authority focus on to understand whether changes are required to support open access?

101. There should be an identified market failure before intervention in any market is considered. There does not appear to be any market failure with regards to open

access in the electricity market. The tone of this question is well ahead of any evidence regarding electricity market participation and will likely promote uninformed speculation in response.

102. Many of the issues raised in the Consultation Paper have been thought about at length by the Commission, most recently during its 2016 Input Methodology review, where the potential for new technology and market changes was carefully considered. The Commission, New Zealand's competition regulatory specialist, ensures that distribution businesses face strong efficiency, quality and reliability incentives, and that the costs of competitive activities are not compensated in the regulatory regime. The tone of the Authority's Consultation Paper could be perceived as a criticism of the Commission's work in this area. If the Authority assumes responsibility for competition policy, there is a risk of discrepancies between regulators, and a dampening of innovative activity.

103. It is surprising that the Authority has dedicated its Consultation Paper to hypothesising about the distribution sector, on matters already covered by the Commission, which do not have a direct link to enabling mass participation. The bulk of the analysis on mass participation would more naturally fit with issues, such as peer to peer, that enable widespread household participation. However, the Authority have taken much of the Consultation Paper to focus on hypothetical purchasing decisions of distribution businesses.

104. As the industry stands on the precipice of significant change, it appears to be inappropriate timing to pre-emptively intervene in areas where there is no problem. As previously mentioned, this would be an overconfidence about the regulators ability to predict and control the behaviours and outcomes of a changing market, associated with an over-estimation of what can be known about the consequences of policy decisions.

Question 9: What changes to existing arrangements might be required to enable peer to peer electricity exchange?

105. There are challenges for the peer to peer electricity exchange concept in the way that the New Zealand electricity market reconciles trades, recognises participants, and allows access to meter data.

106. The requirement under the Code restricting consumers to have a relationship with only one trader per connection, is a direct barrier to the development of a peer to peer market and increased household participation in the electricity market. All customers, whether involved in peer to peer or not, should have greater optionality for their electricity provision - the ability to have a morning provider and an evening provider, to select their neighbours as providers on a peer to peer platform, or to be nearing self-sufficiency (without a being impacted by a 'solar tax'). It is positive

to note that this issue is on the Authority's work programme as it will make a significant difference to competition and innovation.

107. As a financial rather than physical transaction, peer to peer is invisible to the wholesale market. Therefore, difficulties arise reconciling the two markets, as reconciled volume information must be built from meter data. This limits the parties that can develop peer to peer and doesn't encourage true innovation or disruption. Peer to peer being rolled out by the same retailer that provides a customer's network service, will have limited impact on the market, as it is a financial transaction that will appear no different to the ordinary network transaction. Furthermore, there is limited incentive for an incumbent retailer to collaborate with an independent platform to provide peer to peer as it is decreasing their market share. The current framework limits the true value of peer to peer electricity exchange by entrenching incumbents who may not want to innovate, obstructing mass participation.

108. Consumers themselves could directly participate in the wholesale market, however uptake of peer to peer would be limited if consumers faced the burden of being recognised as an industry participant under the Electricity Industry Act.

109. To enable peer to peer electricity exchange, effective access to meter data is required. Currently a party which is not incentivised to enable peer to peer electricity exchange holds this data. Requesting data from retailers is a clunky and delayed process and puts the development of peer to peer trading at the risk of retailer performance under these obligations. Genesis CEO Marc England recently made territorial remarks, that 'energy retailers shouldn't be required to share a widening range of data'. While there are barriers to meter data, there is potential to enable more efficient access. Up to date and ongoing access to consumer consumption data is key to analysing customer suitability to peer to peer platforms and other forms of distributed generation, and should not be left to the control of incumbent retailers who are not incentivised to promote these enablers of mass participation.

110. Peer to peer electricity exchange has the potential to completely alter the paradigm of electricity provision. However, the Authority must be open to a radical shift in its approach. There is a need to act swiftly – peer to peer is already emerging in the electricity market. This should be a leading priority for the Authority, as it will have a significant impact on mass participation and it is not a hypothetical concern – peer to peer is here and must be efficiently enabled.

Question 10: What are the costs and benefits of enabling peer to peer electricity exchange?

111. Peer to peer electricity exchange is a central enabler to mass participation in the electricity market. Peer to peer trading is the opportunity for consumers to exercise independent choice on the purchase and sale of electricity according to their

personal preferences and needs. There are added monetary benefits through optimising the most favourable energy transactions at any given time.

112. The electricity market should not ignore the new breed of electricity consumers, or 'prosumers' – smart, proactive, and hungry for information. Electricity market participants can facilitate these demands through peer to peer platforms. Peer to peer will allow for unprecedented customer participation. It is not a choice of whether peer to peer electricity exchange should be enabled, but how.

113. Customers are increasingly driving changes in the market, enabled by technology. If peer to peer electricity exchange aligns with consumer demands, it will occur - irrespective of a cost benefit analysis.

Question 11: What is your view of the possibility for, and impact of, any current or future blurring of participant type? What are your reasons?

114. Vector agrees with the Authority that new technology and business models are increasingly blurring the lines between participant types.

115. Strategies that incorporate new (or newly cost efficient) technologies such as demand response, distributed generation and storage, are now a major component of the operation of the network.

116. The current approach of strictly defining participant types has become outdated. There is a real risk that this approach hinders participation in the electricity market where a party wants to use a business model or introduce technology that is not easily defined under the current framework. This problem will continue as participant types blur further.

117. A principle based approach is likely to be the best way forward as it will avoid the need for constant changes to the rulebook in attempts to "catch up" with innovation in the market. This approach is also supported by other regulators. For example, MBIE's regulatory strategy mandates a long-term view to ensure regulations remain fit-for-purpose.[35]

Question 12: What types of participation are or might be prevented because the party is not recognised as a participant? What are the potential impacts?

118. It is vital that parties are not prevented from participating merely because the regulation does not recognise them as a participant. However, as noted by the Authority, new technology allows new forms of participation that may not be allowed under the current Code.

[35] Ministry of Business, Innovation and Employment, *MBIE's Regulatory Management Strategy 2016/2017*, August 2016, p. 2

119. Vector supports the Authority's goal to remove these inadvertent regulatory barriers. They risk a myriad of negative impacts including reduced consumer choice, reduced opportunities for new business to compete and a failure to optimise energy efficiency and reliability.

120. However, in such a dynamic market, it is impossible to adequately identify the range of participation that may be prevented. We simply don't know what technology or business models will exist in the future.

121. Furthermore, consumer participation is increasingly a key driver in the market. It is not desirable for the Authority to regulate the behaviour of consumers.

122. Rather than focusing on specific participant types (and what these participants may and may not be involved in), the Authority should take a principle based approach that recognises disruption in the energy market has blurred the definition of participant types.

123. Attempting to strictly define participants will not be a viable option going forward. Focussing on labels is not useful to consumers and is needlessly restrictive. The blurring of participants makes them difficult to define in today's market and any new definitions are likely to rapidly become outdated, as the rulebook will not be able to keep up with the changes.

124. The less prescription around the definition of participants, the less likelihood participation is prevented by a lack of regulatory recognition.

Question 13: What challenges might new forms of generation, such as virtual power plants, or small dispersed generators, face in entering the market?

125. The introduction of new forms of generation will bring benefits to consumers by promoting competition. In terms of regional benefits, Vector considers Auckland will welcome local generation that is distributed closer to the source. Along with demand response, these developments will enhance network resilience where they are well coordinated.

126. We note grid connected generators do free-ride on the transportation of their product to market (i.e. not contributing to the interconnected national grid or local distribution network charges). Therefore, new forms of generation which are less likely to make perverse location decisions away from the load do have to overcome this inherent disadvantage of no locational signal for generation.

127. However as discussed above, overly prescriptive regulation will create challenges for new technology to enter the market, including for new forms of generation.

128. Similarly, technology innovators (and their financial backers) will have greater confidence if they can be sure regulation will not prohibit them from entering and competing in the market.

Question 14: What changes might be required to the rule book to facilitate the emergence of virtual power plants or demand response?

129. We do not have comments on specific changes to the rule book but emphasise that it needs to be flexible as it is difficult to predict new technology or the consumer response to it. However, we see no immediate need for changes to facilitate virtual power plants or demand response.

Question 15: Would the functioning of the market for hedges and PPAs and the availability of finance be improved if there were any greater transparency of long term prices and greater standardisation of terms and conditions for long-term contracts?

130. Vector agrees that any movement to greater transparency and standardisation in the market place would assist risk assessment and therefore provide more comfort to parties wishing to offer long term hedges or PPAs.

131. Vector supports moves to make it easier for new entrants and smaller scale projects to operate in this area.