PUBLIC VERSION

meridian

POWERSHOP

Electricity Price Review: Meridian and Powershop Submission

Contents

Introduction and recommendations

About Meridian and Powershop

This submission is made by Meridian and by Powershop.

Meridian is New Zealand's largest electricity generator. We produce electricity only from renewable sources – hydro and wind. We employ over 1,000 people across our businesses in New Zealand, Australia and the UK. Meridian's hydro stations in the Waitaki Valley and at Manapouri generate enough electricity to power around 1.4 million homes each year. Our wind farms around the country at White Hill in Southland, West Wind and Mill Creek near Wellington, Te Apiti near Palmerston North, and Te Uku near Raglan, generate enough electricity to power around 152,000 homes each year.

Meridian is also the 5th biggest electricity retailer in New Zealand. We currently have approximately 230,000 business and residential customer connections. We also have a large hedge contract with New Zealand's Aluminium Smelter at Tiwai Point, Bluff.

Meridian is the parent company of Powershop, an innovative retailer with a further 70,000 business and residential customer connections across New Zealand. In Australia, Meridian owns hydro and wind assets and retails electricity to approximately 105,000 customers as Powershop Australia. The Powershop brand also operates in the UK under an agreement with a large UK electricity retailer where it has approximately 40,000 customers and is growing.

The software platform for the Powershop operations worldwide is built, developed and supported by Flux Federation, Meridian's software development subsidiary, based in Wellington which employs 130 plus software developers, designers, testers and product experts and provides end-to-end software solutions for power companies worldwide. Meridian is in the process of moving its own New Zealand retail operation onto the Flux platform.

Meridian is listed on the New Zealand and Australian stock exchanges and is 51% owned by the New Zealand Government. As well as maintaining offices in Auckland, Wellington and Christchurch we have an office at Twizel and smaller offices at our wind farm sites. A contact centre in Masterton provides customer support to the Powershop operations in New Zealand and across Australia.

New Zealand's electricity industry is a world leader

The New Zealand electricity industry is widely considered to be a world leader in delivering fair, equitable, efficient and sustainable outcomes for New Zealand consumers.

New Zealand's residential electricity prices are around 20% lower than the OECD average. Many of the countries with cheaper prices have achieved this using government subsidies to power companies or directly to consumers. New Zealand's relatively cheap prices have been achieved without subsidies and despite New Zealand's low population density and relatively high network costs (due to our geography). Since the commencement of this Electricity Price Review ('the Review') New Zealand's ranking in the World Energy Council's (WEC's) Energy Trilemma index has improved from 9th to 8th out of the 130 countries they track.

The trilemma highlights the dynamic interaction of the different elements of a country's energy system. The three Energy Trilemma dimensions are:

- Security – the ability to effectively and reliably meet current and future energy demand;

- Equity – the accessibility and affordability of energy across the population; and
- Environmental sustainability – achievement of energy efficiencies and the development of energy supply from renewable and low-carbon sources.

New Zealand also has an overall balanced rating of AAB ('A's for security and equity and 'B' for environmental sustainability[1]) indicating that we manage the trilemma well across all three dimensions. We are the only representative from the Asia/Pacific region, as well as the only non-European country, to be placed in the global top ten.

From a consumer perspective, there are a lot of positives in addition to relatively cheap prices. New Zealand is one of the easiest places in the world to compare and switch electricity suppliers. Over 20 percent of consumers switch their retailer each year and this figure is growing. In 2017 there were more than 440,000 switches between retailers - the highest level on record. In addition, a 2016 survey by the Electricity Authority showed that 30% of consumers actively investigated switching but decided not to.[2] This means that in any one year, half of New Zealand consumers are likely to shop around and decide whether to switch retailer. Even if a consumer does not proactively shop around, an Electricity Authority study found that high levels of competitive activity "saw 69% of New Zealand households being approached by a competitor in the past two years, significantly higher than in other markets."[3]

There are also an increasing number of retailers for consumers to choose from with more entering the market on a regular basis. The New Zealand electricity market now has over 36 retailers offering a range of innovative and customer-centric services. This level of competitive intensity means electricity suppliers are forced to innovate just to stand still in the market.

As well as driving innovation, intense competition is driving good price outcomes for consumers. Since 2011 there has been no real price increase to consumers arising from the competitive parts of the electricity supply chain (generation and retail), in fact, average real prices across this component of the bill are 0.35 c/kWh lower now than they were in 2011.

The New Zealand market also delivers an extremely high percentage of electricity generation from renewable sources and does this while maintaining security of electricity supply. Around 85 percent of the electricity generated in New Zealand is from renewable sources. This is up from 65 percent only ten years ago and is growing.

Since 1996, the New Zealand electricity sector has invested in over 20,000 GWh of new electricity generation at a cost of over $9 billion. This investment has been diversified and has not been dominated by any particular technology or fuel source or by any single company or companies. The risks of these investments are borne by private investors rather than directly by taxpayers. This level of investment along with the increased prudence in hydro reservoir management that has followed the introduction of the market in 1996 has meant that New Zealand has not had a country wide interruption to supply since 1992 (well before the establishment of the market) despite several record setting dry years in the period since then.

[1] New Zealand's CO2 emissions released in generating electricity are low by international standards. Our 'B' trilemma sustainability score is largely a consequence of our higher energy and emissions intensity.
[2] Electricity Authority *Market Commentary: Chief Executive's Introduction* 21 June 2018
[3] Electricity Authority *International comparison of activity, behaviour and attitudes towards electricity industry - A quantitative study* August 2014

In summary, there is much that is working well in the New Zealand electricity market. It is critical for New Zealand's lower emissions future that reforms from the Review do not inadvertently damage what is working well – particularly incentives for investment.

All that said, Meridian agrees there is still a lot of work to be done in the sector and many areas where there is room for improvement particularly in terms of how our market is working for financially vulnerable consumers. We completely agree with the Minister's comment that for '…people to have confidence in our system, New Zealanders need to know that our electricity market is efficient, delivers fair prices and is working for the good of all New Zealanders.' We hope the findings and recommendations from this Review go some way towards achieving that goal.

Suggested solutions

The Chair of the Expert Advisory Panel to the Review (the Price Review Panel) has encouraged submitters to briefly identify possible solutions to issues identified. Meridian's suggested solutions appear in the table below.

Where possible we believe any solutions should look to build on the strengths of our current electricity system. We should be wary of 'importing' supposed policy solutions from overseas markets and jurisdictions in the mistaken belief that they will produce improvements in a New Zealand context. New Zealand is already well ahead of many other countries in many aspects of the performance of our electricity system. An 'improvement' in another jurisdiction may be a backward step here. Also:

- Regardless of whether prices are fair, equitable, and efficient **we know that some customers struggle to pay their power bills**. There are multiple reasons for this. They relate not just to electricity costs but to factors such as income level, quality of housing, and the cost of other key goods and services. Concerted efforts to improve New Zealand's poor housing stock are likely to be critical in improving energy outcomes for vulnerable consumers.[4] The Government is already taking several actions on this front and, as we said in our submission on the draft terms of reference for the Review, "any steps to improve regulatory settings in the energy sector must be progressed alongside broader social policies to ensure the best outcomes for all customers." Meridian welcomed the Government's introduction of a Winter Energy Payment and we continue to support consideration of how broader social welfare policy could better support vulnerable customers. We note that of the $7 billion paid by consumers to electricity suppliers in the 12 months to June 2017, 23% or $1.6 billion went to the Crown in tax, dividends and GST,[5] and this may assist with such objectives.

- **Prompt payment discounts are hurting low income households.** The problem with these discounts – which have become prevalent throughout the New Zealand retail market – is they have over time been 'competed up' so that the scale of discounts on offer for prompt payment no longer reflects the actual cost to retailers of consumers paying late. As of 1 October 2018, Meridian has stopped offering prompt payment discounts to our customers. Instead we have moved to ensure that all our customers receive the discount even if they pay late. Meridian is the first major retailer to take this step, and we estimate it will save our customers about $5 million per annum. If all retailers took similar action we estimate it would put around $40 million per annum back into the pockets of New Zealand electricity consumers. This money would flow particularly towards low-income households as they are the ones who struggle to pay on time.

[4] The First Report notes at page 11 that a staggering 55% of New Zealand homes lack adequate insulation.
[5] First Report at page 9.

- The electricity market can be complex and some consumers are unaware of the potential benefits of engaging with the market to secure the best price**. A range of simple steps as outlined below can be taken to ensure all consumers, including those most vulnerable, can better compare and switch** electricity providers and access the best one for them.

- **Regulatory settings need to keep pace with changes in technology** and enable consumers to benefit from these changes. The pace and scale of change in the sector has never been greater. New technologies – like solar panels, batteries and electric vehicles – promise to disrupt the traditional electricity and transportation sectors and will create challenges for retailers and for the monopoly lines businesses who have till now been insulated from competition.

- The **Electricity (Low Fixed Charge Tariff Option for Domestic Consumers) Regulations 2004 or LFC regulations are poorly targeted and have a variety of adverse impacts.** The LFC regulations were supposed to make electricity more affordable but for many people on lower incomes they have had the opposite effect. They are poorly targeted and are a major source of inequitable outcomes. The regulations also effectively double the number of tariffs retailers are required to offer adding significantly to the complexity of industry pricing and increasing costs to serve customers.

- **As the key driver of residential price increases since 1990 and, together with transmission, the sole driver of real price increases since 2011, distribution charges warrant close attention.** Representing around 27 percent of residential consumer bills, there is considerable scope to improve the efficiency of distribution charging. Historical re-balancing of distribution charges across consumer groups has also undeniably had a large impact on residential consumers, with the scale of the adjustments called into question by analysis undertaken by Concept Consulting[6] and the Price Review Panel.

#	Solution	Indicative time to execute	Consumer benefit
Consumer and retail market solutions			
1.	**Regulate prompt payment discounts** by restricting them to the level of any increased costs to retailers from consumers paying late.	6 months.	**$40 million** once implemented by all retailers

[6] Concept Consulting *Issues and options for moving towards more cost reflective network tariffs* 2017, page 61.

#	Solution	Indicative time to execute	Consumer benefit
2.	**Establish and strongly promote an enhanced price comparison site for retail electricity prices**. Perhaps run by the EA or a commercial provider, further to a competitive tender process, this would link to registry information and potentially consumption information if authorised by consumers and also enable comparisons of prices across a range of sample consumption profiles.	6 – 12 months.	Greater transparency would make it even easier for consumers to compare and switch between retailers.
3.	**Require all retailers to advertise the comparison site on all customer bills.** This could be in a standardised format and include: • the benefits of checking available offers; and • the logo and contact details of the site.	As above.	As above with increased consumer awareness.
4.	**Regulated minimum standards for retailers to apply in their dealings with vulnerable customers** based on the existing *Guidelines on arrangements to assist vulnerable customers*.	6 months.	Would ensure best practice is followed by all retailers.
5.	**Repeal the Low Fixed Charge regulations**	6 months.	Remedy the inequitable outcomes of the existing cross-subsidy and reduce cost and complexity resulting in lower prices.
6.	**Housing New Zealand and other social housing providers should consider entering into bulk purchasing arrangements for electricity on behalf of their tenants**. Social housing providers could also reduce electricity prices for their tenants by taking on their credit risk.	12 months.	Lower prices for this subset of customers. Social housing providers would also have stronger incentives to improve their properties' thermal efficiency.
7.	**Extend the Winter Energy Payment in a targeted manner to provide greater relief to low-income households.** Payments could be means tested and extended beyond beneficiaries**.**	12 months.	As per the current Winter Energy Payment but with greater benefit to more low-income households.

#	Solution	Indicative time to execute	Consumer benefit
Transmission sector solutions			
8.	**The Electricity Authority should conclude the review of the transmission pricing methodology.**	12 – 18 months.	Without reform consumers are likely to be paying **hundreds of millions** of dollars more for electricity than necessary.
Distribution sector solutions			
9.	**Distribution pricing reform should be expedited, if not through an industry led process, then through a regulatory deadline.** Could include the partial reallocation of non-demand-related network costs from residential to business customers.	2 years for distribution pricing reform; 6 months for reallocation.	Estimated **$180 million** benefit to residential customers (and cost to businesses) through reallocation of distribution costs. From **$2 - $5 billion** in efficiency gains from pricing reform.
10.	**Reduction from 67th to 50th percentile in the setting of the regulated Weighted Average Costs of Capital (WACC) used to calculate the allowable revenue of the monopoly lines companies.**	1 year	Significant savings to electricity consumers. Perhaps $45 - $65 million.
11.	**The Electricity Authority's default distribution agreement should be progressed to completion**.	6 months	Remove a practical barrier for retailers wanting to trade on multiple networks and increase levels of retail competition to the benefit of consumers.
12.	**All distributors should be price-quality regulated (currently only 17 of 29 are subject to such regulation).**	1 – 2 years.	Increased efficiency incentives for currently unregulated distributors.
Wholesale market solutions			
13.	**Strengthen the current voluntary ASX market-making arrangements by introducing greater incentives for market-makers.** Any incentivised scheme should be funded by all ASX participants either via ASX fees, a levy, or by some other means.	1 year.	Probably limited. The current market-making arrangements are robust. This will make them more robust.

#	Solution	Indicative time to execute	Consumer benefit
Wholesale market solutions			
14.	**The Electricity Authority's Real-Time Pricing project should be progressed to completion.** This will require Government approval of increased levy funding.	3 years	Estimated net benefit of **$53 million**. Real-time pricing is critical to enabling efficient demand side participation in the wholesale market.
15.	**Remove unnecessary barriers to the development of new renewable generation under the Resource Management Act.** National Policy Statements and Environmental Standards should use directive language and be more explicit about how the benefits of renewable electricity generation should be recognised and given effect in planning instruments.	2 years	Additional development costs are ultimately paid by consumers of electricity.

Attached to this submission are reports from:

- Competition Economists Group on *Competition in New Zealand Electricity Markets*. This addresses:
    - Competitiveness of the New Zealand Energy Retail Sector
    - Competitiveness of the New Zealand Wholesale Market
    - Vertical Integration and Liquidity of the Hedge Market
    - Price Levels and Trends
    - Price Dispersion and Discrimination;
- NERA on *Vertical Integration and Competition in the New Zealand Electricity Markets*;
- Professor Stephen Littlechild on *Retail Lessons for New Zealand from UK regulation and the CMA's Energy Market Investigation, including a critique of Professor Cave's analysis*; and
- Dr E Grant Read on *An Economic Perspective on the New Zealand Electricity Market*.

Consumers and prices

Consumer interests

1. What are your views on the assessment of consumers' priorities?

Meridian's experience is that consumer priorities are diverse but at some level all include, as detailed by the Panel, 'a reliable supply of electricity and fair and affordable prices.'

Service is also important to customers. For example, many consumers value the interactive online tools offered by retailers which allow consumers to monitor and manage their usage. Consumers also value how retailers interact with them during outages, their retailer's commitment to sustainability, having different payment options, the 'bundling' of electricity with other goods and services and so on. Some consumers value the fact that they get a constant year-round tariff from their retailer and their retailer absorbs and insulates them against wholesale price risk and fluctuations. Others are unaware of this fact or, in contrast, value the type of service provided by retailers like Flick who offer consumers direct exposure to such fluctuations. The strength of the competitive retail electricity market is that it responds directly to consumers diverse priorities and interests by providing a diverse range of offerings for consumers to choose between.

The case studies on pages 14 and 15 of the First Report reflect the experience of a number of our customers. We know, for example, that we have customers who ration their use of power, who stay cold rather than turn on heating, who struggle to pay their bills, who live in cold and damp housing and who are unable to afford insulation or efficient appliances. As detailed below Meridian has put in place a series of initiatives to help our vulnerable customers. We are working to do more.

In relation to how retailers are performing in responding to consumer priorities, the evidence is generally positive. As cited in the issues paper, survey research confirms there is a high level of trust amongst consumers of retailers.[7] In addition, 83 percent of consumers are satisfied overall with their electricity provider[8] and satisfaction with retailer service standards overall is similarly high – with 68% of consumers indicating general satisfaction with their retailer's services in Electricity Authority-commissioned UMR research.[9] According to the same UMR survey, half of consumers are satisfied their retailer also provides value for money.[10]

2. What are your views on whether consumers have an effective voice in the electricity sector?

Meridian believes that for the most part consumers have an effective voice. But there is room for improvement. We agree the electricity sector is complex and it can be difficult for consumers to engage with it.

[7] In particular, Consumer NZ research has found that 68% of consumers trust their retailers, as discussed on page 18 of the Price Review Panel's First Report.

[8] Consumer *Energy Provider Retailer Survey* 2018

[9] See for further details August 2014 UMR '*International comparison of consumer activities, attitudes and behaviours towards the electricity industry*' report, available: https://www.ea.govt.nz/dmsdocument/19155-survey-international-comparison-of-activity-behaviour-and-attitudes-towards-electricity-industry

[10] Ibid.

As a starting point, the statutory purpose of the Electricity Authority is to promote competition in, reliable supply by, and the efficient operation of, the New Zealand electricity industry for the long-term benefit of consumers.

The purpose of the Commerce Commission under Part 4 of the Commerce Act is also to promote the long-term benefit of consumers through regulation of the monopoly lines companies such that they deliver outcomes consistent with outcomes produced in competitive markets.

While the regulators exist to promote consumer interests (and Meridian believes they generally do a good job), it is another thing for individual consumers to feel they have a voice and can engage with the industry. The First Report offers a variety of suggestions for what this may mean precisely. Important areas to consider are:

- The ability of consumers to engage with switching processes, understand and navigate different price, service and service level offerings;
- The ability of consumers to engage with regulatory processes; and
- General transparency and information availability.

Overall, Meridian believes that consumers are well supported in relation to each of these. Supplementing the things detailed in the First Report assisting consumers in these areas are the following:

- Work by the Electricity Authority to promote the What'sMyNumber site, to educate and empower consumers about the savings available from switching.
- The right for consumers (and third parties) to require a retailer to provide them with details of all of that retailer's generally available retail tariff plans. Introduced by the Electricity Authority in 2016, this amendment to the industry Code ('the Code')[11] has provided consumers, price comparison websites, and service providers alike with the ability to access tariff information from all market participants.
- Price notification guidelines, in place since April 2015, requiring transparent and comprehensive supporting information is provided each time a price change is made and promoting consistency in information from distributors and retailers.

Despite efforts of retailers like Meridian, and of the organisation itself, awareness of the consumer support services provided by Utilities Dispute Limited (UDL) – the sector's free-to-consumers complaints and disputes resolution body – remains low.[12] Meridian supports further steps to lift awareness of UDL's services particularly among financially vulnerable customers.

Further, while the retail and generation parts of the supply chain are relatively intuitive, engaging with the 37.5% of the average residential bill that is the product of lines company price and quality regulation is challenging. The Commerce Commission has been encouraging lines companies to engage more with consumers, particularly as they consider pricing reforms on their networks. As our response to question 33 details, we consider the Commerce Commission has recently done good work in this area but we believe it could do more.

[11] Specifically to section 11.32G of the Electricity Industry Participation Code ('the Code').
[12] UMR 2017 research, for example, has found that 6% of consumers only are aware of UDL's services.

To assist consumers in having a more effective voice, and as outlined further at question 15 below, Meridian considers the existing range of price comparison services could be enhanced, and that actions could also be taken on the part of retailers to improve general consumer awareness. In addition, a broader consumer advocacy service – whether provided by Consumer NZ, or other provider – is of potential merit and should be further investigated.

3. What are your views on whether consumers trust the electricity sector to look after their interests?

As confirmed by Consumer NZ's survey research cited in the paper, and UMR research noted above[13], retailers are highly trusted. The relevance of other survey evidence – namely Acumen Edelman Trust 'Barometer' research – discussed in the paper is questionable, given its generic focus on businesses not necessarily part of the electricity industry.

Operating in a competitive market environment, with some 40 brands, retailers face a huge imperative to work hard every day to maintain the trust of their customers.

Prices

4. What are your views on the assessment of the make-up of recent price changes?

Meridian notes the First Report's findings that collectively, over the period 1990 to 2018, average electricity prices rose from 15c/kWh to 18.9c/kWh expressed in 2018 dollars. This is an increase of 26% in real terms or an average yearly rise of 0.8%. As the First Report rightly notes a different picture emerges once the figures are disaggregated between residential, commercial and industrial consumers. It is nevertheless worth stressing that, on the whole, the rise in prices has been relatively modest.[14]

As the First Report notes, at the disaggregated level, residential prices have risen 79% in real terms since 1990, commercial prices have fallen 24% in real terms and industrial prices have risen 18%.

In relation to residential prices Meridian agrees with the First Report's finding that over the period 1990 to 2018 the increase has been most heavily influenced by:

- The re-balancing of distribution charges from commercial and industrial consumers to residential consumers. Contributing to increases of some 548% for households since 1990[15], re-balancing has probably been the most significant driver of overall price trends for all customer groups.[16]

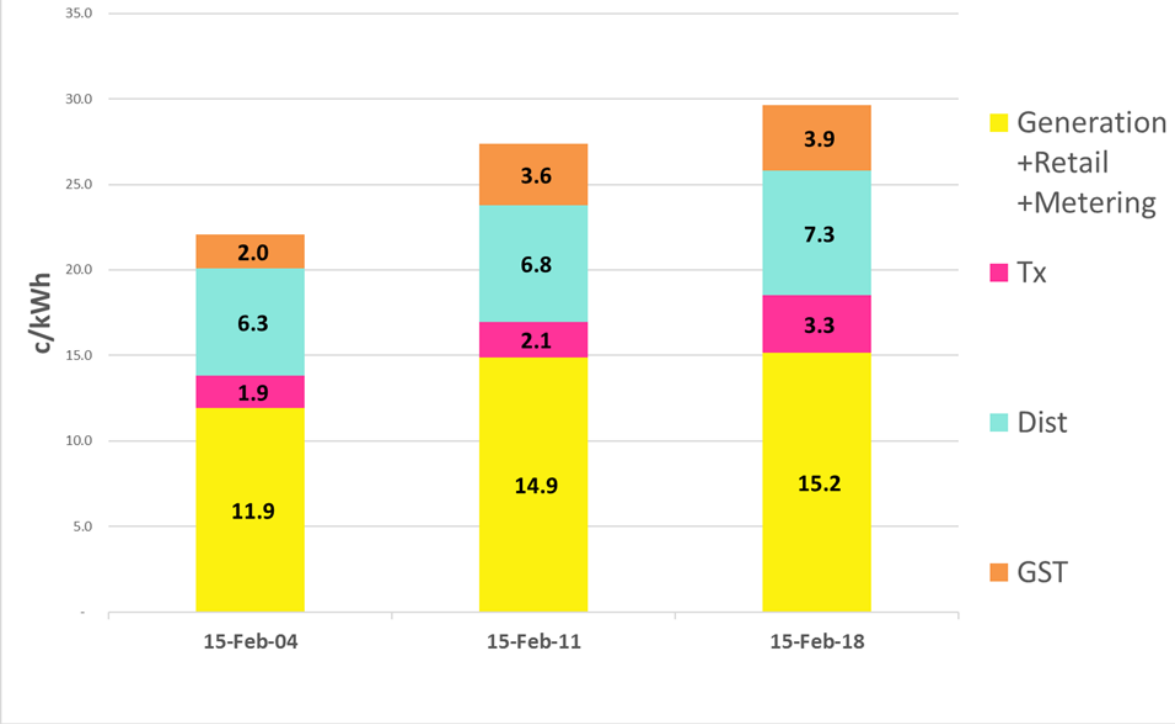
- GST adjustments from 10% to 15% between 1989 and 2017.[17]

[13] Insert cross reference to previous section.
[14] First Report, page 19.
[15] First Report, page 60.
[16] With commercial usage at roughly 3 times the level of residential usage (see Figure 4 at page 18 of the First Report) the fall in average commercial prices of 24% mirrors the rise in average residential prices of 79%.
[17] First Report, page 20.

Other underlying cost increases have, in addition, had an influence. The cost of labour, for instance, is up 65% in real terms, since 1992[18] and the cost of gas up 125% in real terms since 2000.[19] The First Report refers also to increased retailing related costs and these have clearly had an impact but the First Report's Figure 4 shows the impact is about half the impact of the rise in GST and less than a fifth of the impact from the rise in distribution costs. Further these costs include the costs of metering services providers which retailers have limited control over. The roll out of smart meters has seen an increase in metering costs over the relevant period. Between 2007 and 2018 Meridian and Powershop's metering costs have roughly doubled from $16M to $31M per annum.

As well as the First Report's 3 dates of 1990, 2004 and 2018 it is worth also looking at the change in prices since 2011:

Figure 1 – Changes in the composition of residential prices



Source: Meridian

This shows that since 2011 the rise in distribution costs to residential consumers has been more modest i.e. the 're-balancing' from commercial and industrial consumers seems to have been largely completed prior to 2011. Since that time the biggest increase has come from the transmission component of the bill. In real, inflation-adjusted terms the "energy and other" component of residential bills has fallen by around 2 percent (0.35 c/kWh) since 2011. The regulated transmission and distribution lines component, in contrast, has increased by around 20 percent (2.25 c/kWh) in real terms.

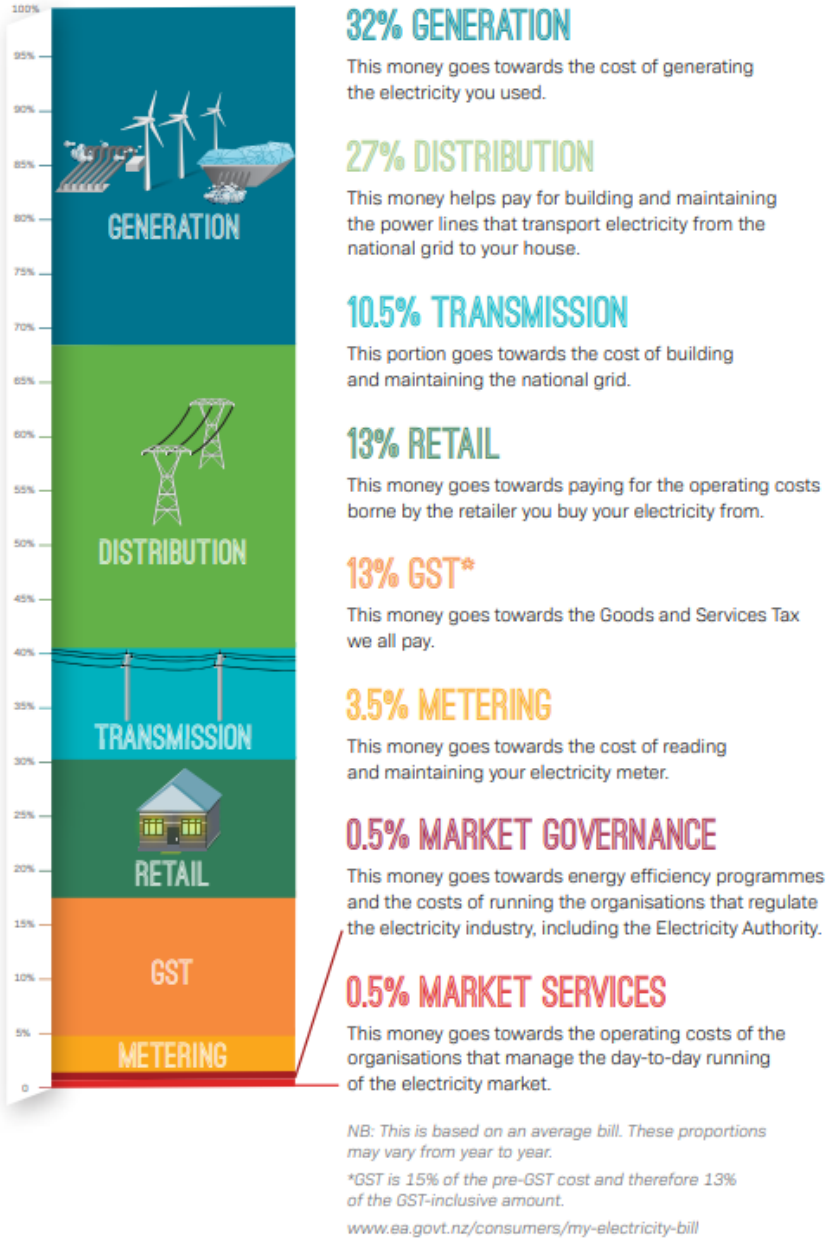
We discuss each of these points in further detail below.

[18] Calculated from Statistics NZ data using a 1992 baseline, due to pre-1992 information not being available.
[19] Pre-1999 information not available from MBIE's data set.

Breakdown of prices

Pricing is made up of the following costs: generation, transmission, distribution, retail, metering, levies and taxes. Figure 1 below shows the breakdown of the average power bill.

Figure 2 – What does your power bill pay for?



Source: Electricity Authority

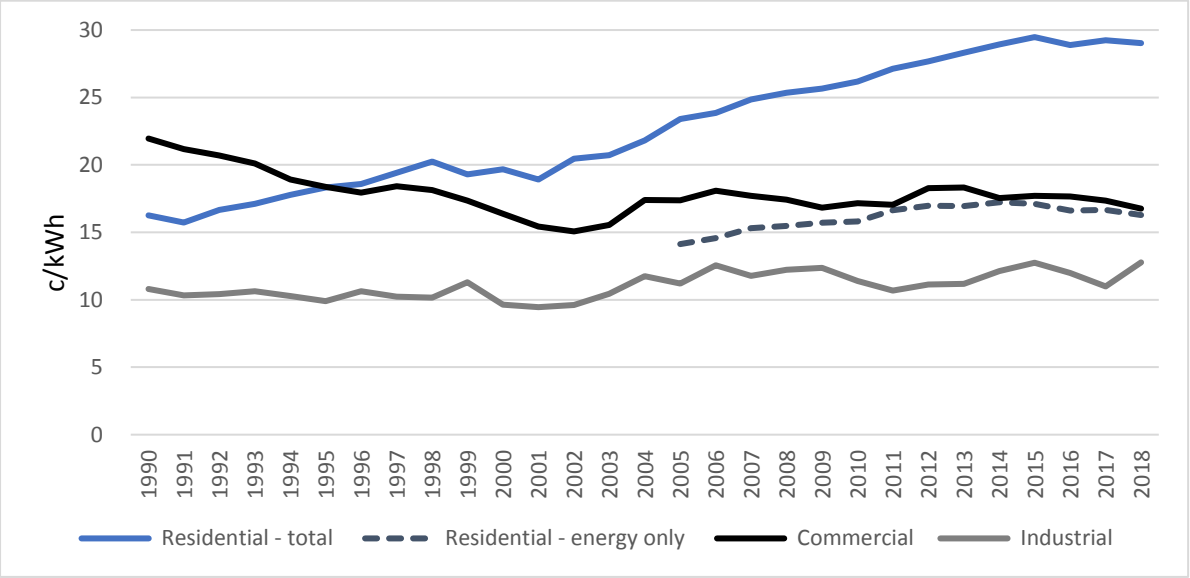
MBIE monitors electricity pricing broken down to:

- **Lines** – the cost of delivering electricity (the regulated monopoly transmission and distribution infrastructure), which accounts for around 37.5% of the final bill.
- **Energy** – the cost of electricity generation and retailing including metering costs (the competitive parts of the sector), which account for around 50% of the final bill.
- **Other** – the cost of levies and taxes, which accounts for around 12.5% of the final bill.

Basis for the increase in real electricity prices

The chart below shows price trends for different customer groups since 1990, exclusive of lines charges – where obtainable from MBIE data:

Figure 3 – Average electricity prices 1990 – 2018 by customer group



Source: MBIE real electricity price data. Provides residential 'energy only' prices (exclusive of lines charges) where MBIE data is available.

The residential price increases since 1990 reflect a variety of underlying cost movements. In addition to those already mentioned, large-scale infrastructure investment – generation and network-related – is another important influence. In terms of new generation infrastructure for example:

- 1026 MW of thermal capacity has been retired and replaced by new largely renewable generation since 2012; and
- Between 2003 and 2014 Meridian alone commissioned over 400 MW of new wind generation.

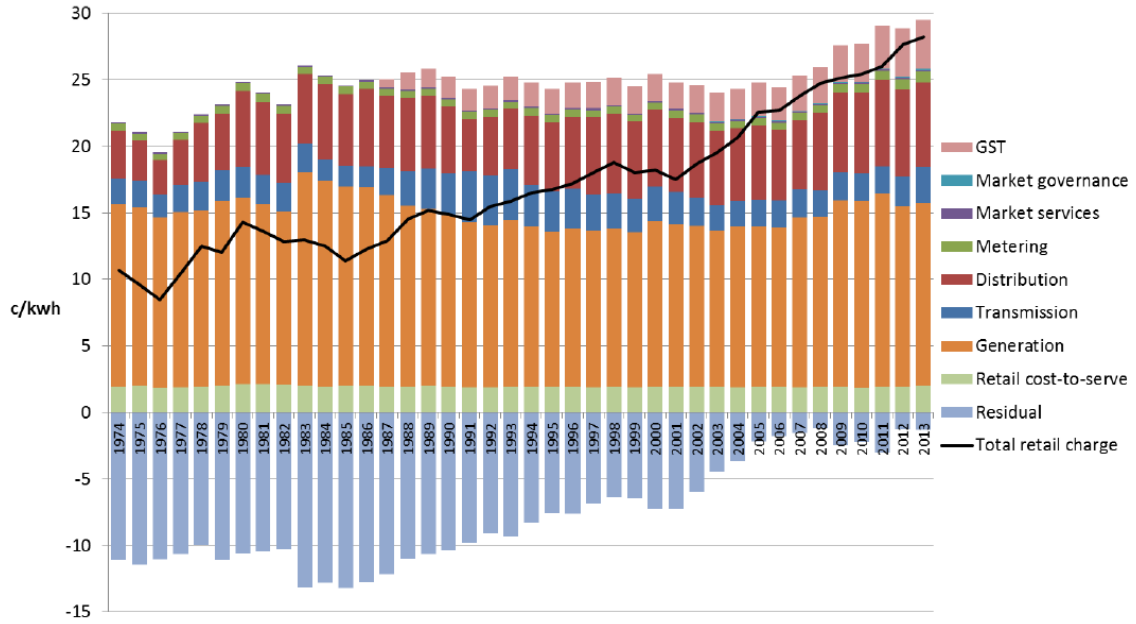
As already noted lines cost components have been the primary source of residential cost increases since 2011 – as is observable from the flat trend in 'energy only' elements from that time.

The First Report notes that the process of re-balancing distribution charges has contributed to growth of some 548% in residential distribution costs since 1990 (while those for commercial and industrial businesses have fallen 58%).[20] The chart below produced by the Electricity Authority[21] in 2014 illustrates, at a more general level, that these distribution cost adjustments form part of broader changes addressing historic under-recovery of electricity charges from residential customers.

[20] First Report, page 60.

[21] Electricity Authority *Analysis of historical electricity costs* available at: https://www.ea.govt.nz/monitoring/enquiries-reviews-and-investigations/2013/historical-analysis-of-electricity-costs/

Figure 4 – Electricity Authority historical analysis of residential cost components



Source: Electricity Authority

How price increases compare with other sectors

Even if we ignore the fact that for much of the relevant period residential electricity prices were cross-subsidised to such an extent that they didn't recover the underlying costs of production, a real pricing increase of 79% over 28 years is not unique or exceptional.

Highlights from the CPI basket of household expenses over the period 2000 to 2018 include (in real terms):[22]

- the price of gas increased by 125%.
- the price of dwelling insurance increased by 279%.
- rates increased by 71%.

Electricity price changes since 1998 are also broadly in line with the changes in income levels.[23] Since 1998 average weekly incomes for salary and wage earners have increased from $584 to $1168[24] and the minimum wage has risen from $7 to $16.50 an hour[25]. As can be seen, in recent years electricity prices have stabilised and been overtaken by the increases in minimum wages and the labour cost index.

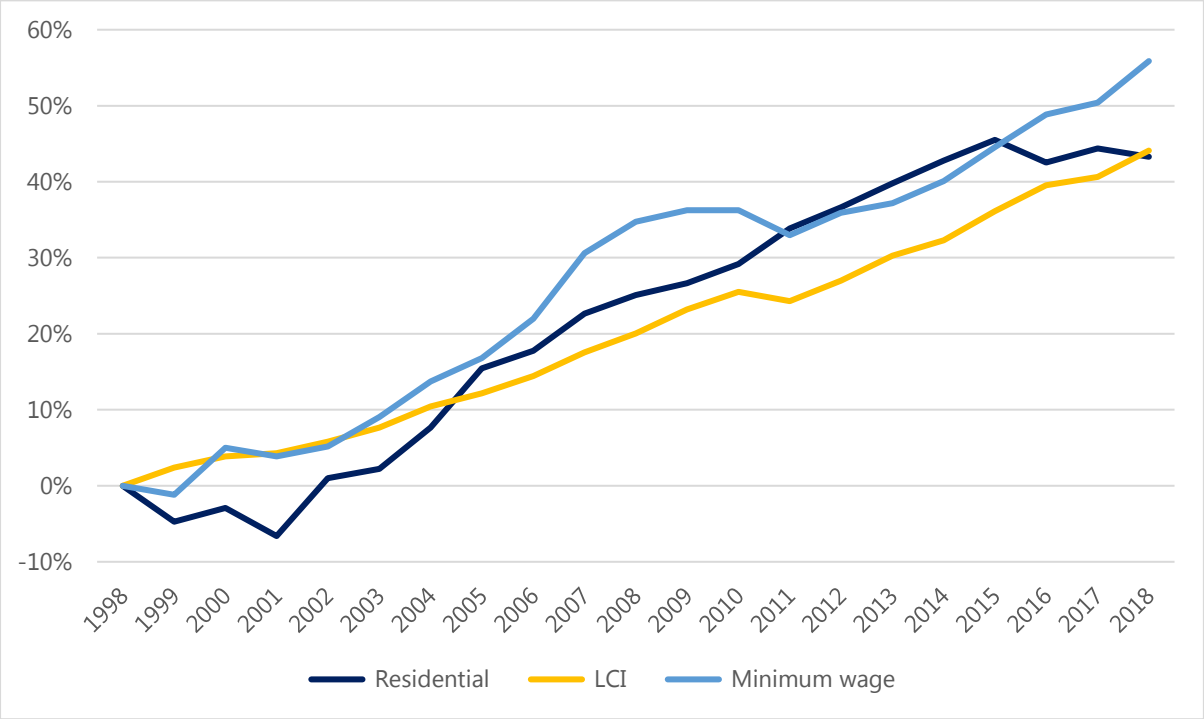
[22] StatsNZ available at http://archive.stats.govt.nz/infoshare/

[23] The truncated, post 1998 period adopted here ensures comparability in earnings data and an exclusive focus on the period where the modern NZEM trading market has been active.

[24] Source: StatsNZ, available: http://nzdotstat.stats.govt.nz/wbos/Index.aspx

[25] https://www.employment.govt.nz/hours-and-wages/pay/minimum-wage/previous-rates/downloadpdf

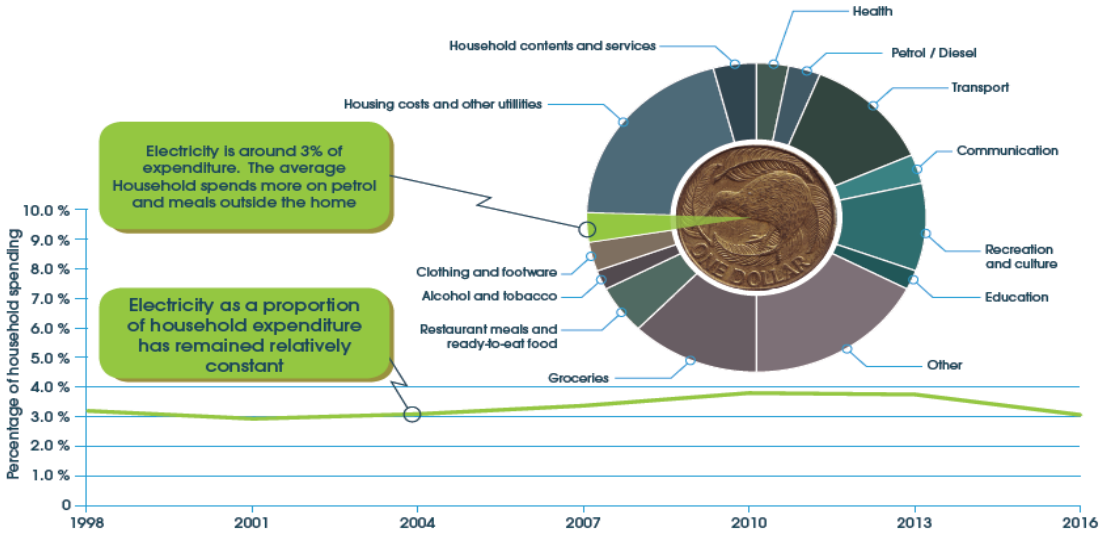
Figure 5 – New Zealand Residential Electricity Costs, Labour Cost Index and Minimum Wage changes since 1998



Source: StatsNZ and MBIE data, adjusted to account for inflation.

Despite relatively high consumption levels in New Zealand, relative to other OECD countries, electricity is generally a low proportion of overall average household spending (~3%). The level of spend on electricity has ranged between 3% and 4% for the last 20 years and is now at its lowest since 2000/01 according to the StatsNZ's Household Expenditure Survey for 2015/16. This indicates that although electricity prices have increased over time, overall spending on electricity has not generally increased any faster than other components of average household expenditure.

Figure 6 – Electricity spending as a proportion of overall household expenditure 1998-2016



Source: ERANZ

Industrial, Commercial and Residential split

As already noted the First Report highlights contrasting trends in electricity prices across different customer groups. Against a 1990 baseline, the report finds that real electricity prices: [26]

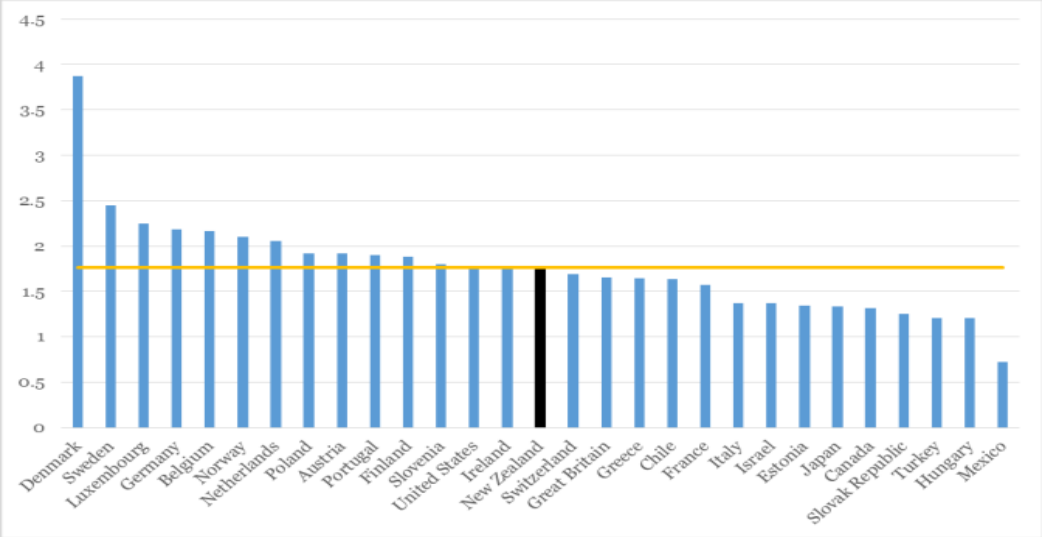
- Measured across all customer groups, have increased in real terms 0.8% annually since 1990;
- For residential consumers, have increased at an average rate of 2.1% per year and 79% overall;
- For industrial consumers, have increased at an average rate of 0.6% per year and 18% overall; and
- For commercial consumers, decreased at an average rate of 1% per year and 24% overall.

The differences across these groups reflect a variety of factors.

As acknowledged in the First Report, differences in underlying costs are one part of the picture. Large industrial and commercial customers benefit from their scale and the reduced cost to serve an individual consumer per kWh. For example, a large industrial consumer might consume many thousand times more than a residential customer. By comparison servicing several thousand residential customers who consume a similar amount of power requires a significantly greater investment in call centre and customer service representatives, metering and software to process the consumption information those consumers generate, reconciliation, billing, hedging of "peaky" residential load and other services, all of which increase the overall cost to deliver electricity to those consumers. For example, on the Orion network Meridian has calculated that its average cost to serve a commercial business is only **[ ]**% of the average cost to serve a residential customer.

Analysis by CEG shows a difference in price between residential and commercial and industrial customers is the norm internationally and that New Zealand's residential-to-industrial-price ratio is at the international median.

Figure 7: Ratio of Residential to Commercial and Industrial prices in IEA countries



Source: IEA, MBIE, CEG analysis; Note: Data is missing for Australia, Korea and Spain. The Smelter has been excluded in the analysis.

[26] First Report, page 19

Also important to note is the high degree of aggregation in the MBIE commercial and industrial price monitoring. This means that the "average" prices MBIE derive are heavily influenced by the prices paid by the large industrial and commercial consumers respectively.

In a competitive market, prices paid are based on the cost to serve not on the somewhat arbitrary classifications and "averaging" of the MBIE monitoring. To demonstrate, we compared the bills of our small commercial customers (SMEs) with those of equivalently sized residential customers. The chart below shows average prices for Meridian customers with annual consumption between 10,000 and 14,0000 kWh. This group is comprised of large residential customers and smaller commercial customers. As seen below the prices paid by each group are broadly comparable:

Figure 8 – Average prices for Meridian residential and small commercial customer sample

[

]

Source: Meridian

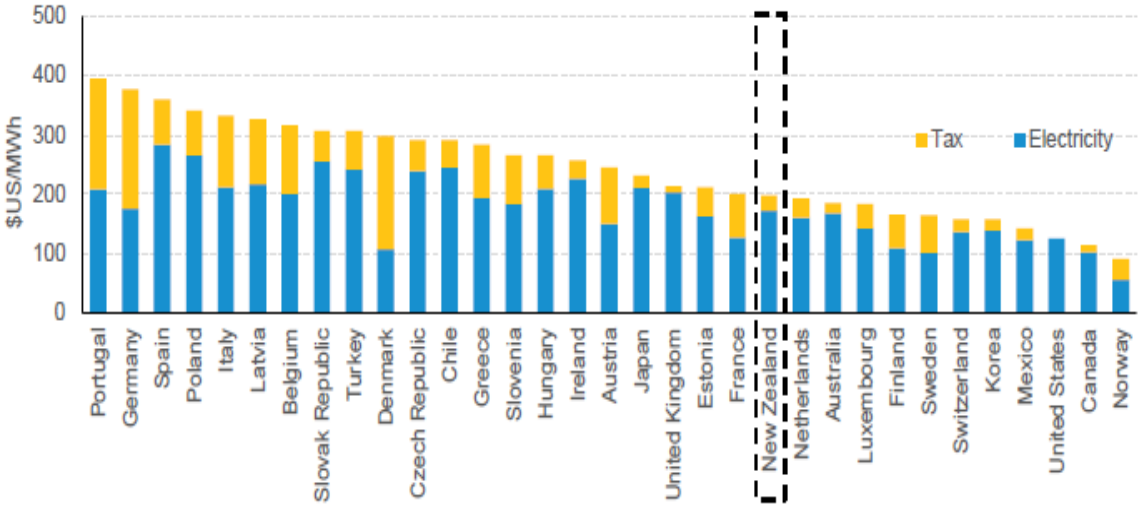
MBIE monitoring of commercial and industrial prices, in addition, excludes GST, partially explaining the difference relative to residential prices.

5. *What are your views on the assessment of how electricity prices compare internationally?*

How prices compare internationally

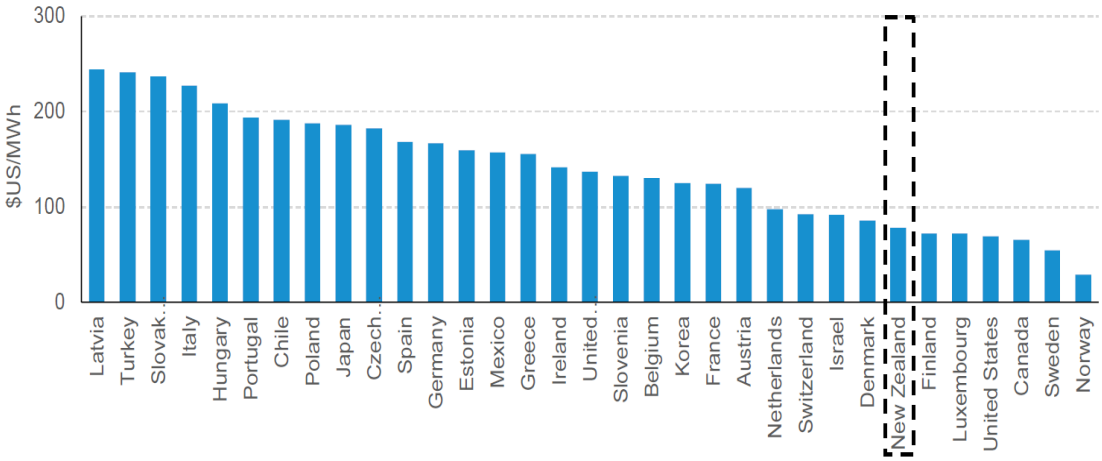
As the First Report's analysis confirms, New Zealand's prices compare favourably to prices internationally. Residential prices are almost 20 percent lower than the OECD average, calculated based on purchasing power parity of the relevant currencies from 2016 data. Based on 2015 data, New Zealand's industrial prices are placed in the lowest quarter.

Figure 9 – Residential electricity prices in OECD countries



Source: First Report, MBIE tables of OECD data.
Figures are US dollars converted at purchasing power parity.

Figure 10 – Industrial electricity prices in OECD countries



Source: First Report, MBIE tables of OECD data.
Figures are US dollars converted at purchasing power parity.

In the case of residential prices, New Zealand's favourable ranking is despite an absence of the subsidies prevalent in other countries. At least 10 of the 11 OECD countries which appear to have

lower prices than New Zealand have some form of direct subsidy in place for the industry or for electricity consumers or both. For example:

- In Australia, renewable generation feed in tariffs were criticised by the ACCC and we are aware of some 18 different Government-funded concession entitlements available to customers in the areas supplied by Powershop.
- In the United States the federal government supports the use of fossil fuels, nuclear power, and renewables through tax preferences estimated to total US$18.4 billion in 2016.[27, 28]
- In the EU a 2014 study by the European Commission found that the total value of public interventions in energy (excluding transport) in the EU-28 was €122 billion in 2012.[29,30]
- Electricity use has traditionally been subsidised in Mexico, mostly for households, and this is still the case. The IEA holds subsidy data from 2010 – 2015 showing that in 2015 total subsidies were equivalent to US$5.8 billion.[31] According to S&P Global, and records from Mexico's National Congress, subsidies in 2017 were equivalent to US$6.2 billion.[32]
- Many Canadian provinces have feed in tariffs and tax credits for renewable generation.[33]
- In South Korea, 51% state owned KEPCO is dominant and responsible for almost all generation, transmission, distribution and retailing of electricity. The IEA identified "a significant problem is that present mechanisms for calculating wholesale and retail electricity prices do not reflect the full cost of electricity production, nor do they reflect its market value; in other words, there is a direct subsidy in place in the form of the sale of electricity at prices below costs."[34]
- In Switzerland the IEA has noted that "as end-user prices are regulated close to generating cost and below spot market prices for most of the time, consumption is subsidised and incentives for investing in generating capacity are reduced."[35]

Finally, in relation to our closest neighbour Australia, we note the OECD data runs only up to 2016 and shows Australian residential prices comparing favourably to New Zealand. The table below updates this based on MBIE data and price data in the recent ACCC report to take account of the significant recent price increases recently observed in Australia. As can be seen, the New Zealand market has delivered significantly lower prices and a significantly smaller change in price since 2008.

---

[27] Congressional Budget Office: https://www.cbo.gov/system/files/115th-congress-2017-2018/reports/52521-energytestimony.pdf

[28] Department of Energy: https://www.energy.gov/energy-economy/funding-financing

[29] European Commission Directorate-General for Energy: https://ec.europa.eu/energy/sites/ener/files/documents/ECOFYS%202014%20Subsidies%20and%20costs%20of%20EU%20energy_11_Nov.pdf

[30] The EU-28 countries include the Netherlands, Luxembourg, Finland, and Sweden (amongst the 11 cheapest). Note that Switzerland and Norway are not part of the EU-28.

[31] IEA, page 154-155 https://www.iea.org/publications/freepublications/publication/EnergyPoliciesBeyondIEACountriesMexico2017.pdf

[32] S&P Global: https://www.platts.com/news-feature/2017/oil/commodities-in-mexico/cut-power-subsidies-solar-plan-050517

[33] IEA: https://www.iea.org/publications/freepublications/publication/energy-policies-of-iea-countries---canada-2015-review.html

[34] IEA: https://www.iea.org/publications/freepublications/publication/Korea2012_free.pdf

[35] IEA: http://www.iea.org/publications/freepublications/publication/Switzerland2012_free.pdf

Figure 11 – Comparing average prices between Australian and New Zealand

Measure	**Australia** (NEM)	**New Zealand**[36]
Average 2018 prices (c/kWh in nominal terms including GST)	**41.24 c/kWh NZD**[37]	**29.03 c/kWh NZD**
Average increase in residential prices (c/kWh in real terms)	**56% increase** since 2007-08 FY[38]	**17% increase** since 2008 CY
Average increase in network component (c/kWh in real terms)	**46% increase** since 2007-08 FY[39]	**29% increase** since 2008 CY
Average increase in energy and other component (c/kWh in real terms)	**63% increase** since 2007-08 FY[40]	**5% increase** since 2008 CY

Source: Meridian, utilising MBIE and ACCC data.

6. What are your views on the outlook for electricity prices?

How prices might be expected to change in future

In future we expect that competition will likely continue to constrain prices and price increases in those parts of the sector where competition is present.

On the wholesale side, prices should remain stable but may increase if there is too quick a push towards 100 percent renewable generation. Our response to question 14 provides further discussion on this.

Underlying distribution costs may continue to increase. There is anecdotal evidence of a "wall of wire" on the horizon as distribution assets come to their end of life. The Commerce Commissions recent approval of Powerco's application for a customised price path (CPP) indicates the scale of new investment and price increase potentially in store. According to the Commerce Commission "the CPP allows Powerco to spend $1.27 billion on a major network upgrade to replace parts of its network built in the 1950s and 60s and nearing the end of its life". Once the upgrade is complete in 2023 the cost increase to consumers is calculated by the Commerce Commission to be an added 4.5% on customer bills. If other networks make similar applications to increase their revenue increases of the order of the 4.5% approved for Powerco would add $157.5m to consumer bills.

Transpower has signalled that underlying transmission costs and therefore revenue could fall in the next Regulatory Control Period from 2020 to 2025.[41] However, beyond those dates it is unclear what the outlook for transmission prices is.

[36] All New Zealand prices from MBIE QRSS data available at: http://www.mbie.govt.nz/info-services/sectors-industries/energy/energy-data-modelling/statistics/prices/electricity-prices/sales-based-residential-prices.pdf

[37] VaasaETT data in ACCC report, Figure 1.20 based on 37.4 c/kWh in AUD at an August 2018 conversion rate

[38] ACCC report page 5 and Figure 1.3

[39] ACCC report page 7 Figure 1.3

[40] ACCC report page 7 and Figure 1.3

[41] https://www.transpower.co.nz/industry/revenue-and-pricing/revenue

Figure 12 – RCP2 and RCP3 transmission revenue path

	RCP2			RCP3				
$'m	**2017/18**	**2018/19**	**2019/20**	**2020/21**	**2021/22**	**2022/23**	**2023/24**	**2024/25**
HVAC	832.6	817.2	825.9	798.0	755.5	824.4	832.1	820.6
HVDC	145.8	149.4	144.7	116.1	109.2	94.7	95.0	96.3
Total	**978.3**	**966.6**	**970.6**	**914.1**	**864.7**	**919.1**	**927.1**	**916.8**

Source: Transpower

Affordability

7. What are your views on the assessment of the size of the affordability problem?

Regardless of whether prices are fair, equitable, and efficient we know that some customers struggle to pay their power bills. There are multiple reasons for this. They relate not just to electricity costs themselves but to factors such as income level, quality of housing and appliances, the customers' overall level of health, and the availability and cost of other household goods and services.

Assessed on a common 'spending in excess of 10% of income' basis, the First Report points to an improvement in energy poverty statistics over the 2012-2016 period.[42] Explained in the report as largely due to the strong growth in incomes for many households, this result comes as a welcome development. However, as the report identifies, increases in incomes have been far less for some, providing little in the way of real impact on the affordability of all their household costs, electricity included.

Identifying those who are most acutely affected by hardship is not a simple exercise. While extensively used, the 'spending in excess of 10% of income' measure has significant limitations. Such measures miss those who under-spend on electricity but also introduces 'false positives' – those for whom electricity is affordable but simply consume high amounts.

A report by PWC for ERANZ:[43]

- Confirms energy hardship as a multi-faceted problem.
- Supports findings of the Panel that size of the household, network area and housing quality (level of insulation) all have a particularly important influence on energy hardship.

The PWC report, in addition, identifies a group of 44,500 consumers most affected by hardship – that is, a group for whom energy costs exceed a 10% of income threshold (this is up to 175,000 households, from the Panel's estimates) and that are also assessed as meeting additional risk factors. By accounting for these additional risk factors, the 44,500 household group provides an estimate of those most severely affected by hardship.

Finally, regarding the First Report's analysis of disconnection rates, we note the Consumer NZ disconnection statistics referenced are significantly higher than those recorded by the Electricity Authority. Depending on household income group, Consumer's statistics suggest that in the order of 4% to 13% of households have been disconnected for non-payment, whether once or more frequently, for an undefined period. The Electricity Authority's statistics in contrast indicate that

[42] First Report, page 25.
[43] PWC *Definition of Energy Vulnerability in New Zealand October* 2018, page 27.

numbers for the previous 5 years average roughly 0.3% per quarter for Meridian and Powershop, and 0.4% per quarter across the industry.

8. What are your views of the assessment of the causes of the affordability problem?

As acknowledged by the Panel, the causes of energy hardship are wide-ranging and diverse. PWC's research, referenced above, provides valuable insights in this regard. In line with the Panel's research[44], thermal properties of the home, the age of occupants (specifically children under 10 or elderly), and higher cost distribution network areas emerge from PWC's analysis as significant contributing factors.

While underlying causes extend beyond what is in the direct control of the industry, we categorically have a role to play in addressing hardship.

Retailers like Meridian go to significant lengths to support financially vulnerable customers. Meridian has a full-time hardship consultant and we work to identify customers in hardship early so that we can offer them individual support to:

- ensure we understand their situation;
- make sure they are on the best plan for their consumption;
- discuss energy management options;
- connect them with budgeting services or Work and Income;
- smooth payments over a year; and
- ensure they retain their prompt payment discounts (now addressed more directly by Meridian's decision to effectively guarantee such discounts, regardless of time of payment – see below).

As an industry, retailers follow the Electricity Authority's *Guidelines on arrangements to assist vulnerable customers*. Retailers have also developed a *Voluntary Practice Benchmark for Electricity Retailer Credit Management* in 2014 to improve outcomes for vulnerable electricity consumers and monitor consistent compliance with the Guidelines. Amongst other important requirements, these embed the principles of early identification of financially vulnerable customers, working with them to identify government and other sources of financial assistance, and disconnection as a last resort.

Meridian is fully compliant with the Guidelines and Benchmark and we believe both have made significant contributions to improving retailer practices in this area. We would support formal codification of these arrangements to ensure that they are appropriately recognised and followed by all retailers.

Meridian agrees the Low Fixed Charge regulations are detrimental to high-use, low-income households. We support their removal. Meridian's response to question 30 provides further discussion on this point.

In addition, Meridian has recently ended the practice of offering prompt payment discounts. Instead we effectively guarantee customers receive their discount, regardless of when they pay – a move we

[44] Ibid, page 29.

would like other retailers to adopt, as a regulatory requirement if necessary. We strongly believe this will help address affordability issues. The findings from the initial analysis of retailer billing data support this view – in particular the finding that the biggest driver of differences in electricity costs across socio-economic groups is the effect of lost prompt payment discounts and that these raise bills for consumers in the most deprived areas by around $50/year on average and up to $250/year or more in some cases.[45]

Distribution charges

Another means of addressing affordability would be via re-balancing of distribution charges from residential customers to business customers. This warrants close investigation.

As previously discussed, distribution components account for approximately 25% of residential bills and, together with transmission, are the primary source of real cost increases for residential consumers since 1990. The process of rebalancing distribution costs away from business and towards residential consumers has undeniably had a large impact on residential consumers. By the Panel's estimates, distribution costs for households have increased some 548% since 1990.[46] For non-residential consumers, distribution costs are estimated to have reduced by 58%.[47]

Assessed by the Panel as having the potential to provide $90 in average annual consumer savings,[48] Meridian considers the scope for re-balancing distribution charges across different consumer groups should be considered. Trends in distribution costs should be further investigated to determine alignment with actual costs (i.e. cost-reflectiveness) to assist with such analysis. Calculated as an average, we note the Panel's estimated savings may very well disguise variation in the scope for re-assignment across different networks.

In our response to question 22 below, we further discuss the potential to re-balance distribution costs while retaining cost-reflective distribution pricing.

Distribution pricing reform must also be advanced to ensure low income consumers are not unfairly penalised by the uptake of new technology by those that can afford it and the associated avoidance of distribution costs that can result. We discuss this further below under the heading 'Distribution'.

9. What are your views of the assessment of the outlook for the affordability problem?

Meridian strongly supports the Panel's premise that affordability is something industry, regulators and Government must work together on.

Consistent with the Panel's views, and as per our response to question 27, Meridian agrees the emergence of new technologies gives important impetus to reforming distribution charges. This is needed to address the adverse effects for low-income consumers from the commonly used volumetric model of charging (as discussed in more detail under the heading 'Distribution' below). As suggested by the Panel, we also support further investigation of wider Government initiatives to:

- Facilitate housing upgrades – implemented for instance through building code changes, or EECA programmes; and

[45] Electricity Price Review *Initial analysis of retail billing data* 15 October 2018, pages 11-12
[46] First Report, page 60.
[47] Ibid.
[48] Ibid.

- Enhance the Winter Energy Payment, to further assist with alleviating energy hardship. To achieve this in a targeted way, payments for instance could be subject to mean-testing and extended to low-income working households.

10. Summary of feedback on Part three.

- Consumers have diverse interests and priorities – encompassing price, reliability and service-related dimensions such as billing options, sustainability credentials, access to customer support, and consumption tools and analytics.
- A 2018 survey indicates that 83% of consumers are satisfied overall with their retailer.
- Operating in a highly competitive market – retailers work hard to earn and maintain the trust of their customers.
- A range of organisations help consumers to engage with the market including, the Electricity Authority, Utilities Disputes Limited, and Consumer New Zealand. There is always more that could be done to promote existing service providers and Meridian is open to exploring the establishment of a consumer advocate.
- On the whole, electricity prices in New Zealand compare well internationally and are well below the OECD average.
- Price increases have been broadly in line with the underlying costs of providing electricity and are comparable to increases in income levels.
- However, when broken down to individual components it is clear that lines costs, and in particular the rebalancing of such costs from business to residential consumers, have driven the majority of the total increase since 1990.
- Since 2011, the competitive generation and retail components of electricity prices have fallen by 2% in real terms, while the costs attributable to the monopoly lines companies have increased by 20%.
- In future, we would expect competition to continue to constrain generation and retail costs. However, indications are that distribution costs will continue to increase.
- Affordability is a real problem for some customers. Meridian takes significant steps to support such customers.
- We recently ended the practice of offering prompt payment discounts.
- Affordability is something industry, regulators and Government must work on together.

11. Solutions to issues and concerns raised in Part three.

- All the solutions proposed by Meridian are set out in the introductory section of this submission.
- In brief, the solutions to issues and concerns raised in Part three include:
  - Discounts that are conditional upon prompt payment should be regulated so that they do not exceed the costs incurred by a retailer as a result of a customer paying late.
  - The low fixed charge regulations are driving inequitable and perverse outcomes and must be removed.
  - Vulnerable customer guidelines and industry benchmarks should be codified to provide minimum regulatory protections.
  - To assist consumers in the process of comparing retailers, an enhanced price comparison and switching website with links to registry and consumption information should be put in place and retailers required to advertise it on their bills. Refer to the heading 'Retail' for further details.
  - Further investigation should be undertaken on:
    i. re-balancing of distribution charges;
    ii. the establishment of a consumer advocate; and
    iii. the scope to better target the Winter Energy Payment for those most acutely impacted by hardship – the payments could be means-tested and extended to low income working-households.

Industry

Generation

12. What are your views on the assessment of generation sector performance?

The First Report finds that:

> Overall, the generation sector is delivering reliable supply, low and falling emissions, and wholesale prices that are reasonable compared to costs of building new power stations.

Meridian agrees the generation sector is performing well. The finding that "wholesale prices have moved broadly in line with the cost of adding more capacity" is also consistent with Meridian's experiences and expectations. Likewise, we agree with the finding that "there is no evidence contract prices have been above costs on a sustained basis in recent years."[49]

The First Report however expresses concern with respect to short-term market power. Reference is made to the May 2017 letter from the Electricity Authority to Meridian. We discuss this further below but note:

- The May 2017 letter related essentially to high prices in 2 trading periods (a total of an hour) on 2 June 2016;

[49] Taking a different approach, investment analysts UBS looked at the total replacement cost for generators' assets and returns on those assets, concluding that "returns for regulatory purposes are 2-3%. This positions them far below WACC…" UBS *Sector Note: New Zealand Electric Utilities* 31 July 2018

- Despite these high prices, the average wholesale prices at Benmore over the full month of June 2016 were $49.82/MWh;

- By way of comparison, average wholesale prices at Benmore in May and July 2016 were $51.92/MWh and $46.03/MWh respectively; and

- Taking a longer timeframe, the average wholesale prices at Benmore in calendar year 2015 were $64.45/MWh, in 2016 were $50.45/MWh, in 2017 were $76.55/MWh and in 2018 (to 1 October) have been $73.20/MWh – i.e. the yearly averages are all higher than the average observed in June 2016.

Allegations relating to market power are invariably linked to spikes in prices. In New Zealand the trading periods over which price spikes are observed are relatively rare. When they do arise, they are generally linked to dry periods when hydro generation is scarce or to transmission constraints which limit supply to particular areas. Further, as illustrated above, such trading periods are too far and few between to have any significant impact on average wholesale prices. The point is well made in advice given by the retailer Flick to its customers in the FAQ section of the Flick website:[50]

> What's a price spike - and do I need to be worried about them?
>
> Short answer - no. A price spike is when the spot price rises above 30c per kWh for one, and occasionally two, 30-minute trading periods. The prices either side of a spike might be higher than you're used to seeing, too, but they'll quickly subside back to normal levels. From 1 Jan 2014 to 30 March 2018, spot prices have only spiked around 0.20% of the time. That's teeny!

Market power, to the extent it exists in the wholesale market, is transient. The handful of high priced periods observed over the years has had no real impact on the average price paid by purchasers in the wholesale market, which has been remarkably consistent over time. As found in the Report, in inflation-adjusted terms "wholesale prices were roughly the same in 2018 as they were in 2004".[51]

This consistency and the relatively benign nature of average wholesale market pricing has prompted at least a couple of retailers to offer residential customers direct exposure to the wholesale electricity market, effectively making the assessment that the wholesale market is likely to deliver the lowest prices to their consumers over time. Again, as Flick say in their FAQ:[52]

> What's an 'average' spot price?
>
> Jolly good question. Spot prices tend to sit below 6 cents per kWh [equivalent $60 per MWh] a whopping 47.99% of the time, and fall between 6-12 cents per kWh [equivalent to $60 to $120 per MWh] 45.04% of the time. From January 2014 through to 30 June 2018, the average spot price was 6.95 cents per kWh [$69.50 per MWh].

While such pricing is not for everyone and some customers may not be comfortable with the occasional price spikes this delivers, providing retail customers with direct exposure is a tangible demonstration of the transparency, fairness, and efficiency of pricing delivered by the wholesale market over time. These qualities have been demonstrated even during periods of system stress such as the dry winter of 2017, following which the Electricity Authority stated that: [53]

---

[50] https://flickelectricsupport.zendesk.com/hc/en-us/articles/360000422775-What-s-a-price-spike-and-do-I-need-to-be-worried-about-them-

[51] First Report, page 22.

[52] https://flickelectricsupport.zendesk.com/hc/en-us/articles/360000422755-What-s-an-average-spot-price-

[53] https://www.ea.govt.nz/dmsdocument/22785

> The wholesale electricity market is workably competitive. This has most recently been demonstrated by the wholesale market response to the dry hydro conditions during winter 2017. Wholesale prices rose to levels that incentivised efficient responses, such as the conservation of hydro storage and the use of demand-side response.

The Electricity Authority monitors the wholesale market and has tools to manage market power including:

- A regime for dealing with undesirable trading situations in Part 5 of the Code – this allows the Authority to reset prices in any trading periods where it considers the use of market power has threatened or may threaten confidence in or the integrity of the wholesale market.

- Trading conduct provisions introduced to Part 13 of the Code in 2014 to require generators to observe a high standard of trading conduct – these allow for the imposition of pecuniary penalties and compensation orders against participants found to have breached the Code.

It is important to note that any market participant is free to allege that another market participant is in breach of these provisions. If that happens the Authority has a duty to investigate. In 2011, following complaints from many participants, Genesis were found by the Authority to have caused an undesirable trading situation by raising offer prices at Huntly to $19,000 per MWh during a transmission outage. As a result, the Authority reset the relevant prices to $3,000 MWh. Since then there have been no findings of an undesirable trading situation over the subsequent 7 years and very few cases even of alleged undesirable trading situations. There have also been no cases where breaches of the trading conduct provisions have been found and again, very few cases where such breaches have even been alleged by a market participant.

As already noted, the First Report refers to a May 2017 letter from the Electricity Authority to Meridian as an example of market power being exercised over a short timeframe. The letter relates to a period of an hour and a half on 2 June 2016 when wholesale prices rose to $4,000 per MWh for 30 minutes, fell back to normal levels for the next 30 minutes and then rose to $3,000 per MWh for 30 minutes. The Authority initially investigated whether there had been an undesirable trading situation at that time. It found there had not been saying "there was no evidence that the existing levels of confidence in, or integrity of, the wholesale market were threatened, or may have been threatened, by the situation."[54] Accordingly it found no undesirable trading situation on 2 June 2016. It also said:

- "The Authority considers the situation on 2 June was within the normal operation of the wholesale market";

- "Meridian's offer behaviour was not an unusual response for a market participant facing the risk of financial loss as a result of the tight and uncertain market conditions that existed in the North Island over the relevant trading periods."; and

- "The offering behaviour of other market participants, and an unscheduled generation outage, had equivalent impacts on the market outcomes to Meridian's offer behaviour".

The Authority subsequently investigated whether Meridian's conduct might amount to a breach of the trading conduct provisions in Part 13 of the Code. The Authority's investigator recommended that the Authority discontinue the investigation because, in his view, no breach was established and there was a strong argument that Meridian had complied with a high standard of trading conduct. The Authority accepted this recommendation and discontinued the matter but expressed the view in

[54] https://www.ea.govt.nz/dmsdocument/21184-uts-2-june-2016-decision-paper

passing that Meridian had breached the trading conduct standard. The basis for the Authority saying this was not clear to Meridian and we did not have the right to challenge the Authority's view before the Rulings Panel because the substantive decision was to discontinue. We have since asked that the trading conduct provisions in the Code be clarified. A project to do this has been commenced by the Authority's Market Development Advisory Group.[55] Meridian supports this process and would like to see it progressed to a quick conclusion.

Although not mentioned in the Review Panel's Report, we note that Vector has commissioned an academic paper from Dr Stephen Poletti of the University of Auckland Business school. Academic, theoretical models like Dr Poletti's are interesting but need to be grounded in reality. Dr Poletti's model assumes that wholesale prices only need to cover the short run marginal costs of generation (i.e. the fuel costs). However, this is only half the story – the reality is that generators need to invest over time to match the growth in demand and maintain reliable supply. To provide the necessary investment signals, investors need to be able to recover their full long run marginal costs of investment and not just short run marginal costs otherwise no-one would ever invest and do business. In the electricity sector, Dr Poletti's model would mean under-investment in capacity and an increase in security of supply issues leading eventually to rolling blackouts and higher prices to redress the supply demand imbalance. At the level of returns suggested by Dr Poletti's model it is also likely that a number of existing generating stations would close as they would not cover their fixed costs of business. We don't think this model is realistic or desirable.

Dr Poletti's analysis is very similar to that undertaken by Frank Wolak in 2009, which was widely criticised at that time by, amongst others, the Treasury:[56]

> "Setting aside any flaws in Professor Wolak's methodology, the $4.3 billion figure for "excess profits" is not credible, as it represents over 90% of the total after-tax profits earned by the five major electricity companies. If these profits had not been made, these companies would have earned relatively small amounts on their billions of dollars of assets – certainly far less than their cost of capital - and would have had insufficient cash flows to fund any of the significant investment in new generation that occurred over 2001 to 2007 and the years following that. Without that investment, New Zealand would most likely be experiencing significant shortages of electricity and (ironically) higher prices."

It was also criticised by Dr Brent Layton, the Chair of the Electricity Authority:[57]

> "the 'competitive benchmark' price based on short run marginal costs used by the [Wolak] report to calculate market power rents is not sufficient to cover the costs of building new capacity and ensuring security of supply. The additional costs of, for example, payments to generators to provide capacity have been missed from the calculations."

See also Dr E Grant Read's description of the New Zealand wholesale market:[58]

> …"this market has been designed to operate just like the vast majority of successful markets operating outside the electricity sector, and with similar cost structures, where pricing above SRMC [short run marginal cost] has always been considered absolutely normal."

---

[55] https://www.ea.govt.nz/dmsdocument/22983-letter-to-mdag-2017-18-work-plan-request-to-add-trading-conduct-project

[56] New Zealand Treasury *Report to Cabinet: Regulation of the Electricity Market* 8 March 2012

[57] Dr Brent Layton *The Economics of Electricity* 2013, available at: http://media.nzherald.co.nz/webcontent/document/pdf/201323/Electricity2.pdf

[58] E Grant Read *An Economic Perspective on the New Zealand Electricity Market, 2018 at page 50.*

The peer review of Dr Poletti's paper makes essentially the same point: [59]

> "I would like to observe that industry professionals are increasingly coming to the view that an energy only market will need to deliver prices above (short-run) marginal cost to sustain investment returns … In terms of the market power rents calculated by the author, they may indeed be more than adequate to reward investors, but that would require some investment analysis to confirm."

The investment analysis proposed by the peer reviewer has been undertaken in the Review Panel's First Report. By comparing prices and the costs of building new power stations, the Report finds that:

> "Wholesale prices have moved broadly in line with the cost of adding more capacity. There is no evidence contract prices have been above costs on a sustained basis." …
>
> "The key challenge is the potential need to build new grid connected generation to meet new demand. The market can do this provided strong incentives to invest are maintained."

Meridian strongly agrees with these findings and considers that any statements to the contrary need to be closely examined in the light of the observed benefits of wholesale competition:

- Wholesale prices are in real terms the same now as they were in 2004.
- New Zealand generates 85% of power from renewable sources, up from 65% ten years ago.
- New Zealand has a secure supply of electricity, even in dry hydrological years.
- Since 1996, the New Zealand electricity sector has invested in around 20,000GWh of new electricity generation (i.e. equivalent to around half of NZ's current generation production) at a cost of approximately $9 billion in real terms. This investment has been diversified – it is not dominated by any technology or fuel source or by any single company or companies. And the risks of these investments are borne by private investors rather than directly by taxpayers as they were prior to reform of the sector.

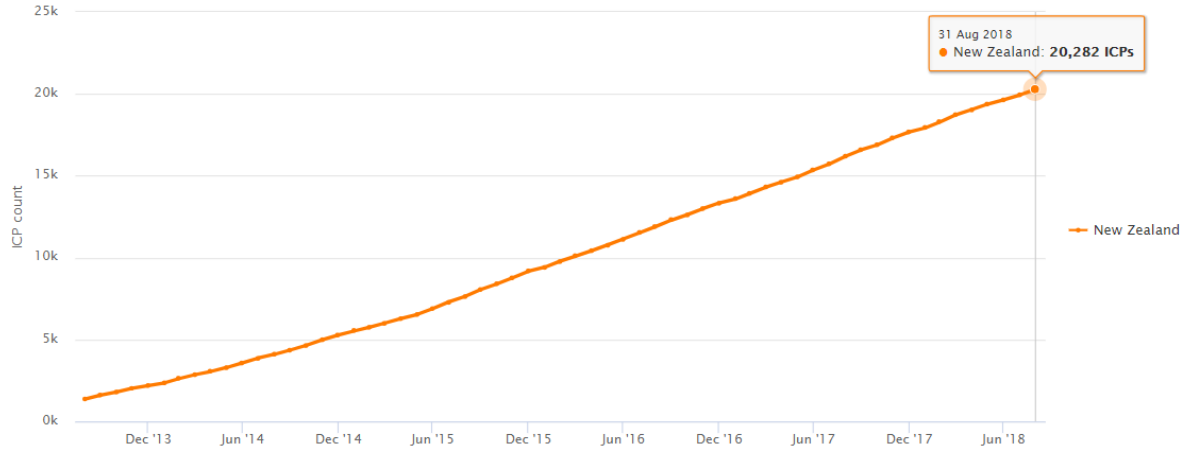
13. What are your views of the assessment of barriers to competition in the generation sector?

Meridian agrees with the statement in the Report that "New Zealand has 34 generators [of more than 1MW], which suggests relatively low barriers to generation competition." The true number of generators in the market is far higher. There are many small scale solar and wind generators and the numbers are growing rapidly. For example, as of September 2018 there were over 20,000 solar generation systems installed in New Zealand:[60]

[59] Professor Derek Bunn *Independent Review of the Report Market Power in the NZ Wholesale Market 2010-2016* July 2018, available at: https://cdn.auckland.ac.nz/assets/business/about/our-research/research-institutes-and-centres/energy-centre/Poletti%20DWB%20Peer%20Review%20on%20the%20Market%20Power%20Analysis%20by%20Stephen%20Poletti.pdf

[60] https://www.emi.ea.govt.nz

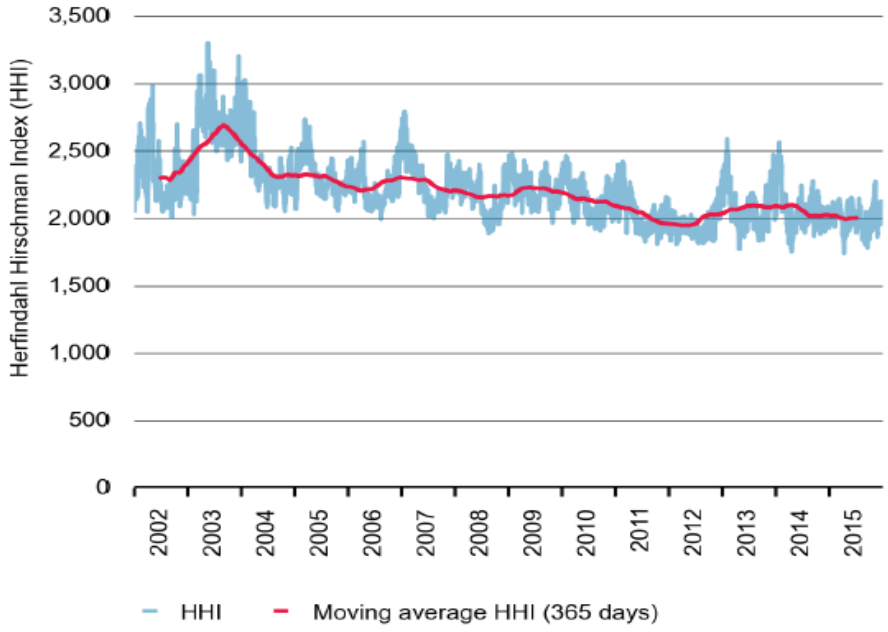
Figure 13 – Installed distributed solar generation



Source: EMI

Anyone can invest in generation in New Zealand and Electricity Authority HHI data shows that the wholesale market is increasingly competitive over time:[61]

Figure 14 – Daily generation HHI



Source: Electricity Authority

The First Report discusses the 'virtual asset swap' agreements between Genesis, Mercury and Meridian that were the result of the 2009 ministerial review of the industry. These agreements, signed in 2010, expire in 2025 and seek to make generators more geographically balanced. We do not consider the virtual asset swaps to be strictly necessary to promote retail competition any longer given subsequent developments in retailing and in volumes traded via ASX and OTC contract markets, which also assist in managing locational risk. To a large extent the virtual asset swaps have

[61] Electricity Authority *Market Performance Review 2015* available at https://www.ea.govt.nz/dmsdocument/20488

achieved their purposes. However, if regulators or the Government considered it necessary for the virtual asset swaps to continue Meridian would be open to this.

Further comment on contract or hedge markets is below under the heading "Vertical integration".

14. What are your views on whether current arrangements will ensure sufficient new generation to meet demand?

Meridian agrees that a key and welcome challenge for the sector is the forecast need to build a lot of new generation as decarbonisation of the economy results in a widespread electrification of transport and industrial processes.

We also agree that the current market and industry arrangements will ensure sufficient new generation to meet the increased level of demand, provided current strong incentives to invest in generation are maintained. The First Report is correct that large scale grid connected generation will be necessary to meet most of the increased demand. Small-scale renewable generation has a role to play but will not be nearly enough on its own to meet future electricity demand.

As we understand it, Meridian's view that current market and industry arrangements will ensure sufficient new generation is largely shared by other generators and generation investors. As already indicated, the amount of new generation delivered by private investors since the current market and industry arrangements were put in place is huge, and it seems to us likely that appropriate and timely levels of investment will continue to be made provided current market arrangements are retained.

Stevenson and others, in their work for the Productivity Commission, look ahead to 2050 and ask whether "the current energy only wholesale market [will continue to] deliver resource adequacy in a low emissions environment" over that timeframe.[62] They don't reach firm conclusions and acknowledge that:

> It is possible that bilateral contracting between major suppliers for capacity may serve to keep stand-by generation available and that has been the case in recent years. However, if lower average annual wholesale prices do result from higher levels of renewable energy lower contract prices may also soften which would, in turn deter investment in flexible plant.

Meridian observes that the increase from a 65% renewable energy system to an 85% renewable energy system in the last 10 years has not brought with it lower average annual wholesale prices. The First Report finds the level of wholesale prices is the same now as it was in 2004. The Productivity Commission characterise the issue raised by Stevenson and others as whether "at some time in the future" New Zealand will require, alongside it's current 'energy-only' market, a market for firm energy to ensure there is sufficient thermal or other firm generation to cover periods of severe hydro shortfall. They say:

> Yet a useful market for firm energy already exists, though it mostly operates among the large generators and gentailers. In particular, Genesis has retained the Huntly Rankine plants for use under a voluntary "swaption" agreement with Meridian (which runs hydro and wind generation) (New Zealand Herald, 2016). Meridian also has demand response arrangements with the Tiwai

[62] Stevenson, T., Batstone, S., Reeve, D., Poynton, M., & Comendant, C. (2018). *Transition to zero net emissions by 2050: Moving to a very low-emissions electricity system in New Zealand*. Wellington: New Zealand Productivity Commission.

> Point aluminium smelter that effectively provides it with firm energy in the event of a dry year. In addition, Huntly provides Genesis with firm-energy cover for its retail base.

We agree. We also agree with the submission of the Electricity Authority to the Productivity Commission who said:

> For over 20 years the spot market has operated effectively in providing signals for efficient generation investment, including to manage dry years. This has been supported in more recent years by well functioning hedge and futures markets that provide parties with the means to enter into forward contracts … without the prescription of a formal capacity mechanism that can be readily gamed. Key Authority initiatives—including the development of cap hedge products, and introduction of more accurate prices and nodal scarcity prices through real-time pricing—will provide further support for parties to forward contract to manage risks, including dry year risk, into the future. These latter initiatives are good examples of how the Authority is able to continue to evolve the design of the market to ensure that it delivers long term benefits to consumers.

There have been a number of recently commissioned or recently announced investments in new generation in the last few months[63] and these, in combination with Methanex's recent commitment to extend gas contracts out to 2029 (thus providing potentially significant upstream gas flexibility) suggest the current investment environment is fundamentally sound and there is no immediate need to consider changes to market arrangements or to tweak the energy-only market design. On the contrary such a move raises risks of unintended consequences. The Authority refers to gaming risks and the experience in other countries is that capacity markets have not performed as expected and where implemented generally have increased costs to consumers.[64]

Meridian anticipates that over the next ten plus years New Zealand can seamlessly transition to a system that is around 95 percent renewable. This is provided the fundamentals of our current market system are maintained. Policy makers should resist calls to add reserve energy capacity or any other "market" that provide subsidies for particular types of generation. New Zealand is in a unique position globally with a wealth of renewable electricity resources and a wide range of competitive renewable electricity generation development options including wind, geothermal, and hydro that can be expected over time and with the right investment signals to progressively displace existing thermal generation.

We also agree with the First Report of the Electricity Price Review and the Productivity Commission that under current available technology, pushing too soon towards 100 percent renewable generation could raise electricity prices and make it harder to achieve net-zero emissions for the country as a whole. Over time, improvements in technology will enable 100 percent renewable electricity generation, the only question is when such technologies will become economically viable. Technologies that enable greater demand side participation in wholesale markets are likely to play a key role. Rather than setting sector specific targets, Meridian supports the use of the Emissions Trading Scheme as the main policy tool to incentivise economy-wide emissions reductions over time in the most efficient manner.

---

[63] For example the Te Ahi o Maui geothermal plant – see http://www.eastland.nz/eastland-generation/projects/te-ahi-o-maui/, the Ngawha geothermal expansion project – see http://ngawhageneration.co.nz/background/, Todd Energy's new open cycle gas turbine at Junction Road, and the Waverley wind farm Waverley wind farm: http://www.scoop.co.nz/stories/BU1810/S00485/genesis-and-tilt-renewables-announce-plan-for-waverley-wind.htm.

[64] See for example https://www.greentechmedia.com/articles/read/the-perils-of-electricity-capacity-markets#gs.3B05mHw and https://www.cleanenergywire.org/factsheets/capacity-markets-around-world

Professor Lewis Evans has recently reviewed the suitability of New Zealand's current market arrangements for a future of renewable, intermittent generation that has low operating costs but high capital investment costs at the development stage. He concludes that where storage of generation fuel and electricity are common (as occurs in our hydro lakes), spot markets may continue their role of coordination of real-time supply and demand and, together with hedge markets, deliver an efficient wholesale market for electricity.[65]

Resource Management Act barriers

There is however some scope for delay and increased costs for the transition to a low emissions future in the form of barriers under the Resource Management Act. These will potentially constrain and hold back investment in renewable electricity generation and add costs for renewable developers and consumers.

Meridian believes this needs to be addressed relatively urgently as resource management processes are essentially determined by policy and planning processes which implement change slowly over a decade or more i.e. changes made now may not be felt for a while. A lot of wind generation will need to be built or upgraded in the next few years and critically, New Zealand's two largest hydro schemes will need to go through re-consenting – Waitaki by 2025 and Manapouri by 2031. If the Government wishes to address potential barriers and encourage investment in renewable electricity generation we suggest the following priorities need to be considered:

- A new National Policy Statement for Renewable Electricity Generation to be clearer and more directive about the outcomes the Government wants to achieve for renewable electricity and climate change.
- Populate Appendix 3 of the National Policy Statement for Freshwater Management with significant hydro generation infrastructure such as the Manapouri and Waitaki schemes.
- Move Climate Change and Renewable Generation from section 7 to section 6 of the Resource Management Act.
- Allow for resource consent durations longer than 35 years.
- Increase the default five-year lapsing date for renewable generation consents.
- Develop National Environmental Standards or National Planning Standards that enable renewable electricity generation including zoning and noise standards.
- Define the existing environment for the purposes of planning and reconsenting in areas with existing renewable generation activities.

These priorities are further detailed in our submission on the Productivity Commission's *Low-emissions economy* inquiry.[66]

[65] Lewis Evans *The electricity sport market: Is it future proof?* The Electricity Journal, Volume 30, Issue 2, March 2017, Pages 25-29

[66] https://www.productivity.govt.nz/sites/default/files/sub-low-emissions-253-meridian-energy-701Kb.pdf

Retailing

15. What are your views on the assessment of retail sector performance?

Switching

The New Zealand retail market is fiercely competitive.

New Zealand is one of the easiest places in the world to compare and switch electricity suppliers and around 21 percent of consumers switch their retailer each year. In 2017 there were more than 439,711 switches between retailers - the highest level on record.

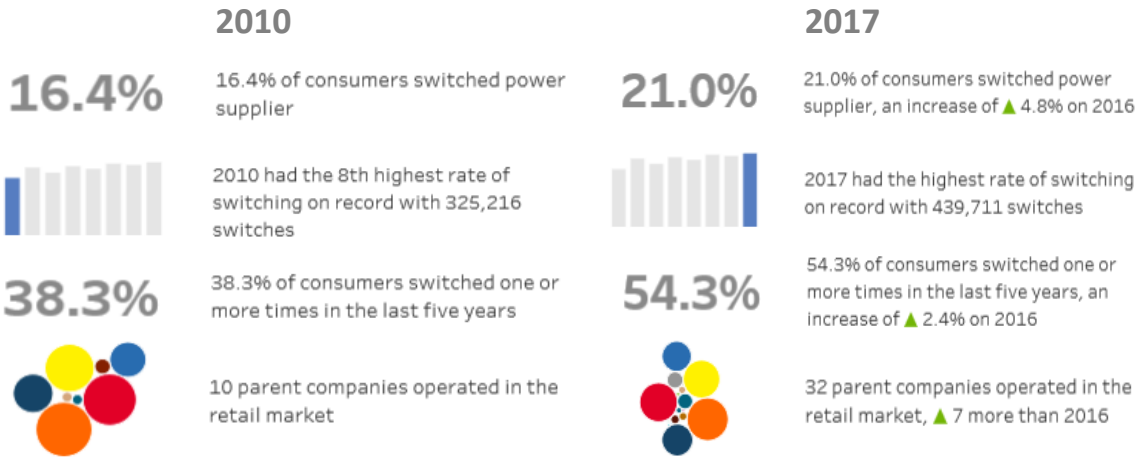
According to the then Chief Executive of the Electricity Authority:[67]

> Around 26% of electricity consumers switch electricity retailer each year.[68] Based on a survey in 2016 we know that 30% of consumers actively investigated switching retailers in that year and decided not to do so. This shows around 55% of consumers are actively shopping around in a single year. A great result.

This is consistent with a 2018 Consumer NZ survey that found around half of all consumers considered changing electricity retailers in the past 12 months.[69] Even if a consumer does not proactively shop around, an Electricity Authority study found that high levels of competitive activity "saw 69% of New Zealand households being approached by a competitor in the past two years, significantly higher than in other markets."[70]

The Authority's statistics below show just how much the industry has evolved over the past seven years with competition increasing and delivering better consumer outcomes every year:[71]

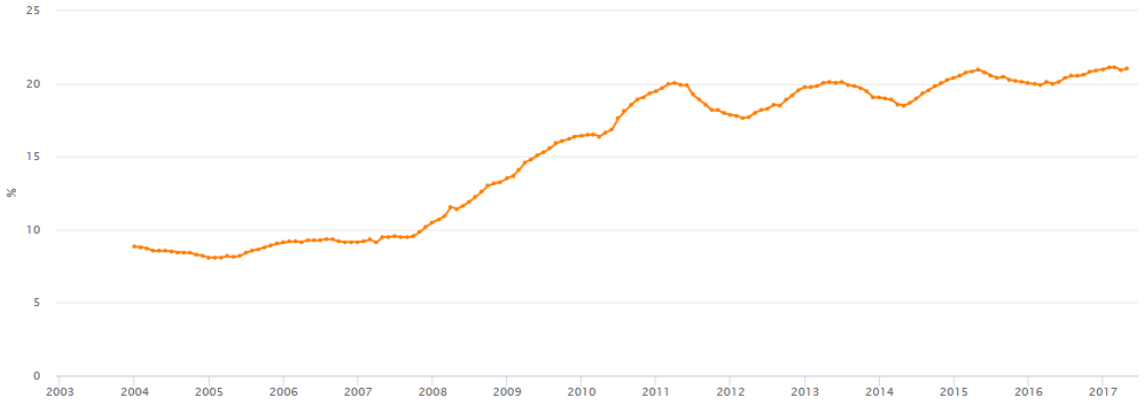
Figure 15 – Retail market snapshots 2010 and 2017



Source: Electricity Authority

[67] *Market Commentary: Chief Executive's Introduction* 21 June 2018
[68] Taking into account withdrawn switches
[69] Consumer *Energy Provider Retailers Survey* 2018
[70] Electricity Authority *International comparison of activity, behaviour and attitudes towards electricity industry - A quantitative study* August 2014
[71] https://www.ea.govt.nz/monitoring/retail-market-snapshot/

Figure 16 – Switching rate in New Zealand (rolling 12-month rate)



Source: EMI

The First Report acknowledges uncertainty surrounding how many, and what type of consumers do not switch but finds that between 400,000 to 750,000 residential consumers have not switched retailer since 2002. When considering these numbers, it is important to bear in mind:

- The numbers are based on addresses (ICPs) switching and not the actual switching of consumers, for example if the new occupants of a flat happen by chance to choose the same retailer as the former owners this will not show up in the statistics as a switch. This suggests the number of non-switchers may be over inflated.
- Just because someone has not recently switched does not mean that they do not benefit from retail competition. For example, many of these consumers will not have switched because:
    - they are happy with their provider or have received a price or other incentives to stay; or
    - they have made a choice not to bother, despite the ease of switching in New Zealand, as the potential savings are not sufficient to motivate them.

Potential savings

The First Report cites the Electricity Authority estimate of average residential savings of around $200 a year if all consumers switched to the cheapest plan available to them. This figure is an estimate and assumes that every customer switches every month to the best offer in the market, meaning up to 12 switches every year – we question whether this is likely, especially given that for the estimated level of savings on offer ($200 per year amounts to about $17 a month) many people will choose to do other things with their time rather than spend it checking every month whether there is a sharper offer available.

The Price Review Panel's initial analysis of retail billing data suggests a similar but slightly higher level of average saving. It is unclear to us whether the methodology used makes the same assumption about monthly switching. What is clear, is that the analysis takes into account fixed term offers but somewhat problematically does not consider the disadvantages for a customer that might exist when a fixed term is broken. This suggests the level of savings may be over-estimated (i.e. switching each and every month may attract exit fees which have not been factored into the analysis).

The First Report states that those who don't or can't easily shop around are paying more than they need to. It is important to differentiate between those that don't shop around as a matter of choice,

and those that can't shop around, for example due to age or financial vulnerability. Meridian supports measures to ensure that vulnerable customers can take full advantage of the benefits of competition. For example, a more heavily promoted enhanced price comparison site could help reduce any consumer confusion or mistrust of the switching process.

Such a site may need to be more heavily funded and promoted than the existing Electricity Authority 'What's My Number' site or other existing price comparison sites such as Consumer Powerswitch. It may also need to be enhanced and expanded to better explain the differences in service and other non-price components of different retailers' offerings. Linking the site to the Registry would ensure that price comparisons are made on the basis of the correct meter configuration for the property and enabling customers to authorise the linking of their consumption information to the site would ensure price comparisons were as accurate as reasonably possible. In addition, retailers could be required to communicate in a standardised format on all customer bills:

- the benefits of switching; and
- the logo and details of the enhanced switching site.

This would ensure that all consumers are better aware of any potential savings available and can make more informed choices about the best option for their needs.

Price differences

The First Report looks at the price difference between the cheapest retailer in each area and the retailer there when retail competition was introduced in the late 1990s (the 'incumbent' retailer) and finds that the price difference increased by about 50 percent between 2002 and 2014. It is unclear from the data whether the incumbents have become more expensive or retail competition means the cheapest offer in an area has become relatively cheaper e.g. because there are more low cost (for example online only) retail options in the market.

Such price differences are not surprising given the extent of competition in the retail market and the increasing range of differentiated service offers available. The benefits of price differentiation in competitive markets are well described in economic literature[72] and have been discussed in recent overseas market investigations. Retailers in any competitive market will make sharp price offers to try and win customers and grow their businesses. This is especially the case in a market like electricity where shopping around and switching suppliers requires some effort compared to continuing a relationship with the existing supplier.[73] A certain level of expected saving is necessary to make it worthwhile for consumers.

Those that switch can benefit from lower prices. However, differentiated price offerings also benefit those that do not switch. The threat of losing a customer to a competitor applies downward pressure on prices in general. If there was no price differentiation it would be much harder to induce customer switching, retailers would become complacent, and competition and innovation would suffer. It is also a myth that prices would coalesce at the level of the lowest price offers currently in the market – you would in fact expect average prices to be higher overall due to reduced competition.

[72] For an overview see CEG *Competition in New Zealand electricity markets* 2018

[73] This is a dynamic that also holds generally for electricity markets around the world, and wider relationship-based service products (other utilities and financial services – banking and insurance for instance).

The Authority, in implementing tariff disclosure requirements in 2016, endorsed these considerations – in particular by opposing mandatory provision of non-generally available tariff information (e.g. special tariffs offered further to retailers contacting consumers directly), with risks of harmful effects on innovation and competition cited as its primary reasons for this.[74] Independent research findings commissioned by the Authority also reinforced this view.

Accompanying this submission are reports by CEG and Stephen Littlechild which provide further analysis in support of positive benefits overall for consumers from differential pricing.

Prompt Payment Discounts

According to the First Report, "analysis of retailer billing data shows vulnerable households are disproportionately affected by prompt payment discounts." The Review's initial analysis of retailer billing data finds that:[75]

> *Consumers living in the most deprived areas pay around $79/year more on average for their power than consumers in the least deprived areas – after adjusting for other differences such as usage levels. This figure almost certainly understates the true level of difference (see main text for reasons).*
>
> *The biggest driver of differences across socio-economic groups is the effect of lost prompt payment discounts. These raise bills for consumers in the most deprived areas by around $50/year on average. Again the average hides a wide dispersion of outcomes. The data indicates five per cent of consumers in the most deprived areas pay additional costs of $250/year or more due to lost prompt payment discounts.*

This is consistent with Meridian analysis. Meridian recently announced that from 1 October 2018 we will remove prompt payment discounts across all customer segments, instead effectively guaranteeing discounts for all customers regardless of whether they pay on time.

We estimate that by taking this step our customers will save $5 million per annum. If all retailers took similar action to guarantee prompt payment discounts, we estimate that it would save consumers (particularly low-income consumers) around $40 million per annum in total. It is likely the Price Review Panel will be able to more accurately estimate consumer benefit based on the two years of billing data made available to them.

Meridian encourages other retailers to eliminate or at least limit the level of prompt payment discounts. Prompt payment discounts were never intended to operate as they do now. Over time the level of discount has been 'competed up'. Now for many consumers the level of prompt payment discount is such that they cannot afford to pay late. This has the potential to be punitive, particularly for vulnerable customers, and should stop. We believe the problem is sufficiently serious that the Price Review Panel should consider recommending the regulation of prompt payment discounts so that they are set no higher than the reasonable costs to the retailer of a consumer paying late.

Meridian's decision to discontinue prompt payment discounts and instead make such discounts available to all customers regardless of whether they pay on time, has predictably provoked a strong reaction from some of our competitors. The New Zealand Herald article of 9 October 2018 states:

---

[74] Refer for further details: https://www.ea.govt.nz/dmsdocument/20115-access-to-tariff-and-connection-data-decisions-and-reasons-paper

[75] Electricity Price Review, Initial Analysis of Retail Billing Data, 15 October 2018, at page 3.

> Genesis has labelled Meridian's statements regarding prompt payment discounts ''unhelpful'', in a sign of intense pressure felt by power companies facing a pricing review and locked in a heated battle for customers.

Customer satisfaction

According to the 2018 Consumer Energy Provider Retailers Survey, 83 percent of customers are satisfied with their electricity retailer. This is an excellent result compared to other countries and sectors.

On the other hand, the First Report refers to Utilities Disputes Limited (UDL) complaints as an indicator of consumer satisfaction, seemingly suggesting that there are relatively high numbers of complaints, and therefore low levels of satisfaction with retailers.

This is not correct. The 2,233 complaints referred to in the First Report are for all schemes operated by UDL including energy, broadband shared access, and water providers. Only 2,053 of these complaints related to the energy scheme and this covers distributors, gas and LPG providers as well as Transpower. As a point of comparison Meridian received 338,606 calls and emails to its contact centre over the same period. The industry figure would be far greater.

More importantly, the figure of 2,053 complaints covers all complaints which come to UDL's attention, and complaint is defined very broadly as an expression of dissatisfaction where a response is explicitly or implicitly expected. The vast majority of these complaints are never dealt with by UDL but are instead resolved to the customer's satisfaction directly between the energy provider and their customers. The key statistic is deadlock complaints, which are complaints that a retailer has not been able to resolve to the customer's satisfaction and which have gone to UDL for consideration. We are advised by UDL that 77 of these complaints related to retailers in 2017-18 (i.e. around 0.004% of all electricity consumers). The total number of deadlock complaints across all energy providers (i.e. including electricity retailers, distributors, gas and LPG providers and Transpower) was 141 – this was a significant reduction on the previous two years and we believe it compares favourably with the figures quoted in the First Report for banking and insurance.[76]

Innovation

The competitive intensity in the retail market means electricity suppliers are forced to innovate. The result is an array of retail offerings pitched at different customer preferences and providing customers with a wide range of choice including online and traditional service models, pre-payment, smooth pay, spot price, and time of use pricing (including special electric vehicle rates) as well as different approaches to providing customers with billing and usage information and tools. For example, Meridian offers plans for electric vehicle charging with low overnight rates and our online tools help customers track and manage their daily energy use. Meridian's subsidiary Powershop uses a mobile app to inform customers about the electricity they are using and how much it costs as well as offering electricity specials and packs enabling payment in advance, as you go, or set and forget. Powershop New Zealand also took a number of innovative new offerings to market in 2018 such as *Get Shifty*, which is a time-of-use offering for residential customers and *Power for Good*, which allows customers to contribute to a selected charity.

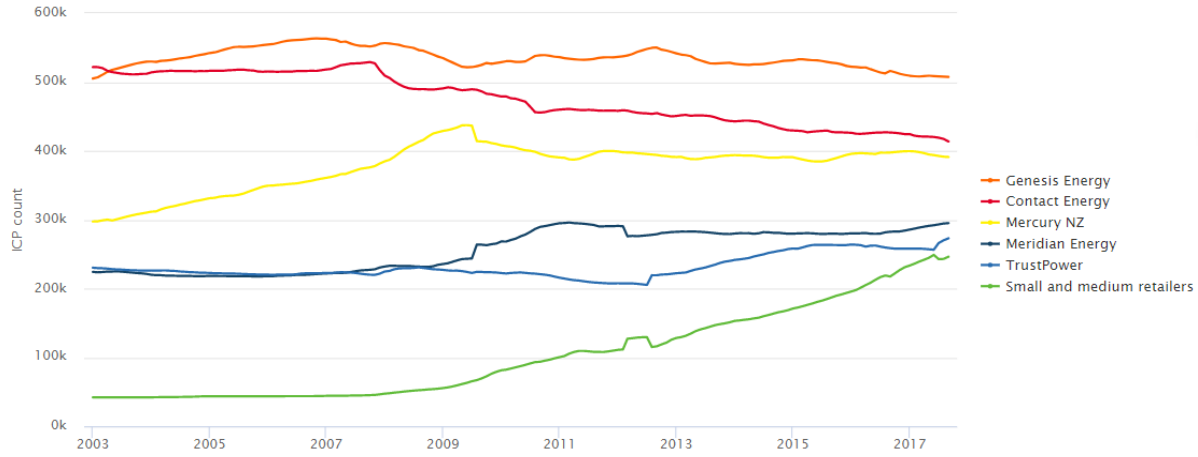
[76] For further details see UDL *Annual Report 2017-18*, page 6. Available at: http://media.utilitiesdisputes.org.nz/media/Annual%20Reports/2018%20Annual%20Report.pdf We understand the figure of 147 cases accepted for consideration includes six broadband shared access complaints or disputes.

As already noted, as well as driving innovation, intense competition is driving good price outcomes for consumers. Since 2011 there has been no real price increase to consumers arising from the competitive parts of the electricity supply chain (generation and retail), in fact, average prices have fallen by 0.35 c/kWh between 2011 and 2018.

16. What are your views on the assessment of barriers to competition in retailing?

Meridian believes that with the two exceptions mentioned below there are no barriers to competition in retailing. We agree with the Price Review Panel that the fact that 28 of today's retailers have entered the market since 2005 is strong evidence against any suggestion otherwise. We also note that small and medium sized retailers have significantly increased their market share since 2009.

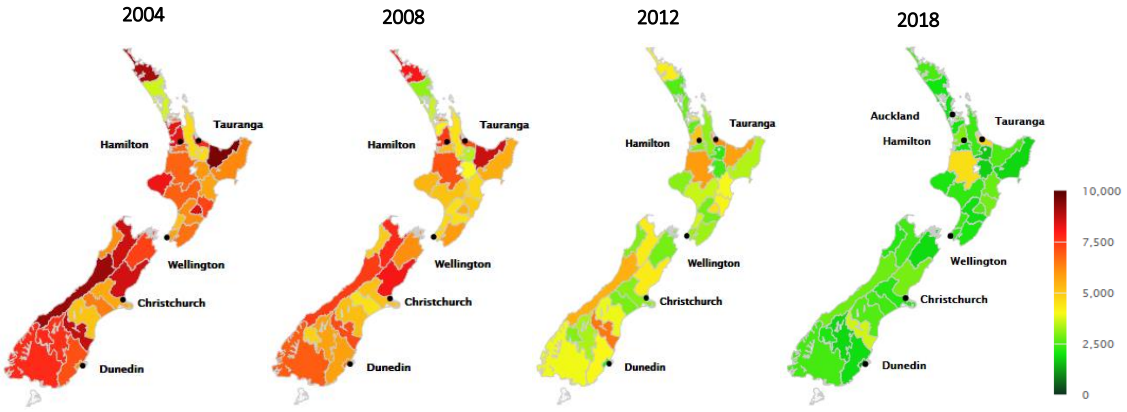
Figure 17 – Market share trends



Source: EMI

As a result, the Authority's data shows that "market concentration in the retail market has significantly reduced over the last 10 years indicating that competition in the retail market is working effectively."[77]

Figure 18 – HHI trend across network regions



Source: EMI

[77] https://www.emi.ea.govt.nz/Retail/Reports/IK41HT?_si=tg|market-structure,v|3

This data undermines claims by some retailers of barriers to entry or competition.

One such claim is that win-back discounts are a barrier to expansion. In reality, win-backs are a product of, and evidence of a highly competitive market where consumers get the direct benefit of competing offers and counter-offers from suppliers looking to win or retain a consumer's business. Meridian cautions against any measure than might restrict this competitive dynamic. All retailers are free to engage in win-back activity and most win-back competition takes place between larger retailers. It is not clear to us that restrictions on win-back activity would benefit customers. The same conclusion was reached in Australia in the ACCC inquiry.[78]

Another claim sometimes made by independent retailers is that they cannot access risk management contracts on competitive terms. We do not believe the evidence supports this claim as we discuss below under the heading "Vertical integration".

One actual barrier to retail competition is the payment of rebates to the customers of some retailers only. In many network regions, network rebates are paid to all customers on the network. While we question the efficiency of network companies charging customers higher lines charges so those customers' own money can be recycled to them in the form of a rebate – there is no impact on retail competition per se. However, consumers who live in Tauranga City or Western Bay of Plenty District only receive a payment from the Tauranga Energy Consumer Trust (TECT) if they are a customer of Trustpower. This gives Trustpower a significant competitive advantage over other retailers and, as a result, the region is comfortably the least competitive retail market in the whole of New Zealand.[79] The TECT payments enable Trustpower to preserve a high market share even though there are many cheaper offers from other retailers.

One final barrier worth mentioning is the requirement for retailers to negotiate use of systems agreements with each of the 29 distribution networks on which they wish to trade. This is discussed further below in our response to question 31.

Vertical integration

17. What are your views on this assessment of vertical integration and the contract market?

Benefits of vertical integration

Some electricity companies combine a retail business with generation or a generation business with retail – so-called vertical integration. Meridian's view is that vertical integration is an efficient business structure and is generally positive for contract markets. This is because, as discussed below, it is not possible for a company to be perfectly integrated. As a result vertically integrated companies still have strong incentives to buy and sell contracts to other participants including stand-alone generators and retailers. We note that vertical integration was considered in the UK CMA inquiry where it was concluded that the benefits of vertical integration significantly outweighed any concerns.[80] In Australia the ACCC has recently remarked on the trend to vertical integration in that market saying "The ACCC accepts that the market trend towards vertical integration likely reflects

[78] ACCC *Restoring electricity affordability & Australia's competitive advantage* 2018, section 6.4.4 https://www.accc.gov.au/publications/restoring-electricity-affordability-australias-competitive-advantage

[79] https://www.emi.ea.govt.nz

[80] CMA *Energy Market investigation* 2016, from page 340. Available at https://assets.publishing.service.gov.uk/media/5773de34e5274a0da3000113/final-report-energy-market-investigation.pdf

competitive advantages of such a business structure, and that vertical integration therefore has the potential to be pro-competitive. Indeed, a number of small and medium sized retailers are vertically integrated, or are pursuing vertical integration."[81]

The option of vertically integrating is open to any retailer or generator. Businesses which have up to that point chosen to operate as a stand-alone retail or generation business can decide at any time to do things differently and invest in generation or retail as appropriate. Entry into the generation market need not be done through the physical construction or acquisition of generation assets. Instead a stand-alone retailer could sign a power purchase agreement (PPA) whereby it acquires the generation or a portion of the generation of certain generation assets. Other than access to capital, there is nothing stopping firms competing in this way if they choose. Indeed, there are a number of smaller generator retailers – it is not a business model that is the preserve of large companies. In Australia, where Meridian has a small share of the retail market (2% of residential connections in Victoria, less in other states, meaning we are of comparable scale to Pulse, Electric Kiwi, Flick and Vocus in the New Zealand market) we have recently invested in some small hydro stations and PPAs to support the growth of our Powershop Australia retail business.

Worldwide, vertical integration is common in electricity sector businesses. This is because it delivers efficiencies, enables better management of risk and lowers the cost of doing business. The motivations for maintaining a vertically integrated position with retail and generation include:

- the retail business provides a spot market hedge to the generation business and vice versa;
- larger corporate size and resulting efficiencies of scale, reduced transaction costs, greater internal diversity of thought and initiatives, and increased brand and company recognition; and
- larger balance sheet, reduced cost of capital, and enhanced ability to secure finance and undertake large-scale generation investments.

Retailers that are vertically integrated with generators have a natural hedge because the generation side of the business does well with high spot prices while the retail side of the business does well with low spot prices. Integration therefore reduces risk by insulating the business to some extent against spot market variations caused by climactic conditions, price spikes, and plant outages although, as discussed below, the 'hedge' provided by the other part of the business is never perfect. The resulting earnings stability is important for a listed company as it allows greater certainty of operating cash flows to cover costs and payment of a stable dividend. The reduced risk is also viewed positively by investors and lowers the cost of debt.

A greater level of vertical integration generally reduces any risk of misuse of market power. As shown by Hogan and Meade:[82]

> This is because any extra profits they secure at the wholesale level translate into reduced retail-level profits, given that the wholesale price is an input cost to their own retail arm. Conversely, non-integrated generators with market power, or integrated generators with unbalanced generation and load, do face incentives to manipulate wholesale prices.

[81] ACCC, Retail Electricity Pricing Inquiry—Final Report, June 2018, page 131.

[82] Seamus Hogan and Richard Meade *Vertical Integration and Market Power in Electricity Markets* (February 2007) available at: http://researcharchive.vuw.ac.nz/xmlui/bitstream/handle/10063/3953/180207_VI_and_MArket_RM_an_d_SH.pdf?sequence=1

Claims of limits to competition resulting from vertical integration

Claims are sometimes made that vertical integration limits competition in retail and wholesale markets, and in particular affects the liquidity of contract markets and the ability of participants to secure hedges. These claims do not stack up.

First, and as we have pointed out above, if vertical integration offers advantages, there is nothing to stop a retailer or generator adopting that model.

Secondly, competition at both the wholesale and retail level is intense. The parties growing both retail volumes and customers in the New Zealand market at present are small independent retailers. These parties are likely to be supported by contract markets. It is not obvious that vertical integration is holding them back.

The better view is that vertically integrated businesses also need and benefit from well-functioning contract markets and have a strong stake in their success. Meridian relies heavily on contract markets to manage our business.

As noted by CEG vertically integrated companies need hedge markets because it is not possible for the retail side of vertically integrated business to fully hedge the generation side, or vice versa. As a result, they say:

> …the potential for adverse competition outcomes are small (and smaller than the adverse outcomes that would flow from preventing retailers and generators adopting the most efficient business structure). Ultimately, no party is truly capable of being perfectly vertically integrated (in that the 'shape' of generation output perfectly matches the 'shape' of retail sales).

This is particularly the case in New Zealand because of the high percentage of hydro generation. Unpredictable inflows and their impact on a hydro generator's ability to generate, along with the ever-present risk of a prolonged dry period, mean that hydro generators are strongly incentivised to trade contracts to manage variability. This is part of the reason New Zealand has a healthy contract market that includes the over-the-counter market (OTC), the Australian Securities Exchange (ASX) futures and options market and the Financial Transmission Rights (FTR) market.

ASX liquidity and volume

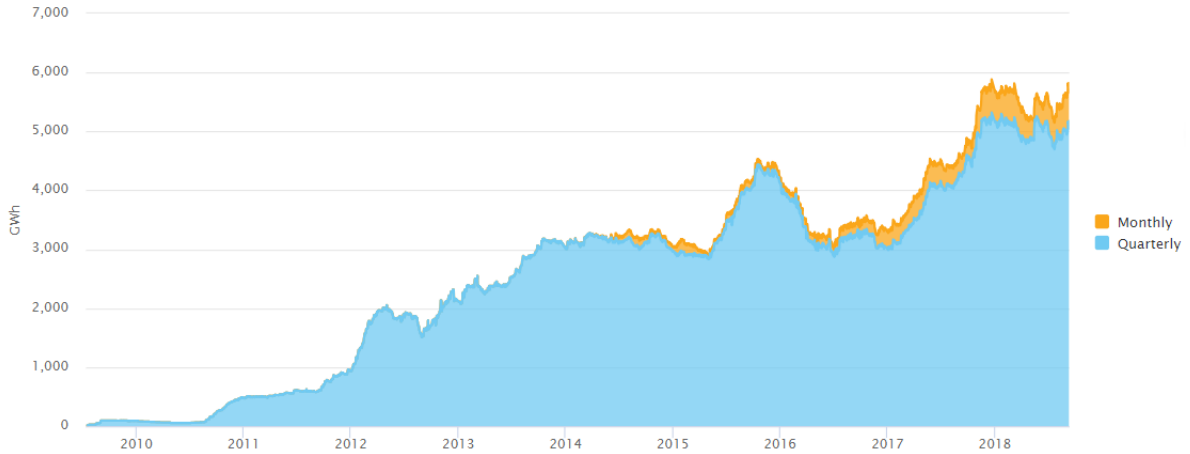
At the end of 2017 the Electricity Authority reported that:[83]

> "The total value at risk on the ASX NZ futures and options market has reached record levels. At the end of November, 'open interest' in ASX contracts reached a peak of around 5,750 GWh, which equates to approximately 65 per cent of the total volume of the physical electricity market, up from around 4,500 GWh in November 2015."

Open interest in this context is the total volume of electricity traded under futures or options which have still to be settled. It is a practical measure of skin in the game and often used as an indicator of liquidity. As seen below, open interest on the ASX has grown significantly over the years and is now at record levels.

[83] https://www.ea.govt.nz/about-us/media-and-publications/market-commentary/market-insights/hedge-market-breaks-records/

Figure 19 – Open interest in ASX products for the New Zealand electricity forward market



Source: EMI

Other measures also demonstrate the strength of the ASX, for example:

- Trading volumes on ASX have grown materially over time, so that over the period from the start of 2017 till now they represent 61% of the NZ market's physical generation sales (or around 2100 GWh a month traded).[84]

- Total ASX volume traded by Meridian over the same period was the equivalent of 55% of the generation produced by Meridian.[85] We note that as a market maker, many of these trades are not in Meridian's interest to hold onto and as a result they cost Meridian money when we trade out of them. Meridian's trades for its Portfolio (i.e. non-market-making trades) still represented 15% of our generation production over that period. If Over-the-Counter transactions are taken into account, Meridian places 31% of its generation production on hedge markets for Portfolio purposes.

The reality is that the hedge market and ASX specifically are fundamental to supporting Meridian's business. We buy and sell material volumes through ASX. This growth in ASX traded volumes has been supported in large part by the voluntary market making commitments of four vertically integrated businesses, Meridian, Mercury, Genesis and Contact Energy (the market-makers). We note that other large, well capitalised, vertically integrated businesses like Trustpower and Nova have not provided this market making service. While we cannot talk for them, our guess is that they do not do this because of the cost of providing market making. These costs are real, and material, but Meridian and others have chosen to voluntarily bear them to date.[86] With a broader group of market makers, ASX traded volumes would be larger again.

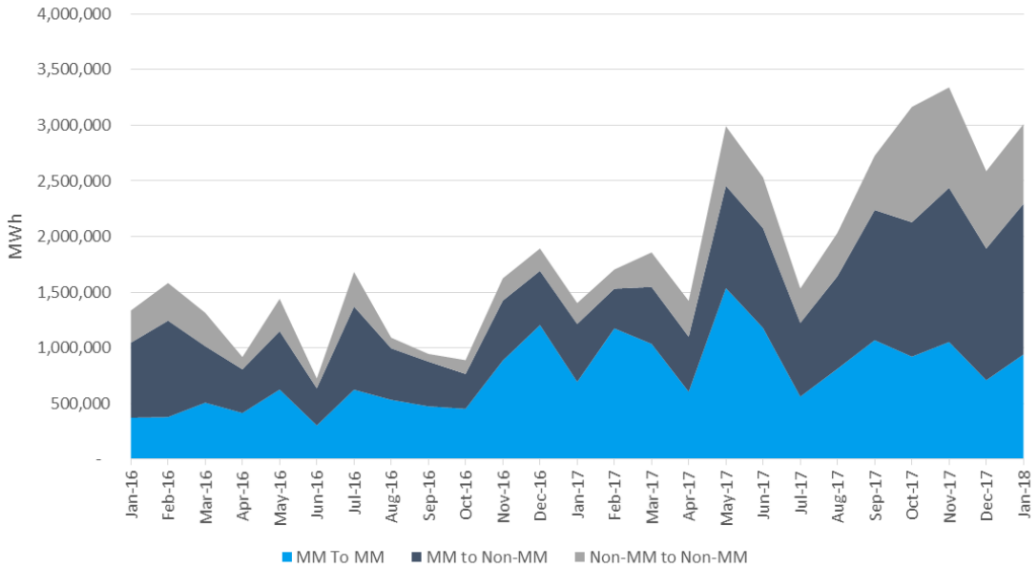
Another sign of the strength of the ASX futures market is the substantial number of new participants. ASX data shows that over time the proportion of activity by non-market-makers (non-MM) has increased significantly. Around two thirds of all trades now involve non-market-makers.

[84] Meridian completed an analysis of all ASX trades since the start of the 2017 calendar year to calculate this figure

[85] Ibid.

[86] Market-making costs Meridian approximately $**[ ]** per annum. Contact's 2018 results presentation indicated that market making cost them $2 million that year.

Figure 20 – ASX trading by counterparty type



Source: ASX

ASX prices

Another claim sometimes made by stand-alone retailers is that prices on the ASX are too high.[87]

Claims that ASX prices make it too difficult for independent retailers to compete have been analysed and rejected by the Electricity Authority.[88] The Price Review Panel refers to the Electricity Authority's findings in its 2017 review of fixed price variable volume (FPVV) offers to commercial customers. The Authority found no "evidence to substantiate the claim that there is systemic discounting in the FPVV market relative to the ASX." The Panel nevertheless remarks that the Authority's finding that FPVV prices were lower than ASX in 12 per cent of cases is a cause for concern. We disagree and note:

- Vertically integrated firms do not 'set' prices on the ASX, there are many ASX participants and ASX prices are a product of their interactions.
- ASX prices are variable and can be especially volatile in the short term. It would not be a surprise if FPVV contracts formed at a date that coincided with high ASX prices, were priced lower than the ASX peak on that date. Similarly given the volatility of ASX there will be times, over the course of an FPVV contract, when the ASX price is higher than the FPVV price. FPVV prices will be set based on an average or smoothed projection of forward prices on the ASX. Meridian's FPVV offers are based on a 'smoothed' view of historic ASX prices that we then project forward over the duration of the proposed FPVV contract (up to 2

[87] These claims can be contrasted with the claims of some stand-alone generators who believe that spot market prices are too low. The Chief Executive of NZ Windfarms, a stand-alone generator, as quoted in Energy News:

> *'The issue of the "missing bucket of money" for the country's wind generation must be addressed in order to ensure there will be future renewable energy investment" and "… wind receives low revenues when there is wind…"*

See: http://www.energynews.co.nz/news-story/wind/38577/changes-wholesale-market-structure-needed-wind-nz-windfarms?utm_source=newsletter&utm_medium=email&utm_campaign=energy-news-newsletter

[88] https://www.ea.govt.nz/monitoring/enquiries-reviews-and-investigations/2017/review-of-fixed-price-variable-volume-commercial-offers and https://www.ea.govt.nz/monitoring/enquiries-reviews-and-investigations/2018/2017-winter-review/

years+). The aim is to produce a competitive market offer that includes estimated adjustments for location and profile of the customer's expected load.

- Some larger FPVV customers look to the ASX directly as an alternative to the FPVV offers they get from retailers – trading on the ASX comes with higher costs but there is a degree of substitutability.

- The fact that 88% of FPVV contract offers over the 6-year period analysed by the Authority were above ASX prices indicates that the vast majority of the FPVV market could be contested by an independent retailer also pricing off ASX.

- The FPVV market is very competitive and margins are tight. It is probably to be expected in a competitive market where no one has perfect price foresight that a relatively small proportion of fixed-price, variable-volume commercial offers prove to be less than settlement prices on the ASX.

ASX market-making spreads

The First Report focuses on the wider bid and offer spreads that occurred during winter 2017 and suggests this was a "decline in market-maker performance". We disagree. The voluntary market-making arrangement we have with the ASX provides limited compensation to market-makers for the costs involved.[89] The agreement therefore also allows for the widening of spreads or for market-makers not to market-make at all during times of portfolio stress i.e. if and when they are sustaining significant losses on their ASX book. This enables market-makers to manage the otherwise excessive costs of market-making services during times of unusually high volatility. Analysis by NERA shows that wider buy sell spreads are the standard reaction to high volatility in even the most highly liquid markets. We would argue that during winter 2017 the agreements worked exactly as intended.

A key finding from winter 2017[90] was that retail participants hedged their exposures well in advance of winter and thus were not affected by widening of ASX buy and sell spreads:[91]

> "Electricity purchasers were hedged well in advance of the winter of 2017… This meant that purchasers were not adversely affected when the spreads for exchange traded futures widened during the winter."

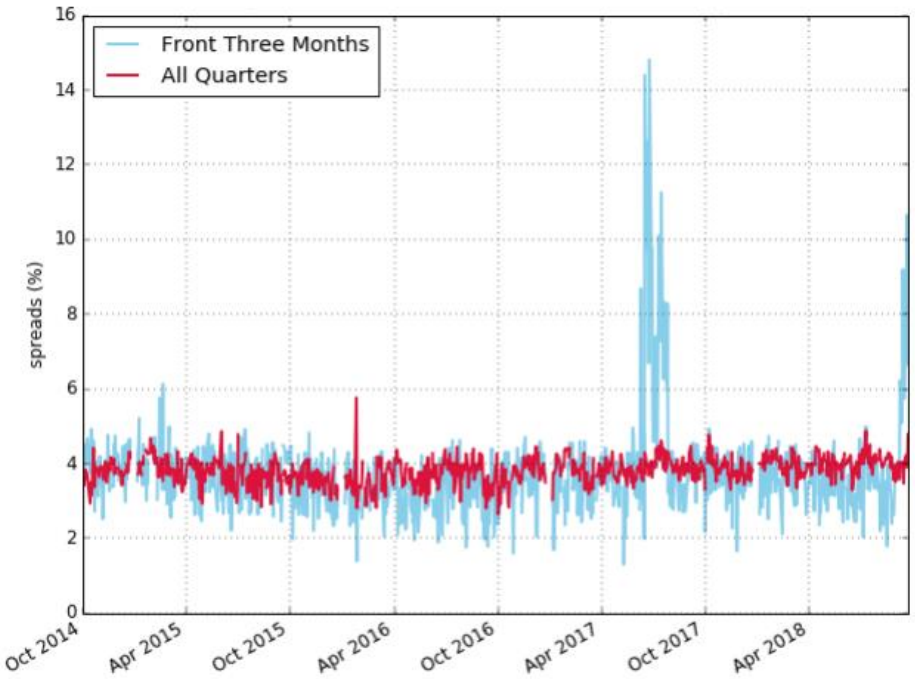
We work with many of these purchasers and we concur with that conclusion. The reason for this is purchasers know that hydrology can dramatically affect prices in forward markets and so hedge beyond the hydrology window (more than 3 months in advance). The graph below provides context for this. The blue line shows the spreads on the 'Front Three Months' i.e. futures covering the next 3 months for Benmore on the ASX, which as highlighted by the First Report widened in winter 2017. The red line shows the spreads for all quarterly products beyond the hydrology window (beyond the immediate next three months after lake levels typically revert to mean regardless of whether conditions are currently wet or dry), proving that market makers maintained tight spreads for these longer dated products. It is these quarterly products which are particularly important to purchasers as this is where they hedge.

[89] Meridian is paid approximately $**[ ]** per year for making the ASX futures market based on volumes traded.

[90] The Authority made other positive observations in relation to winter 2017, for example, "despite historically bad hydro inflows, there was no suggestion of non-supply". "There is statistical evidence that storage was managed more conservatively than in the past." "Various security of supply measures had the desired effect. Market mechanisms worked well, and Transpower provided regular updates to customers."

[91] https://www.ea.govt.nz/monitoring/enquiries-reviews-and-investigations/2018/2017-winter-review/

Figure 21 – Spread between contract buy and sell prices for Benmore ASX Futures



Source: Meridian analysis of ASX data (front three months repeats analysis in Figure 19 of the First Report)

So the question becomes, who was impacted by the widening of market making spreads in 2017 (or at any other time). And, if someone was impacted, is this a problem that requires attention. The parties impacted by the widening of spreads were speculators and other financial intermediaries who were looking to take advantage of volatility in short term ASX futures.

At times of price volatility, we observe that speculators and financial intermediaries can make money from this volatility by 'picking off' the market makers (as the market makers are the only parties who have to provide both a bid and an offer in the market).[92] Some financial intermediaries operating in the New Zealand market are domiciled offshore and trade electricity and other futures markets in a number of jurisdictions so are familiar with how market-makers can act at times of market stress like the winter of 2017. This costs Meridian, and presumably other market makers money, and so we move to limit the risks and costs we face by widening our spread. Meridian has been very open with the Electricity Authority and parties who ask, that we will not unduly expose our balance sheet to financial intermediaries many of whom are capable of market making in their own right but choose not to.

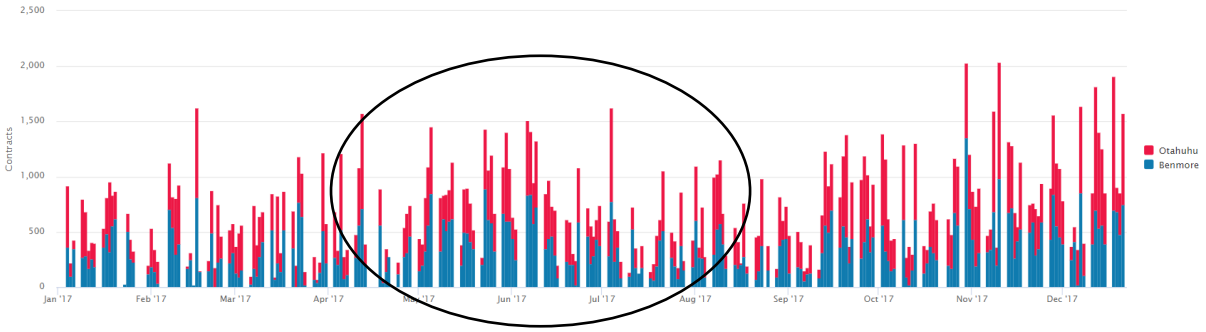
At the same time, we know that physical participants like independent retailers are not impacted unless they too speculate and buy risk management products too late, once they have already seen the physical market conditions tighten. This is equivalent to trying to buy insurance while your house is on fire.

[92] For example speculators tend to "buy a side" (i.e. all 12MW of the offers from market makers in market) in the periods where the volatility exists. Market makers are then short to the market by 12MW. Those same speculators then offer the 12MW (or less to ensure only some market makers can trade out) at a price above the offers posted by market makers initially. Market makers then have a choice – buy at a higher price than they sold (in order to limit the risk that tomorrows prices on ASX are higher than todays) or sit on the short position and hope tomorrow's prices are lower than todays. Many market makers will opt to close their positions at a loss as a result of the capital management processes they run. Their behaviours become well known by financial intermediaries who monitor the market makers using algorithms

Fundamentally, the ASX futures market is there to allow participants (including independent retailers) to hedge their risk – the ASX does not exist to enable short-term speculators to benefit at the expense of market-makers and New Zealand consumers.

To be clear, market-making still occurred over winter 2017 – market-makers continued to make offers available and it was possible to buy hedges, even though some purchasers did not like the price, which reflected the tightening of the physical spot market. The ASX continued to see high numbers of traded contracts:[93]

Figure 22 – Traded volumes for ASX futures in 2017



Source: EMI

Meridian considers the ASX to be a huge success. We do not think changes to the market or market-making are warranted for the purpose of keeping buy sell spreads tight for short-term contracts that will only benefit speculators at the expense of market-makers. However, to the extent that is seen as a desirable outcome, we are open to exploring updated market-making arrangements. The ASX has begun exploring options for an incentivised market-making arrangement. This could draw in a wider group of market-makers beyond the current four and potentially even include specialist financial traders. At a minimum it would be fair to include Trustpower and Nova as the other large integrated firms not currently providing market making services. Features of an updated market-making arrangement could include:

- the current market-maker performance standards for timing and volumes;
- an incentive payment to be split between a fixed monthly fee and a floating portion (based on participation rate compared to other market makers);
- penalties for non-compliance down to the point where a market maker forfeits all the incentive payment for the period (the money that would otherwise have gone to the non-complying participant will instead be spread over those participants that did comply, thus increasing their incentive to continue to market make);
- the ASX together with the Electricity Authority could run a tender to select market-makers – the cheapest of up to eight bids would be the incentivised market-makers. The size of the incentive pool would be set by the last bid, and all market-makers would be paid as described above from that pool;
- funding of the incentive should be by all the beneficiaries of market-making (all ASX participants). This could be achieved through an industry levy or an increased ASX exchange fee.

[93] https://www.emi.ea.govt.nz

We note that an incentivised scheme has been successfully established in Singapore, and for other commodities in Australia. Such a scheme might provide tighter market-making spreads for short-term contracts. However, allocation of market-making cost amongst ASX participants would be contentious.

OTC

Over the Counter (OTC) hedge contracts transacted directly between market participants without going through an exchange are another means of managing wholesale market exposures in addition to the ASX. Trades are disclosed to the Electricity Authority and anonymised on the hedge disclosure site - electicitycontract.co.nz. Traded volumes for August 2018 were 2529 GWh.[94] Meridian policy is to always make an offer to anyone when approached for an OTC contract. We frequently enter into OTC contracts with both integrated firms and independent retailers.

Hedge disclosure

Meridian considers the current hedge disclosure arrangements to be robust and we are pleased to see the ACCC looking to New Zealand practices as a model.

Transparent financial reporting

Something overlooked by critics of vertical integration is that vertically integrated firms are required to provide considerable transparency in their financial reporting relating to their component parts' performance.

Meridian is required to follow International Financial Reporting Standards and N*Z IFRS 8 Operating Segments*. The public disclosure of Meridian's segment performance[95] provides a clear view of the component parts of the company's consolidated annual results. The retail segment is reported independently of wholesale and Meridian's international businesses allowing a consistent view of segment performance over time. This includes the treatment of retail segment energy purchase costs.

Conclusion on vertical integration

Vertically integrated firms are varied and include the mixed ownership model companies (that have Crown and private investor shareholdings) as well as other listed and privately-owned firms. Any attempt to force vertical separation would be highly intrusive and complex and would introduce inefficiencies and costs to the vertically separated businesses that would be ultimately have to be recovered in some way. The results of such a step would do more harm than good to consumers and likely have repercussions beyond the electricity sector.

Without vertical integration electricity market participants would have less options available to manage wholesale price risks, particularly dry years. The removal of the natural hedge would also create new incentives for participants in both retail and generation to attempt to gain and exercise market power. Critically, without integration investors will have less revenue security and will be less willing to commit to long-term, generation investments. This is particularly problematic given the generation investment likely to be required to meet future demand.[96]

[94] https://www.electricitycontract.co.nz/

[95] See for example *Meridian Energy Limited Integrated Report: 2018* from page 90

[96] Transpower, for example, anticipate a doubling of demand by 2050 – see *Te Mauri Hiko* 2018

18. What are your views on the assessment of generators' and retailers' profits?

There is no evidence that generators' or retailers' profits are excessive.

Generation

The profits of listed firms are public and unexceptional assessed against the value of each firm's asset base. Critics generally attempt to show excess profits by insisting that reported asset values should be lower. We do not consider these approaches to be realistic or useful.

Accounting rules allow two approaches to recording the value of property, plant and equipment on a company's balance sheet:

- Cost model: the historical cost of the asset less any accumulated depreciation and any accumulated impairment losses; or
- Revaluation model: the fair value (being price that would be received in an orderly transaction between market participants) less any subsequent accumulated depreciation and subsequent impairment losses.

Once commencing the revaluation model for a class of assets (such as generation assets) revaluations must continue with sufficient regularity such that the carrying value does not differ materially from fair value.

Meridian changed its accounting policy in relation to generation assets from the cost model to the revaluation model in 2003. Since then there have been 8 further revaluations.

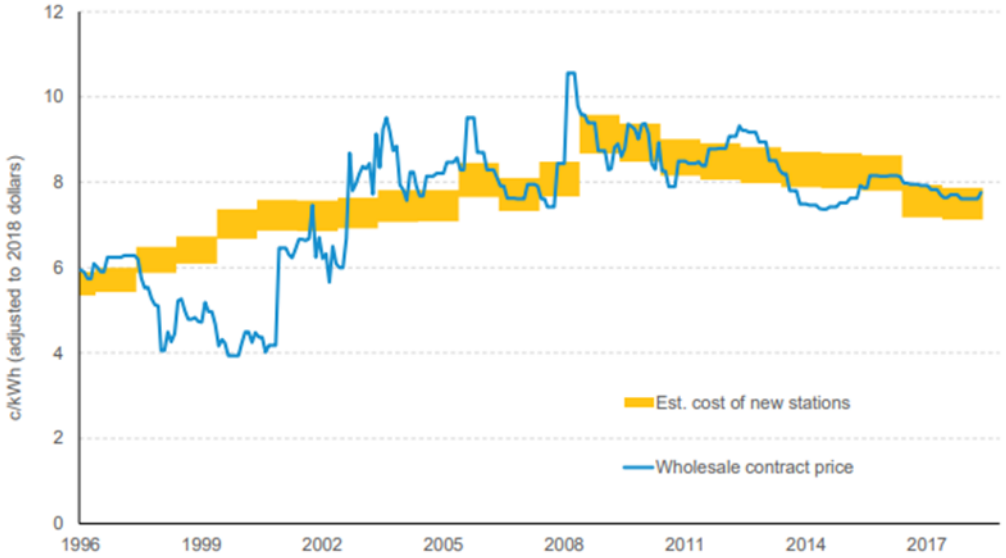
Meridian engages PwC to annually prepare an independent valuation of our generation assets in New Zealand and Australia.

The use of fair value or replacement cost reflects the real world. Consider the investment decision that a firm makes when it enters the market. The firm would enter the market only at the point when its expected revenues from entry equalled or exceeded the expected entry costs, both capital and operating. At the time of entry, the firm's costs include the replacement costs or fair value of the required assets, as replacement cost is the cost the firm must pay to acquire or invest in assets.

The fact that there is a link in competitive markets between replacement cost and price does not mean that the price in a competitive market will always equal that required to exactly cover replacement cost. Real world markets, unlike hypothetical perfectly competitive markets, take time to respond to changes in replacement cost or other shocks, due to factors such as imperfect information, transaction costs and lumpy, long-lived investments. There will be times when the price is lower, and times when the price is higher. However, in the long-run, price will trend towards replacement cost, even as replacement cost moves around, and it is this long-run relationship that should drive regulatory policy.

This view of the world is consistent with the First Report's finding that wholesale contract prices have tracked the cost of new generation plant.

Figure 23 – Wholesale contract prices versus cost of building new power stations (duplicates Figure 14 of the First Report)



Source: Concept Consulting analysis. Prices and costs are adjusted for inflation and expressed in 2018 dollars.

A market-based approach to asset valuation has been used for a long time. Switching to historic costs would be a major change. It would create significant uncertainty and undermine the confidence of those considering building more generating capacity.

A recent paper sponsored by Vector and authored by Dr Stephen Poletti suggests that modelled generator profits above short run marginal costs are significant market rents. We have addressed this paper above in our response to question 12. In short, profits above short run marginal costs are entirely expected in an energy only market and are necessary otherwise no-one would ever invest and do business in the generation sector. If prices are artificially depressed so that they remain at or near short run marginal costs this will ultimately produce security of supply concerns followed by high prices.

Retail

Returns from retailing are volatile. To demonstrate the volatility in retail margins we have looked at MBIE QSDEP retail tariffs on the Orion network and compared them against hypothetical Meridian cost to supply based on the operating costs of the retail business (for example the costs of staff, business overheads, metering and meter reading, marketing, and customer service) plus either spot or ASX wholesale prices. This shows the volatility in retail profits – dry years severely erode available retail margins while wet years can provide for firm retail margins. In the long term, overall retail margins are extremely tight.

Figure 24 – Orion residential tariffs vs cost to service based on spot or ASX

[

]

Source: Meridian analysis, ASX, EMI and MBIE data

Transmission

19. What are your views on the process, timing and fairness aspects of the transmission pricing methodology?

Transmission costs amount to $1 billion annually and make up about 10.5% of the average residential customer's bill.

The existing Transmission Pricing Methodology is supposed to socialise most of this cost by allocating it to distribution companies (who in turn pass it onto homes and businesses) and large industrial consumers, at a flat national rate. However, the measure by which costs are allocated is Regional Coincident Peak Demand (RCPD). Parties can avoid paying transmission costs and shift costs onto others - the total revenue Transpower is allowed to recover is not actually reduced - by altering their contribution to RCPD in their region (upper North Island, lower North Island, upper South Island, lower South Island). Some parties have been very successful in reducing their

contributions to RCPD. The actual incidence of transmission costs paid in fact varies significantly from customer to customer and network to network across the country.

In many cases the transmission costs paid by a party bear no relationship to the actual level of transmission costs their activities drive, or to the actual benefits they derive from the national grid. Some pay considerably more and some pay considerably less. Some pay nothing at all. This fundamental disconnect lies at the heart of the Electricity Authority's efforts to reform transmission pricing.

Currently about $150 million or 15% of the annual transmission costs of $1 billion are not allocated in the above way. These costs, relating to the inter-island HVDC transmission link, are allocated directly to South Island generators and South Island generators alone. North Island generators and consumers nationwide contribute nothing. As with the other transmission costs mentioned above this allocation does not reflect the actual benefits from the HVDC.

The net effect of the above is that:

- There is a substantial disincentive to investment in new generation in the South Island, particularly if you are a new generator to the South Island and not already subject to paying HVDC transmission charges;
- In contrast substantial time and effort is invested by parties in seeking to lower their contribution to RCPD and thereby shift transmission costs onto others;
- The cost of large recent grid upgrades intended to benefit consumers and businesses in the upper North Island are allocated across the country, to consumers and businesses that derive no benefit from those upgrades;
- Costs of the existing transmission grid and any new grid are poorly reflected in investment decisions – both new generation decisions and decisions about where to site new load.

The current TPM has been controversial since its inception. The current reform process, which has been running since 2012, is only the most recent attempt at reform. Previous attempts have all faltered due to the strong vested interests that some parties have in preserving the current allocation of costs.

Transpower is opposed to the Electricity Authority's proposals. Over the course of the Electricity Authority's current process they have responded by making small-scale 'operational' changes, which have belatedly addressed some inequitable aspects of the current TPM. However, the fundamental problems with transmission pricing remain and Transpower does not have the power to address them via the limited 'operational' changes that it is empowered to make.

In the absence of significant reform, transmission cost allocation will continue to be poorly aligned with the actual benefits derived by users of the grid. This will continue to drive significant inefficiency in the use and development of transmission infrastructure, in the development of generation, and in the siting of load generally in New Zealand. This in turn will lead to poor trade-offs and decisions by those businesses looking to decarbonise by substituting away from other sources of energy to electricity.

These inefficiencies will increase the long-term costs to all consumers of electricity and therefore increase the costs but decrease the speed of electrification and therefore the resulting emissions reductions.

In Meridian's view, the Authority should be left to determine the TPM guidelines under the current process. The Authority has the necessary expertise and experience in terms of the impact of the TPM on industry participants and consumers. The suggestion that responsibility for the TPM could be transferred to the Commerce Commission would not alter the fundamental need for reform. Furthermore, the Commerce Commission has never set a pricing methodology analogous to the TPM and would have to build their understanding and restart the reform process from scratch – such delays to the reform process are the likely intention of those advocating for Commerce Commission responsibility.

Meridian is pleased that the Price Review Panel does not intend to enter into the TPM debate and does not seek detailed comment. However, Meridian is concerned with the following statements from the First Report:

- The Price Review Report seems to suggest that a Government Policy Statement (GPS) could be used to guide the TPM review process. Meridian opposes this on the basis that it would either be high-level and not provide any new information or guidance; or else would (deliberately or inadvertently) descend into the difficult issues that the Authority has been grappling with. It would also result in an even more convoluted process for allocating transmission costs – a GPS would guide the Authority in developing a TPM, which in turn would guide Transpower in allocating transmission costs. Greater instability and costs could also result for the industry and consumers as transmission pricing could become subject to the political leanings of the government of the day. Subject to no less than 5 updates over the course of its three-year life span, and with little evidence of any beneficial impact, we note that experiences with the sector's prior GPS reinforce Meridian's strong reservations regarding this course of action.[97]

- The Price Review Panel also comments on whether a fairness objective would lead to a different TPM outcome. We agree with the Electricity Authority that the outcome would be no different – Meridian considers that it is fundamentally fair and efficient that those who benefit from transmission investments should pay for those investments. Entities that stand to pay more under a revised TPM oppose these principles to protect their bottom line rather than the long-term consumer interest.

- The Price Review Report's commentary that "We are unaware of any other country undertaking retrospective reallocation of past grid investments" is not helpful. Meridian is concerned with any suggestion that the difficulties with determining the TPM might be solved by applying the revised TPM to future investments only. This has been the subject of considerable consultation in the process to date. There is nothing unusual or unfair in applying a revised pricing methodology to existing assets. This is exactly what the Price Review Panel seems to be suggesting regarding changes to distribution pricing i.e. a reallocation of the costs of distribution network investments that were in large part made some time ago. It is also what Transpower has already done in its operational reviews of the TPM. It is commonly done in regulating natural monopoly industries in New Zealand.[98] The

[97] Refer for further discussion Sapare 2009 research, available here: https://www.businessnz.org.nz/__data/assets/pdf_file/0007/74716/Regulation-and-governance-of-electricity-sector.pdf. An update to this research is expected shortly.

[98] In fact, based on our research, it would be unprecedented in terms of sector specific economic regulation in New Zealand to implement a regulatory change in a way that only applied the new regime to new assets with the old regime continuing to apply to existing assets. See page 58 and Appendix 3 of the Meridian Submission on the Electricity Authority's Second TPM Issues Paper. Available at https://www.ea.govt.nz/development/work-programme/pricing-cost-allocation/transmission-pricing-review/consultations/#c15999

benefit of changing current prices is to create the right incentives for future generation and load investment.

- Meridian disagrees with the TPM Group's characterisation that a revised TPM would "attach penalties to sunk investments". One of the key issues in the TPM from Meridian's perspective is how the cost of the HVDC assets that connect the North and South Islands are allocated. Meridian considers that the present arrangements (whereby only South Island generators pay) are arbitrary, inefficient (because they act as a tax on South Island generation) and single out and penalise one group of participants despite the benefits of the HVDC being enjoyed by a far wider group located throughout New Zealand. Correcting these problems cannot be seen as attaching a penalty to sunk investments.

Distribution

20. What are your views on the assessment of distributors' profits?

The First Report notes that compared to the WACC distributors' profits do not appear excessive. However, Meridian considers there is a strong case, as long argued for by the Major Electricity Users Group, that electricity lines businesses are overcompensated for the level of risk they actually face and that the current setting of WACC at the 67th percentile is too high. We suggest it should be changed so that WACC is set in the middle of the Commerce Commission's estimated range at the 50th percentile. This has the potential to significantly reduce costs to consumers.

The justification generally given for setting regulated WACC (and therefore profit levels) high for lines companies is that the potential harm they may cause by underinvesting is greater than the potential harm from overinvestment. However, consistent breaches of network quality standards by Vector over the past four years demonstrate that even with an over incentive to invest some distributors are failing to deliver, meaning that consumers have the worst of both worlds – they pay more than they should and receive a substandard quality of service in return.[99]

The justification for a high WACC is arguably not applicable to Transpower. As a 100% state owned monopoly transmission service provider that also currently holds the contract for acting as System Operator for the NZ electricity system it seems unlikely that Transpower will "find other things to do with its money" if it is not given an over-incentive to keep investing in the national grid.

More generally the purpose of regulation of natural monopolies like the 29 local distribution networks and Transpower as recorded in section 52A of the Commerce Act 1986 is "…to promote the long-term benefit of consumers in markets referred to in section 52 by promoting outcomes that are consistent with outcomes produced in competitive markets…". Since about 2008 electricity demand in New Zealand has remained relatively static. Consistent with this, prices in the competitive parts of the sector (generation and retailing) are, in real terms, lower now than they were in 2011. In contrast, prices in the regulated monopoly lines part of the sector have continued to climb year on year. If the purpose of regulation is to ensure that the outcomes produced by the lines businesses are supposed to mimic 'outcomes produced in competitive markets' then the data suggests that current regulation of lines companies is not achieving this.

[99] See https://comcom.govt.nz/news-and-media/media-releases/2018/commission-files-proceedings-against-vector-for-excessive-level-of-power-outages. See also https://comcom.govt.nz/news-and-media/media-releases/2018/commission-to-file-proceedings-against-aurora-energy-for-breaching-quality-standards.

Finally, in relation to Input Methodologies Meridian believes the Price Review Panel is proceeding on a false premise to the extent that it believes that "any suggested changes to the regulation of natural monopoly networks may have a bearing on the gas sector and international airports, which are also regulated under Part 4 of the Commerce Act 1986." This is not inevitably the case and it is perfectly feasible that changes could be made which are specified only to apply to electricity lines businesses.

21. What are your views on the assessment of barriers to greater efficiency for distributors?

Meridian agrees with the Price Review Report in identifying a wide range of areas where there is potential for improved efficiency in the distribution sector. The IEA, the Office of the Auditor-General, and the Productivity Commission have all called for distribution sector reform – in terms of governance structure, capability, open access, and pricing.

For example, the Productivity Commission recently recommended that review is required to:[100]

- develop measures to raise the capabilities of the electricity distribution businesses;
- ensure all power system resources (including distributed energy resources) have competitive access to a well-configured common distribution infrastructure, at a reasonable cost;
- coordinate distributed energy resources (including smart, flexible demand) to meet participants' preferences for security, quality and reliability; and
- provide rewards and allocate costs commensurate with the marginal costs and benefits of each load and generating source.

The Productivity Commission's recommendations are consistent with similar concerns raised by the International Energy Agency:

> New Zealand's electricity distribution sector is facing a period of rapid change, following the widespread deployment of advanced interval metering and the emergence of new technologies (electric vehicles, battery storage, and rooftop solar PV). These developments … have the potential to radically transform the distribution system use and power flows, making the systems far more dynamic and complex to manage in an efficient and secure manner. Distribution businesses will be at the forefront of managing these challenges…
>
> …Concerns have been raised about the financial, technical and managerial capability of the distribution sector to respond effectively to this challenge. Concerns have also been raised about the governance and decision-making capability of the distributors and their capacity to manage this potentially complex transition in an efficient and timely manner that will help to realise the potential benefits for consumers.

Of concern recently is the extent to which some distribution companies are consistently failing to meet the quality standards set by the Commerce Commission. We note in particular the announcement on 10 October 2018 that the Commerce Commission has filed civil proceedings in the High Court seeking financial penalties against Vector for breaching its network quality standards in both the 2015 and 2016 financial years. "The Commission will file proceedings under the Commerce Act alleging Vector failed to adhere to good industry practice in some aspects of its network

[100] https://www.productivity.govt.nz/sites/default/files/Productivity%20Commission_Low-emissions%20economy_Final%20Report_FINAL.pdf

management, which resulted in increased outages over that period."[101] Vector has also reported further breaches of its quality standards for 2017 and 2018 that are subject to a separate investigation.

The 29 distribution businesses in New Zealand range in their size and capabilities. It is questionable whether it is efficient to have 29 distribution companies in a country the size of New Zealand.

Studies noted in the Price Review Report suggest that around 20,000 or 30,000 consumers is the minimum required scale to operate efficiently. Half of New Zealand's distributors are below this figure.

TDB Advisory was recently commissioned by a group of distributors and generator retailers to undertake analysis on the potential efficiency gains of amalgamating distributors. The analysis concluded that:[102]

- the estimated efficiency gain from amalgamating EDBs with fewer than 50,000 customer connections is in the range of $2 million p.a. to $29 million p.a. with a mean value equivalent to $30 p.a. per affected customer; and
- the apparent gains range from $3 million p.a. to $55 million p.a. or $31 p.a. per affected customer on average if the smallest EDB has 100,000 customer connections.

These potential efficiencies are not large when compared to the potential costs of amalgamation. But coupled with significant unexplained discrepancies in the relative costs of distribution business noted in the TDB report[103] they suggest there may be real gains to be made in this part of the supply chain. And regardless of the impact on distributors' efficiency Meridian anticipates that greater standardisation of processes, terms and tariffs across the distribution sector would drive efficiencies for retailers by significantly reducing their costs to serve.

Strata Energy Consulting was similarly engaged in 2014 to provide an estimate of the potential economic gains from restructuring the electricity distribution sector in New Zealand. That analysis indicated a potential present value benefit of between $1.43 and $2.56 billion.[104]

The report compared distribution networks across Australian states with the situation in New Zealand, in particular the number of networks and the number of customers that each serve.

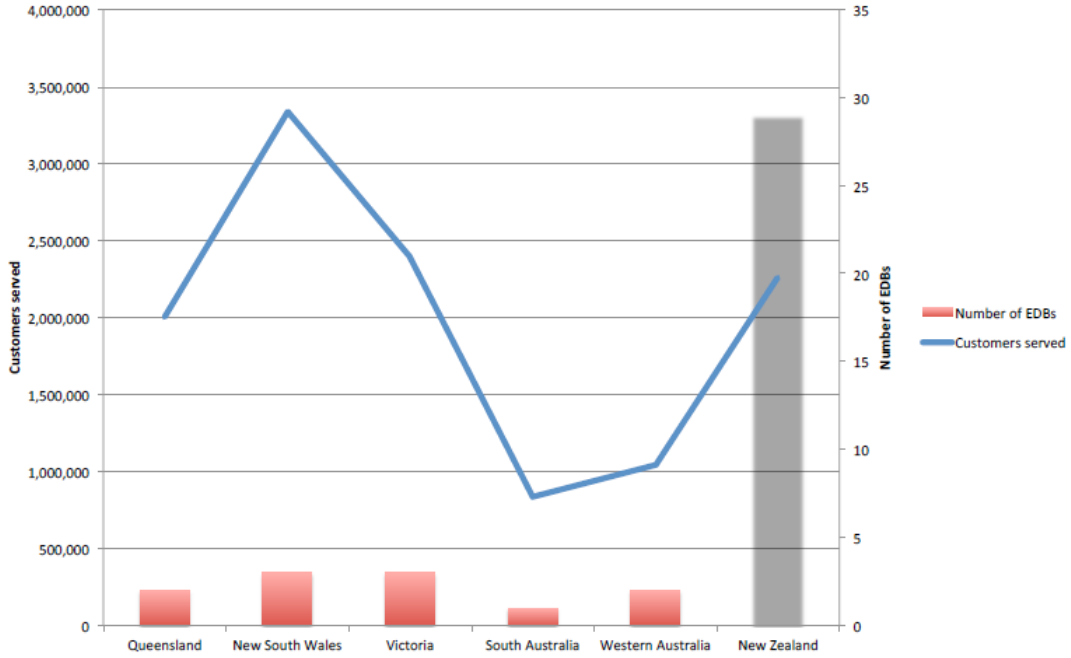
[101] https://comcom.govt.nz/news-and-media/media-releases/2018/commission-files-proceedings-against-vector-for-excessive-level-of-power-outages

[102] TDB Advisory *Estimated Efficiency Gains from Amalgamation of Electricity Distribution Businesses* 2018

[103] Ibid

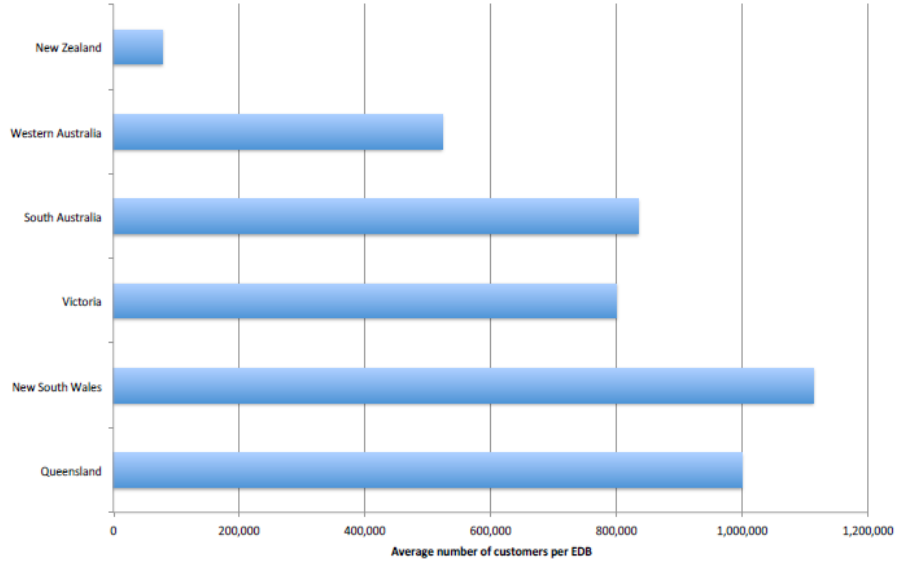
[104] Strata *Summary Report on Potential economic gains from restructuring electricity distribution* 2014

Figure 25 – Customers served by number of distributors in New Zealand and Australian states



Source: Strata

Figure 26 – Average number of customers per distributor in New Zealand and Australian states



Source: Strata

The Strata report then looked at credible and practically achievable structures based on four or five distribution networks in New Zealand and estimated the resulting efficiencies in terms of capital and operating expenditure at between $1.43 and $2.56 billion.

Efficiencies of scale are possible by means other than amalgamation. Regulatory options could encourage more contracting between distributors, joint ventures, collaboration, shared services, or the use of a small number of distribution system operators to more efficiently coordinate and optimise flexible demand response (like EV charging) and other network services.

Metering data

The Price Review Report states:

> "We see some merit in one stakeholder's suggestion of an open-access regime for meter data with standardised terms and conditions for all parties. This could take the form of a virtual central repository for metering data, giving distributors better information to maintain their networks and avoid costly upgrades."

Some distributors are dissatisfied with the meter data they currently receive from retailers. This data is typically supplied for network management purposes in accordance with the use of systems agreements that retailers are required to sign to trade on distributors' networks. Retailers have traditionally only been required to share relatively limited amounts of meter data with distributors. However, distributors have in recent years significantly expanded the amount of meter data they consider necessary for network management or other purposes. In so doing some have been prepared to enter into additional agreements with retailers protecting the privacy and security of the additional meter data they now require. Others have not and have insisted on provision of such data as their right under existing agreements.

A key point to note is that distributors do not typically pay for the meter data they receive from retailers. In contrast retailers contract with and pay metering equipment providers to supply them with the meter data. It may be that the best way for distributors to obtain the data they need is, like retailers, to do so by contracting directly with metering equipment providers.

Against this background Meridian questions the need for an open-access regime for meter data. This would seem to require significant reform and expense, including measures to:

- address customer privacy; and
- administer the open-access regime; and
- fairly allocate metering costs (which are currently paid entirely by retailers) to a broader group of businesses that would benefit from access to an open data pool.

It is not clear to us why commercial arrangements entered into directly between distributors (or other parties that want the information) and metering equipment providers cannot achieve the same ultimate goal of enabling wider, but secure, access to such data. Such arrangements may require consent from retailers but retailers are incentivised to give such consent if in return they are relieved of a portion of the metering equipment provider's costs.

22. What are your views on the assessment of the allocation of distribution costs?

The First Report of the Electricity Price Review notes that distribution costs for householders have risen 548% since 1990 and that householders' average yearly bill could fall by $90 (including GST), or about 4.5 per cent, if business and residential distribution cost allocations were brought into line with usage on all networks. On the same methodology, businesses' average yearly bills would increase by about 5.5% or $525 on average.

Meridian considers there is merit in such an approach. Analysis by Concept Consulting[105] suggests that provided any such re-allocation is confined to residual network costs (as opposed to demand-driven costs that vary with demand) then this re-allocation may well:

- be consistent with a move to more cost-reflective distribution pricing

[105] Concept Consulting *Issues and options for moving towards more cost-reflective network tariffs* 2017, page 61.

- produce fairer outcomes
- be more efficient.

According to Concept Consulting a key design choice for networks is:[106]

> "…whether to alter the cost-allocation approach between residential and business consumers. The significant re-allocation of residual costs to residential consumers during the late '80s and 1990's is considered to be a material factor in consumer (and political) concern with the sector. Future moves to cost-reflective demand-driven tariffs may further increase the proportion of network costs recovered from residential consumers (to the extent that residential consumers consume proportionately more electricity at times of system peak demand).
>
> Against this background, it is not clear that the current approach to allocating residual costs to residential consumers is optimal:
>
> - There is scope for approaches which allocate a greater proportion to business consumers, and still be economically efficient. …
> - To the extent that allocation of residual costs through fixed charges is more likely to result in income-constrained residential consumers to reduce demand, than business consumers go out of business or re-locate, some re-allocation away from residential consumers would actually be more economically efficient. …
> - The social / political dynamic may also favour some re-allocation away from residential consumers, and may make introduction of cost-reflective tariffs less likely to be overturned.
>
> However, a return to the 1970s where residential consumers paid little or no network costs would also be undesirable. If networks want to consider alternative approaches to allocating residual costs in a way which reduces costs to residential consumers, the challenge will be to develop such approaches in a way which is sufficiently rigorous to be robust to the inevitable public scrutiny – particularly from the business community."

Meridian agrees.

23. What are your views on the assessment of challenges facing electricity distribution?

Meridian agrees that emerging technologies may well have the greatest bearing on the future of the distribution sector.

We discuss these challenges in greater detail below under question 32. For the reasons discussed in the First Report, Meridian sees merit in at least considering the establishment of independent distribution service operators to coordinate the more active management of distribution networks. This may already be under consideration as part of the IPAG's equal access project.

[106] Ibid.

24. Summary of feedback on Part four

- The generation sector is highly competitive and wholesale prices have broadly tracked the cost of adding new generation capacity – there has been no increase in real wholesale prices since 2004.
- The wholesale market can support the decarbonisation of the economy and deliver on the expected need for a large increase in generation, provided the existing investment incentives are maintained.

- The retail market is fiercely competitive and delivers a range of innovative options.
- The retail and generation component of electricity prices is lower now than it was in 2011.
- Surveys suggest that 83% of customers are satisfied with their electricity supplier.
- Switching rates are high and around half of all consumers consider switching every year.
- Competition puts downward pressure on all prices.
- Some customers struggle to pay their bills. Reasons for this including income level, quality of housing and appliances, and the cost of household goods and services.
- Prompt payment discounts have become punitive as they exceed the costs of chasing unpaid bills. Prompt payment discounts also tend to disproportionately punish low-income households.

- Vertical integration is an efficient business model open to any retailer or generator. It is consistent with effective contract markets.
- Independent retailers are increasingly entering the market and growing. They can compete with integrated firms by acquiring wholesale contracts through the ASX or OTC markets.
- The ASX market is highly liquid with ever-increasing traded volumes and open interest.

- The Electricity Authority should conclude the TPM reform process as soon as possible.
- Meridian is pleased that the Price Review Panel does not intend to enter the TPM debate and does not seek detailed comment.

- There is considerable scope for increased efficiency in the distribution sector.
- It should be possible to allocate distribution costs in a way that is efficient and fairer to residential consumers.

25. Solutions to issues and concerns raised in Part four

- All the solutions proposed by Meridian are set out in the introductory section of this submission.
- In brief, the solutions to issues and concerns raised in Part four include:
  - Regulation of prompt payment discounts, restricting them to the actual level of the costs actually caused to retailers by customers paying late;
  - An enhanced price comparison site should be established and heavily promoted by the industry;
  - Retailers should be required to advertise in a standardised format and prominent location on all customer bills:
    i. the benefits of switching; and
    ii. the logo and contact details of the enhanced price comparison site;
  - Regulatory minimum standards for retailers to apply in their dealings with vulnerable customers, based on the existing *Guidelines on arrangements to assist vulnerable customers;*
  - Remove unnecessary barriers to the development of new renewable generation under the Resource Management Act;
  - Consider a new incentivised market-making scheme for the ASX electricity futures market.

Technology and regulation

26. What are your views on this assessment of the impact of technology on consumers and the electricity industry?

Technology

Meridian agrees that over the next few years the impact of technology on consumers, the electricity industry, and the country will be profound.

The First Report rightly highlights the potential impact and disruption to existing market models of solar panels, batteries, electric vehicles (including self-driving electric vehicles), new price structures, peer-to-peer trading platforms, use of electricity for process heat, and changes to network power flows.

Meridian agrees these will all be important. But other changes may have as much or possibly even greater impact.

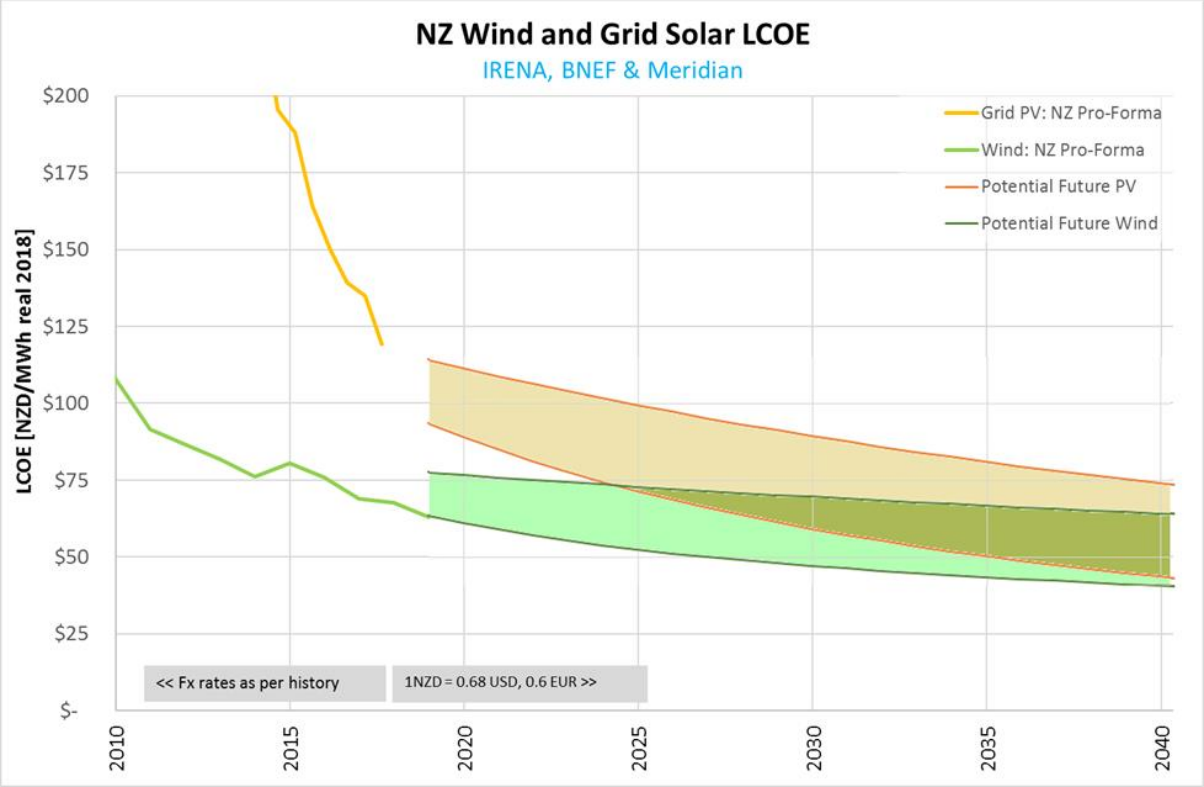
For example, the use of technology to enable more widespread and large-scale demand response at times of network congestion will play an increasingly significant role in how we efficiently manage our electricity system. It will enable individuals and businesses to have a direct impact on price levels within the sector by choosing prices at which they are willing to use less electricity (and be paid the market clearing price for doing so). The Electricity Authority's Real Time Pricing project is critical to enabling this development.

There is also the potential for technology and technology convergence to enable the entry to the sector of large, well-resourced new entrants who have not traditionally participated in the sector.

Already we have seen the acquisition of Flick Electric by oil company Z as part of its strategy to "extend into adjacencies in one of [their] three preferred market spaces – future fuels, mobility and the last mile."[107] Others will follow. We may in future see the entry of multinationals such as Google, with huge data resources and already expert in understanding consumer preferences, who look to capture an increased share of a converged 'home services' market of which 'home energy services' is just a subset.

We also anticipate a significant expansion in the role of some existing technologies as cost reductions make them economic in a wider variety of uses and situations. As the largest wind farm developer in New Zealand Meridian has witnessed a huge fall in the price of wind turbines. We anticipate this will continue and that the Levelised Cost of Energy for wind production and grid-scale solar will continue to fall:

Figure 27 – Levelised cost of energy for wind and solar in New Zealand



Source: IRENA, BNEF, and Meridian

Key to realising the potential of new technologies and the new business models they enable, in a way that delivers the greatest value for New Zealand, will be:

- Ensuring barriers to entry into the retail and wholesale electricity markets remain low.
- Ensuring regulation does not inadvertently give advantages to existing market participants by, for example, allowing distributors to leverage existing monopoly positions in the

[107] See https://z.co.nz/about-z/news/general-news/flick-electric-and-z-energy-announce-partnership/

provision of lines services into new and emerging markets for electricity and electricity-related services.

- Regulators working to lower the existing already low barriers further e.g. by ensuring there are no real barriers to access to consumption data and network-related data.
- Regulators maintaining a 'technology-neutral' approach to regulation of the sector.
- Regulators and Government resisting the temptation to 'pick winners' by subsidising or favouring particular technologies or business models, and instead enabling 'winners' to be picked by consumers via a process of competition between current and new participants providing the services that best meet consumer needs at the best price.

If one particular technology was to be singled out, Meridian agrees that the impact of electric vehicles will be transformative. Assessed on an overall cost basis (inclusive of fuel savings, as compared against Internal Combustion Engine (ICE) alternatives), we believe the economic case for EVs is already compelling and will only become more so with time.[108]

Meridian's fleet of vehicles is already over 50% electric and we are aiming for 90% by 2020. From the beginning of our conversion journey, a key priority has been to ensure the commercial model is financial sustainable. In working to achieve this goal, we've carefully considered our investments end-to-end – from vehicle purchase (directly importing, for instance, where this makes commercial sense) to choices regarding charging infrastructure (dedicated new, utilising existing, or a combination of the two). We have found the total cost of ownership for Meridian's EVs is favourable to fossil fuel equivalents.

Meridian is aware that various organisations currently are petitioning the Government to fund a large-scale programme to support household solar and batteries, at a cost of $78-88 million annually.[109] To the extent the Government may be interested in further investigating this proposal, it is important that other generating technologies are also considered. An alternative, for instance, is to have lower-cost wind generation providing the supply of electricity to these properties, from new or existing plant. Power Purchase Agreements would be entered into by the Government to facilitate this, over an agreed number of years, with the Government buying on behalf of the relevant consumers or tenants. We estimate this could be as much as four times more cost-effective for the Government in terms of the amount of electricity that could be procured for the relevant properties when compared against a rooftop solar scenario.

27. What are you views on the assessment of the impact of technology on pricing mechanisms and the fairness of prices?

Meridian agrees existing distribution price structures do not adequately reflect the costs of providing distribution services and encourage inefficient use of electricity. They also have the potential to result in cost-shifting from those who can currently afford new technologies to those who cannot and thus to drive unfair outcomes.

[108] Bloomberg analysis, for instance, supports this view, predicting cost parity with ICEs could be achieved for battery capability (BEVs) from as early as 2025.

[109] Refer for further details, September 2018 'Seize the sun' Greenpeace report, available https://storage.googleapis.com/p4-newzealand-production-content/new-zealand/wp-content/uploads/2018/09/80a7f7ed-seize-the-sun-report-greenpeace-nz.pdf

As new technologies become more prevalent this will exacerbate the inefficiencies of existing distribution price structures. Existing distribution price structures over-incentivise the take up of solar panels and hold back the take up of electric vehicles.[110] Meridian also agrees that the Low Fixed Charge regulations are contributing to this problem.

As noted in the First Report at footnote 173 the Low Fixed Charge Regulations may also be incentivising consumers to prefer gas over electricity for cooking or heating as it has the potential to lower a consumer's consumption below the arbitrary 8,000kWh cut off (9,000kWh in the lower South Island) and thus lower a household's overall energy cost. Meridian believes it is inappropriate, particularly in the light of the strong international position that New Zealand has taken against fossil fuel subsidies[111] that the Low Fixed Charge regulations should continue to indirectly subsidise the use of fossil fuel.

Meridian believes distribution pricing reform is urgently required to ensure that:

- distribution pricing adequately reflects the cost of providing distribution services;
- the right price signals are in place to enable efficient technology uptake; and
- costs are not shifted onto those unable to afford new technologies.

The Electricity Authority has been working on distribution pricing reform since 2009. It is encouraging an industry -led approach with distributors asked to publish pricing reform "roadmaps" and next steps every six months. Some distributors have published detailed roadmaps and appear to be making progress. Others are not. The ACCC recently recommended that "steps should be taken to accelerate the take up of cost-reflective network pricing" in Australia.[112] We believe the same should happen here.

Meridian suggests distribution pricing reform should be completed to align with, or start soon after, the next Commerce Commission reset of distribution prices commencing in 2020. We suggest a good starting point for reform would be relatively simple two-part 'Time-of-Use' pricing.[113] If distributors are not visibly committed to making reforms soon we suggest regulatory intervention may be required. The direct financial costs to New Zealand of failing to address this issue in a timely way are estimated in the billions.[114] In addition we will incur the costs of significantly increased greenhouse gas emissions along the way.[115]

---

[110] See NZIER *Effects of distribution charges on household investment in solar* September 2015; Concept Consulting *Electric cars, solar panels, and batteries in New Zealand Vol 2: The benefits and costs to consumers and society* (June 2016). The Concept work indicates that indicates that the current flat structure of most retail electricity tariffs, along with low carbon costs, constrains the uptake of electric vehicles because of:

- the electricity cost from charging EVs at off peak times (like overnight) generally being too high;
- the payments which future EVs could earn from injecting power back into the electricity grid at times of peak demand being too low; and
- the carbon price that internal combustion engine owners pay from tailpipe emissions being too low.

[111] See https://www.mfat.govt.nz/en/environment/clean-energy-and-fossil-fuels/

[112] Recommendation 14 at page xix, *Retail Electricity Pricing Inquiry, Final Report,* June 2018.

[113] This is supported in the paper *Issues and options for moving towards more cost-reflective network tariffs*, Concept Consulting, 2 November 2017.

[114] See NZIER *Effects of distribution charges on household investment in solar* September 2015;
Concept Consulting *Electric cars, solar panels, and batteries in New Zealand Vol 2: The benefits and costs to consumers and society* (June 2016).

[115] According to Concept Consulting *Driving change* (2018) New Zealand could expect 37 percent higher emissions from the light vehicle fleet in 2050 under a continuation of non-cost-reflective prices.

28. What are your views on how emerging technology will affect security of supply, resilience and prices?

Provided current regulatory settings are retained and the focus of regulators is on incremental change aimed at:

- "[promoting] competition in, reliable supply by, and the efficient operation of, the electricity industry for the long-term benefit of consumers" (in the case of the Electricity Authority); and
- "promoting outcomes that are consistent with outcomes produced in competitive markets" (in the case of the Commerce Commission's regulation of distribution and transmission),

Meridian believes that emerging technology will contribute positively to security of supply, resilience and future prices.

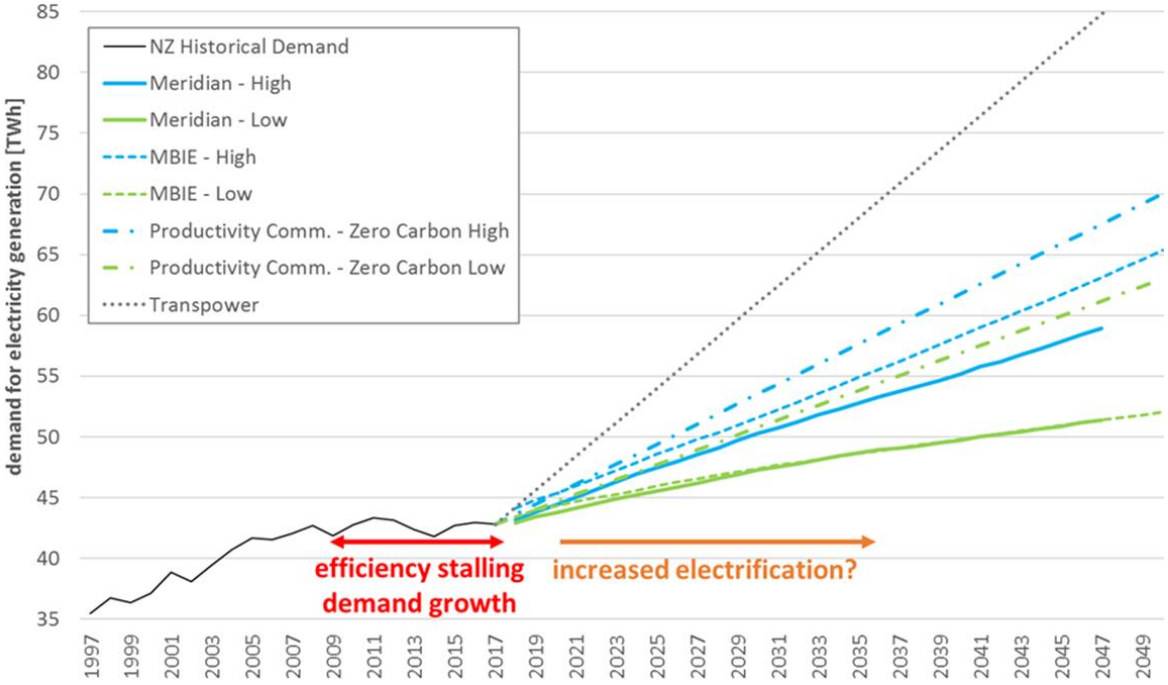
This section of the First Report highlights the crucial role of fast-starting hydro-generation, and its ability to respond quickly and flexibly to demand, enabling the integration of the predicted large amounts of solar generation in future. The same applies to integration of wind power which we expect to play an even larger role, or any other intermittent source of renewable generation that may emerge in future. Meridian has described hydro-generation as a 'super-renewable' because of its dual role in both increasing New Zealand's overall share of generation from renewable sources, and facilitating the integration of large amounts of other sources of renewable generation into the New Zealand power system.

Hydro's crucial role in this regard is sometimes overlooked. Similarly, inappropriate comparisons are sometimes made between New Zealand's hydro-based system and thermal-based systems overseas. We are pleased to see that the First Report recognises the differences between the New Zealand power system and overseas power systems.[116] It is critical, in our view, to New Zealand's future that we ensure that we make best use of our existing hydro resources and are careful to ensure that their contribution to our electricity supply is not inadvertently restricted.

Meridian's modelling of future scenarios also indicates a need for large increase in generation by 2050:

[116] For example at page 67 where the current, likely more-restricted role of grid-scale batteries is noted.

Figure 28 – Demand forecasts (non-Tiwai exit scenarios)



Source: Meridian

In relation to solar panels and other new technologies such as electric vehicles that may potentially increase load and the need for investment in distribution networks, Meridian's current view is that these potential effects can be accommodated within existing market structures and regulatory frameworks. It will however be important that New Zealand does not introduce subsidies of the scale seen overseas and which have led to pressure on distribution networks.

Regulation

29. What are your views on the assessment of the place of environmental sustainability and fairness in the regulatory system?

Meridian agrees with the Productivity Commission and with the First Report's assessment as to the place of environmental sustainability and fairness in the regulatory system i.e. these goals, important as they are, should not be explicitly added to the existing objectives or purposes of the Electricity Authority or Commerce Commission. There are better ways to ensure these goals are appropriately served.

30. What are your views on the assessment of low fixed charge tariff regulations?

Meridian agrees with the First Report's assessment that the Low Fixed Charge regulations:

- are causing unintended harm;
- increase bills for consumers on high-use or standard plans;

- provide unneeded assistance to many people who are well-off;
- inappropriately provide an indirect subsidy for the use of fossil fuel;
- offer no assistance to low-income consumers with high usage (in fact they hurt such consumers because, as noted above, they increase bills for those on high-use or standard plans);
- are poorly targeted;
- discourage efficient distribution pricing by making it harder than it needs to be to flexibly implement cost-reflective and service-based pricing;
- are a poor means of helping those in energy hardship.

We also believe that the Low Fixed Charge regulations add huge cost and complexity to the electricity industry that is not commensurate with the limited benefit that they provide. By requiring retailers to offer a low fixed charge equivalent for every standard tariff they offer, the Regulations at a single stroke double, or close to double, the number of tariffs on offer in the New Zealand market. The costs of administering these tariffs and the extent of resulting consumer confusion should not be underestimated.

Meridian believes the regulations should be repealed as soon as possible.

We note the First Report's concern that about a significant number of households may be on the wrong plan for them e.g. high-use households on low user plans or low-use households on standard plans. It is important to note that retailers do not have the ability to forcibly switch those on the wrong plans. Further the financial impact for those whose consumption is at or around the 8,000kWh cut off (9,000kWh in the lower South Island) is likely to be small. What we can and do advise such customers is that they may be better off on an alternative plan. Some customers read and reject such advice because, for example, they anticipate their consumption will be different next year, making their current plan the right one for them.

31. What are your views on the assessment of gaps or overlaps between the regulators?

Meridian agrees with the First Report that:

- there are no gaps or overlaps between the Electricity Authority and Commerce Commission's roles that would justify changes in their functions; however
- the regulation of access to distribution networks, especially for the provision of distributed energy services, is an area in need of attention.

Meridian has strongly supported the Electricity Authority's long-running efforts to encourage standardisation of, and more recently regulate, the 'use of systems' or distribution agreements offered by the 29 distribution networks to retailers wishing to sell electricity in their respective network areas. Introduction of mandatory or default terms for such agreements has the potential to

be transformative, particularly for new entrant retailers, in seeking to reduce costs and expand their geographical coverage, and thereby increase competition.

Even though some networks have voluntarily adopted much of the Electricity Authority's model use of systems agreement, some have refused to do so or have only done so by implementing a heavily modified version of that agreement that bears little resemblance to the original. This means the current costs of negotiating and finalising different agreements with each of the 29 networks on their own preferred terms remain significant.

Vector has legally challenged the Authority's power to impose mandatory terms for use of systems agreements. The challenge was unsuccessful in the High Court but has been appealed by Vector to the Court of Appeal.[117] If Vector ultimately succeeds and it is found that the Authority does not have the power to impose mandatory terms, Meridian suggests that changes to legislation should be made giving the Authority such a power. We also recommend that any default distribution agreement be applied to embedded networks i.e. that each default distribution agreement between a retailer and a distributor should be deemed to apply also between the retailer and any embedded network operator on the distributor's network (with any appropriate adjustments to reflect the differences between the distributor's network and embedded network). Retailers are struggling to put in place contracts to deal with the proliferation of embedded networks and there is no good reason for there to be significant differences in the terms put in place between the distribution network operator and embedded network operators respectively and retailers trading on those networks.

Meridian also agrees that regulation (or at the very least clarification) is needed of distributors' current ability to exploit their natural monopoly positions and foreclose competition in distributed energy-related markets. It seems unlikely that the drafters of Part 3 of the Electricity Industry Act 2010, who were careful to impose limits on distributors' ability to engage in retailing and generation, would nevertheless have considered distributors should be able to provide in-home batteries and solar panels and even supply electric vehicles as part of the regulated "electricity lines service".[118]

Yet that is how the Commerce Commission has interpreted the relevant provisions in Part 4 of the Commerce Act 1986. The possibility that lines companies can include distributed energy-related services (including solar PV, in-home batteries and electric vehicles) in their regulated asset bases and thus earn a guaranteed return on their forays into these emerging markets by allocating the costs to consumers as part of those companies' lines charges should, in Meridian's view, be a cause of some concern. We were particularly concerned to see recent reports that "Vector has spent more than $10 million on Tesla batteries, many of which have sat in storage for more than two years."[119] It is not clear to us whether Vector's spend on these batteries has been included in its regulated asset base.

It has certainly caused concern in other jurisdictions where regulators have required distributors who wish to participate in these emerging markets to do so on an arm's-length basis separate from their regulated network businesses. The concern of regulators in those jurisdictions is that competition in these emerging markets can and should take place on a level playing field. In contrast here in New Zealand the Commerce Commission has been frank with submitters that in relation to these services "…Part 4 [of the Commerce Act] does not directly promote the 'level

[117] The High Court judgment is available here: https://www.ea.govt.nz/dmsdocument/22420.

[118] Defined in legislation to mean "the conveyance of electricity by line in New Zealand." See section 54C(1)(a) of the Commerce Act 1986.

[119] https://www.stuff.co.nz/auckland/107728375/Claim-Tesla-batteries-worth-millions-gathering-dust-at-Vector

playing field' submitters have referred to…".[120] In making this comment the Commerce Commission referenced section 52T(3) of the Commerce Act which the First Report notes may mean that the Commission does not have a strong mandate to promote competition in distributed energy related markets.

Recently the Commerce Commission has published an open letter on its intention to gather information on emerging technologies.[121] The letter says that with limited exceptions the Commission does not consider that Electric Vehicle chargers form part of the regulated service of conveyance of electricity by line. This is because "the main purpose of EV chargers is to charge cars, not the provision of the regulated service (defined as conveyance of electricity by line). Therefore, our starting point is that we would not expect the costs and revenues associated with EV chargers to be within the scope of the regulated service."[122] This view has however been challenged by distributors some of whom have indicated they are already including EV chargers in their regulated asset bases.[123] How this difference of view between the Commerce Commission and distributors gets resolved and what it means for potential investment by non-network investors in EV chargers and other distributed energy related services in the meantime, isn't clear.

32. What are your views on this assessment of whether the framework and regulators' workplans enable new technologies and business models to emerge?

Meridian agrees that when originally drafted the current legislative and regulatory definitions of key terms such as "generation" and "electricity lines service" probably did not contemplate a number of the emerging technologies and business models to which they are now being applied.

However, provided there is sufficient scope to apply a purposive interpretation of these terms it is not necessarily the case that they will inevitably present barriers to the emergence of new technologies and business models.

Meridian does not at this stage have strong views on the issue of whether some amendments to rules are needed to enable peer-to-peer trading although we note that the Electricity Authority is currently considering the issue of peer-to-peer trading as part of its work on Multiple Trading Relationships.

More generally, Meridian supports open competition in emerging markets for new technologies as the best means to enable new technologies and business models to emerge in a manner that promotes the long-term interests of consumers. Batteries, for example, can flatten demand peaks (assuming the right price incentives) and therefore have the potential to help reduce emissions from the electricity sector in future. They can also be used to support the management of distribution networks. However, they are not "natural monopoly" assets like traditional poles and wires as they

[120] Para 132 *Input Methodologies Review: Emerging Technology Pre-Workshop Paper*, 30 November 2015.
[121] 9 May 2018 and available here: https://comcom.govt.nz/__data/assets/pdf_file/0023/90581/Open-letter-Our-intention-to-gather-information-relating-to-emerging-technologies-9-May-2018.pdf
[122] See above at para 30.
[123] See for example Vector submission page 6 at: https://comcom.govt.nz/__data/assets/pdf_file/0026/90593/Vector-Emerging-technology-information-request-Submission-25-May-2018.pdf; see also Orion submission at: https://comcom.govt.nz/__data/assets/pdf_file/0031/90589/Orion-Emerging-technology-information-request-Submission-25-May-2018.pdf.

can be provided by a growing number of industry participants and in many instances by consumers themselves.

Allowing these technologies to be treated as regulated monopoly assets enables distributors to guarantee a regulated return in what is otherwise a potentially high-risk emerging market. Meridian believes that distributors should be required to keep new technology services separate from their regulated businesses and that networks should openly tender for network services based on new technology to ensure that:

- network spending on such technologies is subjected to competitive market forces rather than economic regulation;
- consumers benefit in the long-term through greater competition, innovation and reduced costs; and
- potential emissions reductions from these technologies are realised in the most efficient manner.

Meridian believes that the IEA's platform for services model for distribution networks may well be the most suitable to:[124]

> [M]eet the challenges facing the sector because it will increase competition and innovation, reduce transaction costs and more effectively integrate a diverse range of suppliers and new technologies. In addition, it will maintain a more effective separation of contestable and natural monopoly functions.

We note that the Electricity Authority has identified similar risks and has asked the IPAG to undertake an Equal Access project to consider potential options to strengthen the equal access framework for access to distribution networks in order to further promote competition, reliability and efficiency in the provision of electricity and electricity related services. As already alluded to the Commerce Commission is also gathering information from distributors regarding emerging technologies and reminding them of their obligations under the Commerce Act to not take advantage of their substantial market power in emerging markets that they are seeking to enter or are already participating in. Meridian will continue to encourage these regulatory developments and technology uptake that is in the best interests of consumers and will most efficiently reduce emissions.

Regulatory frameworks need to support distributors in providing a platform for the different services and technologies that will rely on their networks. Enabling a competitive environment will benefit customers in the long-term and ensure efficient prices and innovative service offers. In the absence of this shift, there may be a case for government to legislate to ensure investment in new distributed technologies is subject to competitive pressure and in the best interests of consumers. One way to achieve this would be to prevent or limit the ability of distributors to directly own distributed energy technologies on their network. Distributors could still utilise these technologies on their network but would do so through a structurally separate related entity that must compete on a level playing field with other potential providers of the service.

[124] International Energy Agency *Energy Policies of IEA Countries: New Zealand 2017 Review*

33. What are your views on the assessment of other matters for the regulatory framework?

In relation to other matters for the regulatory framework:

- Meridian believes regulators like the Commerce Commission and Electricity Authority are effectively required to act as consumer advocates (the EA's objective is to act for the long-term benefit of consumers) and if some are calling for a separate consumer advocate to be established this perhaps suggest the regulators need to do more. In our experience the Electricity Authority is relatively good at providing an indication to consumers of the bottom line impact to them of proposed reforms. We believe the Commerce Commission has improved in this area and that the information provided to consumers relating to the Powerco CPP application was very good, but it could do more in this regard.

- On 'pace of change' while some stakeholders say things take too long to fix, others will say that reform has been rushed through. The Electricity Authority has in the last few years been sued by parties looking to halt or delay reform. In relation to the TPM, Trustpower's litigation against the EA alleged in part that the EA had failed to allow sufficient time for consultation. Trustpower's case was rejected by the High Court but it is illustrative of the fact that on 'pace of change' regulators sometimes can't win. For some stakeholders, change can't come fast enough. For others, changes will always be seen as happening too soon.

- Meridian does not support a separation of the Electricity Authority into separate rule-making and enforcement bodies. In a small country like New Zealand we should look to avoid a proliferation of different regulators and rule-making bodies with the potential additional costs this involves. In any event Meridian's experience with the Authority is that while decisions are ultimately made by the EA Board, its investigative function operates independently of and separately from its rule-making function. This is appropriate.

- Meridian believes the current relatively limited means of challenging Electricity Authority decisions are appropriate and sufficient. Allowing a non-expert body such as the High Court to carry out a merits review is fraught with difficulty (even if the High Court bench is given the benefit of expert lay members).

- As already indicated Meridian believes it is time for the 12 currently exempt distribution companies to be made subject to price-quality regulation. The assumption that because a natural monopoly distribution company is community-owned it will therefore inevitably act efficiently and in the best interests of the consumers of electricity lines services in its area (despite a complete absence of any competitive pressure on that company) does not bear scrutiny.

- The current level of EA and ComCom spending on regulatory functions and the cost of compliance with that regulation seem to us broadly reasonable.

34. Summary of feedback on Part five

- The industry is poised for significant and fundamental changes, due to the integration of well -recognised new technologies (EVs, batteries, peer-to-peer trading structures etc.), and possible broader developments (more wide-scale demand response, new, large-scale market entrants, decreasing generation technology costs, for instance).
- It is important a technology-neutral stance is maintained through this phase by regulators and Government, to ensure the long-term interests of consumers are served through open competition.
- Regulatory frameworks are largely suitable. Distributor arrangements do require further refinement, however, including to introduce additional safeguards for new technology investments.
- There is much to be positive about in terms of the way emerging technologies are likely to impact the market generally, whether in relation to security of supply, resilience, or future prices.

35. Solutions to issues and concerns raised in Part five

- All the solutions proposed by Meridian are set out in the introductory section of this submission.
- In brief, the solutions to issues and concerns raised in Part five include:
    - The repeal of the Low Fixed Charge Tariff regulations, which add significant cost and complexity, while delivering limited benefits.
    - Distribution pricing reform needs to be progressed with urgency, given the increasing rate of technology uptake.
    - Keeping under review the need to enable the introduction of mandatory use of systems agreements through legislation, should this be determined as outside of the Authority's remit.
    - Amended rules for distributor investments in new technologies to facilitate open market access for other players.

36. Please briefly provide any additional information or comment you would like to include in your submission.

We have provided additional information and comment in the 'Introduction and recommendations' section at the start of this submission.