ELECTRICITY PRICE REVIEW

Distribution Group Submission

23 October 2018

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Electricity Price Review
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Opening statement

This submission has been prepared by a group of distributors with common views on a number of the topics raised in the First Report of the Electricity Price Review, and responds to a number of the observations about the distribution sector.

The Distribution Group comprises small and medium sized distributors, including regulatory exempt and non-exempt businesses, and those owned by consumer or community trusts or local bodies. Together this group supplies approximately 520,000 customer connections (25% of all connections).

The Distribution Group also supports the submission prepared by the Electricity Networks Association, and members may make their own submissions on topics of particular interest.

We appreciate the opportunity to respond to the First Report in this submission.

In this submission we:

- Acknowledge the two tier retail market outcomes highlighted in the Report and the need to find solutions for those consumers experiencing energy hardship.
- Note that distributors are developing new cost reflective pricing structures which will help to avoid increasing prices, particularly for those consumers unable to access the benefits of new technology. This will include a review of cost allocation approaches, and requires removal of the low fixed charge regulations.
- Acknowledge the opportunity of emerging technologies, and note that good distribution network infrastructure and operating capability will be critical to enabling the benefits of technology to flow through to consumers, including through reduced costs in the longer term and de-carbonisation of the economy. Distributors are increasingly collaborating on network operations and investment, and should not be

restricted from investing in these technologies simply because they are monopolies.

- Support the retention of the Commerce Act regulatory framework for distributors, and expanding it to include the price regulations currently administered by the Electricity Authority.
- Respond to many of the other observations in the Report of particular significance to distributors, with supporting evidence and explanation.

Contact details

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Organisation	**Distribution Group, comprising the following distributors:** **Alpine Energy** **Buller Electricity** **Counties Power** **EA Networks** **Eastland Network** **Electra** **Horizon Energy Distribution** **Mainpower New Zealand** **Nelson Electricity** **Network Tasman** **Network Waitaki** **Northpower** **PowerNet (representing Electricity Invercargill, OtagoNet and The Power Company)** **Scanpower** **The Lines Company** **Top Energy** **Waipa Networks** **Westpower**
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Summary of questions

Part three: Consumers and prices

Consumer interests

1.	*What are your views on the assessment of consumers' priorities?*
	Not answered
2.	*What are your views on whether consumers have an effective voice in the electricity sector?*
	We note that consumer trust ownership of distributors provides an effective consumer voice in the sector. Consumers have considerable influence over the performance of their trust owned distribution networks and the prices they pay for electricity distribution services. This issue was raised in the context of the Commerce Amendment Act (2008) and supported by research including into the US co-operative model. (*Refer: Castalia, Regulation of Consumer Owned Utility Businesses, Submission to the Ministry of Economic Development, June 2007).* This issue is addressed further in response to Q32 and Q33. .
3.	*What are your views on whether consumers trust the electricity sector to look after their interests?*
	Not answered

Prices

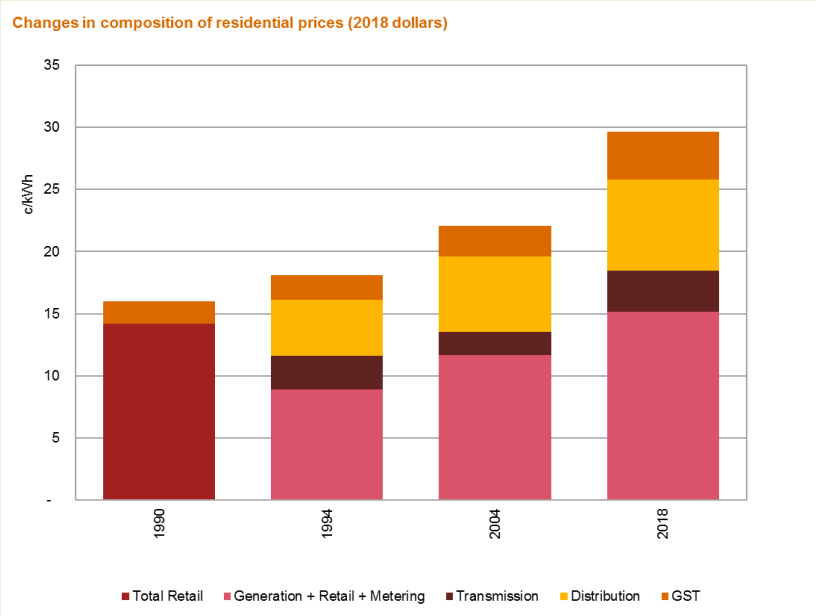
4.	*What are your views on the assessment of the make-up of recent price changes?*
	Make-up of recent price changes **Distribution charges** The Electricity Price Review First Report for Discussion (the Report) presents the change in composition of residential prices using information for 1990, 2004 and 2018. It concludes that distribution charges have been a significant factor in increased residential prices, rising by 548% (excl. GST impacts) over this period. However this analysis relies heavily on inferred price component data in 1990. This generates misleading outcomes because: • the distribution components of prices were first separately reported in 1994 with the introduction of the Electricity (Information Disclosure) Regulations 1994 (refer regulation 22 and 23); and • it was only after the Electricity Industry Reform Act 1998 and the ownership separation of lines (distribution) and supply (retail and generation) that the underlying costs (and hence) prices of distribution services were revealed. We have replicated Figure 6 of the Report using residential pricing component data which was published by the Ministry of Commerce from 1994, once the new regulations came into force. Our starting point for price components is 1994 for the reasons stated above.

This shows that:

- distribution prices increased by 36% between 1994 and 2004, and 20% between 2004 and 2018;
- total retail prices (excl GST) increased by 22% between 1994 and 2004 and 34% between 2004 and 2018; and
- between 1994 and 2018, distribution prices increased by 63%, almost exactly the same as total retail prices which increased by 64% (and 60% excluding GST).

Thus, the rate of change in distribution prices was higher up to 2004 and lower after 2004, but overall, not different to the remainder of the retail price. Shifting costs from business customers to residential customers did occur during this period, but not, as the Report suggests, primarily as a result of changes in distribution charges.

Figure 6 (revised)



Source: Ministry of Commerce Electricity Information Disclosure Statistics, 1994-1998, Ministry of Innovation and Employment 2004 – 2018

Further supporting analysis is included in response to Q36.

The Report suggests that the reallocation of distribution costs from commercial/industrial consumers to residential consumers may have gone too far. We note that our analysis suggests that this is a question which applies to all components of retail residential prices, not just distribution costs. We also note that for the average residential consumer, the distribution component of the total 2018 retail charge is 25%. Therefore there is limited scope to make material impacts on the total retail charges that residential customers face through reallocations of distribution costs. We address this point further in response to Q22.

5.	*What are your views on the assessment of how electricity prices compare internationally?*
	Not answered

6.	*What are your views on the outlook for electricity prices?*
	Not answered

Affordability

7.	*What are your views on the assessment of the size of the affordability problem?*
	Not answered

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

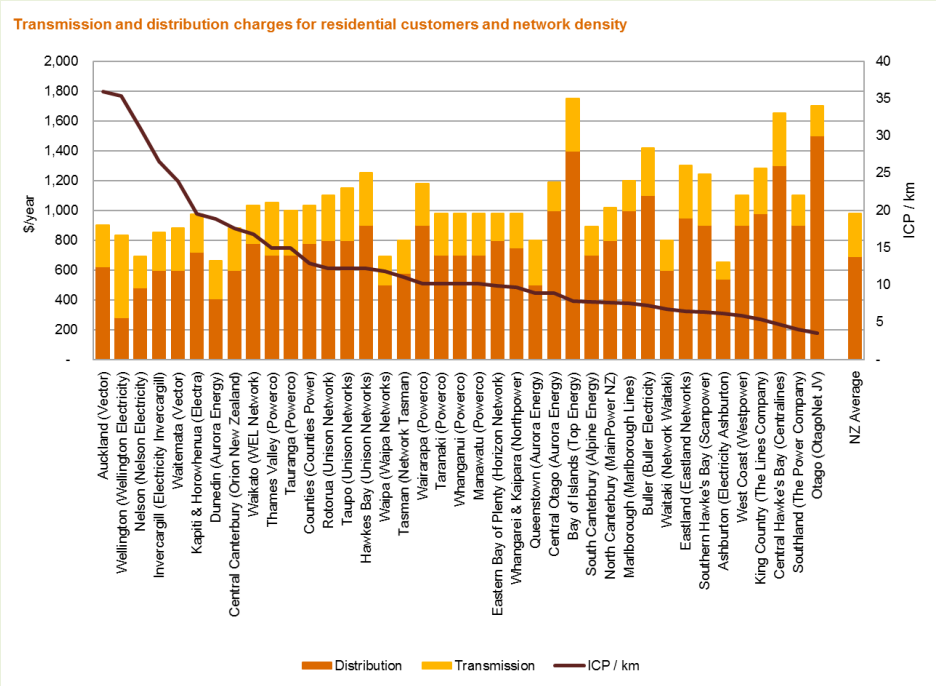
Variations in affordability

We agree that variations in network charges between regions are contributing to variations in affordability of electricity for households. Figures 35 and 36 in the Report show household transmission and distribution charges by pricing region across a North to South axis to illustrate this regional variation.

We have replicated this data, but have combined the transmission and distribution components and presented it on an axis of lowest to highest density network pricing region.

This confirms the variation in household costs, but illustrates that this variation is most significant in the low density networks. The analysis below provides some explanation for this variation.

Figures 35 and 36 (combined)



Source Figures 35 and 36 of the First Report, EDB Information Disclosures 2018

As the transmission and distribution boundaries differ between networks it is more useful to look at the combined costs, ie: some networks will have higher transmission and lower distribution costs due to the different interfaces between transmission/subtransmission/distribution systems (eg: Wellington Electricity). We note that Transpower does not have residential prices and transmission costs are passed on to retailers or end consumers in distributors' delivery prices.

In addition the costs of supply for distribution networks differ due to customer

	density, terrain, age of network and customer mix. Density is one of the major drivers of network cost, as highlighted in the recent TDB report (*TDB Advisory, Estimated Efficiency Gains from Amalgamation of Electricity Distribution Business, 31 August 2018*). The chart above illustrates the higher charges for lower density distributors. Regulatory settings also influence charges in any particular year. Some distributors have catch up allowances within their price caps to compensate for previous under recovery (eg: Centralines, Unison Networks and Top Energy). Thus their charges are higher than their underlying costs during the current regulatory period. Finally, some distributors (exempt and non-exempt) choose to price below the regulated rate of return or their regulated allowances. This leads to lower charges (eg: Waipa Networks, Network Waitaki and Network Tasman).
	Low fixed charge tariff plans We agree that the low fixed charge regulations are likely to be contributing to energy hardship for some households, particularly low income, high use households. Other high income, low use households will benefit at their expense. We consider these regulations are no longer fit for purpose for this reason. In addition they are a barrier to implementing more cost reflective distribution pricing structures. We note that distributors do not have access to information which identifies households experiencing energy hardship. We note that targeted welfare payments, similar to the winter energy payments recently introduced, are a useful mechanism to target those households facing energy hardship. The low fixed charge regulations are addressed more fully in response to Q30.
9	*What are your views of the assessment of the outlook for the affordability problem?*
	Outlook for affordability We agree with the commentary in the Report. We note that distributors are considering how more cost reflective network pricing structures can be developed and implemented to ensure distribution costs are allocated fairly between consumers, for example for those who have access to solar or own electric vehicles and those who do not. We also agree with the Report that new pricing structures will result in some rebalancing of costs and prices between consumers and therefore transitional arrangements will be important. We note that one of the key objectives of more cost reflective network pricing is to influence the profile of consumer demand to avoid or defer investments in peak capacity. In order for this to occur, the pricing structures must be simple, easy to respond to, and most importantly, passed through to consumers in their retail prices. In addition we support initiatives to help consumers access good information about their energy choices, including electricity retail options and information about the costs and benefits of emerging technologies. This could involve improved information about the different retail pricing plans offered by retailers.

Summary of feedback on Part three

9. *Please summarise your key points on Part three.*

a) Consumer trust owners of distributors are effective in contributing to the consumer voice in the electricity sector.

b) The Report overstates the impact of distribution charges on residential price increases, and the analysis should be corrected.

c) We agree that there is considerable variation across the country in residential distribution and transmission charges. There are many factors which contribute to differences in underlying costs and charges including customer density, customer mix, network age, transmission/distribution boundaries, target rates of return and regulatory allowances.

d) We consider the low fixed charge regulations are no longer fit for purpose, and are contributing to energy hardship, particularly for low income, high use households.

Solutions to issues and concerns raised in Part three

10. *Please briefly describe any potential solutions to the issues and concerns raised in Part three.*

a) Targeted welfare payments are likely to be a better solution for energy hardship than the low fixed charge regulations.

b) Distributors are developing more cost reflective pricing structures which will help to avoid increasing prices, particularly for those consumers unable to access the benefits of new technologies.

c) More cost reflective pricing structures must be simple, easy to respond to, and most importantly, passed through to consumers in their retail prices in order to achieve these outcomes.

d) Transitional arrangements (similar to those recently announced by The Lines Company for its first year of TOU pricing) will be necessary to avoid undue price shock.

e) We support initiatives to help consumers access good information about their energy choices, including electricity retail options and information about the costs and benefits of emerging technologies.

Part four: Industry

Generation

11.	*What are your views on the assessment of generation sector performance?*
	Not answered
12.	*What are your views of the assessment of barriers to competition in the generation sector?*
	Not answered
13.	*What are your views on whether current arrangements will ensure sufficient new generation to meet demand?*
	Not answered

Retailing

14.	*What are your views on the assessment of retail sector performance?*
	Passing through line charge reductions The Report raises the issue of retailers not passing on reductions in distribution charges. In principle, if retail market competition is working effectively, then we expect market pressure to force retailers to pass on reductions in distribution or transmission charges. However, as noted in the Report, in practice many consumers are not actively seeking out lower retail pricing options. This provides an opportunity for retailers to retain the benefits of reduced line charges, or at least a portion of them. We believe that retailers should promptly pass on any reductions in line charges to consumers. We expect that increases in line charges will be promptly passed on and note that there is a stronger commercial incentive for retailers to do this. It is the weaker incentive for retailers to pass on reductions in line charges which needs to be considered, because of the uneven status of retail competition across the electricity consumer base.
15.	*What are your views on the assessment of barriers to competition in retailing?*
	Lack of standardisation in distribution contract terms and price structures We do not consider distribution contract terms and price structures are a material barrier to competition. All retailers on a distribution network face the same prices, terms and conditions. It is our experience that new retailers are signing up to existing terms and conditions without apparent concern. For example the number of retailers on EA Networks' network increased from 12 to 18 during the 2018 financial year, without raising concerns about supply terms and conditions. The variation in distribution pricing reflects historical practice. However we note that distributors and retailers have been working together through ENA initiatives to

reduce variation where practicable by collaborating on pricing terminology, and the specification of pricing plans (eg: *ENA, Pricing guidelines for electricity distributors, Sept 2016*).

The Electricity Authority's model use of system agreement and default distribution agreement projects are targeted at improving standardisation of terms and conditions for retailers.

However we consider that the more important consideration is the implementation of more cost reflective network prices. Distributors are working together, through the ENA, to develop industry wide options for new pricing structures (*eg: ENA Charging matters, considering new ways to pay for electricity networks, Nov 16)*. It is expected that as distributors transition away from legacy pricing to more cost reflective pricing, the historical pricing variation will reduce.

Vertical integration

16.	*What are your views on the assessment of vertical integration and the contract market?*
	Not answered
17.	*What are your views on the assessment of generators' and retailers' profits?*
	Not answered

Transmission

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

Regulation of TPM

Our experiences with the Electricity Authority's TPM review process and the Commerce Commission's distribution price path setting processes lead us to make the following observations:

- There needs to be a clear problem definition (which is transparently tested with stakeholders) before embarking on a substantial review process such as the TPM. We consider that the Electricity Authority focused too early on their preferred solutions, without adequately defining the problem. This complicated the process because there was substantial subsequent work required to address stakeholder concerns about the problem, after the initial proposals had been developed.
- There needs to be a clear process set out in advance, and agreed with stakeholders, including the roles of various stakeholders, timing, issues to be addressed and research or evidence to be collated. This plan should be transparent and all feedback should be considered and integrated into the project plan as appropriate. Once agreed the project plan deadlines should be adhered to as much as possible.
- We consider that there was a missed opportunity to involve Transpower more directly in the TPM review. The Commission uses regulated businesses at various stages of its consultation processes, adopting a more collaborative approach to regulatory design. This results in better outcomes

because the regulator is able to gain a good understanding of the implications of the options being considered, and the ability to implement them.

- We expect all regulators to demonstrate good regulatory practice which includes consistency, flexibility, cost effectiveness, transparency, and forward looking regulation.
- A key issue has been the retrospective nature of the TPM proposals due to the reallocation of sunk costs. We note that regulators generally tend to avoid retrospective interventions because they result in wealth transfers.
- We note the discussion on fairness as a statutory objective for the Electricity Authority. We do not consider that the lack of a fairness objective for the Electricity Authority is a contributing factor to the difficulties faced during the TPM process.

Looking forward, we support further consideration of whether Government Policy Statements (GPS) could be used to provide direction for regulators, to clarify interpretation of existing legislation or supplement it where appropriate to meet government policy objectives. The GPS which directed the Commission to provide for a streamlined CPP process for Wellington Electricity is a recent example (*Resilience of Electricity Services in the Wellington region, Sept 2017)*.

Distribution

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

Distributors' profits

Figures 22 and 23 in the Report set out distributor profits benchmarked against the DPP WACCs for 2013-15 and 2016-17. We note that profits have generally fallen below the regulatory target for the periods surveyed. As noted above there are regulatory incentives and catch up allowances which contribute to higher than target returns for some distributors in some years. As prices are set in advance, higher than forecast demand or lower than forecast costs can also contribute to these outcomes.

We note that there is no substantial difference between the profit levels of exempt and non-exempt distributors, although there is a considerable range across distributors overall.

We also note that Scanpower has recently corrected computational errors which had caused its 2015-17 ROIs to be overstated, (*Scanpower Error Disclosures 2018*). As a result its average ROI is lower than that included in the Report. For 2013-15 it is 6.6%, and for 2016-17 it is 7.8%.

An alternative profit measure is the adjusted ROI published by PwC (*Electricity Line Business Information Disclosure Compendium)*. The adjusted ROI shows profits after the deduction of consumer discounts. These are revenue deductions by trust owned distributors for consumer beneficiaries, made through line charge discounts or rebates. They reduce the amount consumers pay for electricity distribution services. The figures below show the distributor profits using the adjusted ROI data.

Figure 22 (restated): Distributor adjusted profits compared with 8.77 % WACC (2013-15)

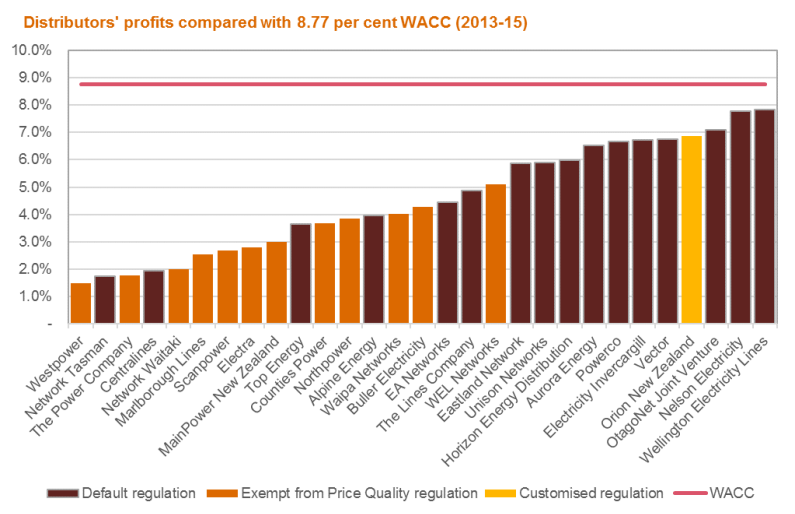
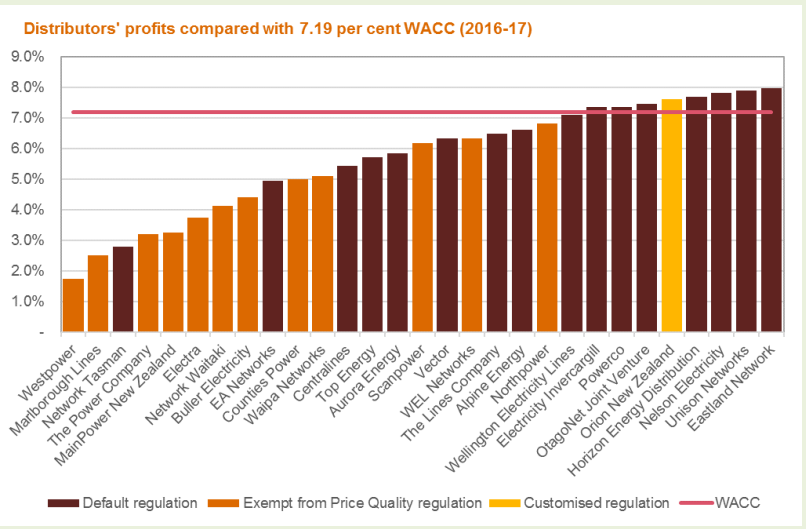


Figure 23 (restated): Distributor adjusted profits compared with 7.19 % WACC (2016-17)



Distributor involvement in competitive businesses

The Report indicates that distributors may be able to disguise network monopoly profitability by cross subsidising competitive businesses, providing unfair advantage in these businesses.

There is no evidence provided in support of this suggestion despite considerable information being made available by distributors about cost sharing between their regulated and competitive businesses.

We challenge this assertion and note that there is explicit regulatory oversight of the boundaries between the regulated and competitive businesses of distributors. These rules have been extensively tested through the Commerce Act, Part 4 Input Methodology processes, including in the courts via merits review. As demonstrated below, the Commerce Commission actively monitors the effectiveness of the regulations in this respect, and refines them from time to time where required. Specifically:

- There has been regulatory oversight of distributor cost sharing between regulated and competitive businesses since information disclosure regulation was introduced in 1994. The regulatory rules and methodologies have been reviewed from time to time, and the implementation of them monitored. The most recent review by the Commerce Commission in 2016,

closely examined the cost sharing approaches, with a particular focus on the opportunities for investments by distributors in emerging technologies such as batteries. The Commission has followed up its cost allocation Input Methodology decision with a targeted investigation into investments by distributors into emerging technologies.

- There is similar regulatory oversight of regulated business transactions with related parties, specifying how the transaction values are to be determined for regulatory purposes. The scope and value of the transactions is monitored by the Commerce Commission. These rules were revised in 2017 and as a result additional information about distributor procurement processes and related party transactions is to be disclosed, and provided to the Commission.

Distributors should not be precluded from investing in contestable businesses. There are benefits to consumers which can be realised through such investments, including cost sharing, reduced distribution costs and facilitating the uptake of new technologies for consumers.

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

Price structures

There has been significant focus on distribution pricing structures over the past few years, as increasingly the sector has recognised that more cost reflective distribution pricing is necessary to facilitate de-carbonisation and allow the full benefits of new technology to emerge. This will result in more equitable sharing of distribution costs between consumers and help to ensure that those consumers who are unable to access local generation, storage, or own electric vehicles do not bear a disproportionate share of costs.

Along with the Electricity Authority and the Commerce Commission, distributors have been considering their options for pricing reform. The ENA has led significant collaboration on pricing reform to date, including consultation with consumers, interest groups, retailers and ERANZ.

Some distributors have already adopted TOU pricing structures, although uptake is very low. Most retailers are not yet ready to implement these pricing options and have not passed them through to end consumers. The Lines Company, who directly bill their consumers, have put in place TOU based prices from 1 October 2018, for all non-major consumers. Other distributors have indicated that new pricing structures will be implemented from 2020, once a revenue cap form of control commences, and pricing trials and consumer consultation are completed.

In order to successfully make this transition to more cost reflective pricing we note that:

- distributors need access to smart meter data to design and test new pricing structures, and to design transitional arrangements to avoid undue price shocks for consumers
- the low fixed charge regulations must be revoked because they are a barrier to more cost reflective pricing (refer our response to Q30)
- collectively the industry (regulators, policy makers and retailers) must support the transition. While it is expected that there will be longer term pricing benefits for all, in the short term some consumers will be worse off. A consistent industry narrative will help with the transition
- distributors will continue to work together to find common solutions and approaches to introducing more cost-reflective pricing, to minimise

complexity and help consumers respond appropriately to the pricing signals.

Efficiency pressures

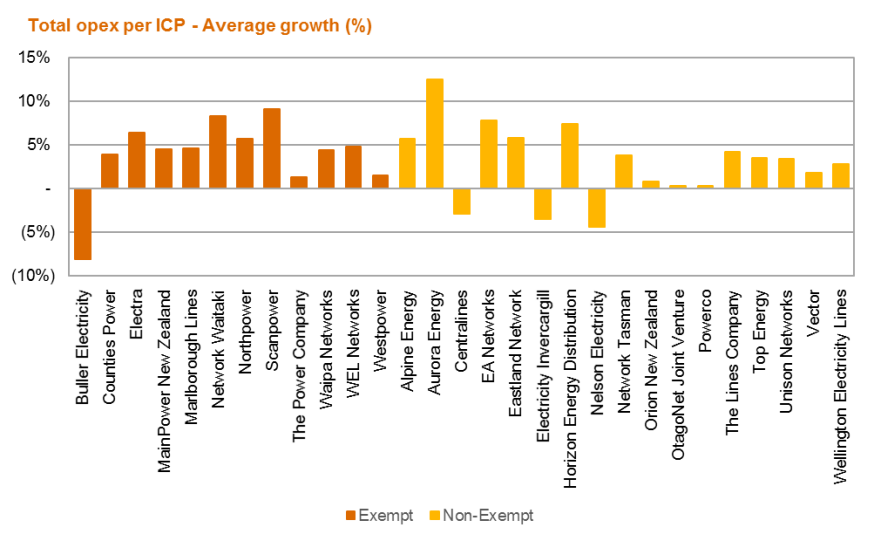
The Report suggests that exempt trust owned businesses may have weaker incentives to improve efficiency and reduce costs because they are exempt from price-quality regulation.

Our analysis shows that since the introduction of price-quality regulation for non-exempt distributors in 2013, there has been considerable divergence in the cost performance of distributors, and no clear evidence that exempt business costs have increased more than non-exempt businesses.

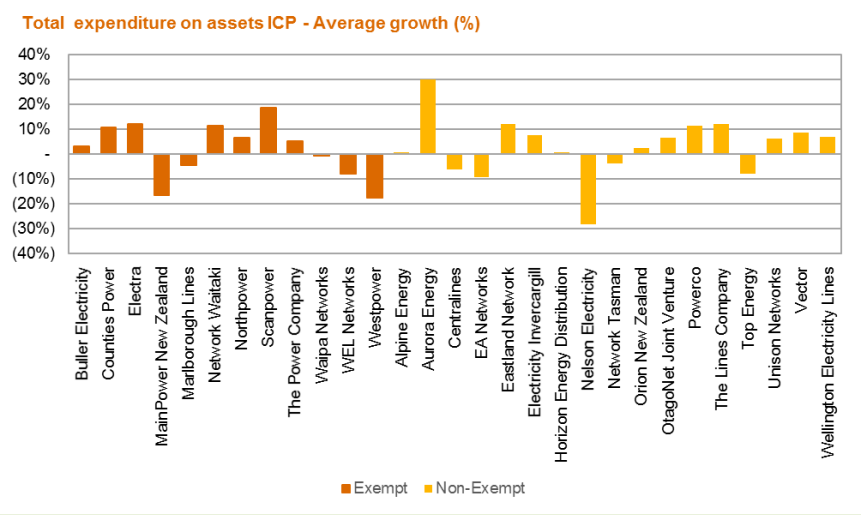
In addition, our analysis does not reveal notable differences, between exempt and non-exempt distributors, in terms of reliability performance or ROI since 2013.

These trends are illustrated in the charts below which show the rate of change in opex, capex, normalised SAIDI and ROI between 2013 and 2018, for exempt and non-exempt distributors.

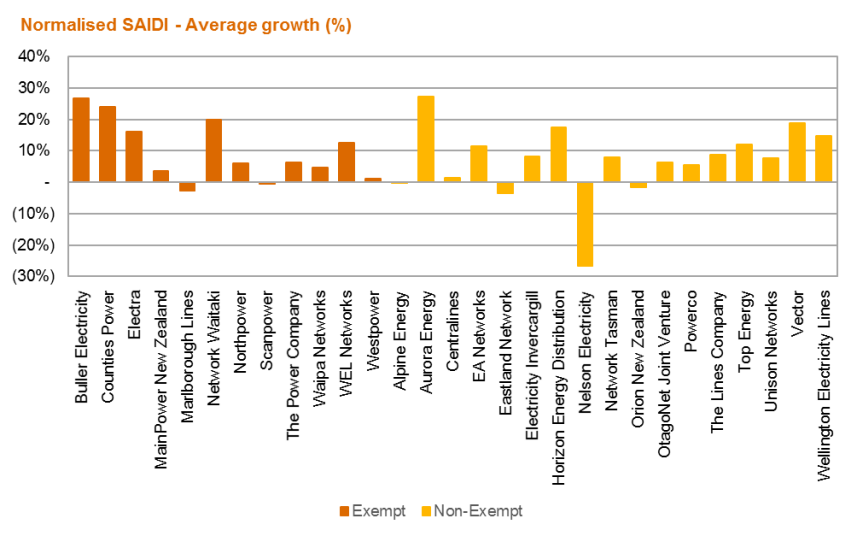
Average annual rate of change in opex per ICP (2013 – 2018)



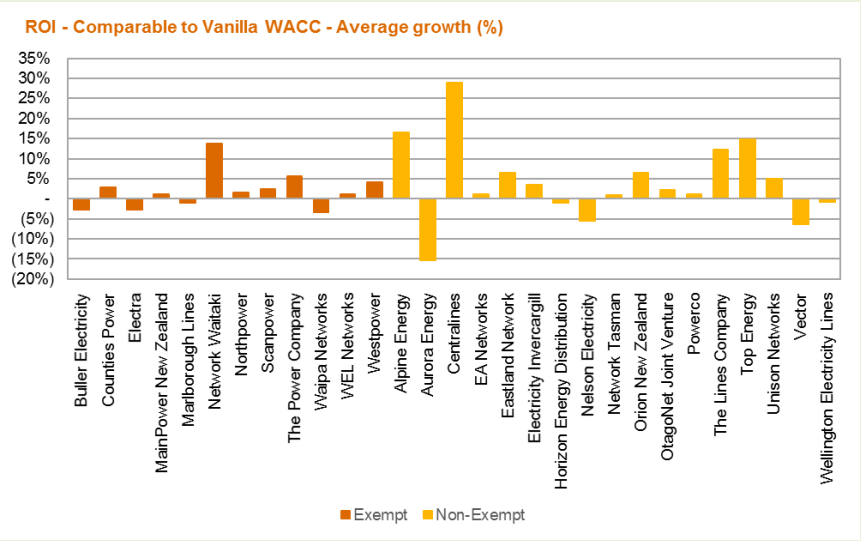
Average annual rate of change in capex per ICP (2013 – 2018)



Average annual rate of change in normalised SAIDI (2013 – 2018)



Average annual rate of change in ROI (2013 – 2018)



Exemption status is only obtained if there is sufficient consumer ownership, influence and control over the distributor. This is why some trust owned distributors are not exempt. Because these trusts reflect the interests of consumers they apply incentives on distributors to manage their costs, prices and meet the service expectations of the consumers they represent. This occurs through target setting in Statements of Intent, board appointments, monitoring and ownership review processes. Exempt businesses are also subject to regulation through the Part 4 information disclosure regime, which assesses the performance of all distributors against the statutory regulatory purpose.

Thus the additional costs of price-quality regulation are not justified, because these incentives are present within the ownership structure. We note that this conclusion is consistent with US experience of co-operative ownership of local utilities. Research by Castalia in 2007 noted that studies in the United States had not been able to find any discernable systematic differences in efficiency between investor owned and consumer owned utilities. (*Refer Castalia, 2007)*

Performance benchmarking

The current restriction on benchmarking in the Commerce Commission's regulatory toolkit comes from well documented and unfortunate experiences with benchmarking under the Part 4A electricity distribution thresholds regulatory

regime.

Poor normalisation for externalities resulted in some distributors facing price paths for extended periods which were unsustainable for their particular networks *(refer to Q36 for further explanation of the historical regulatory benchmarking experience*).

These deficiencies were not apparent at the time they were established due to the complexity of the benchmarking models, the lack of experience with regulatory price caps, and insufficient understanding of the data. They demonstrated how difficult it is to apply benchmarking in practice in New Zealand due to the considerable variations between distributors. They also introduced a substantial disconnect between prices and costs for some distributors, whose revenues have not yet caught up to their allowable regulatory costs due to transitional arrangements to manage price shocks (*refer Schedules 2, 5C and 5D of the 2015 EDB DPP Determination).*

We acknowledge benchmarking is used in some jurisdictions for regulatory rate setting purposes, however, in our view it is more suited in New Zealand to information disclosure regulation than price caps. This is because the smaller scale of distributors in New Zealand exaggerates differences in regional topography, population density, and network age and asset configuration. The Commission's recent publication (*Investment ratio and asset condition dashboards for electricity distribution businesses, March 2018)* demonstrates how difficult it is to identify comparable distributors, with 7 peer groups identified; 4 of which include 3 non-exempt EDBs, 2 include 2 non-exempt EDBs and 1 includes only 1 non-exempt EDB.

Accordingly we do not support benchmarking for DPP price path setting because of the severe risks of getting it wrong. We do not consider it is consistent with the low cost nature of the DPP, because these risks are heightened with the common approach applied when setting DPPs.

Duplication of core systems

The Report notes that distributors each have their own network core systems, which suggests duplication and therefore inefficiency. However the Report fails to recognise that as distributors reach the point where systems require upgrade or replacement, alternative solutions are being considered and implemented. This is the most logical time to invest to reduce duplication which exists in legacy systems and minimise transition costs. For example there are:

- shared network control facilities (TPC, EIL, OJV, Waipa, WEL Networks)
- shared purchasing of new systems (Westpower, EA Networks, Mainpower)
- investigations into sharing GIS systems with local councils (Eastland)
- standardisation of operating standards (Contractor Network Operations Group – SI EDBs and contractors, with a new North Island Group having recently been established).

Business size

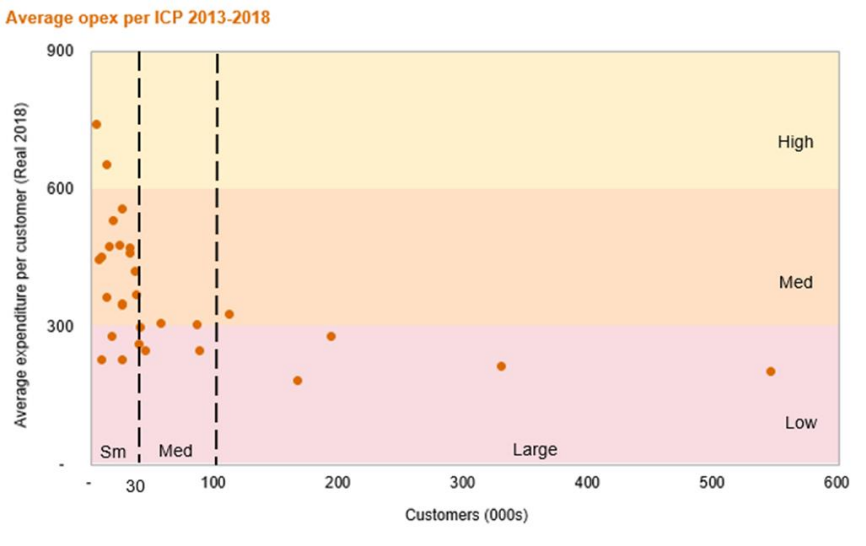
The Report suggests that the small size of some distributors may be a possible barrier to efficiency.

The chart below shows small (<30,000 ICPs), medium (30,000 to 100,000 ICPs) and large distributors (>100,000 ICPs) plotted against average annual opex per ICP. We note that:

- those distributors with the lowest costs (less than $300/ICP per year) include distributors from each size band, including the four largest distributors and four of the smallest distributors
- the medium cost category also includes distributors from each size band,

and the larger and medium sized distributors are at the lower end of this cost band
- the highest cost band includes only small distributors.

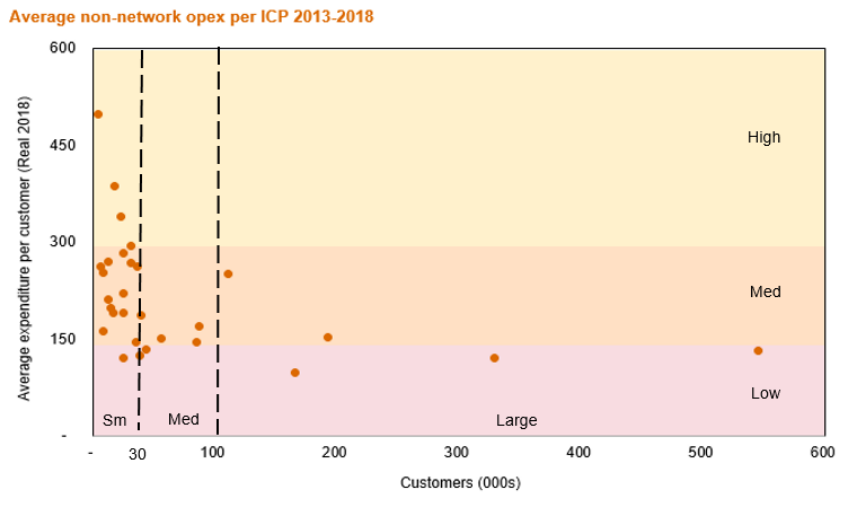
Average annual total opex per ICP by business size



Repeating the above analysis, but focusing only on non-network opex (as network opex is understood to be more directly associated with network density), as illustrated in the chart below, we note that:

- those distributors with the lowest costs (less than $150/ICP per year) include distributors from each size band (small, medium and large), including three of the four largest distributors
- the medium cost category also includes distributors from each size band
- the highest cost band includes only small distributors.

Average annual non-network opex per ICP by business size



This data illustrates that there is significant variation in the opex costs of the smaller distributors, with a number demonstrating non-network cost levels which are comparable with the largest distributors. This suggests that cost efficiencies are demonstrated by smaller distributors in New Zealand. We note that many distributors share their common (non-network) costs across non-distribution business activities. This benefits the electricity consumers they serve. Revised regulatory rules will increase the portion of common costs to be allocated in this way, from 1 April 2018

Network opex is largely field based. It is directly influenced by the characteristics of the network being serviced, including network density, as recently indicated by TDB Advisory (refer Q8). While co-operation between networks can improve network operating practices and hence network performance, these practices are available to all networks, irrespective of size.

The Report raises the question of encouraging more collaboration between distributors. We note that there is substantial collaboration between distributors, although this is often not evident from publicly available information. We understand that the ENA has provided the Panel with examples of distributor collaboration, including in relation to storm and emergency response, network standards, IT systems, procurement, engineering, network operation and control, pricing and metering.

Metering data

The Report raises the issue of access to metering data for distributors. Smart meters provide data which distributors can use to monitor voltage levels, find faults and understand demand patterns. This data will become more critical for network operations and investment once consumer uptake of new technologies changes the power flow on networks. It is also critical to the development and implementation of more cost reflective pricing options. It will be in the interests of consumers for distributors to have access to this data to manage their networks effectively and assist with the transition to new pricing structures. We therefore support further initiatives to resolve data access issues, and ensure that this data is available to distributors cost effectively, so that consumers are ultimately not paying more than they should.

We agree with the Report that metering data should be readily available on reasonable commercial terms so that distributors can properly manage their networks. We understand that there have been offers made to distributors for access to this information at inflated prices.

We therefore support further consideration of an open-access regime for meter data with standardised terms and conditions for all parties. We consider this may be the best solution to ensure that the benefits of smart meter investments are maximised for consumers and not limited to meter owners or retail services. In this respect we note that not all consumers currently have access to a smart meter. As a result, these consumers may be restricted from accessing the optimal pricing plan for their circumstances.

We also support further consideration of the capabilities of meters, and whether minimum technical standards for future meters are necessary.

Governance

The Report raises a concern about potential weaknesses in distribution business governance, but does not provide any evidence to support this assertion. The concerns appear to be:

- that distributors may invest in areas outside their core areas of expertise and that this may be more risky (attributed to the Office of the Auditor General); and
- that distributors may not have the appropriate skills (either governance or decision making) to manage the impact of de-carbonisation and new technologies on their networks, for the benefit of consumers (attributed to the International Energy Agency).

Ownership models of distributors vary, as do the range of investments of the shareholders of distributors. Arguably, the governance of a community and/or consumer owned distributor is more focused on the interests of the consumers it

serves. This occurs through influence over distribution prices and service levels, or distributions from other business interests. We note that typically other investments are located within a distributor's local network region, and/or comprise adjacent or vertically integrated businesses.

However, it is not within the scope of this review to make judgements about the investments that shareholders of distribution businesses may make outside of their electricity networks. The focus of this review should be on whether electricity consumers are well served by their distributors and other industry participants.

As highlighted by the IEA, distribution businesses are expected to face increasing complexity as consumers adopt new generation, storage and transport options. However distributors won't face this challenge in isolation. Distributors will be guided by government policy, regulatory decisions, emerging international practice, collaboration, partnerships and information sharing.

This is already occurring, at management level (through participation in industry working groups such as the smart grid forum), at board level (for example by investing in research to understand the impacts of solar, batteries and electric vehicles on networks), and by shareholders (for example in the research and forums instigated by the Energy Trusts of New Zealand).

Asset management planning

We agree with the Report that there are challenges in forecasting electricity demand over the long term, and that ten year asset management plans are relatively short, given the expected life of traditional distribution assets. The planning for new load and connections may be adequately addressed within a ten year AMP. However we suggest that there may be value in extending asset planning horizons for network renewals beyond the current ten year planning period required under information disclosure regulation.

Many distributors maintain asset management systems which provide a longer term view of asset lifecycles for key asset fleets, such as transformers, switchgear, poles, conductors and cables. This information is generally not currently included in published AMPs.

Distributors will be working with the Commerce Commission as it continues its investigation into asset management planning practices, and some refinements to AMPs may be expected as a result. We expect AMPs will continue to demonstrate increasing focus on how emerging technology will impact distribution networks, and the investment required in network capability to adequately integrate it into network solutions and operations.

Aging assets

AMPs show a projected increase in renewals within the 10 year published planning horizon. This is to be expected given the age of the networks. AMPs address how the expenditure plans of each distributor are to be delivered. Any resourcing issues which may emerge will therefore be highlighted in advance.

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

As documented in response to Q4, we believe the analysis in the Report significantly overstates the increase in the distribution component of residential electricity charges.

We also note that the analysis presented in Figure 3 in the Technical Paper compares the distribution cost allocation shares and consumption shares for residential and business consumers for each distributor. However distribution costs are not directly proportionate to energy consumption, they also reflect peak

demand, network connectivity and shared assets and support costs.

There is judgement in how these costs are shared between consumer groups for pricing purposes. These judgements are explained in the pricing methodologies which are published by each distributor prior to each pricing period. These judgements are also guided by the pricing principles published by the Electricity Authority.

Figures 4 and 5 of the Technical Paper demonstrate network cost allocations for residential and business customers which (with one exception) fall between incremental and standalone cost allocation ranges, consistent with the Electricity Authority's pricing principles.

These figures show that residential customer cost allocations trend above the midpoint of the range and business cost allocations trend below the midpoint of the range, using a consumption (GWh) share axis. As residential consumers tend to contribute more to peak load, and therefore network capacity investment, than business customers, this outcome is not unexpected.

Analysis included in the Technical Paper suggests that on average, residential customer bills could reduce by $90 per annum if their prices were moved to the midpoint. It is not possible to comment on this analysis without a better understanding of the data, the assumptions and the modelling.

We note that distributors are re-examining their pricing structures, as they move to more cost reflective pricing approaches, and that it is expected that consumer groupings and the cost allocations to consumer groups will form part of this review process. We note that the ENA is proposing to co-ordinate a review of cost allocations in response to the analysis in the Report. We also note that the Electricity Authority is due to report back on its review of Distribution Pricing Principles, which may also influence how distribution costs are shared between consumer groups in the future.

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

The Report highlights the increasing need for more active management of distribution networks due to the need to integrate emerging technology at the customer interface with distribution networks. Good distribution network infrastructure, information and operating capability will be critical to enabling the benefits of small scale generation, and electric vehicles. These capabilities will ensure network costs are managed and long term investment needs minimised. Distributors can also act as a trusted intermediary for customers looking to adopt new technology.

We have not had the same rapid uptake of solar and electric vehicles as some other countries which have had subsidies, and therefore we are able to learn about the impacts on distribution networks from international experiences.

There is some uncertainty over the distribution business models that will emerge, but this debate is not limited to New Zealand. It is expected that further research and collaboration will help to identify the most appropriate solution for the sector, and highlight any potential issues in advance, such as skill shortages or network infrastructure shortcomings.

It is therefore appropriate to proceed with some caution, and avoid early intervention. This is due to the potential for unintended consequences and uncertainty over the models that may emerge over time.

Summary of feedback on Part four

23. *Please summarise your key points on Part four.*

a) As many consumers are not actively seeking out lower prices, retailers are able to retain the benefits of reduced line charges, or at least a portion of them.

b) We do not consider non standardisation of distribution prices or terms and conditions is a material barrier to competition, as evidenced by the number of new entrant retailers across all networks.

c) The Electricity Authority's TPM review process could have been improved by consulting first on a problem definition, establishing a clear consultation process (similar to the Commerce Commission's processes), using a more collaborative approach with industry (again similar to the Commission), and leveraging Transpower's knowledge. We do not consider that it is good regulatory practice to apply material retrospective changes to regulatory settings, as proposed under the TPM review.

d) Distributor profits have, with a few exceptions, fallen below regulated WACC benchmarks since the implementation of Part 4 regulation. This is true of exempt and non-exempt distributors.

e) There is no evidence to support an assertion that distributors disguise network monopoly profitability by cross subsidising competitive businesses, providing unfair advantage in these businesses. There are significant regulatory impediments to such behaviours, and these regulations are tested from time to time, and refined where necessary in response to industry changes (for example the recent amendments to the cost allocation IM and the related party transaction valuation IM and disclosure requirements).

f) Along with the Electricity Authority, and the Commerce Commission, distributors have been considering their options for pricing reform. There has been significant collaborative effort on pricing reform already, instigated by the ENA and including consultation with consumers, interest groups, retailers and ERANZ. Some distributors have already adopted TOU pricing structures, although most retailers are not yet passing these pricing options through to end consumers. Many distributors are expecting to transition to new pricing structures after March 2020, from the beginning of the next regulatory period. Industry wide support is necessary to ensure the successful implementation of new pricing approaches.

g) Our analysis does not reveal that exempt distributors have faced less pressure to control costs than non-exempt distributors since regulatory exemptions were introduced for trust owned businesses.

h) We support continued use of benchmarking for monitoring distributor performance, and the continued prohibition on benchmarking for price-quality path regulation. Poor outcomes under Part 4A regulatory settings, which were based on benchmarking, led to the current restrictions. Catch up allowances will apply for some distributors through until the end of 2020, correcting for the misalignment of cost and revenues that commenced with the benchmarked thresholds regime in 2003.

i) The smaller scale of networks in New Zealand means they are more exposed to the influences of local topography, network design, age and density which is why benchmarking is so difficult. Larger networks are able to balance these influences out across a bigger customer base and/or supply area.

j) Distributors have historically had their own network core systems, however when systems require upgrade or replacement, alternative solutions including sharing of systems, or joint investment in upgrades are being considered and implemented.

k) Our analysis suggests that there is significant variation in the opex costs of the

smaller distributors, with a number demonstrating cost levels which are comparable with the largest distributors. Many distributors share common costs with non-distribution business activities and this cost sharing is expected to increase from 1 April 2018 due to revised regulatory rules.

l) Smart meters provide data which distributors are able to use monitor voltage levels, find faults and understand demand patterns. This data will become more critical for network operations and investment once consumer uptake of new technologies changes the power flows on networks. The technical capability of some smart meters will need to improve however to fully achieve these benefits.

m) Smart meter data is also critical for the development of new price structures. We note that not all consumers are served by smart meters, and may as a result miss out on optimal pricing solutions.

n) As highlighted by the IEA, distribution businesses are expected to face increasing complexity as consumers adopt new generation, storage and transport options. However distributors won't face this challenge in isolation. Independent of governance arrangements, all distributors can expect to be guided by government policy, regulatory decisions, emerging international practice, collaboration, partnerships and information sharing. In addition, distributors can act as a trusted intermediary for customers looking to adopt new technology.

o) We agree with the Report that there are challenges in forecasting electricity demand over the long term, and that ten year asset management plans are relatively short, given the expected life of traditional distribution assets. Many distributors maintain asset management systems which provide a longer term view of asset lifecycles, although this information is not included in published AMPs.

p) Distributor cost allocations to residential and business customers appear to fall between stand alone and incremental cost, consistent with the Electricity Authority's pricing principles and economically efficient pricing.

q) Good distribution network infrastructure, information and operating capability will be critical to enabling the benefits of small scale generation, storage and electric vehicles for consumers. These capabilities will ensure network costs are managed and long term investment needs minimised.

Solutions to issues and concerns raised in Part four

24. *Please briefly describe any potential solutions to the issues and concerns raised in Part four.*

a) We believe that retailers should promptly pass on any reductions in line charges to consumers. As many consumers are not benefiting from retail competition, we cannot rely on the market to ensure this occurs, and further intervention may be required.

b) Distributors are collaborating on options for implementing more cost reflective prices. This is expected to lead to more standardised approaches as legacy pricing structures are replaced. In the interim distributors have rationalised pricing terminology and the specification of pricing plans through ENA sponsored working groups.

c) We support further consideration of whether GPS could be used to provide direction for regulators to clarify interpretation of existing legislation, or supplement it where appropriate, to meet government policy objectives.

d) In order to make the transition to more cost reflective distribution pricing

successful we note that:

- distributors require access to meter data
- the low fixed charge regulations must be revoked because they are a barrier to more cost reflective pricing
- the industry (regulators, policy makers and retailers) must support the transition with a consistent industry narrative about the rationale for the change
- distributors will continue to work together to find common solutions and approaches to introducing more cost-reflective pricing to minimise complexity.

e) It will be in the interests of consumers for distributors to have access to smart meter data to manage their networks effectively and to facilitate the implementation of more cost reflective pricing. We therefore support further initiatives to resolve data access issues, and ensure that this data is available to distributors cost effectively.

f) While investment for new load and connections may be adequately addressed within a ten year AMP, there may be value in extending asset planning horizons for network renewals. Distributors will be working with the Commerce Commission as it continues its investigation into asset management planning practices, and some refinements to AMPs may be expected as a result. We expect AMPs will continue to demonstrate increasing focus on how emerging technology will impact distribution networks, and the investment required in network capability to adequately integrate it into network solutions and operations.

g) We note that distributors, with the help of the ENA, are re-examining their pricing structures, as they move to more cost reflective pricing approaches, and that it is expected that consumer groupings and the cost allocations to consumer groups will form part of this review.

h) We also note that the Electricity Authority is due to report back on its review of Distribution Pricing Principles, which may also influence how distribution costs are shared between consumer groups in the future.

i) There is some uncertainty over the distribution business models that will emerge due to industry changes, but this debate is not limited to New Zealand. It is expected that further research and industry collaboration will help to identify the most appropriate solution for the sector, and highlight any potential issues in advance. Early regulatory intervention is therefore not recommended.

Part five: Technology and regulation

Technology

25.	*What are your views on the assessment of the impact of technology on consumers and the electricity industry?*
	We agree with the analysis presented in this section of the report, and acknowledge the opportunities and challenges for distributors in accommodating more decentralised power flow models. In the long term, access to small scale generation, combined with storage and peer to peer trading will reduce network investment in capacity and distribution costs for consumers. Investment by distributors in LV monitoring and control systems will be critical to effectively managing the interface with new customer technologies. This will facilitate the benefits of associated new products and services for consumers, including those who may not have the ability to directly invest in them. As stated previously, distributors should not be precluded from investing in new technologies which benefit consumers (refer Q20).
26.	*What are you views on the assessment of the impact of technology on pricing mechanisms and the fairness of prices?*
	We acknowledge that more cost reflective distribution pricing can help to reduce inequity between consumers with access to emerging technology and those without. This will be important for ensuring more vulnerable customers are not unduly disadvantaged if they are unable to access these technologies due to financial hardship. Removal of the low fixed charge regulations also supports this outcome.
27.	*What are your views on how emerging technology will affect security of supply, resilience and prices?*
	Not answered

Regulation

28.	*What are your views on the assessment of the place of environmental sustainability and fairness in the regulatory system?*
	We support the continuation of an economy wide approach to environmental sustainability (such as the Emissions Trading Scheme), and therefore do not consider that specific industry regulation is required. We do not consider that an explicit fairness objective should be added to overarching legislation which directs the Commerce Commission or the Electricity Authority in their regulation of the electricity sector. Fairness is difficult to define, and as acknowledged in the Report can be considered as implicit in the existing provisions.

29.	*What are your views on the assessment of low fixed charge tariff regulations?*
	We consider the low fixed charge regulations are causing harm and contribute to undue complexity in electricity pricing. A more targeted response to minimising energy hardship could focus on low income, high use households. In addition, many distributors challenge the Electricity Authority's view that the regulations do not hinder distribution pricing reform. The regulations limit the distribution pricing options which can be considered, and are not fit for purpose given the changes which the industry is facing. Accordingly the regulations should be revoked. We support the view expressed in the Report, that there are alternatives that better target energy hardship, and avoid cross subsidisation between high use and low use households. We note that transitional arrangements will be necessary to avoid undue price shock to consumers, as the impact of the regulations on prices is phased out.
30.	*What are your views on the assessment of gaps or overlaps between the regulators?*
	Access to distribution networks is managed through new connection arrangements and Use of System Agreements and various Electricity Industry Participation Code requirements. The regulators have work programmes underway to confirm whether these arrangements are fit for purpose. Distributors currently pay (typically through reduced network charges) for access to load control through hot water control. This could also extend to load control services provided by consumer batteries. These activities are to be encouraged because they reduce network investment costs. However, distributors should not be precluded from participating in this contestable market simply because they are monopolies, because to do so may reduce the benefits available to consumers. The boundaries and transactions between contestable and monopoly distribution services are governed by legislation, and associated regulation. These are refined from time to time in response to changing industry circumstances (as described in response to Q20). This is appropriate and provides for durable regulation because it is flexible, at the implementation level, but stable and therefore predictable at the policy level. We note the commentary in the Report regarding open access networks and the balancing of the objectives of promoting competition of distributed energy related services and opportunities for distributors to contribute in these markets. However, distributors are also the suppliers of last resort, due to the legislated obligations to maintain supply to existing connections. We also note that third party access to distribution networks may introduce additional risks which will need to be managed, including distributor compliance, health and safety obligations, investment risks and associated obligations to supply existing customers. **Regulation of distribution prices** There may be value in transferring the distribution pricing, contractual and access responsibilities of the Electricity Authority to the Commerce Commission. In particular, there are synergies with the Commerce Commission's responsibilities for setting revenue allowances and monitoring prices, contracts and pricing methodologies, through information disclosure regulation. The legislation already provides for the Commission to regulate pricing methodologies via Input Methodologies. Accordingly, the Commission could

leverage its understanding of the distribution sector into this next layer of regulation.

It would also allow the Electricity Authority to focus on operation of the electricity sector rather than distribution cost recovery.

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

We are confident that the regulatory frameworks will allow regulators to consider and adapt where necessary to accommodate new technologies and business models. There is considerable focus on this issue at present, and a watching brief on international developments. Our existing market arrangements, with a clear focus on contestability, security of supply, and incentive regulation for monopoly providers provides us with a good platform for this next phase of industry development.

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

Consumer voice

We support continued focus on improving the consumer voice in the regulatory framework. Distributors have focused more attention on this since Part 4 was introduced, but acknowledge there is room for improvement. The Commerce Commission acts as a pseudo consumer advocate. However various distributor initiatives are contributing to a greater understanding of consumer needs, including for levels of service. These include:

- consultation with customers over price-quality paths, services which are valued, health and safety initiatives, use of emerging technology, pricing options
- ENA and distributor consumer reference panels
- ongoing consultation with consumer trust owners.

Price-quality regulation

Default price-quality regulation is a lower cost form of control than customised price-quality regulation. Customised price-quality path (CPP) regulation is too costly and complex for some distributors at this time and we continue to work with the Commission to find ways to make this form of regulation more accessible to all non-exempt distributors.

Exemption status is important to many trust owned businesses, because it significantly reduces their regulatory compliance functions and costs. This is beneficial to consumers.

The original supporting papers for the Commerce Act Amendments clearly stated that the case for economic regulation is relatively weak where the customers are the owners of the firm. This is because the incentives of trusts to charge excessive prices are relatively low because excess profits are returned to the customer. Their relatively small size means that the cost of heavier handed regulation may outweigh the benefits. *(Review of the regulatory control provisions of the Commerce Act 1986, Regulatory Impact Statement)*

The reasons for the exemption option, which was added to the legislation in 2008, remain equally valid today. Consumers, as owners, are able to ensure that the business acts in their interests. As consumer beneficiaries have control over these businesses through trustee election processes, and as surpluses are distributed to

consumer beneficiaries, there is little incentive to make excessive profits.

Exempt businesses are regulated through information disclosure requirements. These requirements use similar underlying Input Methodologies to those used for price-quality regulation, as evidenced by the comparable information included in this submission and the Report. The Commission monitors the performance of exempt businesses, and uses the same measures as used for price-quality regulation of non-exempt EDBs. This incentivises exempt distributors to act consistent with the regulatory purpose statement.

In addition, additional protection for the consumers of exempt businesses is provided for in the Commerce Act. This provides for consumers of individual distributors to petition the Commission to recommend to the Minister that the distributor be subject to DPP/CPP regulation.

(Also refer to our analysis of the performance of exempt and non-exempt businesses in response to Q21).

Input methodologies

Since the introduction of Part 4 of the Commerce Act, there has been significant effort in establishing methodologies for the regulation of distributors, including the cost building blocks which are able to be recovered through line charge revenue.

The regulatory process was comprehensive, involving local and international expert advice and evidence, and withstood the challenge of the Courts through merits review. The input methodologies have also been subject to the first of the periodic reviews required by legislation and will be reviewed again before 2023.

We acknowledge that not all stakeholders agree with all aspects of the decisions, however this is not a valid reason for changing the regime or the methods which have been established including in respect of cost of capital and asset valuations. These methodologies are critical to promoting regulatory stability and certainty which is consistent with the long term interests of consumers. Accordingly they should be retained.

We note that this regulatory regime has applied in practice for distributors since 2013, when information disclosure and price-quality determinations were first issued under Part 4. Accordingly it is premature to consider material changes to this regulatory regime after only five years of operation. This is consistent with promoting regulatory certainty, which was one of the key drivers for the 2008 amendments which led to Part 4.

Tree regulations

The Report does not comment on the Electricity (Hazards from Trees) Regulations, 2003. Tree debris contribute significantly to power outages and distributor costs. However the overly prescriptive nature of the regulations prohibits effective vegetation management (eg: fixed distances between trees and lines which do not adequately reflect fall distances, requirements to identify tree owner as opposed to land owner or occupier).

Distributors support a more principled based approach to the regulations. A better approach would be to allow risk assessments to be used on trees near power lines to reduce the number of power outages caused by trees, improve the quality of service to customers and reduce reactive maintenance costs for distributors.

A review of the regulations has been included in the government's infrastructure plan. We encourage the Panel to highlight the importance of this review in its report to the Minister.

Summary of feedback on Part five

33. *Please summarise your key points on Part five*.

a) Access to new technology will help distributors manage networks better and lower costs in the long run.

b) More cost reflective distribution pricing can help to reduce inequity between consumers with access to emerging technology and those without.

c) We do not support including additional specific environmental sustainability or fairness objectives into industry regulation. These objectives are addressed, either explicitly or implicitly in existing industry regulation, or other provisions which apply more broadly across the economy.

d) We are confident that the regulatory frameworks allow the regulators to consider and adapt where necessary to accommodate new technologies and business models. There is considerable focus on this issue at present, and a watching brief on international developments. However premature intervention is not supported. Our existing market arrangements, with a clear focus on contestability, security of supply, and incentive regulation for monopoly providers provides us with a good platform for this next phase of industry development.

e) The low fixed charge regulations are no longer fit for purpose. They subsidise low use, high income households at the expense of high use, low income households who may suffer energy hardship as a result. They also hinder the introduction of more cost reflective pricing for distributors.

f) The boundaries between contestable and monopoly distribution services are governed by legislation, and associated regulations. These regulations are refined from time to time in response to changing industry circumstances. This is appropriate and provides for durable regulation because it is flexible, at the implementation level, but stable and therefore predictable at the policy level.

g) Distributors have focused more attention on understanding consumer views since Part 4 of the Commerce Act was introduced, but acknowledge there is room for improvement.

h) Part 4 exemption status is important to many trust owned businesses, because it significantly reduces their regulatory compliance functions. The reasons for the exemption option, which was added to the legislation in 2008, remain equally valid today. Exempt business performance, since Part 4 was implemented, has matched non-exempt businesses. Exempt businesses face similar incentives to innovate and achieve good outcomes for consumers (in addition to those provided by their trust owners) because they are regulated by the Commission using the same methods applied to non-exempt businesses, through information disclosure monitoring and analysis.

i) Exempt and non-exempt businesses are actively collaborating about the impacts of emerging technology and the appropriate distribution sector response to this additional complexity. This is independent of regulatory exemption status.

j) The input methodologies are critical to promoting regulatory stability and certainty which is consistent with the long term interests of consumers. We acknowledge that not all stakeholders agree with all aspects of the IM decisions, however this is not a valid reason for changing the regime or the methods which have been established using robust processes. It is also too early to consider material changes to the Part 4 regulatory regime.

k) The overly prescriptive nature of the tree regulations prohibits effective vegetation management and contributes to unnecessary distribution costs and

power outages which detrimentally impact consumers.

Solutions to issues and concerns raised in Part five

34. *Please briefly describe any potential solutions to the issues and concerns raised in Part five.*

a) Investment by distributors in LV monitoring and control systems will be critical to effectively managing the interface with new customer technologies. This will facilitate the benefits of associated new products and services for consumers, including those who may not have the ability to directly invest in them.

b) Distributors are the suppliers of last resort. We note that third party access to distribution networks may introduce additional risks which will need to be managed, including distributor compliance, health and safety obligations, investment risks and associated obligations to supply existing customers.

c) There may be benefits in transferring the distribution pricing responsibilities of the Electricity Authority to the Commerce Commission.

d) Revoking the low fixed charge regulations will facilitate the transition to more cost reflective distribution pricing. A more targeted response to minimising energy hardship, such as the winter energy payment scheme, could focus on low income, high use households.

e) We expect that the two energy regulators will continue to refine their regulations and associated guidance in response to industry changes and emerging issues. We expect that the regulators will continue to work collaboratively in this respect and consult with stakeholders on the need for change and the options available. In order for regulation to be durable through periods of change it should be principles based wherever possible and avoid unnecessary ‘bright line’ tests or restrictions.

f) We support continued focus on improving the consumer voice in the regulatory framework.

g) Distributors continue to work with the Commerce Commission to investigate ways to make CPP regulation more accessible to all non-exempt distributors.

h) We encourage the Panel to highlight the importance of the review of the tree regulations in its report to the Minister.

Additional information

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

The following evidence was referred to in response to Q4

i. Extract from Ministry of Commerce Electricity Information Disclosure Statistics 1998 showing medium domestic consumer price components (1994 – 1998) sourced from information disclosures.

Weighted Average Total Cost Components (inflation adjusted to 1998)

	Small Domestic				Medium Domestic			
	Line	T.Power	Energy	Total	Line	T.Power	Energy	Total
1994	4.53	2.29	6.57	13.39	3.02	1.97	6.81	11.80
1995	4.41	2.21	6.48	13.10	2.92	1.90	6.71	11.53
1996	5.11	1.98	6.69	13.77	3.69	1.79	6.68	12.15
1997	5.36	1.91	6.87	14.14	3.97	1.71	6.86	12.55
1998	5.42	1.91	6.85	14.19	4.04	1.72	6.83	12.60

ii. Composition of residential prices. The data from 1994 onwards was published by government ministries, with the component data extracted from distributor disclosures, as described in this extract from the Ministry of Commerce 1998 Information Disclosure Statistics publication.

TARIFF MONITORING DATA

The source of the tariff monitoring data is the published tariff schedules of the electricity distribution companies and their predecessor authorities, plus the public disclosure information on the separation of line, transmission and energy charges.

The tariffs for domestic and rural consumers were previously monitored by the Rural Electrical Reticulation Council (RERC), and date back to 1984. With the new requirements of the electricity information disclosure regime it has been possible to separate the most recent tariff data into its line, transmission and energy components. The practice in the past of having different tariff options for so-called domestic, farming, commercial and industrial customer groups is rapidly fading. An increasing number of companies now have a single tariff schedule with options that reflect different electrical characteristics. For this reason the tariff costs have been described as costs to "domestic" and to "commercial" users.

iii. Changes in composition of residential prices. The percentage changes below show the step changes in each of the residential price components**.**

Composition of residential prices (real 2018 dollars and percentage change)

	1990	1994	1990-94	2004	1994-04	2018	2004-18	1994-18
Source	*First Report*	*MOC*		*MBIE*		*MBIE*		
	c/kWh	c/kWh	%	c/kWh	%	c/kWh	%	%
GST	1.7	2.0	18%	2.5	22%	3.9	58%	92%
Distribution	1.2	4.5	275%	6.1	36%	7.3	20%	63%
Transmission	1.9	2.7	43%	1.9	-31%	3.3	77%	21%
Generation + Retail + Metering	11.3	8.9	-21%	11.7	31%	15.1	30%	70%
Total	**16.1**	**18.1**	**13%**	**22.1**	**22%**	**29.7**	**34%**	**64%**
Total excl GST	14.4	16.1	12%	19.6	22%	25.8	31%	60%

From 1994 to 2018 these are sourced from the published data described above. The implied step change from 1990 to 1994, (which is derived from the inferred 1990 price components included in the Report and the actual disclosed price components) reveals the misallocation in the 1990 data – before there were separate line and energy charges. This is indicated by the significant

adjustment between the generation/retail/metering component and the transmission and distribution components once the actual 1994 component data became available.

The following evidence was referred to in response to Q21

Performance benchmarking

In 2003, Meyrick and Associates assessed comparative productivity of EDBs and the results were used to derive the C1 component of the X factor applied in price path thresholds. This was based on multilateral total factor productivity (MTFP) analysis derived from a comparison of inputs (operating costs, overhead line capacity, underground line capacity, transformer capacity and other capital) and outputs (throughput, system line capacity and connections) for each EDB. The 2003 results (based on 1999 – 2003 data) were ranked and C1 components of 1%, 0% and -1% were assigned to low, medium and high productivity performers respectively.

MTFP analysis is intended to take account of differences in EDB operating environments to the maximum extent possible. The nine networks which were deemed to have high productivity in 2003 all exhibited characteristics which gave them inherent advantages in the analysis. These require low inputs relative to outputs, as measured in the MTFP analysis. They included:

- networks that have high density and high proportions of underground reticulation
- networks which are relatively simple with narrow boundaries (eg: only 11kV and LV)
- networks that have large consumers which dominate their customer load.

In 2003, Meyrick and Associates grouped the EDBs into four density groups (urban high density, urban low density, rural high density and rural low density) and observed that representatives of each of these groups were ranked in both the high and low productivity bands.

In 2007, Meyrick and Associates updated the MTFP analysis by extending it to 2006, correcting for known data errors and using an alternative approach to EDB capital specific shares. This alternative approach used capital shares derived from EDB specific 2004 ODV asset data, whereas the 2003 analysis used assumed average capital shares for each of the four density groups. The difference between the assumed group averages and EDB specific shares were material for some EDBs.

Meyrick and Associates summarised the outcomes of the alternative 2007 approach as follows:

> *For around half the EDBs there are only minor changes in rankings indicating that the group average shares used previously were good proxies and the move to "unoptimising" some underground cables has not had a major effect. For the other half of the EDBs there have, however, been significant changes.*

As a result the productivity rankings of a number of EDBs were significantly affected by the change. Had the alternative method been applied in 2003, the following significant changes to the C1 and X factors would have occurred.

EDB	C_1 (2003 Analysis)	C_1 (Revised 2003 Analysis)	Impact on X Factor
Centralines	1	0	-1
Electricity Invercargill	-1	1	+2
MainPower	1	0	-1
Nelson Electricity	-1	1	+2
Network Waitaki	0	-1	-1
Orion New Zealand	0	1	+1
The Lines Company	1	-1	-2
Top Energy	0	-1	-1
Vector	-1	1	+2

Source: PwC on behalf of 20 EDBs, 18 February 2008, Submission on the Threshold Reset 2009 Discussion Paper, paras 39-54

Unfortunately, due to legislative reform which delayed resetting the thresholds the original X factors applied for eight years from 2003 through to 2010. When DPPs were implemented in 2013 based on cost building blocks, there were significant corrections required to re-establish the link between cost and revenue, including for the non-exempt businesses included in the table above. These corrections will not be fully incorporated into revenues until 2020.