ENA submission to issues paper on Measures for Transition to an Expanded and Highly Renewable Electricity System

Submission to the Ministry of Business, Innovation and Employment

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NAME OF SUBMITTER
Electricity Networks Aotearoa

INDUSTRY/AREA OF INTEREST
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āhuarangi. kiritaki. mahi ngātahi. climate. customers. collaboration.

Contents

1 Introduction

Electricity Networks Aotearoa (ENA) appreciates the opportunity to make a submission on the issues paper on Measures for Transition to an Expanded and Highly Renewable Electricity System (the issues paper).

ENA is the industry membership body that represents the 27 electricity distribution businesses (EDBs, sometimes called lines companies) that take power from the national grid and deliver it to homes and businesses. See Appendix A of this submission for a list of ENA member companies.

ENA harnesses the collective expertise of members to promote safe, reliable and affordable power for our members' customers.

ENA's primary role is to guide the development of policy for the electricity distribution sector, to engage with government agencies on the sector's behalf and to co-ordinate communications and other activities on behalf of our members.

2 Executive Summary

The distribution sector is working hard to play its part in the electrification and decarbonisation of New Zealand so that collectively we can meet our target of net zero emissions by 2050. For the distribution sector, the speed and success of this transition is most heavily affected by the policy and regulatory settings that govern the sector and associated market structures. As such, it is critical that the independent sector regulators, the Electricity Authority (EA) and the Commerce Commission (ComCom), work with the EDBs at a suitable pace and with sufficient flexibility in their regimes that these objectives can be achieved.

The sector is pleased to see the Ministry of Business, Innovation and Employment (MBIE) undertaking this examination of the high-level policy settings for the electricity system, to see whether they are fit-for-purpose for the significant transformation that is required to meet our net zero target. We encourage MBIE to remain focussed on the high-level legislative and regulatory framework that informs the work of the independent sector regulators, and not become 'bogged down' in considering more immediate, transitory, challenges that the sector is dealing with.

ENA's submission is largely focussed on the questions contained in parts 3 and 4 of the paper, as these subjects are most directly relevant to our members. We have made some limited comments on other parts of the issues paper where we have some insight or position of value.

3 Part 1: Growing Renewable Generation

Note: Where we have not reproduced a question below from this part of the issues paper, read this as a "no comment" and/or "not applicable" response, as appropriate.

3.1 Q1. Are any extra measures needed to support new renewable generation during the transition?

Please keep in mind existing investment incentives through the energy-only market and the ETS, and also available risk management products. Any new measures should add to (and not undermine or distort) investment that could occur without the measures.

It is important that the planning system be enabling of new electricity system infrastructure, including generation, transmission and distribution. Any steps that can be taken to increase the certainty of planning permission for these types of assets will be very helpful in bringing new renewable generation (and the supporting network infrastructure) into the system.

3.2 Q2. If you think extra measures are needed to support renewable generation, which ones should the government prioritise developing and where and when should they be used? What are the issues and risks that should be considered in relation to such measures?

ENA considers that the current planning system represents one of the most significant barriers to development and deployment of new renewable generation in New Zealand. We therefore think that any steps that can be taken to get the planning system 'out of the way' of new generation will be helpful.

3.3 Q16. What new measures could be developed to encourage large industrial users, distributors and/or retailers to support large-scale flexibility?

From a distribution sector perspective, one of the key enablers of flexibility (large-scale or otherwise) is the provision of clear price signals to potential flexibility providers of the value of such flexibility. Therefore, the barriers we identify in our response to question 32 below – particular those related to network visibility (i.e. access to smart meter data) and the ability for EDBs to invest in network monitoring technologies – are relevant to EDBs being able to make those price signals available to third parties. There should then be clear, stable and enduring incentives for large industrial users (and others) to consider the business case for making flexibility inherent in their electricity use and business processes available to the market.

We also note that the EA Market Design Advisory Group (MDAG) is looking closely at this issue, and EDBs and other industry participants have had the opportunity to actively engage with and feed into that work.

4 Part 2: Competitive Markets

Note: ENA has no comments to provide on any of the questions in this part of the issues paper.

5 Part 3: Networks For The Future

5.1 Q27. Do you consider that the balance of risks between investing too late and too early in electricity transmission may have changed, compared to historically? If so, why?

Yes, and we consider that this is also the case for distribution network infrastructure investment.

In the current situation of rapid changes in consumer electricity consumption and demand patterns, small, incremental improvements in network capacity are likely to be inefficient and potentially ineffective – unable to keep pace with the pace of demand growth. The US Department of Energy estimates that cost of networks not investing to facilitate the changing use of electricity networks is that consumers would miss out on annual saving of 14-16% of their bill[1].

In addition, Transpower and EDBs will be drawing from a limited pool of resource – both in terms of human resources and plant and equipment – to deliver the network capacity to support this increased demand. If Transpower and EDBs all wait until there is an immediate need for capacity increase it is highly likely that their ability to service that demand will be constrained by a lack of resources. This in turn will hold up the electrification and decarbonisation of New Zealand, to the detriment of New Zealanders and potentially jeopardising our wider climate change goals.

Lastly, Government has foreseen some of the issues related to limited pools of resource in the decarbonisation of significant industrial load, which is one of the drivers behind the Government Investment

[1] US Department of Energy, 2022, "Distribution System Operator with Transactive (DSO+T) Study: Volume 1 (Main Report)" Title (osti.gov)

in Decarbonising Industry (GIDI) Fund. For Transpower and EDBs, they must be ready and able to support the demands of their customers (such as large industrial users) when they choose to electrify their energy needs, and this could (and probably will be) out of step with an incremental 'just in time' approach to network investment.

5.2 Q28. Are there any additional actions needed to ensure enough focus and investment on maintaining a resilient national grid?

ENA has no specific actions to suggest, but we do wish to note that investment in 'resilience' does not increase the capacity of the system. In addition, as we anticipate the effects of climate change to include more severe and more frequent weather events, this type of investment may not improve SAIDI/SAIFI performance either, it may simply negate any deterioration in this performance. In short, government and regulators should be aware that spending on resilience will not necessarily generate any improvements in traditional network performance/output measures but may simply arrest any backsliding caused by climate change impacts.

5.3 Q29 - Do you agree we have identified the biggest issues with existing regulation of electricity distribution networks?

ENA does not agree that new connection costs are a significant issue with the existing regulation of EDBs. We encourage the government and regulators to maintain their focus on the effects of the changing electricity consumption patterns and service expectations of the existing ~2.2 million electricity network connections, rather than the ~500-1000 new non-residential load connections that come onstream every year.

ENA also perceives some significant risks should regulators choose to constrain how EDBs fund new consumer connections. This is a critical component of funding requirements for these businesses, and those individual EDBs will be best placed to determine the approaches that work for their individual consumer base and their own funding circumstances.

Turning to 'first mover disadvantage' MBIE have identified this as a significant concern. EDBs have long had regard for the problem of first-mover disadvantage and most have included mechanisms in their connection policies that mitigate the problem appropriately and effectively. The EA intends to review EDBs connections policies in 2024, and we are confident that any shortfalls in individual EDB policies will be identified at that time.

5.4 Q30 - Are there pressing issues related to the electricity distribution system where you think new measures should be looked at, aside from those highlighted in this document? How would you prioritise resolving these issues to best enable the energy transition?

Other than our comments in this submission, we have no further pressing issues to raise.

5.5 Q31 - Are the issues raised by electricity distributors in terms of how they are regulated real barriers to efficient network investment? Please give reasons for your answer. Is there enough scope to address these issues with the current ways distributors are regulated? If not, what steps would you suggest to address these issues?

Yes, these are real issues. At a macro level, the inflexibility of the ComCom's Part 4 regime is probably the biggest regulatory issue facing EDBs. As described in our response to question 27, the incrementalist approach encouraged by Part 4 is ill-suited to the rapidly increasing demands being placed on the electricity sector.

ENA encourages the government to consider a review of the Part 4 of the Commerce Act to ensure that is has sufficient flexibility to accommodate increasing levels of uncertainty in the future of the distribution sector. We also consider that, within its current suite of tools, there is opportunity for the ComCom to introduce

more measures to deal with this uncertainty. Uncertainty mechanisms could include better (less onerous) re-opener processes and more flexible allowances, within the existing Default Price-Path regime.

5.6 Q32 - Are there other regulatory or practical barriers to efficient network investment by electricity distributors that should be thought about for the future?

At the heart of efficient and effective network management is provision of reliable information to EDBs on network use, and availability of a suite of tools to manage those impacts. At present, EDBs are hamstrung by the lack of access to smart metering data (including funding to pay for the data), which would otherwise provide a wealth of information to ensure network investment was made as efficiently as possible. Equally, the backward looking DPP makes the deployment of significant network monitoring assets, and other new operational technologies, challenging.

In terms of the toolkit available to them, EDBs are still constrained from investing in more holistic solutions to serving their customers' energy needs. Particularly in areas suffering from the impacts of climate change, the ability to service customers using non-traditional approaches (e.g. solar panels, batteries, micro-grids, etc) would provide useful additional approaches to solving some of the challenges networks are facing. Likewise, some regulatory settings (e.g. the obligations for continuance of supply of line function services) are significant barriers to offering more modern and tailored energy solutions to consumers in atypical situations.

An additional more specific issue is there seems to be a disconnect between EDB's regulatory requirements to connect embedded generation (in part 6 of the Code) and Transpower's requirements and obligations. EDBs may require input from Transpower for the design of a large-scale distributed generation connection, and the EDBs have specific timeframes they must meet for those connections. However, the current Code requirements do not require Transpower to respond within certain time frames. This has caused frustration for both EDB and the generator and puts the EDB 'on the hook' for timescales they may not be able to comply with due to Transpower's processes, who have no corresponding regulatory requirements. A more coherent a wholistic set of requirements across both EDBs and Transpower for these new generation connections – which are increasingly common – would be helpful.

5.7 Q33 - What are your views on the connection costs electricity distributors charge for accessing their networks? Are connection costs unnecessarily high and not reflective of underlying costs, or not? If they are, why do you think this is occurring?

ENA, and the EDBs, recognise the key role they have to play in enabling connections to the electricity networks. We also recognise the significant interest our stakeholders have in the subject of connection pricing and timescales. ENA has had many conversations with members and other stakeholders on this subject recently, and we are confident that EDBs are pricing their network connections in a fair and cost-reflective way. We are also working with our members and these stakeholders to improve the availability and transparency of pricing information for new connections across the distribution sector, as a means to address uncertainty and misunderstanding around these policies and processes.

The speed with which some significant new connections to the electricity network are being sought is a genuine step-change from historic practice, and the sector is doing what it can to make these processes as straightforward as possible. However, there is no getting away from the fact that these significant new connections require significant investment in infrastructure, plant, civils work, planning and design, etc, which all come with significant costs. There are also material differences in the costs between different locations the same network, and between different networks. If these costs are not borne by the connecting party – who are the primary beneficiaries of a new electricity network connection – then they must fall elsewhere. EDBs are not prepared to shift these costs on to the mass of their existing network customers to subsidise connections for what are often commercial, profit-generating purposes. There are also material differences in the risk profiles of different classes of consumers (e.g. between a low-capex commercial consumer and a high-capex residential connection).

Ultimately, if some of these new connecting parties are considered to be delivering services that are critical to New Zealand's social, environmental and economic well-being, and if they are not otherwise going to proceed due to the costs of obtaining a network connection, then consideration should be given to funding or subsidising them from the public purse as a public good.

5.8 Q34 - If you think there are issues with the cost of connecting to distribution networks, how can government deliver solutions to these issues?

We do not see any 'solvable' issues, therefore have no comment to make. We urge the government ensures that EDBs maintain the discretion to apply the practices that best suit their individual circumstances, including their ability to fund a portion of consumer connection costs.

5.9 Q35 - Would applying the pricing principles in Part 6 of the Code to new load connections help with any connection challenges faced by public EV chargers and process heat customers? Are there other approaches that could be better?

ENA does not think applying the principles of Part 6 of the Code to new load connections would address the challenges identified here. Amongst other issues, Part 6 states that the EDB can charge "reasonable costs incurred by distributor as a result of connecting the distributed generator and to comply with connection and operation standards within the distribution network". It would therefore not reduce the connection charges for these types of connections.

In addition, Part 6 also has the issue of creating a 'last-mover disadvantage', whereby existing connected generators cannot be charged for any subsequent upgrades they are deemed to benefit from. It would be extremely unwise to replicate this arrangement for load connections.

Finally, the problem identified in our response to question 33 remains: costs that are not borne by the connecting party must fall elsewhere, and we consider that it is not fair or reasonable for these costs to be shifted to the bulk of electricity network customers, who will receive no benefit from enabling these new load connections.

5.10 Q36 - Are there any challenges with connecting distributed generation (rather than load customers) to distribution networks?

We do not observe that there are any technical challenges to connecting distributed generation to the network – such connections are relatively routine (from a technical perspective) and are made as requested.

However, as with parties connecting significant new loads, significant new distributed generation requiring export capacity on to the network will also potentially face high costs to connect – depending upon the existing capacity in the network at the point of connection. Where these high costs exist, this may present a challenge to those seeking these connections, but this is an accurate reflection of the costs involved in making these connections.

ENA has previously raised concerns with the EA regarding the current threshold (>10kW) for 'large' connections in part 2 of Part 6 of the Code. We do not think the authors of this section of Part 6 anticipated the significant number of distributed generation projects at this scale that are currently seeking connections to the distribution networks. We are awaiting the EA's final decisions around changes to Part 6, including changes to this threshold.

We also note, as per our response to the preceding question, that the cost of network upgrades that benefit both new and existing generation connections cannot be recovered from those existing generation connections.

5.11 Q37 - Are there different cost allocation models addressing first mover disadvantage (when connecting to distribution networks) which the Electricity Authority should explore, potentially in conjunction with the Commerce Commission?

ENA agrees that building ahead of need can and will be appropriate in a world in which demand is increasing rapidly. Investments can be lumpy, and ensuring there is some spare capacity can be efficient.

Fundamentally, questions about first mover disadvantage are about fairness and which party is best placed to carry the risk of the new connection. ENA firmly believes that EDBs existing customers should not carry this risk, and the connecting party is best placed to assess the risk when carrying out its due diligence and making its investment decision.

If there are to be any changes that impose a new cost allocation model for new connections on the sector, the impact on EDBs capex or opex allowances (set by the ComCom) and the mix between these (especially around connection charges) needs very careful consideration, given the limited ability to reopen a 5-year price path. In that scenario, it would be essential for the ComCom and EDBs to be involved in decisions around any change that materially impacts costs faced by EDBs and consumers, including connection costs.

5.12 Q38 - Should the Electricity Authority look at more prescriptive regulation of electricity distributors' pricing? What key things would need to be looked at and included in more prescriptive pricing regulation?

ENA notes that the EA already has significant activities underway that are reviewing and/or potentially impact upon electricity distribution pricing. In addition, the EA's annual EDB pricing scorecards have seen consistent improvement in distribution sector scores, which demonstrates that reform of pricing is taking place. This has proven to be an effective and light-touch approach to driving pricing reform in the sector. We therefore caution against overriding those initiatives with a high-level policy prescription, without allowing them to run their course.

We also note the significant jurisdictional overlap between the pricing for new connections (which the EA is now expanding its oversight of) and the allowances for funding these connections (which is the remit of the ComCom). Given that the one dictates the other, and funding requirements will differ by EDB, we believe the overlap (and the potential confusion it creates) is unhelpful.

5.13 Q39 - Do current arrangements support enough co-ordination between the Electricity Authority and the Commerce Commission when regulating electricity distributors? If not, what actions do you think should be taken to provide appropriate co-ordination?

No, current arrangements do not support sufficient coordination between EA and ComCom when regulating electricity distribution businesses. In fact, the recent amendments to the Electricity Industry Act, which broaden the scope of the EA's powers to overlap with those of the ComCom with respect to regulating EDBs. This has had the effect of making coordination between these two regulators even more critical. The interplay between connection pricing (EA) and connection funding (ComCom), highlighted above, is another looming challenge for EDBs, as is the risk of competing or conflicting quality standards, via either the Default Distribution Agreement (EA) or SAIDI/SAIFI limits (ComCom).

We understand from separate conversations with EA, ComCom and MBIE that the 'Council of Energy Regulators' (of which they are all members) meets regularly to ensure that this coordination takes place, however the electricity sector has little, if any, visibility of this activity. If the council were to publish meeting agendas, minutes, etc, that may go some way to providing confidence to the sector that the regulators are acting in a coherent and coordinated manner.

5.14 Q40 - Will the existing statutory objectives of the Electricity Authority and Commerce Commission adequately support key objectives for the energy transition?

Based on our experience of the interpretation of these regulators' existing statutory objectives, we do not think they currently provide sufficient focus on decision-making that will enable EDBs to support the energy transition. This is especially the case for the ComCom, who have proven unwilling to read the need to address climate change into their purpose statement. We have found that climate change (and therefore the energy transition) are, at best, a secondary consideration, one which is only assessed once the regulators' primary objective has been satisfied.

5.15 Q41 - Should the Electricity Authority and/or the Commerce Commission have explicit objectives relating to emissions reduction targets and plans set out in law? If so,

- **should those objectives be required to have equal weight to their existing objectives set in law?**
- **Why and how might those objectives affect the regulators' activities?**

In the first instance and with consideration for the practicalities of making changes to primary legislation, ENA prefers the approach of the relevant ministers issuing a GPS that directs both the ComCom and EA to have greater regard for the need to mitigate the effects of climate change through decarbonisation and electrification in their decision-making.

5.16 Q42 - Should the Electricity Authority and/or the Commerce Commission have other new objectives set out in law and, if so, which and why?

ENA does not consider that any additional new objectives are required for the EA or ComCom. As a general principle, the Government should try to set as few objectives as possible for regulatory agencies such as these.

5.17 Q43 - Is there a case for central government to direct the Commerce Commission, when dealing with Electricity Distributors and Transpower, to take account of climate change objectives by amending the Commerce Act and/or through a Government Policy Statement (GPS)?

ENA is agnostic as to the mechanism by which both the ComCom and EA are instructed to have greater regard for climate change objectives in their decision-making. As a practical matter, we expect the most and straightforward way to achieve this would be the issuing of a GPS by both the Minister of Commerce and Consumer Affairs, and the Minister of Energy, to direct both the ComCom and EA to have greater regard for the need to mitigate the effects of climate change through decarbonisation and electrification in their decision-making. However, we note that this need to consider climate change will be a long-term and enduring requirement, and we can see the case could be made to amend the relevant legislated mandates for these regulators to achieve this outcome.

If taking the GPS approach, the effectiveness of this could be reviewed after some reasonable period (2-3 years perhaps), and, if considered ineffective in altering the approach these regulators have taken, the Government could look to directly amend the statutory objectives of these two regulators.

5.18 Q44 - If you answered yes to question 43, please explain why and indicate:

- **What measures should be used to provide direction to the Commerce Commission and what specific issues should be addressed?**

- **How would investment in electricity networks be impacted by a direction requiring more explicit consideration of climate change objectives? Please provide evidence.**

As we stated in our responses to the preceding questions, we think there is a case to direct the ComCom and EA to take account of climate change objectives. We consider that a GPS (or potentially changes to legislative mandates) would empower the ComCom and EA to directly take account of climate change objectives in fulfilling their statutory objectives.

As this is a potential future state, we have limited evidence available to demonstrate exactly how these regulators would respond to a GPS or other requirement to take climate change into account.

ENA and its members are happy to work with MBIE to explore these questions in more detail.

6 Part 4: Responsive Demand and Smarter Systems

6.1 Q45 - Would government setting out the future structure of a common digital energy infrastructure (to allow trading of distributed flexibility) support co-ordinated action to increase use of distributed flexibility?

ENA believes that the key barriers to enabling greater deployment and use of distributed flexibility in the New Zealand context are related to the access to information for EDBs and others. The most useful step the government (and regulators) could take would be to establish:

- a regime for improved, commercially viable, access to smart metering data for EDBs and other parties (e.g. flexibility traders and aggregators); and
- a simple registration regime for installed DER/CER above some sensible thresholds, again with access for EDBs and other appropriate parties.

These two actions would unlock much greater visibility of network capacity and utilisation at the LV level, and much greater visibility of the level of penetration and geographic distribution of DER/CER on the networks. This in turn would give a much clearer picture to EDBs and others of where on the distribution networks a flexibility response would add value, and also whether the resources to provide such a response are available and to what extent.

Armed with this smart meter data, EDBs can begin to provide price signals to customers and customers' agents as to the value to them of a flexibility service, and the particular characteristics such a service would need to have (e.g., duration, sustainability, frequency of use, exclusivity of use, etc).

Once these price signals and desired service characteristics are known, flexibility traders can begin to build business cases for EDBs and others to meet these requirements and begin recruiting and procuring (and perhaps incentivising) the DER/CER needed to support these services. Critical enablers such as operating envelopes for DER/CER (whether dynamic or static) also rely heavily on data access and resource visibility.

EDBs are others are also beginning to explore the common standards and interoperable protocols to be established and adopted to enable seamless operation of DER/CER. We encourage government to continue its support of this industry-led work.

Given the above, we think it is premature for the government to set out the future structure of a common digital energy infrastructure. The actions described above would be a much better first step to allowing a flexibility market (and digital platforms) to develop organically. Once these information barriers are unlocked, the need for an intervention of the sort proposed in this question can be better assessed.

6.2 Q46 - Should central government see how demonstrations and innovation to help inform how trade of flexibility evolves in the New Zealand context, before providing direction to support trade of distributed flexibility? If yes, how else could government support the sector to collaborate and invest in digitalisation now?

As laid out in our response to question 45, ENA believes the most useful action government and regulators can take now is to unlock the information barriers we perceive to the establishment, enablement and use of flexibility services by EDBs. We therefore think that central government should wait and observe the development of flexibility markets before making any further interventions.

The interventions discussed in question 43 – issuing a GPS or similar to give direction to regulators – should provide sufficient direction such that regulators would allow for the kinds of investments needing to be made by regulated entities, such as EDBs, to develop flexibility platforms if justified.

6.3 Q47 - Aside from work already underway, are there other areas where government should support collaboration to help grow and develop flexibility markets and improve outcomes? If yes, what areas and actions are a priority?

ENA believes that addressing the information barriers described in our response to question 45 is the most productive intervention government and regulators could make in this regard. However, there is a role for innovation funding to play in delivering some of the commercial, operational and business process models that will be necessary for a vibrant flexibility market, faster than might otherwise be the case.

Looking to the UK as an example, the significant progress that EDBs in that country have made to foster and enable flexibility markets are built off the back of the world-leading Low Carbon Networks Fund (LCNF), more latterly the Strategic Innovation Fund (SIF), established by Ofgem, the UK energy sector regulator. The benefit of these funds is that it 'de-risks' EDB activities to develop and trial innovative solutions to emerging issues, such as the development of flexibility markets.

We encourage the government to consider establishing a stable and appropriately-sized fund for innovation on EDB networks.

6.4 Q48 - Could co-funding for procurement of non-network services help address barriers to uptake of non-network solutions (NNS) by electricity distributors?

Any measures that could be introduced to 'de-risk' the investment in time, money and resources expended in an NNS procurement process for EDBs would be likely to encourage more frequent use of this approach. Currently, if an EDB embarks on an NNS procurement process that is ultimately unsuccessful, then the opportunity cost of those resources used for the procurement is often significant, in terms of the other productive activity that could have been undertaken to plan a more conventional approach to network reinforcement or upgrade. Further, the overhead cost of running such a process can be significant, compared to the typical sizes of investment in EDBs' networks; only the most significant investments would likely be large enough to justify the overhead of running such a process under the status quo.

6.5 Q49 - Would measures to maximise existing distribution network use and provide system reliability (such as dynamic operating envelopes) help in New Zealand? If yes, what actions should be taken to support this?

Yes – in particular dynamic operating envelopes (DOE) represents a key tool in allowing EDBs to provide quicker and more cost-effective access to electricity network capacity (i.e. network connections) where the customer is able to flex their demand to match the current envelope. Enabling this flexibility offers a 'win-win' for both the connecting party and the EDB and should be developed as a BaU approach to offering network connections as soon as possible.

MBIE is right to identify DOEs as a mechanism for enabling more optimal use (and greater utilisation) of available network capacity, first and foremost. As more manageable DER on EDBs' networks are responding

to a wider range of external stimuli, it is essential that EDBs are empowered to use DOE (or an equivalent mechanism) to reflect to those managing the DER what actions are physically feasible at each location, in every hour of the day.

6.6 Q50 - What do you think of the approaches to smart device standards and cyber security outlined in this document? Are there other issues or options that should be looked at?

ENA supports the actions described in the paper that are already underway to enable greater use of 'smart' appliances in New Zealand. In addition, and as a matter of course, New Zealand should endeavour to maintain legislative and regulatory alignment with modern electrotechnical standards (such as AS/NZS 4777), to the extent possible. Mandating the capability required for smart EV charging (including connection to a smart demand-management system) is another obvious enabler of a smart system. We are also very supportive of a review of the voltage thresholds for low voltage networks set out in the Electricity (Safety) Regulations 2010, as we consider that increasing these thresholds will unlock additional export capacity on the low voltage network at low or no cost to consumers.

6.7 Q51 - Do you think government should provide innovation funding for automated device registration? If not, what would best ensure smart devices are made visible?

While there may be a need in future for a sophisticated mechanism or register to capture the location and nature of smart devices, ENA does not consider that this is necessary at this stage. Instead, we encourage the EA to make a small change to the functionality of the registry so that it can include simple details of DER installed at a particular ICP and any aggregators with the contractual rights to manage that DER. There would be a straightforward change to the Code to require that this information be provided, most likely by the installer, at the time of installation of the device.

6.8 Q52 - Are extra measures needed to grow use of retail tariffs that reward flexibility, so as to support investment in CER and improved consumer choice and affordability?

ENA does not think that any additional measures need to be introduced by government to drive the development of retail tariffs that reward consumer flexibility. The single most useful step the government could take, which is already underway, is to repeal the Electricity (Low Fixed Charge Tariff Option for Domestic Consumers) Regulations 2003. We urge government to follow through on the repeal of these regulations.

Otherwise, increased visibility of network capacity constraints, for both EDBs (via smart meter data) and flexibility providers, should create the conditions necessary to encourage the use of and rewards for flexibility.

6.9 Q53 - Should the government consider ways to create more investment certainty for local battery storage? If so, what technology should be looked at for this?

ENA does not see any need for government to incentivise investment in local battery storage. These investments will be made if they are efficient and supported by cost-reflective value streams (such as time-of-use network tariffs).

6.10 Q54 - Should further thought be given to making upfront money accessible to all household types, at all income levels, for household battery storage or other types of CER?

No comment to make.

6.11 Q55 - Should government think about ways to reduce 'soft costs' (like the cost of regulations, sourcing products, and upskilling supplier staff) for installing local battery storage with solar and other forms of CER/DER storage? If so, what technology should be looked at?

No comment to make.

6.12 Q56 - Is a regulatory review of critical data availability needed? If so, what issues should be looked at in the review?

As the issues paper notes, a regime for improved access to smart metering data for EDBs and other parties would be a key step in enabling the more efficient and effective management of distribution networks.

7 Part 5: Whole-of-System Considerations

7.1 Q57 - What measures do you consider the government should prioritise to support the transition?

The development of a whole-of-system statement of opportunities should be prioritised. This document should clearly spell out the site and scale of opportunities for investment across the electricity sector including generation, demand response and network capacity.

Also, as noted in our responses to questions in part 4, prioritising access to critical information (e.g. smart meter data) for industry participants should be kept in the forefront of government thinking.

7.2 Q58 - Are there gaps in terms of information co-ordination or direction for decision-making as we transition towards an expanded and more highly renewable electricity system and meeting our emissions goals? Please provide examples of what you'd like to see in this area.

As noted above, a whole-of-system perspective such as a statement of opportunities or integrated system plan would greatly contribute to a more coordinated transition and least-cost energy future.

7.3 Q59 - Are there significant advantages in adopting a REZ model, or a central planning model (like the NSW EnergyCo), to coordinate electricity transmission investment in New Zealand?
Would a REZ model for local electricity distribution be an effective means of addressing first mover disadvantage with connecting to electricity distribution networks?

We have some difficulty conceptualising what a REZ-style approach would look like for EDBs in practice. As we noted in our response to question 37, we do not consider that first mover disadvantage is significant issue for those connecting to the distribution networks.

7.4 Q60 - Should MBIE regularly publish opportunities for generation investment to enable informed market decision-making?

ENA encourages the publication of generation investment opportunities. ENA is not convinced that MBIE is the right organisation to prepare this important document. Other organisations such as the System Operator are likely better positioned and more appropriately skilled and resources to conduct this work, and already have access to the necessary information through network connection enquiries.

7.5 Q61 - How should the government balance the aims of sustainability, reliability and affordability as we transition to a renewable electricity system?

Balancing the three legs of the energy trilemma is no easy feat. However, ensuring that no New Zealanders are pushed into energy poverty must be a priority. To achieve this, Government must create an environment where investment by generators is supported and appropriately compensated via an effectively functioning wholesale market, and where networks (both distribution and transmission) are funded and incentivised to build, maintain and operate at the level of reliability expected by consumers. If these two tasks are achieved, the industry can and will deliver electricity in a way that underpins New Zealanders' way of life and sustainability goals.

The most straightforward means of achieving this balance is for the Government to require that policymakers, regulators and the System Operator give proper consideration to all three components of the trilemma in their decision-making processes. This is best operationalised by explicitly listing all three components in each body's statutory objectives.

7.6 Q62 - To what extent should wholesale, transmission, distribution or retail electricity pricing be influenced by objectives beyond the (affordability-related) efficiencies achieved by cost-reflective pricing, such as sustainability, or equity?

Prices can and do have a significant role to play in signalling value and cost. This value and cost must be inclusive of the societal and environmental impacts and therefore included in pricing decisions. The three objectives need not be contradictory, however, there will be occasions where trade-offs need to be made. These trade-offs may give rise to cross-subsidies, which may or may not be in the best interests of New Zealanders. Therefore, any cross-subsidies should always be transparent, scrutinised and well justified.

7.7 Q63 - Are the current objectives for the system's regulators set in law (generally focusing on economic efficiency) appropriate, or should these also include more focussed objectives of equity and/or affordability?

It is increasingly evident that focusing solely on cost efficiency, at the expense of other considerations, is not in the long-term interests of New Zealanders. The absence of sustainability in the statutory objectives of both the ComCom and the EA is a significant shortcoming. Addressing the challenges for New Zealand posed by climate change and decarbonisation will not be costless. Therefore, regulators must make decisions that balance these costs against the three pillars of the trilemma - it is not negotiable to do otherwise.

8 Summary and conclusion

ENA and its members are committed to playing their part in helping Aotearoa New Zealand transform itself to an electrified, low-carbon economy. We see scope for sensible tweaks to the regulatory settings that underpin the electricity system, but no obvious need for wholesale reform or government intervention. In most areas, we encourage government to allow the independent sector regulators to continue to perform their functions with relatively light-touch input from government, such as setting the 'direction of travel' through high-level policy instruments and instructions.

We do, however, see one area where New Zealand is at risk of falling critically behind modern practice in comparable jurisdictions. It is bordering on farce that, in a critical, fast-moving, technology and information driven sector, despite years of sector discussion, there is still no ability for EDBs to access smart meter data in a frictionless and cost-effective way. We urge the government to closely monitor the pace of progress being made on this critical issue and retain the ability, if necessary, to intervene to establish a workable regime to address this deficiency.

If there is any further assistance ENA or its members can provide to MBIE in further developing their policy programme around electricity sector transformation, please don't hesitate to contact Richard Le Gros (richard@electricity.org.nz), Policy and Innovation Manager at ENA, in the first instance.

9 Appendix A - ENA Members

Electricity Networks Aotearoa makes this submission along with the support of its members, listed below.

Alpine Energy

Aurora Energy

Buller Electricity

Centralines

Counties Energy

Electra

EA Networks

Firstlight Network

Horizon Energy Distribution

Mainpower NZ

Marlborough Lines

Nelson Electricity

Network Tasman

Network Waitaki

Northpower

Orion New Zealand

Powerco

PowerNet

Scanpower

The Lines Company

Top Energy

Unison Networks

Vector

Waipa Networks

WEL Networks

Wellington Electricity Lines

Westpower