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Electricity Authority
PO Box 10041
Wellington 6143

Submitted via email to digitalisation@ea.govt.nz

Consultation Paper – Our future is digital

Introduction

1. Orion welcomes the opportunity to submit on the consultation paper 'Our future is digital'.[1]
2. Orion owns and operates the electricity distribution infrastructure in central Canterbury, including Ōtautahi Christchurch city and Selwyn District. Our network is both rural and urban and extends over 8,000 square kilometres from the Waimakariri River in the north to the Rakaia River in the south; from the Canterbury coast to Arthur's Pass. We deliver electricity to more than 230,000 homes and businesses and are New Zealand's third largest Electricity Distribution Business (EDB).

Executive summary

3. Orion supports the efforts of the Electricity Authority ("Authority") to promote a digitalised electricity system, especially to the extent that such a system will deliver a secure and reliable electricity supply to consumers at the lowest possible cost.
4. However, we have concerns that the requirement for consumers to be engaged and active in their electricity supply to achieve the rewards that digitalisation offers may leave other consumers worse off by comparison. We appreciate that the Authority has acknowledged this risk in section 4 of the paper, but we nevertheless feel that this group of "disengaged" consumers represents most electricity consumers and will do for the foreseeable future. We therefore encourage the Authority to ensure that this group of consumers do not subsidise benefits provided to the much smaller subset of engaged consumers that this consultation, and other recent consultations, are targeted at.
5. This concern is reinforced by Consumer NZ's recent submission on the Authority's green paper on decentralisation, which highlights that "*many [consumers] have become disengaged from the energy industry and as such are unlikely to readily invest time or capital in distributed energy technologies*" and that "*equity must be a central concern*." Consumer NZ warns that "*an industry [and Electricity Authority]-assumed future [is] being projected onto consumers, many of whom neither asked for it, desire it, nor have the means to participate*."[2]

[1] Our future is digital, paragraphs 4.1 – 4.6.
[2] Consumer NZ's submission on the decentralisation green paper.

6. Our specific responses to the questions posed by the Authority are set out in Appendix A.

Key themes from our submission

7. **Standardisation built on strong foundations**: The electricity sector is becoming increasingly complex at the distribution network layer. Rather than attempting to remove this complexity, the focus should be on standardisation of data formats and sharing mechanisms, and use of fit for purpose tools. Building the digital future on the current Electricity Registry is not fit for purpose.
8. **Consumer engagement reality**: The Authority's aspirations towards simplicity for consumers must acknowledge that the system is rapidly moving towards ever greater complexity. There is a risk that over-simplification may not accurately convey price signals, potentially incentivising behaviours that negatively impact the sector.
9. **Data sharing philosophy**: There is a difference between making data sharing easy and requiring all data to be shared. Mechanisms should allow for selective data sharing that protects competitive advantages where appropriate. Innovation should focus on the mechanics of how we share data rather than just what we share, with equal attention to business-to-business efficiency as consumer-facing initiatives.

Concluding remarks

10. Orion supports the ENA's submission in principle.
11. This submission is not confidential and can be publicly disclosed.
12. We strongly encourage the Authority to coordinate with relevant industry workstreams, especially the ENA's Future Networks Forum, to ensure coherent system-level outcomes.
13. If you have any questions or queries on aspects of this submission which you would like to discuss, please contact us on 03 363 9898.

Yours sincerely,

Connor Reich
Regulatory Lead – Electricity Authority

Appendix A

Submitting organisation	**Orion New Zealand Limited ("Orion")**
Contact person	**Connor Reich**

Questions	Orion's response
Q1. What could stop or slow digitalisation of the electricity system? What would make it successful? How far should digitalisation go?	**Barriers to digitalisation:** • Excessive privacy and data security requirements that inhibit necessary data sharing. • Market participants deliberately restricting data standardisation and exchange to maintain competitive positioning (although we note that in contestable markets, preserving data-based advantages is a legitimate business strategy). • Poorly designed Consumer Data Right implementation could hinder innovation or misdirect industry resources toward compliance rather than beneficial outcomes. • Limited digital literacy amongst many consumer segments.[3] • Consumer inertia and preference for familiar systems. • The Electricity Registry (see our comments in Q4 and Q8 for further details). While reducing barriers to innovative entrants may offer some benefit to the sector, existing regulatory barriers often serve important purposes such as ensuring financial prudence and system and network reliability. Before any barrier is removed that hinders "innovation," the Authority should ensure that it carefully evaluates existing Code requirements to understand why that barrier exists in the first place, and what would be the potential ramifications of removing that barrier from current and new participants. **Digitalisation scope:** The extent of digitalisation should be determined by clear economic justification and consumer needs, rather than technology-led preferences for particular solutions. **Consumer engagement challenges:** The consultation repeatedly emphasises expanding consumer choices, yet evidence suggests consumers show minimal engagement with current electricity market options. Simply increasing choice may not address underlying participation barriers. This is supported by multiple data sources: Consumer NZ found that 45% of consumers have been

[3] For further discussion on this topic, see NZ Digital government's report on digital inclusion and wellbeing.

Questions	Orion's response
	with their current electricity provider for more than five years,[4] while EMI switching data shows that as of April 2025, only 5.48% of customers actively switched retailers in the previous 12 months.[5] Australian research reinforces these patterns, finding that 54% of households want only a "basic" relationship with the energy system focused on "a simple reliable electricity service at a good price,"[6] 37% don't know what type of retail tariff they're on, and 37% don't even know what a retail tariff was.[7] The Authority's consultation approach appears to presume a certain level of consumer awareness and interest that may not reflect the broader consumer base. Recent consultations are not typically targeted toward consumers who are disengaged from the electricity sector, potentially creating a bias toward more engaged participants. Given this reality, we question why the Authority is not more focused on educating consumers or conducting research to understand what all consumers want, rather than primarily engaging with those already interested in sector developments. ENA's Future Networks Forum Customer Segmentation project represents a potential avenue for the Authority to support the sector in developing a common understanding of the wants, needs, and drivers of all consumer segments, not just the engaged minority.
Q2. Do you agree with how we have defined 'data' and 'information', especially in the context of making data more visible?	No. The Consumer Data Rights define "data as information."[8] Orion suggests adopting clearer terminology that better reflects the digital value chain: **Data** (e.g. system of record), **Analysis** (e.g. system of insight) and **Outputs** (e.g. system of engagement). This framework would better distinguish between raw data collection, analytical processing, and consumer-facing outputs.
Q3. What data do you think needs to be more visible?	From our perspective, EDBs need access to consumer data generated by other market participants to enable us to better plan, operate and invest in our networks for the benefit of consumers. This includes:

[4] Consumer NZ, Record savings available to people who switch power providers.
[5] EMI switching data, 12-month rolling rate for Trader Switch as of 30 April 2025, https://emi.ea.govt.nz.
[6] Energy Consumers Australia, Consumer Energy Report Card, January 2025.
[7] Energy Consumers Australia, Consumer Energy Report Card, December 2024. While we note that 46% of consumers wanted an "active" relationship, allowing more choice, control, or flexibility over how they manage their electricity, the survey found that these were more likely to be households with solar and higher income.
[8] See Clause 5(1) of the Customer and Product Data Bill.

Questions	Orion's response
	• Any controllable device with load that can be controlled.[9] This includes dynamic (e.g. current state charge, end state of charge) and static information (e.g. vehicle type). • Real-time visibility of customer load management events, demand response capability, and planned load shifting activities.[10] • Real-time output and forecasts for consumer DER and utility-scale embedded generators, and available flexibility from DER (via an aggregator). • Standardised smart meter data.[11] We believe that any data visibility should focus on **operationally useful information** for existing and new participants, rather than granular asset details that do not enable better decision-making or are not economic or efficient to capture or release. Data access requirements should demonstrate clear necessity, rather than publishing it merely for theoretical transparency benefits. We also want the Authority to ensure that open data policies do not inadvertently lead to the emergence of new data monopolies, or exacerbate existing data monopolies, as certain businesses become dominant data aggregators or brokers.
Q4. What challenges do you think we might face in trying to increase visibility? What considerations need to be given to data privacy or cybersecurity? How could increasing visibility create more opportunities for consumers, participants and innovators?	We see the following key challenges in trying to increase visibility: **Cybersecurity risks:** Transitioning to IT-based control systems introduces significant cybersecurity vulnerabilities. Recent reports of foreign-manufactured equipment containing undisclosed communication capabilities highlight the importance of supply chain security and the need for robust cybersecurity frameworks as digitalisation progresses.[12] **Market concentration concerns:** The growing reliance on MEPs may create market concentration risks across both the future of load control and access to smart meter data.[13] **Infrastructure limitations:** The Electricity Registry is not designed to support modern data exchange requirements. The Registry's current architecture cannot adequately support the data-rich, interconnected system envisioned for New Zealand's digital electricity future.

[9] We note that the Authority is considering expanding registry further to include DER, covering both DG and controllable load data. See Omnibus 3, paragraph 6.104.
[10] We note that ENA is developing a Common Load Management Protocol to address coordination of controllable load between distributors and retailers.
[11] For further discussion on this point, please see Ara Ake EDB Challenge learnings and insights report.
[12] See this article for further discussion on this topic: Rogue communication devices found in Chinese solar power inverters.
[13] For further discussion on this point, please see Ara Ake EDB Challenge learnings and insights report.

Questions	Orion's response
	The broader question of data control and access rights remains complex. Please see our submission on the Consumer and Product Data Act 2025, especially questions 1, 6, 10, 11, 12, 15, 18 and 23, for further discussion on this topic.
Q5. What work are you planning or doing to increase visibility within the electricity system? Are you aware of any work that contributes to this goal?	See our ViSION (Visibility and System Insights for the Orion Network) project for further details on work underway to increase LV visibility on our network. https://www.oriongroup.co.nz/your-energy-future/our-projects/vision
Q6. What challenges do you think we might face in increasing interoperability? What other opportunities do you think greater interoperability will bring?	Feedback received from retailers as part of developing a Common Load Management Protocol have revealed challenges that may also apply to increasing interoperability across the sector: **Technological uncertainty**: Some respondents remain at the early stages of developing digital operational capabilities and lack internal capability and capacity to meet technical requirements. Respondents also reported uncertainty around technical implementation in the absence of standardisation (see our response to Q8 for more discussion on the importance of standardisation). **Legacy system constraints**: Existing infrastructure poses significant barriers, with respondents noting limitations in real-time system monitoring and communication capabilities. Respondents also operate under existing contractual arrangements that are structured around current operational needs, which makes standardisation challenging. Current operational models may not align with proposed digital frameworks. Addressing these interoperability challenges requires the standardisation foundation outlined in our response to Q8. Without common data formats, communication protocols, and technical standards, it will become difficult to achieve true interoperability. As outlined in our response to Q8, the Registry's reliance on text file transfers represents a barrier to modern interoperability.
Q7. What work are you planning or doing to increase interoperability within the electricity system? Are you aware of any work that contributes to this goal?	Orion is a strong supporter of the ENA's working groups and forums and regularly engages in opportunities to resolve sector challenges and work collaboratively with both EDBs and other participants. See ENA's Connections Journey Mapping project, which seeks to improve consistency in the connections journey for customers. ENA and its members are currently working together to implement the first phase deliverables into individual EDB processes. The ENA and its members are now working to define common approaches to: • An EDB and Transpower aligned queue management policy, • Distribution network capacity maps, • Template commercial contracts for large-scale load and DG connections

Questions	Orion's response
	See ENA's project on developing a Common Load Management Protocol. Different load management rules across New Zealand would increase complexity and the risk of error. A consistent, standardised, approach will help ensure a continuous, reliable supply of energy for all consumers.[14]
Q8. What challenges do you think we might face in simplification? How could simplifying create more opportunities?	"Standardisation" must be a priority over "simplicity." Standardisation provides the foundation for a digitalised electricity system by creating common data formats, protocols, and processes that enable efficient system-wide coordination and interoperability. However, successful standardisation requires progression in manageable steps, such as through published roadmaps, which helps increase transparency and communicate simplicity even where the detailed technical work remains complex. However, this foundation cannot be built on outdated infrastructure. The current Electricity Registry still relies on text file transfers between participants and must be replaced with a modern data exchange platform that supports real-time, secure data sharing, and intelligent reporting. The electricity sector would benefit from standardisation across multiple layers, which may ultimately remove complexity and lead to simplicity: • Data definitions and structures to ensure consistent information exchange, supported by an improved Registry. • Communication protocols to enable reliable system coordination, to support the development of the future operation of the electricity system and potential DSO model. • Connection processes and supporting tools, as outlined in our response to Q7, to provide predictable customer experiences across different networks. • Commercial frameworks, to reduce transaction costs and potentially remove some barriers to entry for new participants, particularly aggregators and other flexibility providers. • Demand flexibility products and services, to create consistent market mechanisms. • Smart meter data standardisation, access, fair commercial agreements, and liability terms.[15] As outlined in our response to Q7, EDBs have proven experience in collaborative standardisation through ENA initiatives, demonstrating

[14] See this for further details on the referenced projects: https://www.ena.org.nz/our-work/working-groups-and-forums.

[15] For further discussion on this point, please see Ara Ake EDB Challenge learnings and insights report.

Questions	Orion's response
	that industry-led approaches can deliver practical outcomes when there is clear collective benefit.
Q9. What work are you planning or doing to increase simplification within the electricity system? Are you aware of any work that contributes to this goal?	Please see our responses to Q7 and Q8.
Q10. Do you have any other comments on this paper?	No comment.