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By email: [distribution.feedback@ea.govt.nz](mailto:distribution.feedback@ea.govt.nz)

Tēnā koutou,

## **Vector's Response to *Exploring network visibility* Discussion Paper**

Vector welcomes the opportunity to provide feedback to the Electricity Authority (the Authority) on its consultation on Exploring Network Visibility<sup>1</sup> (the consultation paper).

As the country's largest distributor of electricity and gas, Vector is deeply engaged in managing the transformation of the distribution network within the planning, access, and safety constraints of a dense urban environment. The transformation is being driven by the rapid uptake of consumer-owned and other distributed energy resources (collectively, DER), increasing electrification, and the transition to a low-carbon energy future.

We support the Authority's focus on improving the availability and accessibility of information so that networks are more capable of assessing and sharing constraints and capacity. We encourage a clearer description of the benefits that the Authority is seeking for access seekers so that the approach chosen is efficient and progress can be assessed.

### **Vector's Symphony ambition is fully aligned with policy direction**

Our corporate Symphony strategy is shaping a cleaner, smarter, more reliable energy future, with our customers at the heart. A core component of Symphony is making optimal use of demand flexibility to minimise network investment and ongoing costs during the energy transition thereby maximising affordability for consumers.

As part of our strategy execution, the key actions we are taking to support the electrification of Auckland include<sup>2</sup>:

- Orchestrating distributed energy resources such as electric bus charging to reduce the need for additional infrastructure spending

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<sup>1</sup> Available online at <https://www.ea.govt.nz/projects/all/transitioning-to-a-more-digital-electricity-system/consultation/exploring-network-visibility/>

<sup>2</sup> These are taken from Vector's 2025 Climate-related Disclosures.

- Developing and deploying digital systems, integration protocols, cyber security, and data platforms that support the development and operation of energy resource orchestration
- Developing strategic partnerships, which includes our strategic alliance with AWS, and partnership with X, the Moonshot Factory (formerly Google X) to enable smarter, more efficient electricity networks to benefit customers
- Enhancing monitoring of the low-voltage network to optimise infrastructure utilisation
- Actively engaging to influence regulatory and policy settings and standards such as regulated standards for smart electric vehicle chargers
- Actively engaging with customers to build our understanding of preferences and behaviours, and working with retailers to evolve their offerings that influence how and when customers use the network

## Why visibility matters now

New Zealand's energy transition is reshaping demand and supply at the distribution edge. Electrification (EVs, heat pumps, data centres), changing consumer behaviours and expectations and increased adoption of distributed generation require granular, timely LV network data to enable rightsized, timely investments, safe and efficient operations, and the use of non-network alternatives where they deliver better consumer outcomes. Better visibility supports faster, more predictable connections, informs hosting capacity and constraint management, and underpins the orchestration that defers capex in order to lower total system cost.

Additionally, as consumer behaviours are rapidly evolving and increasingly impacting network usage, it is essential to have access to timely and detailed data to understand these behavioural changes, so that these changing dynamics can be integrated into planning and operational decisions to deliver more responsive and effective network management.

## Our overall position

- **Start with visibility and data quality:** Establish practical datasets that can be gained from existing network monitoring assets such as smart meters. These can be combined with network models to dynamically model the capacity of the network that can be published for market use. To be successful these datasets must provide comprehensive coverage (at least 90%) of ICPs on the network and be delivered within useful timeframes (Preferably daily as monthly delivery is too late for any practical operational applications such as dynamic flexibility). We agree with what we heard from access seekers in the EA's workshop, they prefer moving quickly on practical, "no regrets" datasets, rather than creating requirements for 'ideal' datasets that will take several years to achieve.
- **Enable easy access to data:** Vector favours secure API based, distributed data access models, aligned with Consumer Data Right (CDR) principles. As well as the technology for easy access, clear rules for qualified industry participants and the rights of each party to access data, particularly where consumers have consented, would make the process of developing commercial arrangements for data easier.
- **Enable digitalisation and analytics:** Regulatory settings should incentivise prudent investment in digital platforms, smart metering capabilities, and broadly enable distributor's ability to access data and perform analytics. This will help maximise utilisation of existing assets, integrate DER safely, and support flexibility services. Vector's Asset Management Plans set out our digital enablement and orchestration approach in detail.
- **Privacy, security, and social licence are non-negotiable:** Any uplift in data access must preserve trust. Vector's governance framework—privacy roles, data

ownership/stewardship, and cyber controls—demonstrates how privacy by design can sit alongside operational use of data.

We remain available to discuss this submission and contribute to further consultation and implementation work.

Ngā mihi



**Matt Smith**

**Policy Advisor**



## Responses to specific questions posed

### Exploring network visibility: costs, benefits and value

Submitter	
What is your interest in network visibility?	

Questions	Comments
<b>Q1. Are you aware of the extent of the information currently being provided by distributors (including through disclosures)?</b>	
N/A	
<b>Q2. How do current distributor disclosures support your understanding of available capacity, constraints and opportunities on:</b> a) high-voltage networks? b) low-voltage networks?	
N/A	
<b>Q3. How are you making use of existing disclosures to support more efficient outcomes?</b>	
N/A	
<b>Q4. Would changes to the type of data, format, regularity or granularity of distributor disclosures better support decision-making? Please provide detail.</b>	
N/A	
<b>Q5. What other disclosures of network information would further inform your choices and decisions?</b>	
N/A	
<b>Q6. What are distributors' perspectives on the value of collating and publishing network capacity information for their own businesses?</b>	
	<p>We believe the value distributors can provide is making it easy for capacity seekers to have the right conversations with distributors. This involves both a process of self-service, which can provide relevant information for pre-application exploration; and having direct conversations with the engineering teams within distributors, which can be more efficient, following self-service by capacity seekers.</p> <p>Publicly accessible, plain-language indications of capacity can reduce information asymmetry and support evidence-based conversations with customers about timing, phasing, and alternative solutions (e.g., flexibility vs traditional upgrades). Internally, this also helps align commercial, engineering, and delivery teams on the same operational picture.</p> <p>Capacity is time and location dependent, contingent on outages, planned works, and DER behaviour. Static maps or single numbers will be based on the information that was available when they were generated and can be misread. Publication should therefore include metadata, assumptions, and refresh cadence, with programmatic access to reduce stale snapshots.</p> <p>Publishing “everything, everywhere” may be costly with limited incremental value. Focus should be on “no-regrets” datasets that measurably improve planning and connections, scaling in scope and granularity as capability matures.</p>

**Q7. What are distributors' perspectives on how well interested parties are using the data they already publish?**

Vector has provided data on the high voltage network on the Open Data Portal for several years. We have had generally positive feedback from users of that portal. This is consistent with what we heard in the workshop hosted by the Authority for this consultation, where access seekers said they would value quality network location data as a minimum level of service to support their pre-application processes.

**Q8. What are your perspectives on recent developments on access to smart meter data?**

Recent developments have been an improvement, however are still not ideal. While the DDA has made it easier to get monthly kWh data, there are still some issues:

- DDA only provides for monthly access to data and is restrictive on the use of kWh data from MEPs with prescribed permitted purposes for which data can be used. Additionally, it is unclear whether these permitted purposes, can be overridden if a customer consents to their data being used for other purposes e.g. in connection with energy hardship or other initiatives. How these restrictions sit alongside the Consumer Data Rights regime is also unclear if customer consent is obtained and needs to be clarified.
- DDA lacks standards in terms of format, content, and timing of delivery. We receive data under the DDA either from retailers directly, or from their MEPs or not at all (from smaller retailers). These arrangements have involved significant contracting and engagement with retailers and MEPs, with a number of retailers being unable to conclude satisfactory agency arrangements with their MEPs to provide us with their data. Even after receiving the data, there is still on-going data formatting and cleansing required, as information received varies slightly in format for each supplier.
- Our view is that MEPs and their meters are the primary source of the data and should provide it directly and more frequently to EDBs, at no additional cost to retailers, given they already provide this information to retailers for billing and reconciliation purposes. Some retailers are comfortable with that arrangement, while others are not. This requires the MEP to seek permission from each retailer to send data directly to EDBs.
- The DDA (and the associated Data Agreement) is silent about operational data (voltage, power factor, phase balance, etc, also known as NODS data), which has resulted in an inconsistent commercial model between MEPs and EDBs regarding the availability, format, content, and timing for delivery of operational data from smart meters. This lack of consistency slows progress for EDBs as they aim to develop processes for use across the whole network to support visibility and analysis of low voltage networks.

There is currently no minimum expectation of operational data for smart meters (voltage, power factor, phase balance, etc), the Authority could look at other jurisdictions like the EU and Australia to see how they have successfully encouraged capabilities beyond consumption data. Whilst most meters are able to measure these outputs, they have not been designed to capture and send that data.

EDBs have limited ability to influence these requirements as they do not appoint the MEP or enter into metering deployment contracts. Given the growing operational importance of meters

and metering data for network visibility and network management, the current framework must be updated—so that both retailers and distributors have defined rights and the ability to input into further technical metering requirements. The status quo risks inefficiency, missed opportunities and continuing to slow the pace of improvements for customers.

**Q9. Is the pace of distributor progress on developing the capability needed to support work on improving network visibility appropriate? If not, what are your expectations regarding timeframes?**

Vector is collaborating through ENA to land a repeatable approach to capacity maps that has value for connecting parties. The current process required to access and analyse data from smart meters has slowed the pace of progress. This has been compounded by the lack of availability of operational datasets from smart meters across Auckland due to the age of the smart meter fleet and their varying capabilities.

We have been investing in data and capabilities to improve the visibility of our network for internal use cases, and as these capabilities are developed and delivered to our teams for planning, maintenance and operational purposes we expect there to be opportunities to share these and deliver value to customers as well.

**Q10. What are the barriers and costs to distributors in developing the capability needed to support work on improving network visibility faster?**

Developing the capability to improve network visibility faster presents both structural and resource-related challenges. Key barriers include the presence of multiple MEPs with differing metering technologies and roadmaps, which limits distributors' ability to build consistent capability or rely on timely data availability from smart meters. Additional barriers include varying interpretations of privacy provisions, reluctance to share consumer-funded data, and the difficulty of quantifying benefits. Apart from any commercial considerations, a significant percentage of the meter fleet on the Vector network is aging and not capable of providing operational data (NODS) until they are replaced. As a result, we are unlikely to obtain coverage of operational data across the full network before 2030 under the status quo.

The associated costs are also significant, encompassing investment in analytical tools, skilled personnel, data cleansing and management infrastructure, and customer engagement. These factors collectively slow progress and increase the complexity of delivering timely, actionable network visibility.

**Q11. Do you agree that distributors having a better understanding of network capacity/constraints and publishing this information in an easily accessible way is in the long-term interest of consumers?**

Yes, we agree that distributors having a better understanding of network capacity and constraints is in the long-term interest of consumers. This enables more efficient processing of connection requests, better targeting of flexibility resources, and improved planning and operational awareness.

However, simply publishing this information in an accessible format is not sufficient on its own. The value lies in how the data is used. Many consumers may lack the tools to interpret or act on static disclosures, while those who do may seek more detailed or dynamic access. To be effective, visibility efforts should support both broad accessibility and tailored, actionable insights.

**Q12. Do you consider that there is a case for further regulatory intervention to further improve progress and the quality (e.g. timeliness, granularity, format standardisation) of disclosures that improve network visibility?**

Vector supports an industry-led approach as the preferred pathway to improving network visibility. However, there may be a case for targeted regulatory intervention in areas where foundational capabilities are lacking or fragmented. Some areas to consider would be prescribing smart meter data access for industry participants that ensures consistency in approach, improving the frequency of consumption data to enable its use for outage management, and setting minimum standards for NODS data delivery. These could help address persistent gaps in data quality, consistency, and usability.

Any regulatory action should be carefully scoped to avoid stifling innovation or imposing unnecessary compliance burdens. It should focus on enabling digitalisation, supporting prudent investment in analytics, and ensuring that privacy and data governance frameworks remain robust. Vector remains committed to working collaboratively with regulators and industry to shape practical, future-focused solutions.

**Q13. Do you consider that measures are needed to improve awareness of and encourage use of network visibility disclosures by interested parties?**

Yes, measures are needed to improve awareness and encourage use of network visibility disclosures. While disclosures exist, they are often difficult to locate, interpret, or apply meaningfully. To ensure these resources support better planning, investment, and operational decisions, they must be presented in a way that is accessible and relevant to a wide range of users.

Improving awareness alone is not sufficient; the current framework must evolve to ensure disclosures are timely, granular, and aligned with the needs of those managing and investing in the network. Without this shift, there is a risk that disclosures remain underutilized, limiting their potential to support efficient, consumer-focused outcomes.

**Q14. If further work is required to support the development and use of network visibility, which approach do you prefer:**

- a) developing industry guidance or standards.
- b) introducing a regulatory backstop that would codify the industry guidance or standards.
- c) developing regulatory standards and timeframes for improving network visibility.
- something else.

While it is straightforward in principle to propose new rules or guidance on network visibility, the core challenge remains the availability and quality of underlying data or lack thereof. Without robust, reliable, and persistent access to relevant data, any framework will be limited in its effectiveness, whether industry guidance, regulatory standards, or backstops.

Voluntary industry progress has been slow, often hindered by fragmented approaches and differing views around sharing data. To ensure meaningful progress, there must be strong, enforceable requirements—particularly regarding data access, metering standards, and contractual arrangements.



Fundamentally, this is a data availability issue rather than a disclosure issue. Historically, the lack of high-quality data has prevented the sector from making significant advances in disclosing network visibility. Even now, we are required to make numerous assumptions due to gaps in data coverage (for example, the absence of NODS data for significant parts of the network over several years). If distributors had consistent, high-quality access to the necessary data, it would be easier to provide valuable information to stakeholders and support improved network visibility.

In summary, while setting out rules and standards is important, the priority must be on ensuring the data exists and is accessible. Regulatory backstops on data access and metering standards are likely necessary to overcome longstanding barriers and enable genuine progress.

**Q15. Do you support an approach that focuses on high-voltage networks first, or do you have another preference?**

We agree that HV is a logical first step, but note that the LV network is where the biggest benefit will be realised. The size and complexity of the LV network will require frequent access to quality datasets and although providing visibility at this level results in significantly more effort it should still be a part of the roadmap.

**Q16. What other aspects of international developments relating to network visibility should we be looking at for lessons that could be considered in the New Zealand context?**

In addition to the research presented in the appendices, the Netherlands has faced considerable constraints on their transmission networks, and have put resources and effort into network visibility. Germany has also included visibility as part of its energy transition. Generally, we find that across these leading examples, several common elements emerge:

- Funding: Visibility tools are typically funded through regulated utility revenues
- Accessibility: Data is made available through online portals, often with downloadable formats
- Regular Updates: Maps and data are refreshed regularly (quarterly to annually)
- Stakeholder Engagement: Developers and regulators collaborate on design and refinement

**Q17. Do you consider that metering equipment providers should be required to publish schedules of available data and prices to improve transparency and reduce transaction costs?**

Vector supports transparency with proportionate safeguards, but does not support a universal, immediate requirement for MEPs to publish schedules of all available data and prices. The most effective way to cut transaction costs now is to standardise data discovery and access (API & standardized data catalogues), encourage commercially sensible transparency where services are offered, and introduce targeted obligations only where demand is clear and benefits demonstrable. This approach is consistent with our earlier submissions favouring interoperable, decentralised solutions that can mature with the market while protecting consumers and privacy.

Standardised “MEP Data Catalogue” schema (voluntary Code initially):



Define a common, machine-readable way for MEPs to describe datasets (e.g., interval consumption classes, PQD categories, event logs), latency tiers, coverage/quality, privacy posture, and request/permissioning process. Publish the schema and require MEPs that offer data services to expose a current catalogue endpoint (not necessarily prices) so counterparties can self-serve discovery and compare like-with-like.

Where MEPs commercially offer data services, adopt clear pricing principles (cost-reflective, non-discriminatory, published methodology and indicative bands on request) instead of prescriptive, static price schedules. This recognises that integration/assurance costs are often context-specific and avoids misleading “list prices.”

If the Authority observes sustained demand for specific datasets (e.g., standard interval consumption for legitimate network operational needs), it could introduce targeted obligations for those datasets only (service descriptions, SLAs, and indicative price bands), reviewed periodically.

**Q18. Do you consider that elements of [Part 12A of the Code](#) relating to default distributor agreements should be reinforced or extended to ensure consistent access to both consumption data and other types of data e.g. power quality from smart meters or other devices (such as inverters)?**

Vector supports reinforcing Code settings to achieve consistent, role-appropriate access to data where this demonstrably improves safety, operations, planning, and customer outcomes. In our view, the most effective reinforcement would focus on standardising access rights rather than adding prescriptive new obligations into the Default Distributor Agreement (DDA): adopt standardised data definitions and schemas, require API-based, permissioned access with clear SLAs for legitimate distributor use cases, and align with Consumer Data Right (CDR) principles for consent, auditability, and non-discrimination.