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Electricity Authority Te Mana Hiko

By email to distribution.feedback@ea.govt.nz

Tēnā koutou



SUBMISSION ON EXPLORING NETWORK VISIBILITY: COSTS, BENEFITS AND VALUE DISCUSSION PAPER

Unison Networks Limited (**Unison**) is an electricity distribution business operating in Hawke's Bay, Taupō, and Rotorua. Centralines Limited (**Centralines**) operates in Central Hawke's Bay. As consumer-owned organisations, our focus is on delivering safe, reliable, and affordable electricity to our communities.

Introduction

1. Unison and Centralines appreciate the opportunity to provide feedback on the Electricity Authority's discussion paper Exploring Network Visibility: Costs, Benefits and Value. As consumer-owned electricity distribution businesses, our focus is on delivering affordable, reliable, and efficient network services that support the ongoing transition to a more electrified and decentralised energy future.
2. We strongly support the Authority's objective to improve network visibility. Access to accurate, granular, and timely network data is foundational to efficient system planning, consumer empowerment, and the effective integration of distributed energy resources (**DERs**). Both Unison and Centralines are actively advancing initiatives in this area, including the publication of online network capacity maps, development of flexibility opportunity maps, and integration of smart meter data into network planning and operations.
3. This submission reflects our perspectives on the costs, benefits, and challenges associated with improving network visibility, as well as the role of regulatory and industry collaboration in achieving consistent and efficient outcomes.

The Value of Network Visibility

4. We agree that improved network visibility, both at the high-voltage (**HV**) and low-voltage (**LV**) levels, delivers significant value to distributors, consumers, and the wider electricity system. Network capacity information is instrumental in optimising asset management, guiding efficient investment decisions, and enabling non-network alternatives.
5. Unison's publication of spare capacity and constraint maps, along with its new Flexibility Opportunities Map, has already demonstrated tangible benefits. Developers and service providers are using this data to identify opportunities for demand-side or distributed generation solutions, which in turn promote lower-cost and more collaborative outcomes.

These examples underscore that network visibility is not only a technical enhancement but a key enabler of innovation and efficiency.

6. Enhanced visibility at the LV level could also support more cost-reflective pricing approaches. Better understanding of localised load and constraint patterns would allow distributors to design tariffs that more accurately reflect the cost of supplying different users or areas, aligning with a “user pays” principle. This could include refined profiling of network usage, improving fairness and efficiency in how lines charges are set, while still supporting affordability and consumer choice.

Use and Awareness of Published Data

7. While uptake of published network data is growing, there remains untapped potential. Developers, consultants, and renewable generation investors are increasingly engaging with our maps and data tools, leading to more efficient project discussions and better-informed connection requests.
8. However, many smaller users, such as local developers or community groups, remain unaware of these resources. We therefore see a clear need to improve awareness and accessibility of existing disclosures. Simple measures such as improved communication, online tutorials, and a coordinated national data portal would significantly enhance the utilisation and value of published information.

Developments in Smart Meter Data Access

9. We are encouraged by recent progress in enabling distributors to access smart meter data under standardised and transparent arrangements. The ability to contract directly with Metering Equipment Providers (**MEPs**) under consistent “pay-as-you-go” terms is a positive development that reduces transaction costs and increases certainty.
10. Unison currently accesses smart meter data for approximately 30% of our network and is trialling higher-frequency data with another MEP. These initiatives highlight our commitment to improving LV network visibility.
11. We also note that smart meter data remains an operational cost for distributors and should ideally be made available at low or no cost when used for essential system planning and reliability functions. This approach would align with the public-good nature of network visibility improvements.

Pace of Progress and Future Expectations

12. The pace of progress across the sector has been strong but must accelerate further to meet the needs of a rapidly changing energy landscape. Both Unison and Centralines have achieved good visibility of their HV networks and are now focusing on extending this to the LV level through advanced analytics and smart meter integration.
13. We expect that within five years, most distributors should have access to half-hourly consumption data and basic LV models, with public capacity maps covering both HV and parts of the LV network. By around 2035, we aim for near-complete LV visibility, consistent with our strategic objectives.

Barriers and Costs

14. The main barriers to faster progress include:
 - a. Smart meter data costs and availability: High costs for detailed, high-frequency data remain a material constraint.
 - b. Legacy systems and data gaps: Many distributors must invest heavily in data cleansing, system upgrades, and platform integration.
 - c. Lack of standardisation: Independent approaches across distributors lead to inefficiencies and inconsistent outcomes.
15. A national framework for LV data collection and publication, supported by affordable data access and shared standards, would significantly reduce duplication and improve the sector's collective efficiency.

Consumer Benefits of Greater Visibility

16. Enhanced network visibility directly benefits consumers by:
 - a. Enabling smarter, more efficient investment decisions, reducing long-term costs
 - b. Supporting non-network solutions and local flexibility services
 - c. Improving reliability and resilience
 - d. Empowering customers and developers through transparent data
17. Our experience confirms that publishing network data stimulates innovation and collaboration, ultimately delivering better value for consumers.

Role for Regulatory Guidance

18. We support targeted regulatory involvement to improve consistency and quality of network data disclosures, provided it remains proportionate and outcome-focused. Clear guidance or light-handed regulation, such as standardised data formats or minimum datasets, would enhance comparability and transparency without imposing unnecessary compliance burden.
19. Any regulatory measures should focus on genuine information gaps, particularly at the LV level, while allowing flexibility for distributors to innovate.

Encouraging Awareness and Use of Disclosures

20. Simply publishing data is insufficient. Awareness campaigns, education, and accessible tools are vital to ensure effective use.
21. We support a coordinated industry initiative, potentially via the ENA or Electricity Authority, to develop a central portal linking all distributors' published network data. This would make it easier for interested parties to find and use network information nationwide.

Preferred Pathway Forward

22. Unison and Centralines favour a collaborative approach where the industry develops guidelines and standards under regulatory oversight, rather than immediate codification or prescriptive regulation. This ensures flexibility, encourages innovation, and fosters a sense of ownership among distributors.

23. We also support focusing initially on HV networks, where data is more mature, while advancing LV visibility in parallel to address emerging challenges from electrification and distributed generation.

International Lessons

24. International experience demonstrates the benefits of open data, standardisation, and collaboration:
- a. UK: Open data hubs and the Open Networks Project show how shared frameworks can drive innovation and consistency.
 - b. Australia: Regulatory reforms to smart meter data access illustrate effective data-sharing models while maintaining privacy.
 - c. Europe and North America: Dynamic data-sharing pilots and standardised hosting capacity maps provide templates for integrating high levels of DERs.
25. New Zealand can adapt these approaches to its own context, ensuring essential network data is open, consistent, and free to access.

Metering Equipment Providers and Data Access

26. We strongly support requiring MEPs to publish schedules of available data and prices. Transparent, standardised data catalogues would reduce transaction costs, increase fairness, and accelerate access to information essential for network visibility.
27. Building on this, we support reinforcing elements of Part 12A of the Code to improve consistency and clarity of data access under default distributor agreements. While Appendix C provides a sound framework for consumption data, emerging datasets such as power quality, voltage, and DER performance information raise new operational, commercial, and privacy considerations. Extending access provisions should be guided by clear principles on ownership, privacy, and cost recovery, ideally developed through a collaborative industry process to avoid unnecessary compliance costs.

Conclusion

28. Unison Networks and Centralines strongly support the Electricity Authority's efforts to improve network visibility across New Zealand. Enhanced access to network data is fundamental to delivering efficient, reliable, and innovative energy services for consumers.
29. Progress is already being made across the sector, but continued collaboration, standardisation, and proportionate regulatory support will be key to accelerating benefits.
30. We look forward to contributing further to this important initiative and to working with the Authority and industry partners to build a transparent, data-driven, and consumer-focused electricity system.

Nā māua noa, nā

Tarryn Butcher / Tomas Kocar

REGULATORY MANAGER / PRINCIPAL REGULATORY ADVISOR



Appendix Feedback Questions

Questions	Comments
Q1. Are you aware of the extent of the information currently being provided by distributors (including through disclosures)?	Yes
Q2. How do current distributor disclosures support your understanding of available capacity, constraints and opportunities on: a) high-voltage networks? b) low-voltage networks?	N/A
Q3. How are you making use of existing disclosures to support more efficient outcomes?	N/A
Q4. Would changes to the type of data, format, regularity or granularity of distributor disclosures better support decision-making? Please provide detail.	N/A
Q5. What other disclosures of network information would further inform your choices and decisions?	N/A
Q6. What are distributors' perspectives on the value of collating and publishing network capacity information for their own businesses?	<p>Network capacity information is critical to optimising asset management and investment decisions. For distributors, collating and publishing this data delivers clear operational and strategic value while supporting more efficient, collaborative outcomes across the energy system.</p> <p>Unison and Centralines proactively publish spare capacity and constraint information through online capacity maps, and Unison's new Flexibility Opportunities Map highlights areas suited to demand-side or distributed energy solutions. This transparency enables developers and service providers to identify targeted, lower-cost alternatives to traditional network investment, driving innovation and efficiency.</p> <p>We have already seen tangible benefits from this approach, with third parties using our published data to inform proposals, demonstrating that accessible network capacity information creates</p>

	<p>value not only for distributors, but for the wider energy ecosystem.</p>
<p>Q7. What are distributors' perspectives on how well interested parties are using the data they already publish?</p>	<p>Use of published network data by interested parties is growing, though still developing. Our capacity and hosting capacity maps have been well received, particularly by developers and renewable generation investors, improving engagement efficiency and resulting in more informed, targeted connection inquiries. These tools have reduced the number of iterations needed to identify viable connection points and prompted more constructive dialogue through our dedicated contact channels for map-related queries.</p> <p>However, awareness among smaller or less frequent users, such as one-time developers or community groups, remains limited, with some still seeking information already available online. While those who use the data find it valuable, broader awareness and easier access would significantly enhance the benefits. This reinforces the importance of the measures outlined in Question 13, promoting awareness, usability, and education, to ensure all interested parties can fully leverage the network visibility information distributors make available.</p> <p>Overall, while published data is being used, its potential to improve transparency, system efficiency, and consumer outcomes is not fully realised. Greater standardisation, enhanced accessibility, and more timely disclosures would increase usability and maximise the benefits of the data for all stakeholders.</p>
<p>Q8. What are your perspectives on recent developments on access to smart meter data?</p>	<p>Recent developments in smart meter data access have significantly enhanced distributors' ability to monitor and manage networks. Increased deployment of smart meters and pilot projects are providing higher-resolution data, though access remains constrained by commercial arrangements, data costs, and long-term contracts with Metering Equipment Providers (MEPs). Inconsistencies in data formats and limited standardisation also increase transaction costs and reduce interoperability.</p> <p>Distributors support continued progress through coordinated industry efforts, standardised data protocols, and, where appropriate, regulatory guidance to ensure data is accessible, cost-effective, and usable for improving network visibility and consumer outcomes.</p>

	<p>We are cautiously optimistic about the direction of change. The Electricity Authority’s initiative enabling distributors to contract directly with MEPs under standardised “pay-as-you-go” terms represents a major step forward—reducing negotiation complexity and improving transparency.</p> <p>Unison has been an active participant in this space, with data agreements now covering around 30% of our network and trials underway for higher-frequency data. These initiatives reflect our commitment to using smart meter information to enhance network planning and operational efficiency.</p> <p>While progress is encouraging, cost and privacy considerations remain important. Data charges still represent a material operating cost, and robust privacy safeguards must be maintained. Overall, regulatory and market developments are moving in the right direction—removing key barriers and enabling distributors to use smart meter data to deliver more efficient and reliable outcomes for consumers.</p>
<p>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?</p>	<p>Unison and Centralines consider that progress on improving network visibility has been strong in recent years but must accelerate to keep pace with the energy transition. Both distributors maintain good visibility of their high-voltage networks, publishing capacity and constraint maps twice a year, and are now extending visibility to the low-voltage level using smart meter data and advanced analytics.</p> <p>Across the sector, efforts are shifting from concept to practical capability, with real systems and tools now in place. However, progress remains uneven, and a faster, more coordinated pace is needed as electrification and distributed generation accelerate.</p> <p>We expect that within five years, most distributors should have access to half-hourly consumption data, basic LV models, and public capacity maps covering both HV and LV networks. By the early 2030s, we aim for near-complete LV visibility, consistent with Unison’s target of full visibility by around 2035. Sustained momentum over the next two to five years will be critical to meet these goals.</p>

<p>Q10. What are the barriers and costs to distributors in developing the capability needed to support work on improving network visibility faster?</p>	<p>Distributors face several key barriers and costs in accelerating network visibility improvements. The most significant is the cost and complexity of accessing smart meter data. Meaningful visibility requires high-resolution consumption and voltage data, which remains commercially priced and contract based. During Unison's LV visibility pilot, data for around 1,000 connection points cost tens of thousands of dollars, scaling this network-wide represents a substantial ongoing expense. Access to essential network data should ultimately be provided to distributors at low or no cost in consumers' best interests.</p> <p>System and data readiness present another major challenge. Legacy systems, incomplete records, and the need for modern analytics platforms demand significant investment in data cleansing and IT upgrades. A further barrier is the lack of sector-wide coordination, with distributors using different models and tools, leading to duplication and inefficiency. Greater standardisation and affordable smart meter data access would enable faster, more cost-effective progress for consumers and the wider electricity system.</p> <p>Other barriers include:</p> <ul style="list-style-type: none"> • Standardisation and interoperability: Ensuring consistent data formats across devices, vendors, and network segments requires investment in standards and governance. • Workforce capability: Additional expertise is needed to analyse, interpret, and publish data effectively, potentially requiring training or recruitment of specialised staff. • Privacy and security compliance: Expanding access to detailed network data increases obligations to protect customer information and maintain cybersecurity. • Ongoing operational costs: Collecting, validating, and maintaining high-quality, timely datasets involves recurring costs beyond initial system upgrades. <p>Addressing these barriers through coordinated industry efforts, standardisation, and affordable data access is critical to achieving timely, efficient, and consumer-focused improvements in network visibility.</p>
<p>Q11. Do you agree that distributors having a better understanding of</p>	<p>Yes – enhanced understanding and open publication of network capacity and constraint information are clearly in the long-term interests of</p>

<p>network capacity/constraints and publishing this information in an easily accessible way is in the long-term interest of consumers?</p>	<p>consumers. Greater visibility enables distributors to make smarter, data-driven investment and operational decisions, identifying issues early, avoiding unnecessary upgrades, and ultimately improving reliability and affordability.</p> <p>Publishing this information in accessible formats amplifies these benefits by empowering customers, developers, and third parties to make informed choices that align with network capabilities. For example, awareness of local constraints can support demand response or guide distributed generation design, reducing costs for all parties.</p> <p>Unison and Centralines have already seen these benefits in practice, with stakeholders using our published capacity data to propose non-network solutions in constrained areas. Transparency fosters collaboration and innovation, delivering more efficient, lower-cost outcomes for consumers and the wider electricity system.</p>
<p>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?</p>	<p>There is a case for further targeted regulatory involvement, but any intervention should be carefully targeted. While distributors have made good voluntary progress on improving network visibility, the pace and consistency of disclosures vary across the sector. From Unison and Centralines' perspective, Improvements in timeliness, granularity, and format standardisation could enhance network visibility and support efficient system operation. Any intervention should build on existing industry guidance, focus on areas where voluntary progress is insufficient, and balance transparency with cost, operational practicality, and data privacy considerations. A staged or principles-based approach is likely to be most effective.</p> <p>Setting clear expectations on what information should be disclosed, in what format, and how often could lift overall standards and ensure greater consistency. For example, a defined minimum dataset or standardised reporting framework could make network information more accessible and comparable across regions.</p> <p>However, regulation must balance the benefits of transparency with the costs and effort required to deliver it. We support light-handed measures focused on filling key information gaps, particularly around low-voltage data, while preserving flexibility</p>

	for distributors to innovate and tailor solutions to their specific network contexts.
Q13. Do you consider that measures are needed to improve awareness of and encourage use of network visibility disclosures by interested parties?	Yes, measures to improve awareness and encourage use of network visibility disclosures are important. Simply publishing data is insufficient if stakeholders are unaware or unsure how to interpret it. Experience from Unison and Centralines shows that new tools should be supported by targeted outreach, guidance materials, webinars, and user support. We support a coordinated, industry-wide approach, potentially through a central portal, to improve accessibility, understanding, and effective use of network visibility information.
Q14. If further work is required to support the development and use of network visibility, which approach do you prefer: <ul style="list-style-type: none"> 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. d) something else. 	We prefer a phased, principles-based approach beginning with developing industry guidance or standards (option a). This allows the sector to leverage existing expertise, test practical solutions, and build consensus before considering regulatory intervention. A regulatory backstop (option b) could be considered if voluntary adoption proves insufficient, but initially, a collaborative, industry-led approach balances flexibility, cost-effectiveness, and innovation while avoiding premature prescriptive requirements.
Q15. Do you support an approach that focuses on high-voltage networks first, or do you have another preference?	<p>We support an initial focus on HV networks, as this data is readily available and can deliver immediate benefits. HV networks are the backbone of the system, and standardising HV data, such as substation capacities and N-1 constraints, provides a consistent baseline across distributors. Unison and Centralines have already made progress with HV capacity maps.</p> <p>However, LV visibility should progress in parallel, as emerging challenges from EVs, rooftop solar, and battery storage primarily affect the “last mile” of the network. Early attention to LV networks is essential to ensure distributors can manage future constraints while maintaining reliable and efficient service for consumers.</p>
Q16. What other aspects of international developments relating to network visibility should we be looking at for lessons that could be	International developments offer valuable lessons for New Zealand in open data, standardisation, and regulatory frameworks. In the UK, open data hubs and the Open Networks Project demonstrate the benefits of publicly accessible, standardised

<p>considered in the New Zealand context?</p>	<p>network information for innovation and third-party solutions. Australia has improved access to smart meter data, supporting low-voltage visibility while addressing privacy and standardisation. Europe and North America are piloting dynamic operating envelopes and standardised hosting capacity tools to manage distributed energy resources effectively.</p> <p>Adopting these approaches in New Zealand, potentially through a centralised, free-access platform, would enhance network visibility, support planning, and benefit consumers, developers, and the wider electricity system.</p>
<p>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?</p>	<p>Yes, MEPs should be required to publish clear schedules of available data and pricing. Current case-by-case negotiations are time-consuming, inconsistent, and increase administrative burden. A standardised “data catalogue” detailing data types and costs would streamline access, encourage competition, and reduce transaction costs. This transparency aligns with the Electricity Authority’s proposed standard pay-as-you-go terms and would enable distributors to use meter data more efficiently, supporting reliable, cost-effective network management. Requiring MEPs to publish data and prices is a low-regret measure that removes barriers and improves network visibility across New Zealand.</p>
<p>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)?</p>	<p>We support in principle reinforcing elements of Part 12A of the Code to ensure greater consistency and clarity around data access under default distributor agreements. Appendix C already provides an appropriate framework for access to consumption data; however, the emergence of new data types such as power quality, voltage, and DER performance information from smart meters or inverters raises practical, commercial, and privacy considerations.</p> <p>Any extension of access provisions should be guided by clear principles around data ownership, privacy, and cost recovery, recognising that these datasets are often collected and maintained for operational purposes rather than commercial use. A collaborative industry approach, potentially through a standardised data access framework or protocol, would be a more effective way to promote consistency without imposing undue compliance or system costs on distributors.</p>