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To: The Electricity Authority
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From: Electricity Engineers' Association of NZ

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Subject: EEA Submission – Issues and Options Paper – *Rewarding industrial demand flexibility*

OVERVIEW

The Electricity Engineers' Association (EEA) appreciates the opportunity to provide feedback on the Electricity Authority's Issues and Options Paper – *"Rewarding Industrial Demand Flexibility"*. This work is an important step in unlocking the value of demand-side flexibility as a tool to support system reliability, reduce costs, and accelerate the transition to a low-emissions electricity system.

The EEA represents engineers, asset managers, and technical professionals across the New Zealand electricity sector. Our members span the generation, transmission, distribution, and retail supply chain, including service providers, technology vendors, and consulting engineers. We work collectively to support excellence in engineering practice, system resilience and safety, and innovation that delivers better outcomes for consumers and the environment.

This submission draws on the practical experience and insights of our members and aligns with EEA-led and supported initiatives such as FlexTalk, the FlexForum, and the development of national connection and resilience guidelines. We support the Authority's intent to begin with industrial demand flexibility as a logical and scalable entry point into broader flexibility markets and frameworks.

Our key messages include:

- **Industrial demand flexibility (IDF) is a valuable near-term opportunity** to test mechanisms, build capability, and unlock co-optimised value across the system—but it must be developed with a view to scalability and inclusion.
- **Payment frameworks should reflect the full system value of flexibility**, including avoided network and capacity costs, and recognise locational, temporal, and operational diversity.
- **Low-regret actions such as the proposed Emergency Reserve Service (ERS) and standardised flexibility product** are practical early steps but should be embedded within a broader roadmap that includes clear roles, interoperability, and alignment with Flexibility Plan 2.0.
- **Coordination with sector-wide initiatives such as FlexTalk and the FlexForum is essential** to ensure efficient implementation and to avoid fragmented or duplicative efforts.

- **Barriers such as price signal granularity, transaction costs, visibility of system needs, and capability constraints must be addressed** through practical support measures and system-wide design reforms.

We thank the Authority for the opportunity to contribute and look forward to continued collaboration to shape a flexibility ecosystem that supports system optimisation, consumer value, resilience, and Aotearoa New Zealand's energy transition.

Discussion Questions

Q1. Do you agree with our approach of focusing on industrial demand flexibility as an early initiative to enable demand flexibility more broadly? Why/Why not? Do you have any information to indicate that demand flexibility from other consumer types may be more readily accessed?

The EEA and its members support the Authority's approach to prioritising industrial demand flexibility as an early initiative. Industrial users are well positioned to lead due to their relatively large, discrete loads; more sophisticated energy management systems; and greater commercial and technical capability to engage with flexibility markets. These characteristics make industrial demand a logical and pragmatic starting point to demonstrate proof-of-concept, test mechanisms, and build market confidence.

The potential scale of industrial demand flexibility provides significant opportunities to unlock capacity needed to enable decarbonisation across Aotearoa, particularly in capacity constrained regions. While organisations such as Rewiring Aotearoa champion the potential from aggregating smaller flexible loads for system wide benefits, the gains from tackling industrial demand first should be regarded as lower hanging fruit.

That said, our members also note that while industrial demand offers scale, flexibility from other consumer types, particularly the residential and commercial sectors, is becoming increasingly viable. Distributed energy resources (DERs) such as smart hot water systems, electric vehicle (EV) charging, batteries, and solar PV are growing rapidly and present a significant, untapped flexibility opportunity. While more complex to coordinate, these smaller flexible loads, if aggregated and automated, could ultimately deliver system-wide benefits.

In this context, we refer to the EEA-led FlexTalk programme, delivered in partnership with EECA and industry. FlexTalk has demonstrated the technical feasibility of residential and SME demand flexibility using open communication protocols such as OpenADR. Phase 1 of the programme tested interoperability and signal response with hot water systems, batteries, and EV chargers, with promising results. The subsequent FlexTalk Seed Project focused on real-world in-home installations and

highlighted practical requirements around device standards, installer competency, consumer engagement, and digital infrastructure. These trials, along with the planned large-scale in-home demonstrations later in 2025, show that residential flexibility is increasingly accessible, provided the right enablers are in place.

Further information on the FlexTalk project is available at:

- https://eea.co.nz/what-we-do/projects/flextalk
- https://www.eeca.govt.nz/insights/energy-in-new-zealand/demand-flexibility-a-smarter-grid

In conclusion, we support the Authority's prioritisation of industrial demand flexibility as a sensible first step, while strongly encouraging a roadmap that enables broader consumer participation. Industrial flexibility should be viewed as a foundation, not an endpoint. Market design, interoperability standards, and platform development should be built with scalability and inclusivity in mind—drawing on insights from programmes like FlexTalk. This approach is consistent with Flexibility Plan 2.0's prioritisation of early action in scalable sectors and complements the cross-sector work of the FlexForum to develop system-wide flexibility frameworks.

Q2. Do you agree with our estimates of the potential industrial demand flexibility capacity available in New Zealand currently and into the future? Why/why not? Do you have any evidence to support a materially different estimate?

The EEA acknowledges the Authority's efforts to estimate the scale of industrial demand flexibility (IDF) potential, and we agree that industrial flexibility represents a significant near-term opportunity. However, we note that the estimates in the paper are subject to a high degree of uncertainty due to the limited visibility and granularity of data across industrial sectors, varying operational constraints, and differing levels of digital enablement.

While the indicative potential outlined (150–300 MW near-term; 300–600 MW longer-term) appears directionally reasonable, we caution that actual realisable flexibility will depend heavily on commercial incentives, regulatory certainty, technical integration pathways, and evolving production processes. For instance, some industrial loads already participate in demand response (e.g., under instantaneous reserve arrangements), but the potential for broader, more dynamic participation is likely underestimated if barriers such as contractual rigidity, co-optimisation of thermal processes, and asset lifecycle risks are not addressed.

We also suggest the Authority consider developing its estimates further using input from sector-specific industry groups and a wider range of case studies. A national IDF baseline, developed in consultation with large energy users, could help sharpen future projections and inform fit-for-purpose product design. We are aware that EECA has prepared Energy Transition Accelerator plans for a significant

proportion of large energy users and that these reports are likely to provide granular data on business and site-specific opportunities.

Finally, it is important to view industrial demand flexibility as part of a broader, system-wide opportunity that includes commercial and residential sectors. As part of the FlexTalk project, led by EEA in partnership with EECA, we are exploring technical, commercial, and regulatory models to unlock flexibility from all consumer types. These insights may be useful for refining future IDF assessments, particularly in identifying barriers and enablers to uptake. Future updates to IDF projections should also be coordinated with the broader analytical work underway through Flexibility Plan 2.0 and FlexForum use case development to ensure system-wide consistency and identify cross-sector enablers.

Q3. Do you agree with our focus on intra-day demand flexibility for this initiative? Why/why not? What other approach would you suggest?

The EEA and our members broadly support the Electricity Authority's focus on intra-day demand flexibility as an appropriate and pragmatic early target. Short-notice, intra-day flexibility, particularly the ability to shift or curtail load within hours, can deliver significant system value by helping to manage peak demand, address supply-demand imbalances, and reduce reliance on expensive or emissions-intensive generation.

We support intra-day flexibility as an early focus in line with the staged approach recommended in Flexibility Plan 2.0 but encourage parallel development of mechanisms that support longer-duration and forward-looking signals. A narrow focus on intra-day flexibility alone may constrain the broader value that industrial demand flexibility can provide.

In particular, we see value in enabling:

- Day-ahead and multi-day flexibility, which aligns with forward market signals and gives participants greater certainty
- Seasonal or structured flexibility products, where large users can pre-commit to shift or reduce load during critical system periods
- Emergency or contingency response options, which can enhance system security under stress conditions.

We also note that some industrial users may face practical limits in delivering intra-day flexibility due to process, safety, or commercial constraints. By expanding the timeframes and types of flexibility services over time, a more diverse range of industrial participants can be engaged, supporting broader uptake and a more resilient system response.

We encourage the Authority to:

- Coordinate with system operators and market participants to prioritise development of the most valuable flexibility products
- Develop a clear roadmap that starts with intra-day signals but builds toward a more comprehensive flexibility framework
- Draw on insights from initiatives such as the Flextalk project, which is exploring open, standardised flexibility signals applicable across consumer types, including industrial users.

In summary, we see intra-day flexibility as a valuable near-term opportunity but recommend it be pursued as part of a broader, phased strategy to unlock and reward industrial flexibility across multiple timeframes.

Q4. Are there any other ways that currently enable industrial demand flexibility in New Zealand?

Yes, there are several existing mechanisms and arrangements that currently enable or support industrial demand flexibility (IDF) in New Zealand, albeit to varying degrees of formality, scale, and effectiveness. These include:

- Bilateral Agreements with Retailers or Distributors: We are aware that the ability for industrial consumers to negotiate bespoke arrangements with their electricity retailers to reduce or shift load during periods of network constraint or high wholesale market prices have acted as a game changer, unlocking opportunities for decarbonisation. These agreements are straight forward and effective and should be supported due to the indirect flow of benefits to other energy consumers.
- Interruptible Load and Reserve Market Participation: Industrial consumers have historically participated in the instantaneous reserve market by offering interruptible load. While the scale of participation has declined in recent years due to market changes, this remains a pathway for demand-side participation that would be worth more detailed exploration.
- Self-Optimisation in Response to Spot Prices: A number of large energy users actively monitor real-time spot prices and adjust consumption in response, especially where they have exposure to the wholesale market through variable or pass-through pricing contracts.
- Load Shedding during Network Events or Emergencies: During grid emergencies or regional network constraints, some industrial users participate in emergency load shedding arrangements coordinated by Transpower or distribution businesses, often in accordance with Grid Emergency Management Plans (GEMPs) or similar local protocols.
- Participation in Emerging Pilot Programmes: EEA notes growing interest in structured trials and pilot programmes that aim to test the technical and commercial viability of flexible demand at scale. For example, the EEA/EECA-supported Flextalk project is currently exploring coordinated

residential and industrial demand flexibility in collaboration with EDBs, industrial sites, technology providers, and policy agencies.

While these examples demonstrate that demand flexibility is already being exercised to some degree, we note that participation is often ad hoc, reliant on specific commercial relationships, or enabled by narrow market or operational windows. There is significant opportunity to strengthen these arrangements through clearer market signals, more transparent mechanisms for participation, and supportive regulatory settings. Strengthening and scaling these existing mechanisms will require integration into a system-wide flexibility framework, consistent with the Authority's broader vision and initiatives like the Flexibility Plan and FlexForum.

Q5. Do you agree with our description of the barriers affecting the provision of industrial demand flexibility? Why/why not? Are any other barriers relevant to the provision of demand flexibility from other consumer types?

The EEA broadly agrees with the Electricity Authority's description of the barriers affecting the provision of industrial demand flexibility (IDF), including market, technical, and regulatory barriers. These barriers align with what our members have observed when working with large industrial customers and other flexible demand providers across the electricity system.

In particular, we support the Authority's identification of:

- Insufficient price signals and value recognition, which can limit the business case for investment in flexibility-enabling technologies
- Market access complexity and high transaction costs, especially for smaller or less sophisticated industrial participants
- Operational risks and production constraints, which often reduce a site's ability to respond flexibly to market signals without compromising core business objectives
- Lack of visibility and communication infrastructure, which impedes both participation and confidence in providing flexible services.

However, we suggest that three additional considerations be explicitly recognised:

1. Institutional knowledge and cultural readiness: Many industrial sites lack internal capability or experience with energy markets, flexible operations, or load forecasting. This acts as a soft barrier, especially where energy management is not a strategic priority.
2. Co-ordination challenges across supply chains: In some industrial sectors, operational decisions are linked across suppliers, contractors, or multi-site operations, adding complexity to implementing demand flexibility solutions

3. Lack of visibility of examples of success: Due to competitive advantage, industrial industrial consumers can be reticent about sharing the benefits gained from demand flexibility innovation, or bilateral arrangements. The Authority can play a role in making this more visible.

With respect to other consumer types, such as commercial or residential customers, many of the same barriers apply but are more acute due to:

- Smaller individual load volumes, making flexibility less visible and less commercially viable unless aggregated
- Lower digitalisation and automation, particularly in the residential sector
- Lack of standardised protocols and interoperability, which increases friction for participation and technology integration
- Limited consumer awareness and trust, which affects willingness to enable external control of energy resources like EVs, batteries, or hot water systems.

These barriers underscore the need for a system-wide approach, as recognised in the Authority's vision, which includes coordinated reforms to access, interoperability, standards, and value recognition. The EEA believes that addressing these barriers systemically, through appropriate standards, pricing reform, interoperability initiatives, and market access support, will be key to scaling demand flexibility across all sectors. Our work through initiatives like FlexTalk is designed to help unlock these opportunities in a way that is technically robust and aligned with evolving system needs.

Q6. Do you agree that existing incentives and contracts for demand flexibility are resulting in inefficiently low levels of demand flexibility?

The EEA agrees that existing incentives and contractual arrangements are contributing to an inefficiently low level of demand flexibility in New Zealand's electricity system, particularly when compared to the scale of flexibility potential that could be unlocked from industrial consumers.

While some industrial consumers do participate in demand response through interruptible load arrangements or capacity contracts (e.g., with Transpower or retailers), these mechanisms are relatively narrow in scope and are not consistently aligned with broader system or distribution-level needs. In practice, several barriers dampen participation:

- Limited price signals and market access: The structure of current wholesale and retail pricing does not provide sufficiently granular or timely signals to encourage responsive behaviour from industrial loads. This is compounded by a lack of transparent and accessible mechanisms to value and monetise flexibility.

- High transaction and enablement costs: Establishing demand flexibility contracts often involves bespoke negotiations, technical enablement, and risk assessments, which create a high entry threshold for many industrial users, especially smaller or medium-sized businesses.
- Uncertainty and misaligned incentives: Many industrial users face uncertainty about the reliability of financial returns from participating in demand response, particularly if they have inflexible production schedules or are exposed to penalties for non-performance. Additionally, the benefits of flexibility (e.g., deferred network investment or reduced peak pricing) may accrue to different market participants than those providing the service, creating a misalignment of incentives.
- Lack of visibility and coordination: Distribution networks and system operators often lack visibility of flexible loads and are not systematically coordinating with retailers or aggregators to optimise these resources at scale.

Unlocking efficient IDF participation will require a valuation approach that reflects co-optimised outcomes across wholesale, network, and system operations, as acknowledged in later sections of the paper. Aligning incentives across market actors will be critical to delivering the full system and consumer benefits of industrial demand flexibility.

In summary, we support the Authority's view that current incentives and contracting models are not sufficient to unlock the full value of industrial demand flexibility. A more coordinated, system-wide approach, supported by appropriate price signals, data access, and standardised contracting models, will be necessary to enable greater participation and improve overall system efficiency.

We also note the potential for lessons from trials such as Flextalk and EECAs Demand Flexibility scaled trials initiatives to inform the development of scalable, cost-effective demand flexibility frameworks that work for industrial, residential, and commercial consumers alike.

Q7. Are you aware of any additional barriers to enabling more industrial demand flexibility?

The EEA agrees with the barriers identified by the Electricity Authority and highlight several additional challenges that may be limiting the uptake of industrial demand flexibility (IDF) in practice:

1. Lack of clear market signals and monetisation pathways: While there is theoretical value in demand flexibility, the mechanisms to capture that value—particularly for industrial users—remain fragmented or underdeveloped. Without transparent and consistent price signals (e.g. for peak avoidance, capacity deferral, or ancillary services), many businesses cannot justify investment in flexibility-enabling technologies or process changes.
2. Uncertainty around operational impacts and commercial risk: Industrial users often lack confidence in how participating in flexibility schemes might impact production schedules,

equipment health, or contractual obligations. The risk of financial penalties or reputational harm from failing to deliver agreed flexibility services may outweigh perceived benefits, particularly in the absence of guaranteed returns or insurance-like protections.

3. Limited access to third-party service providers and aggregation: There is a shortage of independent aggregators or demand response service providers targeting industrial users in New Zealand. Where they do exist, standardised contracting and technical integration processes are still developing, adding friction and cost to participation.
4. Data visibility and metering limitations: Many industrial users do not have access to the real-time or high-resolution data required to identify flexibility opportunities or respond dynamically. Investment in advanced metering and control systems can be costly and is not always prioritised in the absence of a clear business case.
5. Regulatory and institutional uncertainty: Ongoing policy development around distribution system operation (DSO) functions, access to flexibility markets, and roles and responsibilities across the system introduces uncertainty for industrial users. They may adopt a "wait and see" approach until regulatory pathways and market structures are clarified.
6. Workforce capability and awareness: There is a general lack of capability, both within industrial businesses and the broader energy services market, to identify, value, and implement demand flexibility solutions. This is compounded by low awareness of existing pilots, tools, or co-investment programmes that could reduce the cost or risk of participation.
7. Lack of co-optimisation across multiple value streams: Industrial users could potentially deliver flexibility services to multiple parties (e.g. retailer, distribution business, system operator), but today's system lacks the co-optimisation and coordination needed to unlock stacked value. As a result, the full economic potential of IDF is not realised, and participants face complex trade-offs.
8. Lack of knowledge and awareness about the opportunity: The Authority can play a role in making benefits (and where to start) more visible to industrial consumers.

These additional barriers reflect the importance of coordinated market design, transparency, and capability development, priorities that are rightly emphasised in the Authority's broader vision for flexibility and have also been recognised by the FlexForum as critical enablers of a functioning flexibility ecosystem.

We encourage the Authority to take a system-level approach to identifying and addressing these barriers, including through coordination with other regulatory agencies (e.g. Commerce Commission, MBIE) and support for industry-led initiatives such as Flextalk and the EECAs Scaled Demand Flexibility pilots.

Q8. Do you agree with our vision for industrial demand flexibility? Why/why not?

The EEA broadly supports the Electricity Authority's proposed vision for industrial demand flexibility. We agree that enabling industrial consumers to actively participate in demand response markets will improve the efficiency, resilience, and affordability of the electricity system. The Authority's emphasis on valuing flexibility, improving price signals, and supporting participation aligns with the EEA's own priorities, including the need to unlock flexible demand as a critical tool for managing peak loads, integrating renewables, and supporting system stability.

We also endorse the vision's recognition that flexibility should be rewarded in a way that reflects its value to the system, whether that is through avoided investment in capacity, reduced wholesale price volatility, or enhanced security of supply. Industrial demand flexibility can deliver significant benefits not only to the industrial consumers themselves but also to distribution networks, retailers, and the system operator, particularly when co-optimised across these layers.

However, in delivering on this vision, we recommend the following clarifications and additions:

- System-wide coordination is essential. Realising the full value of industrial demand flexibility will require coordination across the transmission and distribution system, including appropriate access to network support services and transparent methodologies for valuing avoided costs.
- A clear role for distribution networks. The vision would benefit from explicit reference to how distribution businesses can interact with and support industrial flexibility, including through non-network solutions, improved hosting capacity visibility, and potential procurement of local flexibility services.
- Integration with wider flexibility work programmes. The Authority's vision should be clearly positioned within the broader context of the sector's flexibility development efforts, including the cross-sector FlexForum and the Flexibility Plan coordinated by the Ministry of Business, Innovation and Employment (MBIE). Aligning with these initiatives will support consistency, build confidence across stakeholders, and help avoid fragmented or duplicative approaches.
- Alignment with innovation pilots. The vision should also acknowledge and leverage learnings from on-the-ground initiatives, including FlexTalk and the EECA Scale Demand Flexibility demonstrations, as well as other pilot projects that are already engaging with industrial and commercial loads.
- Equity and participation. While the focus is rightly on large industrial loads initially, the vision should acknowledge the longer-term objective of enabling all consumer types to participate in and benefit from demand flexibility, ensuring a level playing field and a more dynamic, inclusive energy system.

This vision, while focused on industrial loads, provides a valuable foundation for flexibility more generally, including DERs and aggregated residential/commercial participation — a theme we support in the broader discussion (see Q9 and Q12–21).

In summary, we support the Authority's vision as a strong foundation and encourage further development of the practical and regulatory enablers that will give effect to it. Clarity around roles, alignment with broader initiatives like the FlexForum, and continued engagement with industry will be key to successful implementation.

Q9. Do you believe that this vision is applicable to other forms of demand flexibility, or to flexibility more generally?

Yes, the EEA believes that the vision articulated for industrial demand flexibility provides a strong foundation that can and should be adapted to apply more broadly across the electricity system to encompass all forms of demand-side flexibility.

Many of the core principles in the Authority's vision, such as valuing flexibility based on its contribution to system outcomes, improving access to flexibility markets, enabling participation through appropriate price signals and frameworks, and ensuring interoperability and trust, are equally relevant to commercial and residential demand, distributed energy resources (DER), and emerging flexible technologies such as EV charging and behind-the-meter batteries.

In particular:

- Scalability and system integration: As the electricity system becomes increasingly decentralised and dynamic, a more universal vision for flexibility is needed to ensure that system coordination can occur across all voltage levels and consumer types. This will support better investment decisions, improved security of supply, and more efficient use of assets across the value chain.
- Support for broader consumer participation: The transition to a more flexible energy system will require a wide base of consumer participation, not just industrial, but also residential and small commercial, especially as solar PV, EVs, smart appliances, and batteries proliferate. The vision should anticipate and support these forms of flexibility to ensure a coherent national approach.
- Alignment with national strategy and cross-sector efforts: Applying this vision more generally will support alignment with Flexforum and the Flexibility Plan, the work of MBIE, and initiatives like FlexTalk that are exploring scalable models for distributed and aggregated flexibility, including hot water control, EV charging, and demand-side response from homes and SMEs.

- Future market development: A generalised flexibility vision can provide a guiding framework for market development, regulatory reform, and innovation support, ensuring consistency across different market segments while allowing tailored mechanisms where necessary.

However, we recognise that practical implementation pathways will differ depending on the scale, technology, and consumer type involved. While industrial flexibility may be easier to access in the short term due to larger load profiles and more direct commercial relationships, unlocking flexibility more broadly will require targeted enablers, including investment in smart infrastructure, consumer protections, interoperability standards, and data access frameworks.

In conclusion, we support the expansion of this vision to flexibility more generally, and recommend the Authority collaborate with relevant agencies and stakeholders to ensure a unified, system-wide strategy that incorporates all sources of demand-side flexibility in a coordinated and consumer-centric manner.

Q10. Do you agree with our view that demand flexibility providers should be able to receive payment for providing flexibility services that exceeds avoided energy costs, provided the demand flexibility is efficient (as defined)? Why/why not?

Yes, the EEA agrees that demand flexibility providers should be able to receive payment for services that exceed avoided energy costs, provided the flexibility is efficient and delivers value to the electricity system.

Restricting payment to only avoided energy costs undervalues the full suite of benefits that flexibility can provide. Flexibility services, when efficiently deployed, can reduce or defer network investment, lower peak demand, improve reliability, manage local constraints, support voltage stability, and enhance system resilience. These value streams accrue not only to the wholesale market but also to distribution networks, the system operator, and ultimately consumers.

We support the Authority's position that payments should reflect the total system value of flexibility, not just avoided wholesale energy. This aligns with international best practice and ensures appropriate signals are sent to encourage the uptake and efficient deployment of flexibility services.

However, we note the following considerations in operationalising this approach:

- Value stacking requires coordination. Enabling payments beyond avoided energy costs will necessitate clear roles and coordination between market participants, network businesses, and the system operator. Co-optimisation across different system needs and jurisdictions (transmission and distribution) is critical to avoid double-counting or conflicts.

- **Transparent valuation frameworks.** There is a need for transparent and consistent methodologies to determine when and how flexibility is delivering net system benefits. This will help build trust, avoid gaming, and ensure that incentives are aligned with efficient outcomes.
- **Distribution network perspective.** From a distribution business point of view, enabling flexibility payments beyond avoided energy costs is particularly important, as many of the constraints they face (e.g. thermal limits, voltage issues, capacity constraints) are localised and may not be reflected in wholesale price signals. Flexibility can be a valuable non-network solution, and the ability to appropriately compensate providers is essential.
- **Alignment with regulatory frameworks.** Regulatory settings (e.g. pricing principles, cost-recovery rules) should support the ability of flexibility providers to receive fair compensation across multiple value streams. This includes recognising the contribution of flexibility to achieving regulated outcomes such as reliability, resilience, and decarbonisation.

In conclusion, enabling payment for efficient flexibility services that exceed avoided energy costs is not only appropriate but necessary to realise the full value of demand-side flexibility. It supports innovation, system optimisation, and better long-term outcomes for consumers and the sector as a whole.

Q11. Do you believe that a different level of payment would be appropriate than what we have defined as efficient? Why/why not?

The EEA broadly supports the Electricity Authority's principle that payment for demand flexibility services should reflect efficient value to the electricity system, that is, payments should be no greater than the cost of the next-best alternative, including energy, capacity, and network investments.

We agree that this definition provides a sound starting point for ensuring flexibility is valued fairly, does not lead to overcompensation, and promotes least-cost outcomes for consumers.

However, in practice, we believe the Authority's current framing of "efficient" payment levels could be further refined to better reflect the complexity of real-world flexibility provision and the multiple value streams it can deliver. In particular:

- **Flexibility often provides stacked benefits** across different parts of the electricity system, including avoided energy costs, deferred or avoided network investment, reduced peak demand, improved system security, and decarbonisation. A strict application of "next-best alternative" may understate this value, particularly where benefits accrue across parties (e.g. transmission, distribution, and the system operator).

- Locational and temporal value matters. Efficient flexibility in constrained or high-growth parts of the network may justify higher payments than in unconstrained areas. The current definition should be interpreted flexibly enough to allow for these variations.
- Need to include opportunity and enablement costs. Efficient pricing should account for the costs of enabling flexibility (e.g. metering, automation, communications) and opportunity costs faced by industrial providers. If these are not captured, efficient flexibility may not be commercially viable, even if it is socially beneficial.
- Incentive for early participation. During early phases of market development, slightly higher payments may be justified to incentivise participation, develop capability, and test mechanisms, particularly where value is uncertain or not yet fully priced into existing markets. This mirrors the rationale behind innovation incentives and non-network solution trials.

Therefore, while we agree with the Authority's definition of efficiency as a useful guiding principle, we recommend a more flexible and inclusive interpretation of what constitutes efficient value. This would better reflect the multifaceted role of flexibility, the evolving nature of markets and regulation, and the current state of industry capability.

This broader interpretation of efficiency will also help inform practical implementation pathways, including those tested in pilot programmes like FlexTalk and EECA's scaled trials. Clear methodologies, transparent valuation, and alignment across transmission and distribution will be critical to ensuring payments remain efficient, proportionate, and sustainable.

Q12. Do you agree with our proposed guiding principles? Why/why not? Are other specific considerations which you believe should be included in the evaluation framework?

The EEA broadly supports the proposed guiding principles outlined by the Electricity Authority. These principles, including efficiency, technology neutrality, non-discrimination, consumer participation, and coordination, provide a sound foundation for evaluating options to reward industrial demand flexibility and to guide future regulatory development.

We particularly support the principles of:

- Efficiency, which ensures that flexibility is deployed in a way that delivers least-cost outcomes for consumers and the wider system.
- Technology neutrality and non-discrimination, which are essential to encourage innovation and competition across all potential sources of flexibility.

- Coordination, which is critical to ensuring flexibility is effectively integrated across transmission, distribution, and market platforms.

However, based on feedback from our members and wider engagement with Flexforum and across the industry, we recommend the following additions and refinements to strengthen the evaluation framework:

- Recognise the system-wide and multi-value nature of flexibility: Flexibility delivers benefits that often cut across different layers of the electricity system, from wholesale energy to distribution capacity, system security, and decarbonisation. The evaluation framework should ensure that options do not narrowly focus on single-value streams (e.g. wholesale price response) but instead support mechanisms that reflect the full system value of flexibility, including non-market services.
- Incorporate practicality and implementation cost: Any solution must be practically implementable and proportionate in cost relative to the scale of the flexibility opportunity. This includes consideration of transaction costs, compliance overheads, and the maturity of supporting infrastructure (e.g. metering, control systems, data exchange protocols). It should also be recognised that some parts of the country — particularly smaller EDBs — may not have the same system pressures or levels of DER penetration as larger urban networks. These regional differences in capability, need, and readiness should be factored into implementation pathways, with flexibility to scale solutions appropriately.
- Support interoperability and data access: To enable fair and efficient participation in flexibility markets, the framework should emphasise the importance of open standards, secure data sharing, and interoperability. This will avoid vendor lock-in, reduce barriers to entry, and improve coordination across actors and platforms.
- Reflect equity and participation objectives: While the current focus is on industrial flexibility, the long-term transition to a more flexible and consumer-centric energy system will require broader participation. The principles should encourage inclusive design, ensuring small and large providers can participate and that consumers have trust in how their flexibility is used and rewarded.
- Promote learning and adaptability: The evaluation framework should support adaptive regulation and learning-by-doing, particularly important in the early stages of scaling demand flexibility. This includes openness to pilots, transparent review points, and the ability to evolve policy settings as evidence and capability develop.

This principle is especially relevant given the current momentum in New Zealand through large-scale trials such as Flextalk and the EECA Scaled Demand Flexibility Demonstrations, and other collaborative initiatives that are actively testing flexibility use cases across residential, commercial, and industrial settings. These projects are already revealing operational, technical, and commercial lessons that can inform more robust and practical regulatory frameworks.

In addition, the cross-sector FlexForum is playing a key role in aligning stakeholders, identifying barriers, and co-developing pathways to scale. Embedding a feedback loop from these efforts into the Authority's decision-making will help ensure the regulatory response is grounded in real-world experience, encourages innovation, and remains responsive to a rapidly evolving energy landscape.

- Alignment with broader sector initiatives: The principles should support alignment with the MBIE-led Flexibility Plan, the cross-sector FlexForum, and industry-led projects. Coordination across these efforts will maximise impact and reduce duplication.

In summary, while we agree with the Authority's proposed principles as a solid starting point, we believe they can be strengthened through a broader consideration of implementation practicality, multi-value outcomes, and alignment with national flexibility objectives. We look forward to continued engagement as the Authority further develops its framework and evaluates potential options.

Q13. Do you agree with our view that there is currently insufficient potential industrial demand flexibility to justify the establishment of new market mechanisms or platforms other than the proposed ERS and standardised demand flexibility product?

The EEA agrees that, at this stage, the volume of industrial demand flexibility currently visible in the system may not justify the immediate development of entirely new market platforms. We support the Authority's measured approach, focusing initially on expanding existing mechanisms, such as the Emergency Reserve Service (ERS), and exploring a standardised demand flexibility product to build experience and capability.

However, we offer the following observations to ensure the pathway remains open to more ambitious system-wide flexibility solutions in the future:

- Today's limited visibility does not reflect future potential. While current industrial demand flexibility may appear modest, it is likely underreported or underutilised due to a lack of incentives, trusted frameworks, or commercial confidence. As seen in other jurisdictions, once clear market signals and operational pathways are established, flexibility participation often grows significantly. New Zealand should prepare for this potential scale-up.

- Trialling standardised products is a valuable interim step. We support the Authority's intention to test a standardised demand flexibility product as a low-regret option. This can help prove value, lower transaction costs, and provide a foundation for future market mechanisms if uptake increases.
- Large-scale trials and FlexForum workstreams are expanding understanding. Projects such as FlexTalk, the EECA Scaled Demand Flexibility Demonstration, and broader sector collaboration through the FlexForum are already identifying where flexibility exists, how it can be unlocked, and what system benefits it can deliver. These efforts may soon challenge assumptions about the scale and readiness of industrial and other flexibility sources.
- Platform development should remain an open option. While we agree that full market platforms may not be warranted today, the Authority should retain optionality to expand into more comprehensive flexibility coordination and trading mechanisms as capability, trust, and participation grow. Early scoping of such pathways, even if not immediately pursued, would help reduce future lead times.

In summary, we agree with the Authority's current position, provided it is seen as a pragmatic starting point, not a definitive ceiling. The sector is evolving rapidly, and flexibility will play an increasingly central role in ensuring a resilient, efficient, and decarbonised electricity system. Continued engagement with industry, coordination with the FlexForum, and monitoring of trial outcomes will be essential to informing next steps.

Q14. Do you consider there are other cost-effective measures that can be implemented urgently to enable industrial demand flexibility to support reliability and efficient in the wholesale market?

Yes, the EEA believes that there are several low-regret, cost-effective actions that can be implemented in the near term to accelerate industrial demand flexibility and support both reliability and efficiency in the wholesale market.

While we support the Authority's focus on extending the Emergency Reserve Service (ERS) and trialling a standardised flexibility product, we recommend a broader package of enabling measures be pursued in parallel, including:

- Clarify and streamline participation processes: Many industrial consumers are uncertain about how to engage in flexibility opportunities or find existing processes complex and opaque. Clearer, standardised guidance on how to participate in existing services (such as ERS or interruptible load) would reduce entry barriers and improve uptake.

- Improve visibility of system needs and price signals: More timely and granular information about system conditions, including forecasts of tight supply, indicative price events, or locational constraints, would help industrial users better plan and respond. Enhancing transparency through existing platforms or targeted notifications could yield significant benefit with minimal investment.
- Support short-term bilateral contracting: Interim frameworks or guidance that enable retailers, aggregators, or distributors to enter into bilateral flexibility agreements with industrial customers, even outside formal markets, could help bridge the gap while more enduring mechanisms are developed. These arrangements could support both local network reliability and wholesale market balancing.
- Enable and co-fund enabling technologies: Co-investment in automation, telemetry, and data integration tools, either through pilot funding (e.g. via EECA) or technology partnerships, would help reduce the upfront costs for industrial participants and improve responsiveness. This is especially important for smaller industrial sites that may not yet have the necessary infrastructure to participate.
- Leverage existing trial insights and industry coordination: The Authority should actively draw on learnings from the FlexTalk project, the EECA Scaled Demand Flexibility Demonstrations, and broader FlexForum coordination to inform short-term action. These initiatives are already identifying practical steps to unlock flexibility, including better communication protocols, scalable contracting models, and operational lessons.
- Enhance engagement between EDBs and system operator: Coordination between distribution networks and the system operator is vital to ensure industrial flexibility is deployed safely and efficiently. Mechanisms to support distributed flexibility (e.g. non-network solutions) should be better integrated with wholesale market considerations to avoid siloed or conflicting signals.

In summary, while we support the Authority's cautious approach to new market mechanisms, we believe there are urgent and actionable measures that can and should be pursued now. These steps will help grow capability and confidence, reduce risk, and create a stronger foundation for broader market-based flexibility services in the near future.

Q15. Do you agree with our proposal to establish an ERS? Why/why not?

The EEA supports the Electricity Authority's proposal to establish a formal Emergency Reserve Service (ERS) as a pragmatic and timely measure to enhance system reliability and begin unlocking industrial demand flexibility in a controlled and targeted manner.

As outlined in our response to Question 14, we believe there is a package of cost-effective, near-term actions that can be taken to support reliability and efficiency, and the ERS represents a cornerstone of that package. It provides a low-regret mechanism to test the practicalities of procuring, activating, and compensating flexible demand in a way that is consistent with security-of-supply objectives.

We support the ERS for the following reasons:

- Improves short-term reliability while enabling demand-side participation: The ERS gives the system operator a new tool to reduce the risk of load shedding in tight supply conditions, while allowing willing industrial consumers to contribute to grid reliability in a structured and compensated way.
- Aligns with broader enablement measures: The ERS complements other short-term, cost-effective measures recommended in our response to Question 14, such as improving visibility of system needs, enabling bilateral contracting, co-funding enabling technologies, and learning from existing trials (e.g., FlexTalk and the Scaled Demand Flexibility Demonstrations). Together, these initiatives form a cohesive approach to building confidence, trust, and capability in industrial demand flexibility.
- Supports a learn-by-doing approach: The ERS allows the sector to gain operational and commercial experience with demand-side response under real-world conditions. This will help inform future market design and identify practical barriers and enablers across both transmission and distribution levels.
- Creates an entry point for new participants: A well-structured ERS could offer a relatively simple and low-risk entry pathway for industrial consumers not currently active in flexibility markets, while also serving as a platform for aggregators or service providers to demonstrate their capability.

We emphasise the following implementation considerations:

- The ERS should be designed to be simple, transparent, and easy to participate in, with clear activation triggers and compensation mechanisms.
- Coordination with distribution networks is essential, as many industrial sites are embedded within distribution systems, and uncoordinated actions may create unintended operational impacts.
- Lessons learned through ERS operation should be captured and shared to inform ongoing regulatory development and market evolution.

In conclusion, the proposed ERS is a welcome and necessary first step in building the confidence and infrastructure needed to scale industrial demand flexibility. Its success will be enhanced by

implementing it alongside the wider set of low-regret measures identified in our response to Question 14.

Q16. For demand flexibility providers – do you consider it likely that you could make demand flexibility capacity available for an ERS in time for Winter 2026?

While the EEA does not directly provide demand flexibility services, we represent a broad cross-section of the electricity sector, including distribution businesses, engineering consultants, and service providers, who work closely with industrial consumers and aggregators. Based on feedback from our members, we believe it is likely that some level of industrial demand flexibility could be made available for an Emergency Reserve Service (ERS) by Winter 2026, provided key enablers are in place.

However, this will depend on several practical factors:

- Clarity and timeliness of the ERS design: To participate effectively by Winter 2026, industrial providers and aggregators will need certainty around eligibility criteria, product requirements, activation triggers, and compensation mechanisms no later than mid-2025. Early release of a draft design and engagement with potential providers will be critical.
- Lead time for commercial and operational readiness: Many industrial participants will require time to assess internal operational constraints, negotiate commercial arrangements, and potentially invest in telemetry, automation, or control system upgrades to enable fast and reliable load curtailment. These activities often involve cross-organisational coordination and multi-month lead times.
- Supportive engagement from networks and retailers: Participation may be facilitated or constrained by relationships with distribution networks, retailers, and energy service providers. Early alignment across these actors, particularly in terms of data access, contractual terms, and response coordination, will be important.
- Alignment with ongoing flexibility initiatives: Projects such as FlexTalk and the EECA Scaled Demand Flexibility Demonstration, and other FlexForum-supported activities are already engaging with industrial consumers and testing flexibility capabilities. Building on these initiatives, and avoiding duplication or conflicting requirements, will help accelerate readiness for a Winter 2026 ERS.
- Simple, low-barrier design: Providers are more likely to participate if the ERS is easy to engage with, has proportionate compliance requirements, and offers a fair value proposition relative to the cost and operational impact of delivering demand response.

In summary, we believe the goal of establishing an ERS with some level of industrial participation by Winter 2026 is achievable, but only if implementation pathways are clearly defined, well-communicated, and aligned with existing industry initiatives. The EEA would welcome the opportunity to support the Authority in engaging with potential providers and building confidence in the sector around the ERS design.

Q17. Do you agree with our proposal to investigate a standardised demand flexibility product? Why/why not?

Yes, the EEA supports the Electricity Authority's proposal to investigate a standardised demand flexibility product. We see this as a valuable and timely step to complement the proposed Emergency Reserve Service (ERS) and help accelerate the development of broader, market-integrated demand flexibility in New Zealand.

A standardised product, if well designed, can help lower barriers to participation, reduce transaction costs, and enable more consistent procurement of flexibility services across the sector. It also creates a foundation for scaling and layering more sophisticated flexibility markets over time.

We support this proposal for several key reasons:

- Builds confidence and capability: A standardised product offers a clear, repeatable framework that can be understood and acted on by industrial providers, aggregators, and intermediaries. This supports early participation and helps build the operational and commercial confidence needed to evolve more dynamic flexibility services in the future.
- Supports national consistency: Without a standard product, procurement of flexibility risks becoming fragmented across networks or market actors. A consistent product design helps reduce complexity, supports interoperability, and lays the groundwork for more coordinated system-wide approaches to flexibility.
- Enables co-optimisation of flexibility value: With appropriate design, a standardised product could allow for flexibility services to be deployed across multiple value streams, including wholesale markets, network support, and system security, provided there is clarity around roles, dispatch rights, and measurement. This improves overall system efficiency.

However, we recommend the following design considerations:

- Start simple and iterate: The initial product should be practical, transparent, and easy to adopt, with minimal compliance overheads. It should allow for refinement over time as experience grows and lessons are learned.

- **Flexibility to suit diverse providers:** The product should be capable of supporting a range of industrial load types, including those with varying response times, durations, and operational constraints.
- **Coordination with distribution networks:** As many industrial loads are embedded within distribution networks, product design must be coordinated with network operational needs to avoid unintended consequences and ensure safe, reliable operation.
- **Integration with data and telemetry frameworks:** A standardised product should be accompanied by clear expectations for measurement and verification, supported by open and interoperable data protocols that avoid vendor lock-in and reduce enablement costs.
- **Protect the continuing ability for bilateral agreements:** Due to the success of bilaterial agreements, a standardised product must enable these arrangements to continue and flourish.

In summary, we support the Authority's proposal to explore a standardised demand flexibility product as a practical, low-regret action that will help scale participation, increase system efficiency, and support a more flexible, resilient electricity system. The EEA and our members welcome the opportunity to contribute to its development through our engagement with FlexForum, industry trials, and network coordination efforts.

Q18. Do you support our other proposed roadmap actions? Why/why not?

The EEA supports the Electricity Authority's proposed roadmap actions as a practical and well-sequenced set of steps to unlock industrial demand flexibility in New Zealand. The roadmap reflects a clear understanding of current market readiness, aligns with key enablers, and appropriately complements the Authority's proposed Emergency Reserve Service (ERS) and standardised flexibility product (as discussed in our responses to Questions 15 and 17).

Importantly, we see the Authority's roadmap as broadly consistent with the direction and priorities outlined in the Flexibility Plan 2.0. In particular, the roadmap supports the Plan's emphasis on:

- Building foundational capabilities
- Improving visibility and access to flexibility
- Enabling co-ordination across system actors, and
- Supporting regulatory innovation and learning.

We offer the following observations to ensure the roadmap actions are well-integrated and effective:

- **Ensure alignment with Flexibility Plan 2.0 and FlexForum implementation work.** The roadmap should explicitly reference and align with the broader system-level efforts coordinated through

Flexibility Plan 2.0 and the FlexForum, which are focused on developing common frameworks, priority use cases, interoperability standards, and market access pathways across all consumer types. This coordination will help ensure that industrial flexibility actions are scalable, consistent, and system-wide, rather than siloed or duplicative.

- Maintain a learning-by-doing approach. We support the roadmap's recognition that flexibility development is iterative. The Authority should embed adaptive review points and incorporate learnings from current initiatives, including FlexTalk and the EECA Scaled Demand Flexibility Demonstration, as well as future pilots. This will help ensure the roadmap remains responsive to emerging challenges and opportunities.
- Clarify links to distribution-level coordination and non-network solutions. Many industrial loads are connected at the distribution level, and flexibility services will often deliver value locally as well as to the wholesale market. Roadmap actions should therefore be developed in consultation with distribution businesses and aligned with Commerce Commission work on non-network solutions and default price-quality paths. This will help ensure value is recognised and fairly compensated across the system.
- Support participation through enablement and guidance. The roadmap should also recognise that some industrial consumers may require support to engage, including access to enabling technologies, measurement and verification tools, and clear contracting templates. Partnership with agencies such as EECA could help address capability and investment barriers, particularly for smaller or less mature participants.
- Direct engagement with industrial consumers. We urge the use of EECA's direct market engagement team and existing channels with industrial consumers, to engage specifically with this audience to gain valuable information about their needs, perspectives, and what would drive them to embrace demand flexibility.

In summary, the EEA and our members support the roadmap actions as a practical and aligned contribution to New Zealand's broader flexibility transition. By maintaining close alignment with the Flexibility Plan 2.0, integrating with current trials and sector forums, and addressing practical enablement challenges, the roadmap can play a key role in unlocking industrial flexibility as part of a smarter, more resilient electricity system.

Q19. Do you believe there are other actions that we should consider in the roadmap? If so, please outline the actions and rationale

Yes, the EEA believes that there are additional actions that would strengthen the Electricity Authority's roadmap and better support the development of industrial demand flexibility as part of a broader, system-wide flexibility transition.

In particular, we recommend the following additional actions, aligned with the priorities and direction of Flexibility Plan 2.0:

1. Develop clear use cases and value streams for industrial flexibility

Rationale: Many industrial consumers are still uncertain about how their flexibility can be used and valued. As part of the roadmap, the Authority should work with industry and the FlexForum to define common use cases (e.g. peak shaving, frequency response, local congestion relief) and link these to clearly understood value streams across the wholesale, distribution, and system operator levels. This will support more consistent messaging, better investment decisions, and broader participation.

2. Engage with industrial consumers

Rationale: The need to understand the needs, perspectives and motivations of industrial consumers is a barrier that can be addressed through workshops or other forms of engagement, utilising channels such as EECA's direct engagement programme with businesses.

3. Establish a baseline methodology framework

Rationale: The lack of consistent baseline methodologies is a key barrier to flexible demand participation. While flexibility providers and aggregators are exploring options, we recommend the Authority support the development of a standardised and proportionate baseline framework — potentially through pilots — to underpin future flexibility products. This would improve trust, comparability, and reduce transaction costs for all parties.

4. Provide industry guidance and contract templates

Rationale: To support early participation, the roadmap should include the development of standardised contract templates, participation guides, and decision-making tools for industrial consumers, retailers, and aggregators. This is particularly important for parties with limited in-house legal or commercial expertise and would reduce administrative barriers to entry. Co-development with sector partners and EECA could support this action.

5. Enable flexibility to support distribution-level outcomes

Rationale: Industrial demand flexibility can also deliver significant benefits at the distribution level — including deferring network investment, managing voltage or thermal constraints, and supporting resilience. We recommend the roadmap include actions to explore how industrial flexibility can be procured by or coordinated with distribution businesses as part of non-network solution planning and operational management.

6. Leverage the FlexForum as a key conduit or partner for ongoing engagement and coordination

Rationale: We recommend that the Authority use the existing FlexForum as the primary conduit for ongoing engagement on roadmap implementation — particularly in relation to industrial demand flexibility. The FlexForum already brings together a wide cross-section of industry stakeholders and is closely aligned with the priorities and actions of Flexibility Plan 2.0. If an independent or parallel process is deemed necessary to capture additional perspectives, we suggest the FlexForum be a key partner in that process to ensure alignment, avoid duplication, and maintain a whole-of-system view. FlexForum sub-groups or technical streams could also be leveraged to focus on specific industrial flexibility issues as they emerge.

7. Collaborate with EECA to co-fund enablement activities

Rationale: Many industrial providers, particularly in the medium enterprise segment — face cost or capability barriers to participating in demand flexibility. We recommend the Authority work with EECA to explore targeted co-funding or pilot support for automation, telemetry, and control system upgrades that enable participation. This aligns with Flexibility Plan 2.0's focus on overcoming enablement barriers.

These additional actions would help improve the roadmap's practical impact, inclusiveness, and alignment with broader system reform. By developing clearer use cases, lowering entry barriers, integrating distribution-level coordination, and partnering with initiatives like the FlexForum and EECA, the Authority can support a faster and more effective scale-up of industrial demand flexibility in support of New Zealand's energy transition.

Q20. Do you support the proposed sequence and timing of actions in our proposed roadmap? Why/why not?

The EEA broadly supports the proposed sequence and timing of actions in the Electricity Authority's roadmap for enabling industrial demand flexibility. The staged approach, beginning with low-regret initiatives such as the Emergency Reserve Service (ERS) and exploration of a standardised demand flexibility product, reflects an appropriate balance between urgency, practicality, and market readiness.

We agree that it is sensible to first focus on targeted reliability outcomes for Winter 2026 (via the ERS), while concurrently laying the groundwork for broader and more market-integrated demand flexibility services over the medium term.

However, we offer the following observations and recommendations to enhance the proposed sequencing and ensure alignment with Flexibility Plan 2.0 and wider system priorities:

- Early clarity is critical. For industrial consumers and aggregators to participate meaningfully in the ERS or other early-stage mechanisms by Winter 2026, clear design specifications, participation criteria, and commercial frameworks must be available by mid-2025 at the latest. The current roadmap should explicitly identify key decision and communication milestones to support lead times for internal approvals, enablement investments, and integration with existing commercial arrangements.
- Some enabling actions should be brought forward. Several supporting actions, such as the development of baseline methodologies, industry guidance, and participant education, are currently positioned later in the roadmap but are foundational to early uptake. These should be prioritised in parallel with ERS development to ensure readiness and confidence among industrial participants.
- Maintain alignment with broader flexibility work programmes. The timing and sequence of roadmap actions should be closely coordinated with activities under Flexibility Plan 2.0 and the FlexForum, particularly those related to defining common use cases, establishing interoperability standards, and aligning distribution and wholesale coordination. This will ensure system-wide consistency and reduce duplication or misalignment across regulatory or operational initiatives.
- Build in formal review points. The roadmap would benefit from embedded checkpoints, ideally after Winter 2026 and again prior to broader market integration efforts, to assess progress, capture lessons from early implementation, and adjust sequencing as needed. This reflects the learn-by-doing approach the Authority has endorsed and aligns with industry's evolving readiness.
- Adapt sequencing for regional and organisational diversity. Recognising that not all parts of the country, particularly smaller distribution networks or lower-DER regions, are equally positioned to adopt or coordinate flexibility services at pace, the roadmap should allow for regionally adaptive implementation while maintaining national direction.

In summary, we support the Authority's proposed sequencing and timing as a sound foundation. With a few adjustments to prioritise key enablers, clarify milestones, and maintain alignment with Flexibility

Plan 2.0, the roadmap will provide an effective and credible pathway to scaling industrial demand flexibility in New Zealand's electricity system.

Q21. Is there anything else relevant to this issue that the Authority should consider? If so, please provide any relevant information to support the Authority's consideration.

The EEA appreciates the Authority's focus on unlocking industrial demand flexibility and supports the intent to build a more efficient, reliable, and consumer-participatory electricity system. In addition to the issues raised in our responses to previous questions, we offer the following additional considerations to support the Authority's ongoing work:

1. **Take a whole-of-system approach to flexibility integration:** The Authority's work on industrial demand flexibility should be seen as part of a broader transition toward a more flexible, distributed, and consumer-responsive electricity system. It is essential that actions taken in this area are coordinated with other regulatory settings — including distribution planning, pricing reform, investment frameworks, and system operations — to ensure a cohesive and efficient approach across all levels of the sector.

   This includes alignment with:

   - Flexibility Plan 2.0 and its cross-sector implementation through the FlexForum,
   - Commerce Commission work on non-network solutions and default price-quality paths, and
   - Transpower's demand response strategy and operational planning processes.
2. **Clarify the roles and responsibilities of key actors:** As the flexibility ecosystem evolves, it will be important to clarify the respective roles of retailers, aggregators, distribution businesses, the system operator, and market participants in procuring, dispatching, and compensating demand-side flexibility. Uncertainty in this area can delay investment, reduce trust, and fragment outcomes. We recommend the Authority collaborate with other agencies to provide clear guidance and support common frameworks for roles, responsibilities, and interaction protocols.
3. **Consider the interface between flexibility and resilience:** Flexibility services, including those provided by industrial consumers, can play an important role in enhancing resilience to extreme events, capacity constraints, and system shocks. As noted in the EEA's Resilience Guide and recent workstreams, better integrating flexibility into emergency preparedness and response planning could deliver system and community benefits. We encourage the Authority

to consider flexibility as a resilience tool as part of future market design and operational coordination.

4. **Avoid one-size-fits-all assumptions:** New Zealand's electricity sector is diverse, in terms of network characteristics, consumer profiles, and DER uptake. Some industrial flexibility opportunities may be concentrated in regions with capacity constraints or high renewable variability, while others may emerge through bespoke commercial arrangements. The Authority's frameworks and roadmaps should remain flexible enough to accommodate different pathways to value and allow for regional or sector-specific approaches where justified.
5. **Engage internationally to inform local design:** There is significant international experience emerging on the design and implementation of industrial demand flexibility programs — including in Australia (ARENA trials, wholesale demand response), the UK (FlexAssure, Demand Flexibility Service), and Europe (DSO-led flexibility procurement and local energy markets). We encourage the Authority to continue engaging with global peers and incorporating learnings to avoid pitfalls and accelerate best-practice design.
6. **Raise visibility through public progress reporting:** To build trust, confidence, and momentum, we recommend that the Authority require or facilitate regular public reporting on the outcomes and benefits of industrial demand flexibility initiatives. Transparent reporting will raise awareness of how flexibility is being implemented and the value it delivers — not just to system participants, but ultimately to consumers. This visibility may, over time, help encourage broader participation and support for flexibility-based solutions.

Contact

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