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To: Sarah Gillies, Chief Executive, Electricity Authority c/o appropriations@ea.govt.nz

FlexForum advice on the Electricity Authority 2025-26 levy proposal and indicative workplan

<u>FlexForum</u> exists to support coordinated and collaborative action across the electricity ecosystem and speed up progress to make it easy and routine for households, businesses, communities to maximise the value of their distributed and flexible resources. We are an incorporated society with 40 Members from across the electricity ecosystem.¹

Our touchstone is <u>Flexibility Plan 1.0</u> which is a whole-of-system list of the practical steps and actions that must be taken by the electricity ecosystem to make it easy for people to maximise the value of flexible resources and support the affordable and reliable operation of the electricity market and system.

Flexibility is our focus because it is central to an affordable, sustainable, reliable and consumer-centric electricity market and system.

We are seeing the early impacts of unavoidable and material changes to the workings of the market and system. These changes require investment to upgrade market and system settings to ensure a fit-for-purpose power system which delivers affordable, reliable and resilient and sustainable (low emission) power.

FlexForum is a direct response to the urgency and exists due to the commitment of people across the ecosystem to invest to accelerate the pace of change. The level of activity and investment by the Electricity Authority and the wider ecosystem is critical to the pace of change and avoiding the harms of not being ready. Increasing the Authority appropriation for 2025-26 would accelerate upgrading regulatory settings, if the funds are efficiently spent on the right things.

Our main points

FlexForum would support the Authority proposal for a permanent baseline increase to its Electricity Industry Governance and Market Operations appropriation of \$7.8 million for 2025/26, subject to it committing to two interdependent things:

- We recommend the Authority develop a consumer-centric, whole-of-system forward looking work programme which
 identifies the practical steps required to give people choices in accessing energy so they and Aotearoa New Zealand
 prosper.
- We recommend the Authority use the resulting detailed checklist to coordinate 'outsourcing' market development
 activity to industry experts while focusing its efforts on issues where there are obvious irreconcilable views and to
 complete the Code amendment process.

¹ The list of FlexForum Members is available here. Members include: gentailers, retailers, metering services suppliers, electric vehicle charger manufacturers, energy management software firms, Transpower, distributors, solutions providers, universities, and some real people.

For 2025-26 we expect a workplan intending to deliver a future state where people have choices, including about flexibility, would explicitly include and prioritise tasks to:

- fill the holes in the value stack by ensuring there are cash signals which accurately and routinely monetise all sources of system value, and ensure these signals are easily and routinely accessible to the party best able to experience and respond.
- make it easier for people to discover and assess their flexibility and energy choices by ensuring people can easily and routinely get the information inputs or prompt and personalised advice for their flexibility business case.

More needs to be done, and sooner, in both these areas. Prioritising these will bring more of the latent flexibility of households, businesses and communities online to help address the electricity scarcity problems anticipated for winters 2025 and 2026, and complement efforts to strengthen transmission and distribution network resilience.

A consumer-centric workplan and forward-looking whole-of-system programme to deliver the vision

The Authority describes its vision as people 'have choices in accessing the energy they need now, and in the future, to ensure they and Aotearoa New Zealand prosper'.

We think this closely aligns with the core purpose of the Flexibility Plan to give people the agency, information, incentives and ability to maximise the value of their flexibility and electricity outcomes. The underlying design principle is that the owners of flexible resources are best placed to make decisions about how, when and why their flexibility is used to maximise its benefits and value.

Starting with the human led us to build the Flexibility Plan around 5 broad energy and flexibility outcomes.² This means the Plan gives us a checklist of tasks which are required for people (individually and economy-wide) to easily and routinely realise these outcomes and use flexibility to have affordable, reliable and sustainable energy.

Further, by focusing on activities to make it easy and routine for people and the supply chain to use flexibility, the Flexibility Plan sets out many of the necessary actions for developing a consumer-centric electricity market.³

A practically focused idea or vision of what good looks like in the future gives a reference point for decisions about the features and design of the electricity system and market, and the resulting list of steps can then be prioritised and delivered (check out the next section for our advice on how).

We recommend the Authority also starts with the human to develop a consumer-centric, whole-of-system forward looking work programme which identifies the practical steps required to give people choices in accessing energy so they and Aotearoa New Zealand prosper. These steps will range from questions to known actions. This will not be a blank page exercise. The Flexibility Plan and the Market Development Advisory Group advice together identify perhaps 80% of the checklist. FlexForum is very happy to assist the Authority to prepare a detailed consumer-centric and whole-of-system checklist to deliver its vision.

A whole-of-system checklist will enhance coordination, collaboration and accountability

The Flexibility Plan is a living checklist which we are evolving by clarifying, adding and ticking off steps based on new information and improved understanding. It promotes a rigorous and structured approach to forward planning and avoids thought bubbles, pet projects and vested interests from distracting effort and attention.



² The outcomes emerged from a series of workshops between April and August 2022. You can check out the discussions at https://flexforum.nz/session-notes/. Starting with outcomes was a deliberate effort to ensure the Flexibility Plan reflects the perspective of a household, business or community – who may have flexible resources either now or in the future – making choices about flexibility and wanting to maximise the value of their resources for themselves, their community and for the wider economy.

³ Michaelis et al, Consumer-centric electricity markets: Six design principles (see https://doi.org/10.1016/j.rser.2023.113817) describe the goal of a consumer centric market design is to integrate distributed and renewable energy resources to enable a decarbonised and just energy system. Also see the early work of Joskow etc.

Most critically, it highlights gaps, opportunities and priorities to assist more effective:

- coordinated action the whole-of-system checklist sets out what needs to be done, including the dependencies, priorities and sequencing
- collaboration each step describes the activity required to make progress and the parties who should be involved
- accountability we can maintain the pace and direction of progress by measuring what has been done against each step and make considered assessments about priorities and sequencing of efforts.

We recently completed an initial assessment of the pace and direction of progress with delivering the Flexibility Plan.⁴ Progress was measured by the extent to which a person has or can expect to experience a practical and tangible difference given activity to deliver the outcomes expected from each step.

The assessment highlighted how most flexibility progress is occurring around 'how do we make flexibility work inside the electricity system?' and 'how do we make it usable for market participants'. This is valuable work. But much less progress is being made at the human end – how do people easily find and assess their options? Can people get routinely rewarded for providing system value?

The Flexibility Plan is a powerful ruler to run over learning-by-doing (eg, pilots, trials) and regulatory proposals to make sure they are heading in the right direction and involve the people who should be involved. The update of the Flexibility Plan underway will move us even closer towards having a sequenced roadmap and milestones for flexibility development.

Having a Flexibility Plan equivalent will help the Authority and electricity ecosystem with shifting from winter-to-winter management to a deliberate and methodical (yet also agile) prioritising of effort to give people choices in accessing energy.

The 2025-26 indicative workplan could do more to prioritise action to enhance the choices people have

The Authority's 2025-26 indicative workplan does not obviously prioritise action to enhance the choices people have for accessing electricity. The list of tasks is very supply-side focused (ie, how to make things work inside the system and for traditional 'participants'). Few of the activities would make a tangible difference to the electricity outcomes people experience in the near term, including by making it easy and routine for people to maximise the value and benefits of their flexible resources.

Our assessment of the Flexibility Plan implications of the indicative 2025-26 workplan is available in the Appendix.

We recognise that several of the proposed tasks - eg, the Taskforce recommendations - may involve activities to make it easy and routine for people to obtain flexibility and energy outcomes, but there is not sufficient information available to be sure. A Flexibility Plan equivalent would avoid this problem by enabling the Authority to point at specific questions to be answered or actions taken in a given year, and provide visibility of dependencies and what next.

We expect a workplan delivering a future state where people have choices - including about flexibility - would explicitly include and prioritise tasks to:

- fill the holes in the value stack by ensuring there are cash signals which accurately and routinely monetise all sources of system value, and ensure these signals are easily and routinely accessible to the party best able to experience and respond. We recognise the Taskforce recommendations may involve changes to achieve this, but there is not sufficient information available to be sure. We are developing detailed advice on options to fill the holes in the value stack. Our current thinking is available here and here. We will have more detailed advice in February 2025.
- make it easier for people to discover and assess their flexibility and energy choices by ensuring people can
 easily and routinely get the information inputs or prompt and personalised advice for their flexibility business case. As
 well as regulating to require secure machine-to-machine communication and the instantaneous exchange of electricity
 information, the Authority can achieve this by prioritising work to improve availability of pricing information (step #7) and



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⁴ FlexForum. Progress with delivering the Flexibility Plan. An expert assessment of the pace and direction of progress towards maximising the value of flexibility, August 2024, available here">here.

network-related information (steps #3, 12, 14 and 16). The indicative tasks may propose changes to achieve these things, but there is not sufficient information available to be sure.

Prioritising these two areas would help to leverage the latent flexibility of households, businesses and communities and provide another tool for addressing the electricity scarcity problems experienced in winter 2024 and very possible for winters 2025 and 2626. These two areas would also complement efforts to strengthen transmission and distribution network resilience, with the opportunity for distributed flexible resources to play a starring role in enhancing network resilience.⁵

While there are a range of physical solutions on the table, leveraging the latent flexibility of households, businesses and communities is the option that requires the least 'iron in the ground' and has the potential to play a significant role, and quickly. Right now it is easy to see a repeat in winter 2025 of the May 2024 call out for people to 'do their bit'. This would demonstrate a continued absence of effective cash signals and continued failure to appropriately recognise the system value of flexibility.

Transparent and collaborative ways of working

FlexForum is a keen advocate and practitioner of learning-by-doing, including learning how to extract expertise and perspectives as painlessly as possible to produce a robust, consensus view on gnarly topics. We are happy to share what has and has not worked.

We think the electricity ecosystem - including the Authority - can make faster progress and have a bigger impact on what people experience from the power system by stepping up its coordination and collaboration game.

Our view is that transparent and collaborative ways of working which deliberately leverage industry expertise and learning-by-doing are an effective way to move at pace from understanding to implementation.

We see and appreciate the growing use of working groups, hui and workshops, but consider the Authority can further step up its coordination and collaboration game to make faster progress. Doing things differently means at a minimum making a serious effort to try this approach for regulatory and policy work that requires understanding and exploring how to get stuff done.

We recommend the Authority use the detailed plan and checklist it will develop to coordinate 'outsourcing' market development activity to industry experts while focusing its efforts on issues where there are obvious irreconcilable views and to complete the Code amendment process.

A practical example of what this could look like is the 2 workshops FlexForum held to reality test for Authority staff several of the solutions being considered by the Taskforce.

A more complete example is the <u>workplan to accelerate uptake of flexible EV charging</u> we developed in partnership with EECA. The exercise took 4 months from start to finish and produced a useful checklist of actions needed to realise the estimated value of flexible EV charging.⁶ The approach produces robust and high-quality advice, while also being faster, cheaper, more open, more accessible to smaller and fringe players (and real people), and more satisfying and productive for participants than traditional regulatory processes.



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⁵ Flex Day discussion highlighted a high awareness of Members about the potential and need for flexible resources to enhance resilience. This Rocky Mountain Institute study from 2020, Reimagining Grid Resilience in the Energy Transition, highlights that starring role by finding that flexible resources are a more cost-effective option for achieving grid resilience (both electricity security of supply and network resilience) than traditional solutions.

⁶ FlexForum completed the exercise with funding support from EECA – a workshop series and associated documentation does not happen by magic or by relying on volunteers – and required participants to commit about 10-12 hours each. The opportunity cost of the time committed by workshop participants easily exceeded the EECA funding support.

Closing comments

There is a lot to be done to upgrade the regulatory and physical components of the electricity market and system to enable and accelerate decarbonisation and to deliver a future state which provides people with greater choices in accessing energy, and particularly choices to maximise the value of flexible resources.

The Authority is fundamental to the pace of progress and needs to be appropriately resourced to get the job done. However, no single party can do the job on its own. The electricity ecosystem - including the Authority - can make faster progress by stepping up its coordination and collaboration game to use scarce resources to best effect. This requires a whole-of-system forward looking plan detailing the steps, questions and actions involved in achieving the vision.

A detailed consumer-centric and whole-of-system workplan and checklist will take time and effort, but given the Authority has the Flexibility Plan and MDAG advice to build on it is reasonable to think it could be ready by June 2025. FlexForum produced Flexibility Plan 1.0 from scratch in 8 months. The workplan and checklist will pay for itself in no time.

In the meantime, FlexForum is very happy to work with the Authority to fast track progress on topics which would benefit from an early dose of industry expertise and learning-by-doing. We have sharpened our deep dive skills to the point we are confident that even complex issues can be worked through in a focused 3-4 month expert-driven process.

This advice is the FlexForum perspective on the Authority's 2025-26 levy proposal and indicative workplan. It is provided within the context of the FlexForum's overarching objective and purpose to support coordinated collaboration to make it easier for households, businesses and communities to maximise the value of their distributed flexibility. Individual FlexForum Members will have their own perspectives and positions.

You can contact FlexForum at info@flexforum.nz with any questions and to arrange further discussion.











































































Appendix. Flexibility Plan implications of selected projects in the P2025-26 indicative workplan

We organised 19 projects from the promote market development and protect consumer interests streams of the indicative 2025/26 work plan into the four FlexForum workstreams:

Participation: households, business and communities can easily make choices about and maximise the benefit of their flexibility and electricity choices		
Market frameworks: counterparty relationships, pricing and financial interactions (including risk management) enabling exchange of services across the supply chain	System integration: operational and physical interactions enabling system operation, access and participation	
Digitalisation: to provide the platform for digitalised financial and operational interactions		

Note: more about the workstreams is available here.

The Flexibility Plan implications for each project was assessed using the available information.

- the projects the Authority will prioritise with no funding increase are shaded gray (10 projects)
- projects with explicit and direct implications for the Flexibility Plan are shaded green (3 projects).

Participation: households, business and communities can easily make choices about and maximise the benefit of their flexibility and electricity choices

Project	More context	Flexibility Plan implications
Review and enhance the current approach to disconnections, reconnections, and prepay	Involves changing disconnection, reconnection processes and pre-pay arrangements No other detail on scope and purpose available	No implications. No directly relevant step
Investigate wider support options for small consumers, such as a mandatory 'best plan' comparison etc	Involves options to require best plan comparison and more flexible payment plans. No other detail on scope and purpose available.	Potential link to step #2 improve access to electricity information. Free-flowing and instantaneous data exchange will enable easier assessment of pricing choices
Remove barriers that may support small consumers to participate in demand response flexibility markets and sell excess energy back to the grid	Detail on scope and purpose not available	Implications not possible to determine

Market frameworks: counterparty relationships, pricing, financial interactions and risk management arrangements enabling market activity

Project	More context	Flexibility Plan 1.0 implications
Energy competition task force recommendations	Recommendations not yet known.	Implications difficult to determine. Based on the solutions being considered, project activity affects some steps, but may not deliver them: • 1B (standardised flexibility payments) – link to wholesale/retail-related hole in the value stack [new step in v2.0] • 2A (distributors pay an export rebate) – link to #20 and #21 re: Dx holes in the value stack • 2B (all retailers offer TOU) – link to retail-related hole in the value stack (new step in v2.0)



Project	More context	Flexibility Plan 1.0 implications
		2C (rewards for supplying power) – link to #5 (MTR) which is probably a superior way of achieving the desired outcome
MDAG recommendations	Detail on scope and purpose not available. May include: • MDAG #1 to Improve short-term forecasts of wind, solar, and demand • MDAG #5 security constrained economic dispatch scoping study, CBA etc • MDAG #13 virtual disaggregation • MDAG #18 reconciliation using half-hourly data (sunset use of profiles)	MDAG #5 – multi-year project to investigate extending locational marginal pricing (LMP) into distribution networks. Greater impact from ensuring cash signals exist for all Dx/Tx services
Reform of distribution connection pricing	Involves implementing proposals from this Distribution connection pricing reform consultation	Implications for #9 (connection requirements) and #27 (connection processes).
Improve multiple trading and enhanced switching arrangements	Detail on scope and purpose not available, but assume it involves extending and formalising KO exemptions	May deliver #5 to provide choices for people to buy and sell through multiple separate providers. Delivering this step would enable people to maximise the price of power they sell by unbundling retail buy/sell pricing packages (and is probably an easier/more effective option than the ECTF #2C solution)
Enhance the service and switching environment	Detail on scope and purpose not available. Possible this is a switch process review	Potential link to #28 Explore how to deliver a register of flexibility resources and #30 Establish fit-for-purpose participation requirements for flexibility coordinators – People selling flexibility will need the ability to switch flexibility coordinators.
Review and enhance the stress test	Detail on scope and purpose not available. The stress test examines exposure to market price risk. Flexibility is an under used risk management tool	Possible implication for the wholesale/retail-related hole in the value stack (new step in v2.0) and making it easy/routine for people to use flexibility for price risk management
Develop enhanced market participation tools for battery energy storage systems	Detail on scope and purpose not available. Possibly about integrating batteries into the wholesale market	Implications difficult to determine. Batteries are one source of flexibility. Hopefully the project also looks at integrating all sources of flexibility into the wholesale market
Develop options for a new 5-minute variability ancillary service	Detail on scope and purpose not known.	Implications for steps (new in v2.0) to ensure effective cash signals for energy, Tx capacity and SO services
Review distributed generation price signals	Detail on scope and purpose not known.	Implications for steps (new in v2.0) to ensure effective cash signals for energy, Tx capacity, Dx capacity and SO services
Review of Financial Transmission Rights funding model	Detail on scope and purpose not known.	Implications not known

System integration: operational and physical interactions enabling system operation, access and participation

Project	More context	Flexibility Plan 1.0 implications
Review of the System Security Assumptions Document (SSAD)	Detail on scope and purpose not known.	Implications not known



Project	More context	Flexibility Plan 1.0 implications
Review of VoLL	The Code specifies a \$20k VoLL for economic Tx investments	No direct implications. Indirect possible implications if more granular VoLL figures led to more flexible Tx capacity management. However, VoLL applies to few Tx investments
Address non-price barriers to connecting at the distribution level	Involves implementing proposals from this <u>Distribution connections consultation</u>	Implications for #9 (connection requirements) and #27 (connection processes).
Strengthen common quality requirements	Involves implementing proposals from this Part 8 Common quality requirements review consultation	Potential implications for a range of steps, but specific impacts not known #11 dynamic operating envelopes #15 voltage limits #25 minimum standards for flexible devices #35 capability roles and functions for system operation and coordination

Digitalisation: to provide the platform for digitalised financial and operational interactions

Project	More context	Flexibility Plan 1.0 implications
Improve access to information held by Metering Equipment Providers	Detail on scope and purpose not known. May involve: MEP data availability to distributors MEPs contracting directly with other parties MEPs publishing PAYG terms	Possible implications for: #35 capability roles and functions for system operation and coordination #36 to have a common process for validation and settlement

