FlexForum's view: What the sector must prioritise for a smart, flexible system

Flexibility is no longer on the periphery and has become a core focus for the electricity sector. As the Time-NZ 3.0 modelling reinforced: a rapid expansion of flexible electricity use and battery capacity is essential for a secure and affordable energy system. Across the whole energy system, flexible electricity use can save energy users between $5.4 and $20.8 billion through to 2050.

But if we want to make this a reality and make flexibility easy and routine for households, businesses and communities, the electricity ecosystem needs to start treating flexibility less as an experiment and more as core system capability. This requires a whole-of-system approach because the whole is greater than the sum of the parts.

The next 2-3 years are critical for flex progress. New Zealand needs to be ready to harness the full potential and value of flex to avoid large infrastructure investments being made that would not be needed by a smart, flexible power system. Adding to this urgency is political momentum which is likely to drive a surge in household investment in solar, batteries and other potentially flexible resources. As things stand, these resources will benefit individual customers but will not necessarily be accessible to flex users across the supply chain to reduce system costs.

Expert assessment of sector priorities for 2027

With this in mind, FlexForum members met to evaluate flexibility progress* over the past year, and what members believe the sector should prioritise in 2027. Our assessment points to a simple 2027 priority: **shift flexibility from promising activity to scalable propositions where customers can see, understand, and experience flexibility benefits.**

While the past year has delivered substantial flex progress - more learning-by-doing, regulatory changes, and more organisations actively testing how flexibility works in practice - this work hasn't yet translated into visible, practical benefits for customers. There are initiatives, such as time-of-use pricing and hot water programs, beginning to offer direct bill savings and discounts. However, many customers still lack clear guidance on how to optimise their smart devices to see real benefits.

To accelerate progress and maximise flexibility benefits for customers, FlexForum members believe a more coordinated, strategic approach with parties across the supply chain working collaboratively is necessary.

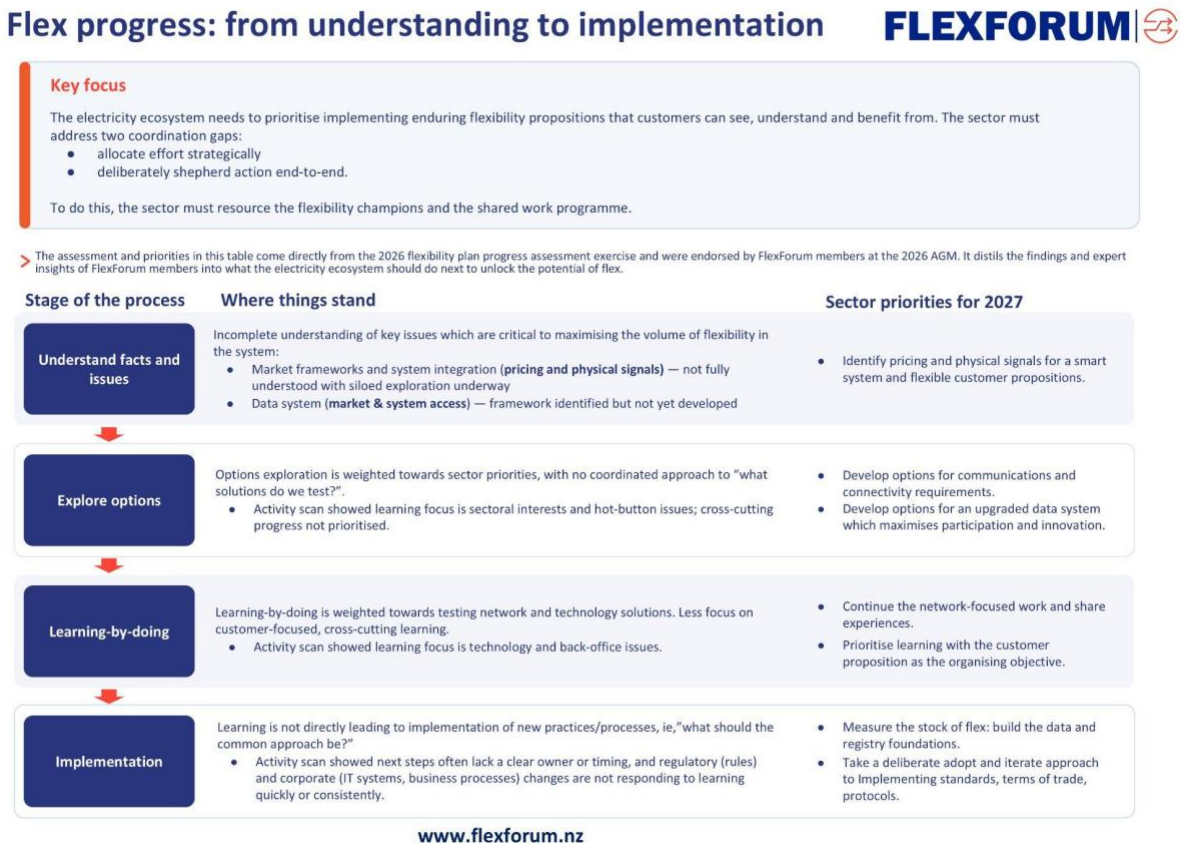
FlexForum members identified several priorities the sector should work together to advance.

The priorities fall into two categories: what must be put in place to enable a smart system, and how those actions are delivered.

The sector needs to establish effective pricing and physical signals, develop options for communications and connectivity requirements, develop options for an upgraded data system, and build the data and registry foundations.

To succeed, the sector must continue the learning-by-doing, make the customer proposition the organising objective, share learnings, and take a deliberate adopt and iterate approach to implementing standards, terms of trade and protocols.

This graphic provides a quick snapshot of where things stand and sector priorities. The following section explores each priority in more depth.



How the sector can deliver

A system-wide view of pricing and physical signals for a smart system and flexible customer propositions

Effective price and physical signals are essential to motivate flex resources to respond efficiently and unlock the full value of flexibility. Currently, there is no agreed view on what signals (price and physical) are required, and experience is that flex is not getting efficient price or physical signals. The sector needs fit-for-purpose price or physical signals to build confidence that the sector is benefiting people. This will also help avoid the risk of flex resources not being available to reduce system costs, and the power system becoming more expensive than it needs to be.

While pricing related work is underway by various distributors and the Electricity Authority, a more complete, system-wide perspective is needed to ensure signals are aligned and work together effectively.

To accelerate progress, we believe an expert consensus needs to be developed on what pricing and physical orchestration mechanisms are practically required. This means understanding 4 sets of questions:

1. Price and physical signal design
2. Interaction between price signals
3. Interaction between price and physical signals
4. Customer proposition design

FlexForum is asking these questions in its deep dive into pricing and physical orchestration.

Develop options for communications and connectivity requirements

There is an opportunity to establish agreed 'standard' functionality for the connectivity required to integrate flex resources into the system and agree on integration protocols such as messaging architectures and data flows. If flexible devices were integrated as easily as hot water, the stock of usable flexibility would be significantly higher.

Without action, the stock of flex resources available for use as system activated flex will be smaller than it could be because people will invest in flex resources without the relevant functionality. This will mean flex resources are not available to respond to market/system conditions, putting upward pressure on system costs and prices due to avoidable network/generation infrastructure investments. While the total flex resource is not yet being counted, we estimate at least 1744MW could be available by 2030 from water heating, batteries, C&I and EV charging.

Progress requires developing initial standards for connectivity functionality for flex resources, and agreed integration protocols. An EECA working group is potentially developing a standard functionality, and the EECA scaled flexibility pilots (plus other learning) are testing device integration protocols. The next step would be to collate, test and agree on results.

Develop options for an upgraded data system which maximises participation and innovation

A smart, flexible power system requires a more digitalised data system to enable data and information to quickly and easily be used by an increasing range of users.

Currently, the data system is designed around functionally focused data exchange which prevents easy access to datasets by parties not specified in the functional specification. Parties who are not defined as a participant, for example new innovative businesses, are not able to easily develop and offer customer propositions and business models to challenge existing participants.

The sector risks reduced participation and less innovation if issues with the current data system are not addressed through a whole-of-system approach. We believe this priority can be delivered by the appropriate party(s) accepting responsibility for undertaking six initial tasks for upgrading the data system.

This topic is discussed further in the FlexForum Insight: A strategic approach to the data system is needed to achieve a smart flexible power system.

Continue the network-focused work and share experiences

Learning-by-doing remains the most effective way to make flex progress, but it must be coordinated (a strategic approach to asking 'what solutions do we test') and experiences gained through each learning project should be collated, tested and shared.

The sector needs to prioritise this to avoid slower, more expensive progress due to duplication and wasted learning effort, plus build consensus on foundational questions, eg, pricing, connectivity architecture.

Prioritise learning with the customer proposition as the organising objective

Learning-by-doing is still weighted towards testing network and technology solutions. What's missing is the customer-oriented, cross-cutting learning that is needed to develop and deliver scalable flexibility propositions which people can see, understand and experience.

The sector needs to focus on the enabling conditions that turn pilots and back-office progress into routinely available customer offers: more customer propositions, better signals, connected devices, usable data, shared standards, transparent learning and sustained support for the people driving change.

Measure the stock of flex: build the data and registry foundations

The system will benefit from a clearer view of what flexible resources exist, where they are, what capability they have, and how they are being used (and not used). Flex resources need to be treated on the same basis as other electricity infrastructure or the sector risks slower, more expensive progress.

To move forward, the sector needs to routinely publish flex data and statistics currently being collected by the Electricity Authority through its retail market monitoring programme, and establish a scalable flex resource registry.

Take a deliberate adopt and iterate approach to implementing standards, terms of trade, protocols

Significant learning is happening across the sector but learning is not directly leading to implementation of new practices and processes. The next steps often lack a clear owner or timing which can lead to duplication and wasted learning effort, a lack of common practices/standards driving fragmented approaches which hamper development of customer propositions, and people making investments which are not "flexy".

This priority can be delivered by ensuring learning is used to institute enduring change by answering "what should the common approach be?".

FlexForum's role

FlexForum is well placed to help accelerate progress, and the coming year represents the best ever opportunity for FlexForum and the wider flex community to make strides in ensuring the benefits of flex are easily and routinely available to both people and the power system. By bringing together a diverse, expert membership, we can help the sector move from fragmented learning to coordinated implementation. We provide the cross-cutting role the sector needs to identify the gaps in knowledge, options, learning and implementation required to activate flexibility.

You can read the full 2026 Progress Report on our website.

** Progress is evaluated against the FlexForum Flexibility Plan 2.0 - a checklist of 41 tasks and actions to make flexibility easy and routine for households, businesses and communities.*